

Veterinary Sciences and Medicine

Contemporary Folk Medicines of India to Combat Human and Veterinary Diseases and Conditions

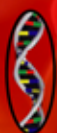
V. K. Singh
Shweta

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VETERINARY SCIENCES AND MEDICINE

**CONTEMPORARY FOLK MEDICINES
OF INDIA TO COMBAT HUMAN
AND VETERINARY DISEASES
AND CONDITIONS**

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VETERINARY SCIENCES AND MEDICINE

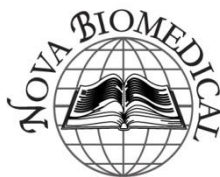
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OF INDIA TO COMBAT HUMAN
AND VETERINARY DISEASES
AND CONDITIONS**

**V. K. SINGH
AND
SHWETA**



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The sacred memory of my beloved parents,
V. K. Singh

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Foreword

The world is now drifting towards herbal medicines as these are considered safe and without any side-effects. Despite convincing progress in synthetic chemistry and biotechnology, plants are the most important source for preventive and curative medical preparations. In terms of a modern research endeavor, drug developments from plants must necessarily imply a multi-disciplinary approach. Recent investigations in specialized areas of biological activity have nevertheless confirmed that plants are a reservoir of chemical agents with therapeutical potential. Since new diseases as well as drug resistant strains of known pathogens continue to emerge, the search for novel compounds from drug plants is an ongoing process and there still would be many potential pharmaceutical compounds yet to be discovered. This has generated a lot of research data in medicinal plants and a number of active principles and biological activities have been brought to light. Further, the ability to correlate ethnomedical reports with corresponding scientific studies could lead to improved selection of plants for further study in the area of diseases like arthritis, asthma, cancer, diabetes, epilepsy, etc. This approach may reduce the number of plants that need to be screened for drug discovery attempts, resulting in a greater success rate than by random selection and mass bio-screening. Thus there is an urgent need to undertake such studies and collect field data on ethno-pharmacological uses of plants used by aborigines and herbal medicine men since time immemorial in an effort to scientifically validate them. Based on this rationale, the volume titled “Contemporary Folk Medicines of India to Combat Human and Veterinary Diseases and Conditions” has been prepared.

The study provides information on 444 taxa of folk medicinal plants comprising 1,120 folk prescriptions and is based on a series of ethno-pharmacological field surveys conducted in the tribal inhabited forest zones and other rural areas of Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, and Uttarakhand states of India, between 1971-1997. The information provided includes scientific name of folk drug, English name, Unani & Ayurvedic (Sanskrit/Hindi) name, Part(s) used, Locality, medical efficacy claimed, recipe and mode of administration, and biodynamic notes (comprising chemical constituents and pharmacological activity) which may justify or contradict such claims.

What appears in this study is not supposed to be for “do-it-yourself” enthusiasts but merely to demonstrate the significant time-tested efficacy of tribal medicines to combat many ailments in different locations of the study area. It should stimulate discussion and calls for the use of controlled trials on such traditional drug plants for their wider application by the

humanity, following studies on their chemical constituents, pharmacological action, and toxicity.

I feel privileged to write this foreword and congratulate Dr. V.K. Singh, ex Deputy Director (Botany), CCRUM, New Delhi and Dr. Shweta, Associate Professor, Dept. of Zoology, D.S. College, Aligarh (U.P.) India, for producing this masterly report of ethnomedicines of vast area of the country which would be very useful to scientists and academicians working in the field of ethno-pharmacological investigations in India and foreign countries. The work will like-wise stimulate keen interest of fellow-researchers in such studies.

It is hoped the findings presented in this publication are likely to lead further research to develop new promising drugs of natural origin to combat many of the diseases and conditions, hitherto, incurable in modern medicine. The volume should attract a wide audience including those of phytochemists, pharmacologists, microbiologists, medical scientists, biochemists, and researchers of allied disciplines interested in the discovery for new drugs of plant origin.

Dr. Rajeev Kr. Sharma

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January 24, 2012

Preamble

The world-wide interest in natural medicines has generated a renewed interest in researches in medicinal plants, since globally there is a shift towards the use of medicine of herbal origin, as the dangers and shortcomings of the modern medicine have started getting more apparent. Folk medicine, in one form or another, is widespread throughout the world. Its practices are based on beliefs that were in existence, often for hundreds of years, before the development and spread of modern medicine and that are still prevalent today.

One of the chief contributions that traditional medicine has made to health sector is the discovery and use of plants of medicinal value. “Save Plants that Save Lives” is a call to safeguard this heritage. Acknowledging the potential value of traditional medicine, the World Health Organization has few years back recognized these as an essential building block in national health service.

During last two decades, numerous ethnopharmacological studies aimed at identifying new pharmaceutical products have been initiated world over and ethnopharmacology has become a recognized tool in search for new bio-dynamic compounds of therapeutic value. In this direction, pharmacological and clinical studies are suggested on plant-by-plant basis by current standards and techniques in elucidating the cellular and molecular basis of drug-action, to assess their safety, therapeutic efficacy and potential for commercial utilization, leading to the development of policies for their conservation.

Further studies of such drugs claimed to have potential medicinal properties are important not only for discovery of new therapeutic agents but also for the discovery of new sources of economic materials and precursors for the synthesis of complex chemical substances of biological or industrial importance.

Realizing the need to document this fast disappearing knowledge on folk medicines, the volume titled “Contemporary Folk Medicines of India to Combat Human & Veterinary Diseases and Conditions” has been conceived. It presents information on some 1120 contemporary ethnomedicinal uses, comprising 444 taxa of medicinal plants of different tribal sects and rural populations. The volume incorporates first-hand studies bringing to light many folk drug plants used by ‘tribal herbal medicine men’ reported to be effective against many diseases and conditions, thus far, incurable in modern medicine.

I am delighted and feel honored to add this preamble to this volume and congratulate the authors Dr. V.K. Singh, Ex-Deputy Director (Botany), CCRUM, New Delhi and Dr. Shweta, Associate Professor, Dept. of Zoology, D.S. College, Aligarh-202001, for the splendid job they did in producing this commendable work which I hope will go a long way and attract

wide audience of ethnobotanists, phytochemists, pharmacologists, pharmacists and other research scientists engaged in the search of new drugs of plant origin.



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January 31, 2012

Preface

Folk medicine is defined as traditional medicine that is practiced by non-professional healers or embodied in local custom or lore, generally involving the use of natural and especially herbal remedies. It is the method by which human beings have been trying to eliminate diseases and promote sound health and attempts to solve or lessen both physical and mental ailments by focusing on harmony and balance within the body. Majority of the methods used in folk medicine are ones that have been passed down from generation to generation. Modern researches are often borne out of the efficacy of many of the crude plant drugs used by aborigines since time immemorial.

Ethno-botanical leads are invaluable for the discovery of novel active compounds from natural sources, particularly from plants. Traditional knowledge of medicinal plants and indigenous use of plant material have provided the basis for many pharmaceuticals used today and there are still many potential pharmaceutical compounds yet to be discovered. There is a risk, however, of losing this precious resource as many indigenous cultures as well as the medicinal plants themselves are threatened with extinction. It is for this reason, much emphasis has recently been placed on confirming the biological activity of traditional medicinal plants in an effort to combat many of the new and existing diseases, thus far, incurable in modern medicine. Other invaluable information obtained from ethno-pharmacological leads involves the 'activation' of certain species when mixed together indicate a synergistic effect. A large number of plant derived drugs still continue to be discovered based on traditional or local medical practices.

India stands in the forefront of ethnobotanical and ethno-pharmacological research. It has already given one of the greatest new drugs of the past century – *reserpine* – which has revolutionized the treatment of numerous mental problems worldwide, but there are certainly many more such drugs with centuries of traditional use in India that one day, when completely known, may be of equal importance. Recently, the Indian laurel *Calophyllum inophyllum*, when screened on the basis of traditional or empirical local medical practices, has shown great promise in dealing with AIDS. Therefore, in recognition of the need to document the fast disappearing knowledge system and folk wisdom, the study titled "*Contemporary Folk Medicines of India to Combat Human and Veterinary Diseases and Conditions*" presents results of extensive field surveys and literature research, in an attempt to provide first-hand information on ethno-medicines of the study area.

Based on a series of ethno-pharmacological surveys conducted in different tribal inhabited forest zones and other rural areas of Jharkhand, Madhya Pradesh, Orissa, Rajasthan,

Uttar Pradesh, and Uttarakhand states of India, between 1971-1997, the study presents information on 1,120 folk-prescriptions comprising 444 taxa of contemporary medicinal plants widely used by tribals and other ethnic groups for treatment of various common diseases and conditions. Data have been gathered through interviewing well recognized 'herbal medicine men' and later confirmed from other medicine men of the study area as well, in order to ascertain their veracity, wherever possible.

In the text, folk medicinal plants have been arranged systematically in alphabetic order by their scientific names. Each entry gives the information in sequence: botanical / zoological name of folk drug, synonym (if any), family, English name, vernacular name, Unani / Ayurvedic (Sanskrit/Hindi) name, habit & habitat, part(s) used, locality of collection, medical efficacy claimed, source of information, specific medical use and / or sign-symptom complex (recipe, method of preparation of medicine, route of administration), precautions (if any) followed by biodynamic notes comprising chemical constituents and pharmacological action which may justify or contradict the reported folk medicinal uses.

For easy access, the volume is appended with Index to English and local names, and diseases & condition-wise grouping of folk medicinal plants discussed in the text.

The work of this magnitude essentially involved the assistance of many experts. We are grateful to Dr. Rajeev Kr. Sharma, Director, Pharmacopoeial Laboratory for Indian Medicine (Department of AYUSH, Ministry of Health & Family Welfare, Government of India), Ghaziabad-201002, for writing a foreword to this volume. We wish to place on record the help rendered by our former colleagues Hakim S.T.H. Zaidi, Assistant Research Officer (Unani Medicine), Mr. M.A. Rashid, Dr. M. Anis, and Mr. Zaheer Anwar Ali, then Research Assistant (Botany), Mr. Bhola Dutt, Driver & Mr. Zammarud Ali, Field Attendant, Regional Research Institute of Unani Medicine, Aligarh (U.P.) during the course of ethnomedicobotanical explorations in the study area. We are grateful to Prof. K.M.Y. Amin, Department of Pharmacology, Faculty of Unani Medicine, Aligarh Muslim University, Aligarh-202002 (U.P.) and Dr. B.G. Shivakumar, Principal Scientist (Agronomy) & Officer-in-charge, Indian Grassland and Fodder Research Institute, Southern Regional Research Station, Dharwad-580 005 (Karnataka), for useful suggestions, advice, and friendly co-operation. Thanks are also due to the officials of various forest divisions explored for their valuable help and cooperation, without which it would have never been possible to conduct the field work in such an inaccessible and difficult forest terrains. In the same sense we record our deepest appreciation for all those 'medicine men' in their collective anonymity who parted the treasure of their rich knowledge on folk medicines inherited by them since time immemorial. A word of thanks is also due to Mr. Ravi Mittal, Computer Operator, Aligarh, for loading the data.

It is hoped the findings presented in this publication are likely to lead further research to develop new promising drugs of natural origin to combat many of the diseases and conditions, hitherto, incurable in modern medicine. Further studies on such folk drugs claimed to have potential medicinal properties are important not only for discovery of new therapeutic agents but also for the discovery of new sources of economic materials and precursors for the synthesis of complex chemical substances of biological or industrial importance.

We may add that in spite of the care that has been exercised in every way, there are bound to be some errors and omissions in such a voluminous work and we will appreciate having these brought to our notice by the users of this volume.

The volume should attract a wide range of audience including those of ethnobotanists, phytochemists, pharmacologists, microbiologists, medical scientists, biochemists, pharmacists and other researchers of allied disciplines engaged in the search of new therapeutic agents of natural origin.

V. K. Singh and Shweta
New Delhi
January 31, 2012

About the Authors



Dr. V.K. Singh (b. 1948): Presently, Adviser-cum-Consultant (Botany) at Central Council for Research in Unani Medicine (CCRUM), Department of AYUSH, Ministry of Health & Family Welfare, Government of India, New Delhi, obtained his Ph.D. in plant taxonomy in 1971. He has been a plant explorer, ethnobotanist, and conservationist and as program officer was responsible for execution of ethnobotanical survey programs in the country; development of herb gardens; experimental & field scale cultivation of medicinal plants used in Indian Systems of Medicine; and, training farmers in cultivation & marketing of high-demand prioritized medicinal plants. Between 1971-1997, Dr. Singh had undertaken a series of ethno-pharmacological field trips in different tribal inhabited forest zones of Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, and Uttarakhand states of India, collecting vast data on 'Tribal Medicines' in an attempt to provide lead material for the discovery of new therapeutic agents of natural origin. His studies spanning over three decades have yielded tangible results, bringing to his credit some 35 books and over 100 research & review papers dealing with medicinal plants and folk medicines of different regions of the country.

Reviewer for various scientific journals, Dr. Singh had earlier worked on the panel of experts committee on WHO studies on indigenous drugs in India. He is editor for various scientific journals and series – editor for Recent Progress in Medicinal Plants (Vol. 1-30), published by Studium Press LLC, Texas, USA.

He also served in the National Medicinal Plants Board, New Delhi and was actively associated in the promotion & development of medicinal plants sector in the country. Recognizing his work, Dr. Singh has been conferred with various honors and awards

including the prestigious “Life Time Achievement Award (2005)” by CCRUM. Dr. V.K. Singh superannuated as Deputy Director (Botany) in 2008. Email: vks_ccrum@yahoo.co.in



Dr. (Ms.) Shweta (b. 1972): Associate Professor in Zoology, D.S. College, Aligarh, obtained her Masters in 1990 (Standing first in order of merit) from Dr. B.R. Ambedkar University, Agra (India) and Ph.D. in 1994. Presently taking courses in Zoology at graduate & post graduate level and guiding research for Ph.D. degree.

Recipient of ‘Young Scientist Award’ for consecutive years 1993, 1995, 2001, Dr. Shweta was adjudged for a prestigious ‘*Juagadishwari Rao Women Scientist Award (2002)*’. Widely known for her outstanding contribution in setting-up series of Vermicompost Units in rural areas for production of organic manure, thereby promoting organic cultivation of medicinal plants by farmers and simultaneously generating self employment opportunities for weaker sections of the society, particularly the women.

A member of the Academic Council of U.P. Rajarshi Tandon Open University, Allahabad, Dr. Shweta is on the committee of Task Force, Department of Biotechnology, Govt. of India. She is associated with many learned scientific societies across the country, Dr. Shweta has to her credit over 45 research papers as a lead author, published in prestigious scientific journals in India and abroad. Over the years, she has been invited to participate and give presentations as a key speaker in many national & international scientific meets including UK, USA, Malaysia, Nepal, and Switzerland.

Dr. (Ms.) Shweta’s current interest grows in the Indian medicinal plants, particularly the Tribal Medicines. Email: kmshweta3@yahoo.com



Interviewing tribal herbal medicine man '*Cheramuli doctor*' for collection of folk medicinal uses of plants at Keonjhar forests, Orissa, India.

Plate 1.



A. A herbalist showing medicinal plants used in folk treatment at Ghatigaon forests, Gwalior (M.P.)

Plate 2. (Continued).



B. Author interviewing a folk medicine man for collection of ethno-pharmacological uses of plants at Gonda (U.P.)



C. Magical-religious beliefs: A herbalist treating hysteria patient through sorcery / witchcraft in a tribal settlement at Gorakhpur forests (U.P.)



D. Folk women at Lakhimpur kheri tribal habitation (U.P.)

Plate 2.



A. *Streblus asper* Lour – Stem bark decoction used to treat filariasis.

Plate 3. (Continued).



B. *Tamarindus indica* L. – Seeds used to treat fistula in ano.



C. *Gmelina arborea* Roxb. – Stem bark powder given in cases of deficient lactation in nursing mothers.



D. *Syzygium cuminii* (L.) Skeels – Seed kernels powder used to control diabetes mellitus.

Plate 3.



A. *Argemone mexicana* L. – Seeds used to treat bronchial asthma.

Plate 4. (Continued).



B. Abrus precatorius L. – Seed powder used as contraceptive.



C. Datura fastuosa L. – Seeds used to treat malaria and bronchial asthma.



D. *Ficus racemosa* L. – Latex used to treat spermatorrhoea.

Plate 4.



A. *Abutilon indicum* (L.) Sweet – Leaf juice used to increase lactation in nursing mothers.

Plate 5. (Continued).



B. *Mucuna pruriens* (L.) DC – Seeds powder used as aphrodisiac.



C. *Cuscuta reflexa* Roxb. – Plant decoction given in rheumatism.



D. Leucas cephalotes (Koen. ex Roth) Spreng. – Powder of leaves snuffed to treat migraine.

Plate 5.



A. Sensevieria zeylanica Willd and *S. cylindrica* Boj – Mixed root paste of both plants given to treat snake-bites; often planted by tribals in kitchen gardens as house-hold remedy in Keonjhar forests, Orissa, to meet any emergency.

Plate 6. (Continued).



B. *Semicarpus anacardium* Linn.f. – Mature fruits used in cases of snake-bites.



C. *Phyllanthus emblica* L. – Leaf paste given to treat common diarrhea in cattle.



D. *Mallotus philippensis* (Lam.) Muell.-Arg.– Powdered fruits given as vermifuge.



A. *Achyranthus aspera* L. – Leaf paste applied externally on abdomen to treat slow and painful urination.



B. *Caesalpinia bonduc* (L.) Roxb..-Seed powder used to treat malaria and non-specific fever of long duration.



C. *Hibiscus rosa-sinensis* L. – Paste of flower buds taken to expel stones from gall bladder.



D. *Withania somnifera* (L.) Dunal– Root paste used to treat leucorrhoea, bronchial asthma, arthritis and menorrhagia.

Introduction

Abstract

Ethnomedicines have received wide-spread attention in the present days through phytochemical researches in India and abroad, as information on medicinal plants and folk drugs recorded during fieldwork is now being subjected to investigation in the search for new biodynamic compounds of therapeutic value. Folk medicinal uses, therefore, represent a source of new leads that may short cut the long discovery route of modern therapeutic agents. India is one of the leading countries in Asia in terms of the wealth of traditional knowledge systems related to the use of plants in medicine and is blessed with rich and diverse heritage of cultural traditions and a wide range of geo-climatic conditions (Pant *et al.*, 2009). It is, therefore, imperative to document this herbal materia medica of the tribals and other ethnic groups of India, hitherto, not explored and studied systematically; before this empirical knowledge is lost permanently with the ever dwindling number of folk medicine men, the indiscriminate devastation of forests, and the acculturation of such tribal communities. The present work is an endeavor in this direction.

Acknowledgment

The financial support extended by erstwhile Central Council for Research in Indian Medicine and Homoeopathy and Central Council for Research in Unani Medicine, Department of AYUSH, Ministry of Health and Family Welfare, Government of India, New Delhi, for this study, is gratefully acknowledged.

1.1. Medicinal Plants – Repository of Chemical Agents with Therapeutic Potential

Plants are the primary sources of medicines the world over. They provide mankind with new remedies for many of the diseases and conditions for which there is no satisfactory cure in synthetic medicines. Worldwide more than 10,000 species of higher plants have been used

for medicinal purposes. Despite the phenomenal growth in the pharmaceutical industry and dominance of synthetic drugs in western markets, nearly 70% of the world's population still depends on the use of medicinal plants for relief from illness. Today, interest has also revived in plants as likely sources of new commercial drugs. Modern analytical tools have not only revealed the enormous variety and complexity of bioactive principles of medicinal plants but have also confirmed their potential value for use as medicines or as models for synthetic drugs. Recent investigations in specialized areas of biological activity have confirmed that plants are a reservoir of chemical agents with therapeutic potential.

1.2. Traditional and Folk Medicine

There is an awakening all over the world on the use of age-old wisdom of traditional and folk medicines to combat diseases of multiple natures and share the wealth of knowledge stored in these systems. Developed countries in Europe and America, of late have been showing keen interest in the use of herbal medicines as they are supposed to have no side-effects compared to allopathic medicines obtained through chemical processes, besides treating diseases considered chronic and incurable. This awakening has drawn keen attention from the pharmaceutical industry.

Tribal and folk medicinal practices have medicinal herbs and other forest products as their base and comprise the largest part of primary health care even today in South Asia. Most of these healing systems are practiced by over 53 million tribal people belonging to over 550 tribal communities and 227 ethnic groups of Indian sub-continent. These are handed down from one generation to the next through folk songs or oral traditions. These are different from other sophisticated Asian healing systems like Ayurveda, Unani, Siddha, Tibetan and Chinese systems of medicines (ICRPE, 1982-1990; Anonymous, 2001a-d).

Traditional communities living close to nature have, over the years, acquired unique knowledge about the use of the living biological resources. Ethno-medicinal use of plants and plant products has been practiced in various cultures for thousands of year. The use of plants by native people for treating sickness and disease has been experience-driven. It has become a part of inherited wisdom rather than being based on knowledge of plant's bio-active chemical constituents, which beneficially altered the physiology of a sick person. Modernization, especially industrialization, could endanger this rich heritage of knowledge and expertise of age old wisdom of the traditional communities unless we visualize and concretize the advantages of synthesis of the old wisdom with new. WHO and FAO studies indicate large-scale traditional uses of plant materials as medicine(s) against a variety of human ailments.

In recent past folk medicines have received renewed attention of scientists in India and abroad as these provide lead material for the discovery of new therapeutic agents of natural origin to combat many of the diseases and conditions, thus far, incurable in modern medicine. It has been brought to light that out of 121 biologically active plant derived compounds, 90 have been discovered on the basis of cues from folk or ethno-medical uses (Farnsworth *et al.*, 1985).

1.3. Targeting Folk Medicinal Plants

By targeting folk medicinal plants rather than surveying all plants at random, there is a significantly increased chance of finding lead compounds (Hostettman *et al.*, 1997). Furthermore, ethno-pharmacological field information may provide the mechanism for rapid assessment of pharmaceutical potential of species, an obviously significant procedure when there is insufficient time and funds to test vast numbers of species (Lewis and Elwin-Lewis, 1994). Traditional knowledge includes details such as disease specific ethno-pharmacological use, the season during which a particular plant species has maximum healing properties, which part of the plant contains this biological activity and where a particular species grows that make it more active than other plants of the same species (Okundae, 2002; Jagetia and Baliga, 2005). For example, it has been found that certain plant species growing at different altitudes develop differing phyto-chemistry, which can cause variations in biological activity (Chandra, 1985).

1.4. Ethno-Botanical Leads

Ethno-botanical leads are invaluable for the discovery of novel active compounds from natural sources, particularly from plants. Since new diseases as well as drug-resistant strains of known pathogens continue to emerge, the search for novel compound is ongoing. Traditional knowledge of medicinal plants and indigenous uses of plant materials have provided the basis for many pharmaceuticals used today and there are still many potential pharmaceutical compounds yet to be discovered. Farnsworth *et al.* (1985) identified 119 secondary metabolites isolated from higher plants that were being used globally as drugs. This included atropine, scopolamine, morphine, codeine, tubocurarine, reserpine, pilocarpine, physostigmine, vinblastine, vincristine, etc. Many others have been used for decades and are still being derived commercially from only 90 species of plants.

In this direction, a number of folk medicinal plants have been investigated in recent past in an attempt to discover new drugs of plants origin. These studies based on *in vitro* bioassays of candidate plants identified through ethno-pharmacological field investigations have resulted in the discovery of many new pharmaceuticals such as prostratin, a drug for treatment of human immune deficiency virus, as well as a variety of novel anti-inflammatory compounds (Cox, 1994). Some of the plants genera identified recently for drug development include *Commiphora* (used as a hypo-lipidaemic agent), *Picrorrhiza* (hepato-protective) *Bacopa* (used as a brain tonic), *Curcuma* (anti-inflammatory), *Asclepias* (cardiotonic), etc. There is a risk, however, of losing this precious wealth of knowledge as many indigenous cultures as well as medicinal plants themselves are threatened with extinction. Therefore, much emphasis has recently been placed on confirming the biological activity of traditional and folk medicinal plants. And several phyto-chemical studies have been performed to investigate the composition of many such folk drug plants in recent past leading to the isolation and identification of pharmacologically active compounds.

1.5. Correlation between Traditional Use of Plants and Presence of Active Compounds

Indigenous uses of plants for various diseases and conditions have been extensively reviewed by *Mcrae et al.* (2006). These include minor illnesses such as cuts and skin infections (*Adesina et al.*, 2000; *Kshirsagar and Singh*, 2001), to more serious diseases like typhoid fever (*Abo et al.*, 1999), diabetes (*Khan and Singh*, 1996; *De Oliveira et al.*, 2002; *Ali and Blunden*, 2003) and cancer-like conditions (*Thomas et al.*, 2002). In this direction, large scale studies investigating the potential of medicinal plants, have reported a high correlation between the traditional use of the plants and the presence of active compounds within the plant extract. For example, plants used traditionally as antiseptics, have been found to inhibit the growth of many different species of bacteria. Similarly, many known poisons used in hunting, such as curare, which is used throughout the Amazon basin, possess potent alkaloids that act as nerve toxins (*Blatt et al.*, 2002). These alkaloids can be modified into powerful pharmaceuticals that can be used to combat diseases of the central nervous system (*Philippe et al.*, 2004). Gastrointestinal maladies, inflammations, skin infections, bronchial complaints, gynecological problems and certain viral diseases have been widely treated by tribal herbal medicines for a long time, whereas diseases like cancer and cardiovascular illness are unlikely to be easily diagnosed by indigenous peoples and still elude herbal cure. Yet, folk remedies may indicate pharmacological activity for maladies such as schizophrenia, for which the biochemical mechanisms have yet to be discovered. Such contemporary folk uses, therefore, represent a source of new leads that may provide short cuts to the long discovery routes of modern therapeutic drugs. Some examples of bioactive compounds recently discovered from folk medicinal plants include artemisinin (antimalarial) from *Artemisia annua*; gossypol (male contraceptive) from *Gossypium* spp; hypericin (antiviral) from *Hypericum perforatum*; taxol (breast cancer) from *Taxus brevifolia* and yuechukene (antifertility agent) from *Murraya paniculata* (*Tripathi and Singh*, 2004).

1.6. Concept of Reverse Pharmacology

Of recent, the concept of reverse pharmacology is now well accepted and being used in the drug discovery programs. This helps in evaluating the potential of local formulations by considering and documenting the tribal ways of diagnosis (concept of disease and related symptoms, method of diagnosis, relation with modern concept), ethno-pharmacology (ingredients used, methods of preparation, ways to removing toxins, mode of administration, palatability, using carriers to make it bio-available like honey and milk, dosage (regimen), duration of treatment, compatibility of ingredients, indications and contra-indications, efficacy, stability and safety, adverse effects / complications / allergy, interaction of herbs), and dosage forms (powder, decoction, tea, juice, cold infusion, poultice / paste, snuffs, inhalation / aroma, bath) etc. Hence there is a need for proper documentation of field data while undertaking such studies (*Saklani*, 2011).

1.7. Indian Scenario

India is one of the 12 major mega-diversity centers in the world due to its wide spectrum of soils, climatic conditions and geographic position at the junction of African Palaearctic and Oriental regions. A large number of cultural and ethnic groups, each with its own distinct way of life, beliefs, dialects, religious and social customs, constitute sizeable rural population of India. Thus, each small area of a particular state or region has its own unique folklores and medicinal plants being used by the indigenous and rural communities that is based mainly on the oral tradition. Some plants are used singly whereas others are used in mixture. Certain plants are considered useful in only one disease whereas several have multiple uses. These resources are part of their traditional knowledge. The rural people in India rely on medicinal plants for their health-care. They appear to have developed a system whereby they select and continue to use plants that they found most effective for health care purpose.

Major programs on ethno-pharmacological investigations on medicinal plants have been going on in India for the last few decades and vast literature is available on the subject. The papers by Janaki-Ammal (1956) and Jain (1963, 1965) have triggered intensive ethno-botanical studies. Various features of folk medicines in different tribal and rural areas of the country have been extensively dealt by many publications, namely, 'Glimpses of Indian Ethnobotany' (Jain, 1981); 'Medicinal Plants and Folklores – A Strategy Towards Conquest of Human Health' (Singh and Khan, 1990); 'Dictionary of Indian Folk Medicine and Ethnobotany' (Jain, 1991); 'Ethnobiology and Human Welfare' (Jain, 1996); 'Ethnobiology in India – A Status Report' (Anonymous, 1992-1998); 'Herbal Drugs of Himalaya (Medicinal Plants of Garhwal and Kumaon Regions of India)' (Singh and Ali, 1998b) and others. These studies have been serving as baseline for researchers and clinicians to discover new drugs of therapeutic value.

A large number of investigations undertaken by the ethno-botanists and other investigators in India and abroad have yielded information on medicinal uses of plants. Therefore, literature on folk medicine is voluminous (Janaki, 1956; Jain, 1962, 1963, 1965, 1981, 1991; Shah and Joshi, 1971; Shah, 1982; Bhatnagar *et al.*, 1973; Jain *et al.*, 1973, 1984, 1991; Saxena and Dutta, 1975; Singh and Pandey, 1975, 1980, 1986; Pal and Srivastava, 1976; Pal, 1980; Sharma *et al.*, 1979; Maheshwari *et al.*, 1980; Maheshwari, 1996; Singh *et al.*, 1980, 1984a,b, 1987, 1989, 1996, 1997a,b, 2002, 2005, 2007a,b; Anonymous, 1981a, 1984, 2001a-d, 2006a-c; Nautiyal, 1981; Uniyal, 1981, 1987; Pandey and Singh, 1983; Chander and Pandey, 1984; Chandra, 1985, 1995; Farnsworth *et al.*, 1985; Dhasmana, 1986a,b, 1987; ; Singh, 1986, 1988, 1993a-d, 2002; Tarafdar, 1986; Tarafdar and Chaudhuri, 1990; Husain and Siddiqui, 1987; Mashkooor and Anis, 1987; Singh and Singh, 1987; Kalakoti and Pangtey, 1988; Singh and Ram, 1988; Mishra *et al.*, 1989; Mishra and Naquvi, 1995; Singh and Ali, 1989a,b, 1992a,b, 1993, 1994, 1996a,b, 1998a,b; Bist and Badoni, 1990; Singh and Khan, 1990; Siddiqui and Husain, 1991; Negi *et al.*, 1992; Singh and Maheshwari, 1992, 1994; Baku *et al.*, 1993; Singh and Dhar, 1993; Anis and Iqbal, 1994; Khanna *et al.*, 1994; Lewis and Elvin-Lewis, 1994; Cook, 1995; Joshi, 1995; Pant and Pandey, 1995; Pant *et al.*, 2009; Khan and Singh, 1996; Khan *et al.*, 2003; Katewa and Arora, 1997; Katewa and Sharma, 1998; Rana and Dutt, 1997; Ali and Singh, 1998a,b, 2002; Ali *et al.*, 2002; Billore *et al.*, 1998; Ram and Saha, 1998; Singh and Anand, 1998; Abo *et al.*, 1999, 2008; Adesina *et al.*, 2000; Kshirsagar and Singh, 2001; Aminuddin *et al.*, 2002, 2007, 2008, 2009, 2010; Blatt

et al., 2002; Hashmi and Singh, 2002; Singh and Hashmi, 2002; Singh and Rashid, 2002; Thomas *et al.*, 2002; Dhar *et al.*, 2002a,b; Ali and Blunden, 2003; Treyvand *et al.*, 2005; Girach *et al.*, 2006a-e; Singh and Siddiqui, 2006; Dwivedi, 2007; Gupta *et al.*, 2007a,b, 2008a,b, 2009a,b, 2010a-d; Kumar *et al.*, 2007; Angkhana *et al.*, 2008; Butt *et al.*, 2008; Dilshad *et al.*, 2008; Farooz, 2008; Gupta *et al.*, 2008a,b; Gutierrez *et al.*, 2008; Hennebelle *et al.*, 2008; Konkimalla and Efferth, 2008; Parcaline *et al.*, 2008; Pesewu *et al.*, 2008; Roosita *et al.*, 2008; Tabuti, 2008; Venkatesan *et al.*, 2008, 2009a,b, 2010; Bhagya and Sridhar, 2009; Das *et al.*, 2009; Goswami *et al.*, 2009; Kadavul and Dixit, 2009; Mangal *et al.*, 2009; Jamir *et al.*, 2010; Murugeswaran *et al.*, 2010; Pushpangadan and George, 2010) and others.

1.8. Present Work

This presentation provides an updated and integrated account of 444 contemporary medicinal plants species belonging to 124 families widely used in 1,120 native medicines by the forest ethnics and other rural populations of the study area (Fig. 1) and is based on first-hand information collected through interviewing well recognized 'herbal medicine men' during the course of a series of ethno-pharmacological field surveys conducted between 1971-1997, and essentially comprises of the data published earlier in various scientific reports.

Methodology

2.1. Study Area

The study area consisted of tribal pockets, forests, rural and suburban areas of Aligarh, Almora, Bahraich, Bulandshahr, Chakrata, Etah, Gonda, Gorakhpur, Kheri-Lakhimpur, Mainpuri, Mathura, Tehri, and Pauri Garhwal (Uttar Pradesh); Amarkantak, Bhind, Bhopal, Datia, Gwalior, Shivpuri (Madhya Pradesh); Keonjhar (Orissa); Bayana, Bharatpur, Udaipur (Rajasthan), and Lohardaga, Palamu, Ranchi (Jharkhand). The study area exhibited significantly different cultural and ethnic groups. The important ones were Bawar, Bhatu, Bhotias, Bhojas, Dhimals, Doms, Jausari, Kanjars, Khasas, Kurmis, Kuneras, Lunias, Meghais, Mallahas, Parias, Pasis, Rajis, Tharus, Vangujars (Uttar Pradesh and Uttarakhand); Saharias (Madhya Pradesh); Bhuyans, Juangs (Orissa); Bhils, Damars, Damarias, Garasias, Meenas (Rajasthan), and Asurs, Birhores, Brijas, Kilkharis, Kurwas, Nagesias, Oraons (Jharkhand). Apart from the tribal, the local non-tribal communities and other higher castes who exhibited good knowledge of folk medicines were also considered for survey.

Table 1. Details of Study Area

Year	Area(s) surveyed*	Sub-locality	Tribes	Medicine men
1971-74	Gwalior Forest Division (Madhya Pradesh)	Gwalior, Datiya, Barahi, Behant, Ghatigaon forest ranges, Dabra and Bhandar area	Sahariya	-
1974-76	Shivpuri Forest Division (Madhya Pradesh)	Pohri, Kolaras and Shivpuri forest ranges	Sahariya	-
1978-80	Aligarh &, Bulandshahr Social Forestry Division (Uttar Pradesh)	Aligarh, Sikandrabad, Jawan, Nanau, Sasni, Kasimpur, Khair, Gabhana, Dhanipur, Bulandshahr, Narora, Poppia, Nanau, Khair, Shergarh, Manpur Khurd, Barola, Adappur, Sankra, Dadon, Tappal, Atrauli, Iglas, Vijaygarh, Gonda, Akraabad, Quila Ka Nagla, Narora and their adjoining areas	-	Desi Hakims & Vaidyas, Siyana, Bharra, Khar Vaidya

Table 1. (Continued)

Year	Area(s) surveyed*	Sub-locality	Tribes	Medicine men
1980-81	Keonjhar Forest Division (Orissa)	Champua, Barbil, Kanjipani, Telkoi, Dhenkikote, Ghatgaon, Anandpur, Harchandpur, Gandhmardhan, Ghasipura and their adjoining areas.	Bhuyans, Juangs	Cheramuli Doctor
1981-82	Mathura Social Forestry Division (Uttar Pradesh)	Govardhan Parvat, South Forest range, Khappurpur, Mahaban and Gokul and their adjoining areas	-	Siyana
1982-83	Gwalior Forest Division (Madhya Pradesh)	Ghatigaon forest range, Datia forest range, Gwalior forest range, Behant forest range, Barhai forest range	Sahariyas, Gond, Korku	-
1982-83	Mathura Social Forestry Division (Uttar Pradesh)	Mathura, Vrindavan (Forest block), Jamuna river bank, Tarsi Raya block and adjoining areas	-	Siyana
1982-83	Chakrata Forest Division (Uttarakhand)	Kalsi, Munshighati etc. Chakrata	Jaunsari, Bawar	
1983-84	Ranikhet & Almora Forest Division (Uttarakhand)	Ranikhet, Choubatiya, Soni, Rinchi, Binsar, Mach Kali, Sitlakhet Sialidhar forest, Barshimi forest	Bhotias	Vaidya
1984-85	Tehri Garhwal Forest Division (Uttarakhand)	Tehri, Ghansali, Mayali, Ghuttu, Ranichauri and Dandahautili forest	Bhotias, Khasas, Bhoxas	-
1984-85	Ranchi (East & West) Forest Division (Jharkhand)	Ranchi, Hundru, Ormajhi, Pakhar, Morwai, Mandar, Horhap, Tamar, Khunti, Jate, Netarhat and their adjoining areas	Asur, Nagesias, Birja, Korwa, Paharia, Munda, Birhore, Hilkharia	Bhagat & Guru
1985-86	Mainpuri Social Forestry Division (Uttar Pradesh)	Etah, Kasganj, Aliganj, Jaithra, Karhal, Bhogaon, Mainpuri, Bewar, Kishni, Jalesar	-	Vaidya, Hakim
1985-86	Bharatpur Forest Division (Rajasthan)	Ghana forest, Bayana, Nadwai, Deeng, Bharatpur	-	Vaidya, Hakim
1986-87	Udaipur Forest Division (Rajasthan)	Jhadol, Pipalwas, Jaismond, Udaipur, Kewra-ki-naal, Gogunda, Kankroli, Haldighati, Sajjangarh, Kherwara, Kaya, Kotra, Harr, Phulwari, Sandmaria, Dendmaria etc.	Bhils, Garasias, Damars, Damarias	Bhopas, Ojhas, Lok Vaidya
1986-87	Tehri Garhwal Forest Division (Uttarakhand)	Gadolia, Tehri, Bhagirathipuram, Uthar, Ghansali, Jukhni, Jakholi, Ponhi, Khaliyan, Mayali, Gorkhi, Bundna, Dogudda, Payantal, Tilwara, Choubatiya, Mayalgaon, Jankhniyali, Nagni, Bagikhad, Dev nagar, Jijli, etc.	Bhotias, Khasas, Bhoxas	Vaidya

Year	Area(s) surveyed*	Sub-locality	Tribes	Medicine men
1987-88	Pauri Garhwal Forest Division (Uttarakhand)	Neelkanth, Khirsu, Pauri, Kherakhal, Nawasu, Kathulikhil, Bhenskot, Pyanpani, Pokhri, Adwani, Nahsarn, Kanskhet, Gangoti, Bhensaal, Tella, Tarpalisarn, Paithani, Salonkhal, Parnjikhil, Rotiya, Musseti, Ameli.	Bhotias, Bhoxas, Khasas, Rajis	Vaidya
1989-90	Gorakhpur Forest Division (Uttar Pradesh)	Ramgarh forest range, Doma forest range, Nichol forest range, Madholia forest range and Tendighati forest range	Tharus, Maghaiyas, Doms, Kuneras, Dhangers, Pahariyas	Vaidya
1991-92	Bahraich Forest Division (Uttar Pradesh)	Motipur, Kakrha, Murthiha, Nishangarh, Dharampur	Tharus, Banjaras	Vaidya
1992-93	Gonda Forest Division (Uttar Pradesh)	Kuwana, Tulsipur, Utraula, Tikri, Sadullahnagar and Rampur	Tharus	Vaidya
1995-96	Lakhimpur Kheri Forest Division (Uttar Pradesh)	Mailani, Kishanpur, Pawayan, Muhamdi, Bhira, Bankati, Paliya	Tharus, Bhotias, Kanjars, Kunias, Mollahai, Pasis	Khar Vaidyas

* Forest Division / Forest Range: Administrative demarcation of forest boundaries by Ministry of Environment and Forests, Government of India.

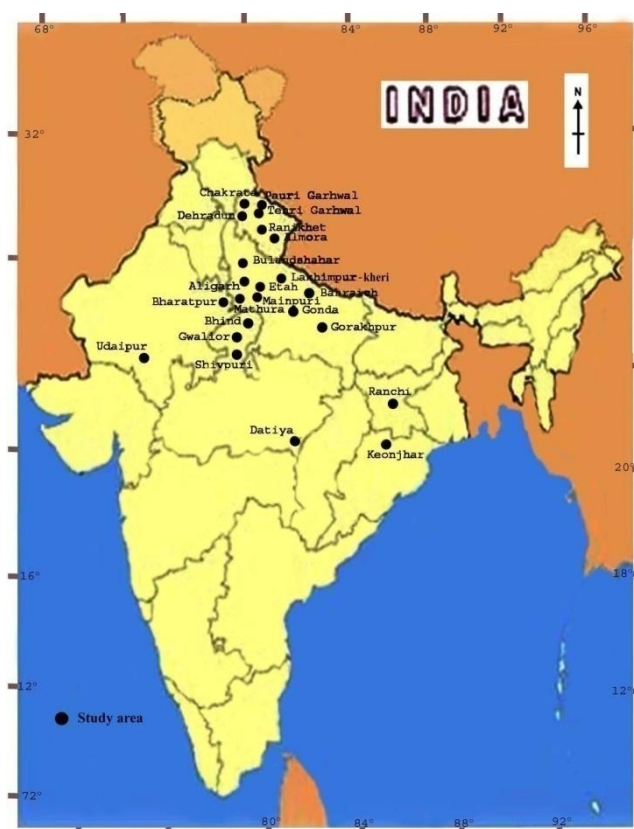


Figure 1. Location map of major study areas.

2.2. Survey Methods

2.2.1. Field Survey

Ethno-pharmacological surveys were conducted in the study area during 1971-1997 during different seasons. Information on folk medicinal uses of plants for curing or alleviating different diseases and conditions of humans and livestock was obtained through interviewing local medicine men and old villagers well-known in the study area for administering treatment. A traditional healer (informant) for the purpose of this study was “a person who was recognized by the community in which he lived as competent” to provide healthcare by using vegetable, animal, and mineral substances and certain other methods. These methods were based on social, cultural, and religious backgrounds as well as on knowledge, attitude, and belief that were prevalent in the community regarding physical, mental, and social well-being and the cause of disease and disability (Sofowara, 1982). Identification of traditional healers was through signpost, notices, enquiries in the neighborhood and also at the market stalls where herbs were sold. The traditional healers were approached and asked for their consent in talking about the diseases and conditions and their management. The information was entered in the prepared questionnaire/field books. The informants had to be convinced that their co-operation was of great benefit to the country in particular and world at large and at the same time that the revelation of their knowledge of medicinal plants would not in any way interfere with the continuous practice of their art. The healers were, therefore, visited in their respective localities. The informants were of great help to discuss and reveal folk medicinal uses of local plants and to show their samples either in the field or in the camp. For each plant the following information was gathered:

- I. Common name of the plant or the crude drug
- II. Specific medical use and/or symptomology of the disease
- III. Part(s) used
- IV. Other ingredients added (if any)
- V. Method of preparation of medicine
- VI. Route of application (oral, external, rectal, vaginal, nasal, ophthalmic)
- VII. Dosage and duration of treatment, as well as precaution (if any).

Based on the information and material provided by medicine men, the weight measurements in dosage forms were determined by using a scale either in the field or camp. Usually dosage was measured as handful, pinch or with uncalibrated containers.

The present study did not focus on a particular tribe or caste, and the informants were chosen at random. However, care was taken to select healers who were reputed for giving treatment using herbs and well versed with local flora of their respective areas. Data on medicinal plants were obtained by direct field interviews of the traditional healers and old villagers and recorded with the help of interpreters where there was difficulty in understanding the language/dialect in different tribal settlements of the area studied. In most of the cases, the data collected were cross-checked at different villages among different medicine men either by surveying the plant specimen or telling local name to the informants to verify the authenticity of claims. Botanical specimens of all folk drugs or plants were

collected and cursory identification was made at the camp after a day's excursion. All the plants were then carefully pressed, properly numbered and duly entered in the field book. In the laboratory all plants were processed by standard procedures.

2.2.2. Identification and Classification of Folk Medicinal Plants

The identification of plants was made with the help of 'The Flora of British India' (Hooker, 1872-1897); 'Flora of the Upper Gangetic Plain and adjacent Siwalik and Sub-Himalayan tracts' (Duthie, 1903-1922); 'Botany of Bihar and Orissa' (Haines, 1921-1925); 'A Forest Flora of Kumaon' (Osmaston, 1927); 'A Forest Flora of Pilibhit, Oudh, Gorakhpur and Bundelkhand' (Kanjilal, 1933); 'Supplement to the Botany of Bihar & Orissa' (Mooney, 1950); 'Supplement to Duthie's Flora of the Upper Gangetic Plain and adjacent Siwalik and Sub-Himalayan tracts' (Raizada, 1976); 'Flora Gorakhpurensis' (Srivastava, 1976); 'Herbaceous Flora of Dehra Dun' (Babu, 1977); 'Forest Flora of Chakrata, Dehra Dun and Saharanpur Forest Divisions' (Kanjilal, 1979); 'Flora of Chamoli' (Naithani, 1984-1985); 'Flora of Rajasthan' (Shetty and Singh, 1987, 1991, 1993); 'Flora of Jabalpur' (Oommachan and Shrivastava, 1996). For confirmation, specimens were compared with authentic herbarium material at the herbaria of Forest Research Institute, Dehradun, and National Botanical Research Institute, Lucknow. Voucher herbarium specimens were prepared and deposited in the herbarium of Survey of Medicinal Plants Units, Regional Research Centre (Ayurveda), Gwalior (M.P.) and Regional Research Institute of Unani Medicine, Aligarh (U.P.), India, for future reference and study. The study involved an extensive literature search and herbarium examination.

2.2.3. Literature Survey for General and Biodynamic Information

A literature survey for general information and biodynamic notes for identified plants was carried out. The main sources of information were 'Glossary of Indian Medicinal Plants' (Chopra *et al.*, 1956); 'The Wealth of India – Raw Materials' (Anonymous, 1948-1976); 'Compendium of Indian Medicinal Plants' (Rastogi and Mehrotra, 1990-1995); 'The Treatise on Indian Medicinal Plants' (Chatterjee & Pakrashi, 1991-1994); 'Dictionary of Indian Medicinal Plants' (Husain *et al.*, 1992); 'Second Supplement to Glossary of Indian Medicinal Plants with Active Principles' (Asolkar *et al.*, 1992); 'Cross-cultural Ethnobotany of North East India' (Saklani & Jain, 1994); Herbal Drugs of Himalaya (Singh and Ali, 1998b).

2.2.4. Sample Size

The study recorded folk uses of plants obtained through interviewing the tribal people and other practitioners of medicine in the study area. The information was gathered from reliable informants who were local healers and elderly people. The folk medicine was mainly practiced by medicine men aged between 50-70 years. The number of plants on which information was given by each of the informants varied from 2 to 25. Herbal medicine men are locally known in different states as 'Bharra,' 'Khar Ved,' 'Siyana' (U.P.); 'Vaid'

(Uttarakhand); ‘Sahariya’ (M.P.); ‘Bhopas,’ ‘Ojhas’ (Rajasthan); ‘Bhagat,’ ‘Guru’ (Jharkhand), ‘Cheramuli doctor’ (Orissa), etc. They were mostly illiterate but had considerable knowledge of the herbal drugs and their uses, acquired in the course of their long experience and association with the forests. Most of these men kept stocks of crude drugs and prescribed these drugs for common ailments. These herbalists were also familiar with diseases and their symptoms. They had long been using locally available herbal crude drugs in the health care of inhabitants. They were capable of healing or alleviating various diseases and conditions, viz., asthma, bone fractures, diabetes, epilepsy, filariasis, jaundice, migraine, malaria, kidney stones, odema, piles, gout and rheumatic pains, typhoid, tonsillitis etc.

Results and Discussion

3.1. Results

In the course of this study, some 444 taxa of medicinal plants belonging to 124 families which are widely used in native medicines for treatment of various diseases and conditions were collected and identified. Folk medicinal plants have been arranged in alphabetical order, by their botanical names followed by synonym(s), if any, and family, English name, local name(s), Unani and Ayurvedic (Sanskrit/Hindi) name, habit and habitat, parts used, locality, name of the tribes/caste and other sources from whom information collected, folk medicinal uses(s) (data on the plant parts, the manner in which they are used, and for which diseases) and biodynamic notes (pertinent data on the chemical constituents and pharmacological actions of the plants wherever available) that might support or contradict the traditional uses of plants to treat specific diseases and conditions.

3.2. Discussion

Ethno-botanical leads have been receiving extensive attention of scientists in India and abroad in an effort to discover novel active compounds from natural sources for finding new pharmaceutical agents to combat many ailments. India with its vast climatic, biological, and ethnic diversity and rich cultures extending without a break to ancient times is a huge repository of such leads. Classifiable sophisticated traditional medical systems viz. Ayurveda, Unani Medicine and Siddha etc. have also added to the body of knowledge of empirical folk medicine. The present work was directed to obtain new and primary information from extensive segments of continental-scale folk medicine of India. Secondly, it aimed to cross-check and authenticate this information including collection and preservation of the plants reported by folk practitioners. Finally, it added general and biodynamic information about the folk medicinal plants surveyed. This will allow prospective investigators to take leads directly without needing to consult other compendia. To make consultations easier an index of disease-wise effect of the plants surveyed has also been provided.

The survey revealed that by and large, the preference was given to medicines prepared from fresh plants. Most of the medicinal plants were wild in nature and collected from the

nearby forests. In some cases they were cultivated plants raised in the garden for their medicinal purpose. Many preparations contained ingredients of non-plant items, such as milk, animal fat, honey and drugs of mineral origin (e.g., alum, ammonium chloride, common salt, and sodium bicarbonate, etc.). Spices and other plant parts or products, viz., 'kesar,' 'supari,' 'gol mirch,' 'elaichi,' 'mulethi,' etc., which were available in the local markets.

All the plant parts viz. flower, fruit, seed, root, leaf, stem bark, sap, latex and even the whole plant were used as medicine. These were used both in their fresh or dried state mostly in the form of paste, juice, decoction, infusion, pills, poultice and ointment. They were taken internally or applied externally. Methods of drug preparation were simple.

The juice of the fresh material was prepared by crushing with small amount of water. The crushed material was put in a thin cotton cloth and then squeezed to obtain the juice. Pastes were prepared by grinding or crushing the crude drugs with little water. Decoctions were usually obtained by boiling the crushed plants or plants parts in water. These medicines were used as such or were mixed with other ingredients. Moreover, the same plant could be used for more than one disease and a single disease may be treated with several plant species. Only laboratory studies and clinical trials could confirm the therapeutic efficacy of a particular folk claim.

3.3. Literature Search on Widely Studied Plants for Their Therapeutic Uses

A considerable part of indigenous knowledge is already well documented, widely known and has passed on into wide usage and into texts. Some of it has also been subjected to modern evaluation. Yet some of this knowledge even now exists only in folk traditions. Data on folk medicinal uses of plants reported have, therefore, been analyzed and compared with the available literature on the medicinal and economic plants of the country (Watt, 1889-1892; Kirtikar and Basu, 1935; Anonymous, 1948-1976; Nadkarni, 1954; Chopra *et al.*, 1956, 1969; Satyavati *et al.*, 1987; Agarwal, 1986; Jain, 1991) and with the other important publications on the study area and its adjoining regions (Bal, 1942; Jain, 1962; Shah and Joshi, 1971; Saxena and Dutta, 1975; Pal and Srivastava, 1976; Sharma *et al.*, 1979; Maheshwari *et al.*, 1980; Singh *et al.*, 1980; Singh and Pandey, 1980; Nautiyal, 1981; Saxena *et al.*, 1981; Chander and Pandey, 1984; Chandra, 1985; Negi *et al.*, 1985; Dhasmana, 1986a,b; Saxena, 1986; Tarafdar, 1986; Uniyal, 1987; Dhasmana, 1987; Husain and Siddiqui, 1987; Mashkoor and Anis, 1987; Singh *et al.*, 1987; Kalakoti and Pangtey, 1988; Mishra *et al.*, 1989; Bist and Badoni, 1990; Tarafdar and Chaudhuri, 1990; Siddiqui and Husain, 1991; Negi *et al.*, 1992; Singh and Maheshwari, 1992, 1994; Sahoo and Mudgal, 1993; Anis and Iqbal, 1994; Khanna *et al.*, 1994; Pareek, 1997; Chandra, 1995; Mishra and Naquvi, 1995; Pant and Pandey, 1995; Katewa and Arora, 1997; Rana and Datt, 1997; Billore *et al.*, 1998; Katewa and Sharma, 1998; Ram and Saha, 1998; Singh and Anand, 1998). It was found that therapeutic uses of many plants reported herein were not recorded earlier or were not known in detail. However, medicinal uses of other plants were similar to earlier published reports. Among these were, *Abrus precatorius*, seeds used as abortifacient; *Achyranthes aspera*, whole plant given in snake-bite; *Acorus calamus*, rhizome used as antiseptic and given for treatment of fever; *Adhatoda zeylanica*, whole plant given in asthma; *Adiantum venustum*,

whole plant used to treat cold and cough; *Aegle marmelos*, pulp of ripe fruit used to treat stomach disorders; *Aloe vera*, leaves used to treat gout and rheumatism; *Amorphophallus paeoniifolius*, tuber was given to treat hemorrhoids; *Argemone Mexicana*, stem juice used to treat conjunctivitis and skin diseases; *Aristolochia indica*, root stock used in cases of snake-bites; *Artemisia nilagirica*, leaf paste used to treat fresh cuts and wounds; *Asparagus racemosus*, root used as galactagogue; *Boerhavia diffusa*, root paste used to treat jaundice; *Bombax ceiba*, roots used as aphrodisiac; *Butea monosperma*, seeds used as vermifuge; *Caesalpinia bonduc*, seed powder given to treat common fever; *Caesalpinia bonduc*, seeds used for malaria treatment; *Cassia fistula*, leaves given in skin diseases; *Cassia occidentalis*, leaves used to treat skin diseases; *Cassia occidentalis*, seed paste used to treat scabies; *Celastrus paniculatus*, seeds used for malaria treatment and oil from seeds used to treat rheumatism; *Centella asiatica*, to improve memory and painful urination, whole plant given as paste; *Cissampelos pareira*, root is chewed to relieve stomachache; *Coriandrum sativum*, fruit juice given to men as family planning measure; *Curculigo orchoides*, rhizome used as an aphrodisiac; *Curcuma longa*, root paste used to treat stomachache; *Datura metel*, roasted seeds used to treat bronchial asthma; *Diplocyclos palmatus*, fruit juice given to treat constipation; *Drimia indica*, bulbs given in chronic bronchitis; *Eclipta prostrata*, root used as antiseptic in cases of finger decay; *Euphorbia orbiculata*, root used to increase lactation among nursing mothers; *Euphorbia royleana*, latex from plant used to treat skin diseases; *Ficus benghalensis*, latex used in cases of cough; *Ficus racemosa*, unripe receptacles were eaten to treat menorrhagia; *Helicteris isora*, fruits used to treat infantile diarrhea; *Helminthostachys zeylanica*, roots used as aphrodisiac; *Hibiscus rosa-sinensis*, paste of flowers applied on navel of woman in case of difficult delivery; *Jatropha curcas*, tender twigs used as a tooth brush; *Litsea glutinosa*, paste of stem bark used to treat bone fracture; *Lygodium flexuosum*, rhizome used to treat rheumatism; *Lyonia ovalifolia*, juice from fresh leaves applied to treat scabies; *Momordica charantia*, leaves juice was used as antihelmintic; *Ocimum sanctum*, leaves used to treat malaria; *Oroxylum indicum*, leaves and stem juice given in cases of snake-bites; *Paederia foetida*, whole plant used to treat rheumatism; *Phylla nodiflora*, root paste given to treat common fever; *Plumbago zeylanica*, root paste used to treat arthritis; *Pueraria tuberosa*, root used as tonic; *Punica granatum*, stem bark used to treat menstruation disorders; *Rauvolfia serpentina*, root given to treat insanity; *S. indicum*, fruits worn in neck to treat jaundice; *S. viarum*, fruit smoke used to treat tooth decay; *Semicarpus anacardium*, nut used as vermifuge; *Shorea robusta*, gum used to treat diarrhea; *Solanum erianthum*, fruit juice used as vermifuge; *Swertia chirayita*, plant decoction used to treat common fever including malaria; *Syzygium cumini*, fruits used to treat diabetes mellitus; *Thalictrum foliolosum*, root used to treat hemorrhoids; *Thespesia lampas*, root paste used to treat bleeding from any part of body (particularly anus, mouth, and nose); *Tiliacora acuminata*, root used to treat snake-bite; *Tinospora cordifolia*, stem-bits given to treat fever; *Trichosanthes tricuspidata*, seeds used to check conception. Yet, their modes of use, in majority of the cases, were different as far as the parts used, method of preparation of drugs, use of additives and mode of administration concerned. This suggests that traditional phytotherapies developed through personal experiences in primitive communities and are mostly endemic in nature. As such, data presented in this work represent contemporary uses of plants provided by the different indigenous communities of India.

3.4. Folk Drugs Studied for Biodynamic Information

A literature survey indicated that many of the plants as listed were well known species and have been well studied chemically and pharmacologically e.g., *Abrus precatorius* L., *Achyranthus aspera* L., *Aegle marmelos* (L.) Corr., *Allium sativum* L., *Aloe vera* (L.) Burm. f., *Alstonia scholaris* (L.) R.Br., *Asparagus racemosus* Willd., *Azadirachta indica* A. Juss., *Boerhaavia diffusa* L., *Butea monosperma* (Lam.) Taubert, *C. occidentalis* L., *Caesalpinia bonduc* (L.) Roxb., *Calotropis gigantea* (L.) R.Br., *Calotropis procera* (Ait.) R.Br., *Cannabis sativa* L., *Cassia fistula* L., *Celastrus paniculatus* Willd., *Centella asiatica* (L.) Urban, *Cordia dichotoma* Forst. f., *Curcuma amada* Roxb., *Curcuma longa* L., *Cuscuta reflexa* Roxb., *Holarrhena pubescens* (Buch.-Ham) Wall ex G. Don, *Mallotus philippinensis* (Lam.) Muell-Arg., *Momordica charantia* L., *Rauvolfia serpentina* (L.) Benth. ex Kurz, *Ricinus communis* L., *Solanum nigrum* L., *T. chebula* Retz., *Terminalia belirica* (Gaertn.) Roxb., *Tinospora cordifolia* (Willd) Miers etc. *Acacia chundra* (Roxb. ex Rottler) Willd, *Alangium chinense* (Lour.) Harms, *Amaranthus tricolor* L., *Anogeissus sericea* Brandis, *Arisaema tortuosum* (Wall.) Schott, *Asparagus curillus* Buch-Ham. ex. Roxb., *Avena sativa* L., *Baliospermum montanum* (Willd.) Muell-Arg.), *Biophytum sensitivum* (L.) DC., *Boehmeria macrophylla* Horn., *Chlorophytum tuberosum* (Roxb.) Baker, *Cissus adnata* Roxb., *Commiphora berryi* Engl., *Cordia vestita* (DC.) Hook f. & Thomas., *Cotoneaster microphyllus* Wall. ex Lindl., *Crotalaria linifolia* L.f., *Dillenia aurea* Sm., *Desmostachya bipinnata* (L.) Stapf, *Drypetes roxburghii* (Wall.) Hurusawa, *Elytraria acaulis* (L.f.) Lindau, *Embelia robusta* Roxb., *Eragrostis viscosa* (Retz.) Trin, *Euphorbia fusiformis* Buch.-Ham., *Fleminga chapper* Buch.-Ham.ex Benth., *F. phursia* Ham., *F. prostrata* Roxb., *Girardinia palmata* (Forssk.) Gaud., *Grewia flavescens* A. Juss., *Heliotropium supinum* L., *Hemigraphis hirta* (Vahl) T. Anders., *Lygodium flexuosum* (L.) Sw., *Plectranthus mollis* (Ait.) Spreng., *Sterculia villosa* Roxb. ex DC., *Telosma pallida* (Roxb.) Craib etc. As such, chemical constituents and pharmacological actions of most of the species are already known.

3.5. Folk Drugs Less Studied for Biodynamic Information

However, meager or no information was available on *Acacia chundra* (Roxb. ex Rottler) Willd., *Anogeissus sericea* Brandis, *Arisaema tortuosum* (Wall.) Schott, *Arundinaria falcata* Nees, *Baliospermum montanum* (Willd.) Muell-Arg., *Chlorophytum tuberosum* (Roxb.) Baker, *Cissus adnata* Roxb., *Commiphora berryi* Engl., *Cordia vestita* (DC.) Hook.f. Thomas., *Crotalaria linifolia* L.f., *Desmostachya bipinnata* (L.) Stapf, *Elytraria acaulis* (L.f.) Lindau., *Eragrostis viscosa* (Retz.) Trin, *Fleminga prostrata* Roxb., *Flemingia phursia* Ham., *Glossocardia bosvallea* (L.f.) DC, *Hemigraphis hirta* (Vahl) Anders, *Ipomoea hederifolia* L., *Lagerstroemia parviflora* Roxb., *Leea macrophylla* Roxb. ex Hornem, *Lepidagathis hyaline* Nees, *Lepidagathis trinervis* Wall. ex Nees, *Lygodium flexuosum* (L.) Sw, *Marsdenia hamiltonii* Wight, *Miliusa tomentosa* (Roxb.) Sinclair, *Oxyceros fasciculata* (Roxb.) Yamazaki, *Peristrophe paniculata* (Forsk.) Burmm., *Pimpinella bracteata* Haines,

Plectranthus mollis (Ait) Spreng., *R. ornata* Choisy, *Rivea hypocrateri formis* (Desr.) Choisy, *Senecio cylindricus* Boj., *Smilax perfoliata* Lour, *Sterculia villosa* Roxb. ex DC, *Taxillus vestitus* (Wall.) Danser, *Telosma dillenifolia* Wall., *Telosma pallid* (Roxb) Craib., *Vanda testacea* (Lindl) Reichb. f., *Viburnum cylindricum* Buch.-Ham. ex D. Don, *Viola canescens* Wall, *Vitex leucoxydon* L.f., *Wendlandia tinctoria* (Roxb) DC., *Zingiber capitatum* Roxb., *Zingiber roseum* Rosc.

Thus, there seems to be a definite need to undertake an accurate phyto-chemical and pharmacological study of such plants particularly those uninvestigated so far. As upgraded scientific tools have been able to identify new compounds even from plants that had already been investigated, the plants identified in this survey should be studied with latest techniques even if they have been studied by older methodology earlier. It would be worthwhile to subject all these folk drugs to scientific testing in the context of claims reported herein:

- a) For general indications of bio-activity suitable for broad screens;
- b) For indications of specific activities suitable for particular bioassays, and;
- c) For indications of activity against disorders of unknown aetiology in the search of new drugs (Chadwick and Marsh, 1994; Cox, 1994).

It is hoped that through such investigations, new plant drugs which could act very specifically in curing various ailments may be discovered. Such laboratory studies have a special significance for India, where the medicinal flora is rich and many tribal populations are still solely dependent on herbal drugs, in which they have a deeper faith. Therefore, it is, imperative that an herbal 'Materia Medica' of the tribal people of the ethno-botanically unexplored areas of India should be documented systematically, before this knowledge is lost permanently with the ever dwindling number of folk medicinal practitioners, like the Bhopas, with the rapid indiscriminate devastation of forests, and the acculturation of such tribal communities. Such studies are of special significance for India, where medicinal flora is quite rich and sizeable rural population and tribal people still depend on herbal drugs for their survival, and have deep faith in such preparations.

This valuable indigenous knowledge of folk medicine is passed on verbally from one generation to another and is also liable to be lost forever under the growing pressure of rapid urbanization, expansion of agriculture, acculturation of indigenous communities and indiscriminate devastation of forests. Therefore, sustained efforts need to be made to further gather and document this empirical knowledge and to protect and conserve natural forests. More extensive and systematic ethno-botanical explorations, in these regions in particular and in other ethno-botanically un-explored areas of the country in general, are necessary before most of these wild medicinal plants become endangered and their folk uses forgotten.

The folk medicinal claims reported are in use since time immemorial and have wide local acceptability. In a medical recipe there is rarely a single use of drug, and by and large two or more drug taxa are employed. It is mainly due to the fact that the mixture has a synergistic effect, and therefore claimed to be more potent to cure the disease. The long standing use of these recipes as plant drug in the area surveyed, reasonably guaranteed their medical efficacy and safety, and therefore, could be suggested for inclusion in the Indian Primary Health Care Programs after preliminary screening. Nevertheless, there is an urgent need to investigate these folk drug plant taxa scientifically, in the context of claims reported herein.

Lastly there is a need to generate an early awareness about the Traditional Resource Rights (TRR) of indigenous traditional and local communities, which would help in developing and putting in place procedures to compensate native people for the utilization of their knowledge and natural resources or biogenetic material, as already emphasized by several workers (Principe, 1989; FAO, 1991,1993; GATT, 1993; Gollin, 1993; Cunningham, 1993; Posey *et al.*, 1994; Vlist, 1994; Mehra, 1996).

Conclusion

The study has brought to light many plant species used by 'tribal herbal medicine men' reported to be effective against many diseases and conditions viz.; gout and rheumatism pains, inflammation, bronchial asthma, boils, typhoid, tonsillitis, bone fracture, diabetes mellitus, epilepsy, filariasis, jaundice, migraine, malaria, kidney stones, odema, haemorrhoids, and others. Data on folk medicinal uses of plants collected have also been analyzed and compared with available literature on medicinal and economic plants of the country. It has been found that therapeutic uses of many plants reported herein were not recorded earlier or imperfectly known. Besides, many medicinal species have either been not studied or less studied for their chemical constituents and pharmacological effects. Re-investigation of all such folk drugs species in the context of claims reported has been suggested.

Further studies of such folk drugs claimed to have potential medicinal properties are important not only for discovery of new therapeutic agents but also for the discovery of new sources of economic materials and precursors for the synthesis of complex chemical substances of biological or industrial importance. It is likely that with the availability of new scientific tools in recent times coupled with improved screening techniques *in vitro* bioassays, new active components which may be very specific to combat many of the diseases and conditions having no satisfactory cure in modern medicine, thus far, may be discovered through such investigations.

Ethno-medicinal information presented on 1,120 folk uses of plants would help in finding new lead pharmaceutical compounds from natural sources as diseases remain recalcitrant to treatment and multi-drug resistant strains of infectious disease agents continue to emerge. The vast chemical diversity of medicinal plants species is a promising source of lead compounds that is relatively unexplored and the investigations of traditional and folk medicinal plants is a valuable tool for targeting potentially active species to combat many of the diseases and conditions for which there is no satisfactory cure in modern medicine. Present work providing 1,120 folk prescriptions for human and veterinary use is a humble endeavor in this direction.

Enumeration of Medicinal Folk Drug Plants

4.1. Presentation and Explanation of Data

- 1) Botanical name: The genus and species are listed here in alphabetic order. Following Bennet (1987), valid scientific name appears in bold face, followed by selected synonym in *Italic* type.
- 2) Family: Names of families are given as followed in latest available floras and monographs.
- 3) English name(s): English names of the plants are given wherever available.
- 4) Local name(s): The vernacular names of the folk drugs or the plants are given in an alphabetic order.
- 5) Unani¹ / Ayurvedic² (Sanskrit/Hindi) name(s): Common Unani/Ayurvedic names of the plants wherever given are mainly based on 'National Formulary of Unani Medicine' (Anonymous, 1981b) and 'Medicinal Plants used in Ayurveda' (Sharma *et al.*, 1998) and related publications.
- 6) Habit and Habitat: General habit of the plant and some distinguishing characters of flower and fruit have been given.
- 7) Wild / Cultivated: Information on habitats especially plants found growing wild and cultivated is given.
- 8) Medical efficacy claimed: The majority of local diseases and conditions have English names which are the same as those known to modern medicine such common names are used here. However, there are few local illnesses for which there is no apparent corresponding medical term.

¹ Unani Medicine or Greco-Arab Medicine is the Traditional Medicine of the Muslim World currently strongest in the Indian sub-continent. It is based on Supra-physical Factors of Man and Drugs, their physical indicators and clinical validation. It uses only natural substances as drugs which are generally curative and safe. Avicenna's Canon (Arabic) is its central authoritative text. Plant names used in Unani texts are referred as 'Unani Names.'

² Ayurveda (the science of life) is one of the branches of Vedas (1500-5000 BC). The use of plants is seen in Vedic compendia. Their first use is seen in Rigveda (5000 BC); later, the Atharvaveda (1500 BC) has got a more advanced picture and larger number of drugs are used in diseases. On this long tradition and accumulated wisdom, the ancient sages used plants rationally and thus Ayurveda was evolved. Plant names used in Ayurvedic texts are referred as 'Ayurvedic Names' (Joshi, 1996)

- 9) Name of cast and tribe: Name of a particular cultural and ethnic group is given.
- 10) Part(s) used: Data on the plant / plant parts used appears here.
- 11) Locality: Area(s) from which a particular folk medicinal use of plant and botanical specimen collected are listed here.
- 12) Folk medicinal use(s): Data on the plant part, the manner in which they are used, and for which disease(s) and conditions appear here. As far as possible, and wherever available the probable dosage and duration of treatment of these crude drugs are given here.
- 13) Biodynamic note(s): Information on the chemical constituents, pharmacological action(s), and physiological effects of the plant / plant parts, which may justify the uses of plants in folk medicine for the specific disease / condition are listed here.

4.2. Systematic Enumeration

Information on the use of plants in folk medicine have been arranged in alphabetical order, by their botanical names followed by synonym(s), if any, and family, English name, local name(s), Unani and Ayurvedic (Sanskrit/Hindi) name, habit and habitat, parts used, locality, name of the tribes/caste and other sources from whom information collected, folk medicinal uses(s) (data on the plant parts, the manner in which they are used, and for which diseases) and biodynamic notes (pertinent data on the chemical constituents and pharmacological actions of the plants wherever available) that might support or contradict the traditional uses of plants to treat specific diseases and conditions.

1. Botanical Name: *Abelmoschus esculentus* (L.) Moench. (Syn. *Hibiscus esculentus* L.)

Family: Malvaceae

English name(s): Gumbo, Lady's Finger, Okra; *Local name(s):* Bhindi; *Unani name(s):* Bhindi; *Ayurvedic (Sanskrit/Hindi) name:* Bhindi

Habit and Habitat: An erect herb. Flowers pale yellow with purple center. Capsules succulent, ribbed, pubescent. Cultivated. *Part(s) used:* Fruit, Root. *Locality:* Bahraich, Gorakhpur, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Gonorrhea and other venereal diseases, leucorrhea, male sterility, rheumatism, to facilitate delivery.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Dhangars, Paharias, Tharus.

Folk medicinal use(s):

- Fresh root juice (25 ml) mixed with powder of 5 grains of black pepper is taken twice daily, for 21 days, for rheumatism.
- About 25 ml of root juice mixed with powder of few black pepper are given especially, for gonorrhea.

- Root paste (10 g) obtained by grinding in water is given thrice daily, for one month for venereal diseases.
- Powdered root of the plant with 'mulethi' (root of *Glycyrrhiza glabra* L.) is given to treat male sterility.
- Root tied on the thigh of the woman, is claimed to facilitate child delivery. The root is removed shortly after the delivery is completed.
- Fruit juice mixed with black pepper is given, for leucorrhea.

Biodynamic note(s): Flower: flavonol glycosides, quercimeritrin, gossypetin, hibiscetin glucoside; Seed: fungitoxic.

2. Botanical Name: *Abrus precatorius* L.

Family: Fabaceae

English name(s): Crab's Eye, Indian Liquorice, Jequirity; *Local name(s):* Chirmu, Gumchi, Gunj; *Unani name(s):* Ghongchi; *Ayurvedic (Sanskrit / Hindi) name:* Gunja, Ghumehi

Habit and Habitat: A twinning shrub. Flowers pinkish. Pods oblong, turgid. Seeds scarlet with a black hilum. Wild. *Part(s) used:* Leaf, root, seed. *Locality:* Bahraich, Kheri, Pauri Garhwal, Udaipur.

Medical efficacy claimed (name of the disease or condition): Abortifacient, Bone fracture, diabetes mellitus, to stop conception.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Boxas, Garasias, Tharus.

Folk medicinal use(s):

- Root paste (20 g) mixed with 250 ml buffalo's milk is taken twice daily, for 5 days to treat hairline bone fractures.
- Seven seeds are ground and made into six pills with old 'gur' (solidified sugarcane juice), one pill is given twice daily, for 3 days, for termination of pregnancy of up to 2 month period.
- Powder of two seeds with 'gur' (solidified sugarcane juice) is given for 3 days after menstruation to woman to stop conception. In another recipe, root paste (25 g) is made into pills of about 5 g each with sugar; one pill is taken once daily for 5 days after menses.
- Powdered leaves are given in the dose of 2g twice daily to control diabetes mellitus.

Biodynamic note(s): Plant: abrin, abralin, glucoside; *Root:* abroo, abrasion, precasin; *Leaf:* glycyrrhizin, isoflavanquinones, abrusquinone A, B & C; *Seed:* abrin, hypaphorine, gallic acid, steroids, β -sitosterol, stigmaterol.

Root: antifertility; *Seed:* anticancer, antibacterial, CNS depressant, analgesic, antispasmodic, uterine stimulant, antifertility, antimicrobial.

3. Botanical Name: *Abutilon indicum* (L.) Sweet

Family: Malvaceae

English name(s): Country Mallow; *Local name(s):* Kanghi; *Unani name(s):* Kanghi; *Ayurvedic (Sanskrit / Hindi name):* Atibala

Habit and Habitat: A suffruticose, tomentose shrub. Flowers orange-yellow. Ripe carpels 15-20, black at maturity. Seeds black, tubercled. Wild. *Part(s) used:* Fruit, leaf. *Locality:* Kheri, Mainpuri.

Medical efficacy claimed (name of the disease or condition): To expel placenta after delivery in cases of buffaloes, to increase lactation in nursing mothers.

Name of the tribe/caste, and other sources from whom information collected: Rural population, Tharus.

Folk medicinal use(s):

- Leaf juice is used to increase lactation in nursing mothers.
- About 500 g fresh fruits are given with fodder to expel placenta after delivery in cases of buffaloes.

Biodynamic note(s): *Plant:* asparagin, flavons, gossypetin 8 & 7-glucoside, alkanol, β -sitosterol, mucilage; *Leaf:* β -sitosterol, tocopherol oil.

Plant: antibacterial, antifungal.

4. Botanical Name: *Acacia chundra* (Roxb. ex Rottler) Willd.

Family: Mimosaceae

Local name(s): Khergon; *Ayurvedic (Sanskrit/ Hindi name):* Khair, Khadir

Habit and Habitat: A moderate-sized tree. Flowers yellowish-white. Pods long, brown, obtuse at apex with a point. Wild. *Part(s) used:* Gum. *Locality:* Udaipur.

Medical efficacy claimed (name of the disease or condition): Backache.

Name of the tribe/caste, and other sources from whom information collected: Garasias.

Folk medicinal use(s):

- Dried gum is fried in ghee with sugar (one part gum, two part sugar) and given orally in cases of backache in a dose of 30 g per day in the morning for 30-40 days.

Biodynamic note(s): *Bark:* astringent-tannins; *Aerial parts:* spasmolytic.

5. Botanical Name: *Acacia jacquemontii* Benth.

Family: Mimosaceae

Vernacular name(s): Kikar

Habit and Habitat: A shrub or small tree. Flowers pale yellow in fascicles heads. Pod long, flat, thin, straight. Wild. *Part(s) used:* Pod, Stem bark. *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): Bronchitis, colds and cough, leucorrhea, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Stem bark decoction is taken twice daily in the dose of 5-6 ml for a week to treat bronchitis.
- Hundred grams of stem bark with few grains of black pepper, dried ginger and crystalline sugar are boiled in 500 ml water. A dose of 10 ml of this decoction is given twice daily, for 3 days to treat colds and cough.
- Dried pods are powdered and given in the dose of 1-3 g once a day with milk for 10-15 days to treat leucorrhea. This powder is also given with cow milk, once daily before breakfast for 1-2 months, in cases of spermatorrhea.

Biodynamic note(s): Root: 2 cassane diterpenes.

6. Botanical Name: *Acacia nilotica* (L.) Willd. ex Del.

Family: Mimosaceae

English name(s): Babul, Black Babool, Indian Gum Arabic Tree; *Local name(s):* Babul, Desi Babul; *Unani name(s):* Samagh-e-Arabi, Kikar, Mughilan; *Ayurvedic (Sanskrit / Hindi) name:* Babbula

Habit and Habitat: A large tree. Flowers yellow in axillary heads. Pods constricted between seeds. Wild. *Part(s) used:* Flower, leaf, tender fruits; *Locality:* Aligarh, Gwalior.

Medical efficacy claimed (name of the disease or condition): Gonorrhea, headache, otorrhea, prolapse of uterus.

Name of the tribe/caste, and other sources from whom information collected: Rural population, Saharias.

Folk medicinal use(s):

- Leaf paste is applied on the forehead of the patient to provide instant relief in common headache.
- Fresh leaf juice (25 ml) with powder of 3 fruits of *Pedaliium murex* L. and little sugar is given twice daily, for a week, in cases of venereal diseases, especially gonorrhea.
- 15-20 flowers are fried in 5 ml mustard oil. It is filtered and 1-3 drops of this oil are poured in the ear for 2-3 days in cases of otorrhea.
- Unripe fruits are crushed with 'choti elaichi' in the ratio of 10:1. A dose of 6 g is consumed daily for 20 days to treat prolapse of uterus.

Biodynamic note(s): *Root bark:* betulin, α -amyrin, β -sitosterol; *Bark leaf:* tannin; *Gum:* galactose; *Heartwood:* α -amyrin, β -sitosterol; *Fruit:* tannin, gallic acid.

Bark: antiprotozoal, hypotensive, spasmolytic, hypoglycemic, *Seed:* hypoglycemic, antifungal.

7. Botanical Name: *Acacia pennata* (L.) Willd.

Family: Mimosaceae

Local name(s): Bir-kundro; *Unani name(s):* Aila; *Ayurvedic (Sanskrit/Hindi) name:* Aadari

Habit and Habitat: A large woody climber. Flowers small, in heads. Pods small, broad. Wild.

Part(s) used: Root; *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Scorpion sting.

Name of the tribe/caste, and other sources from whom information collected: Mundas.

Folk medicinal use(s):

- Root paste (10-15 g) is given once daily and also applied externally on sting point.

Biodynamic note(s): *Stem:* β -sitosterol; *Stem bark:* lupeol, α -spinasterol. *Aerial part:* hypotensive, CVS active.

8. Botanical Name: *Acacia torta* (Roxb.) Craib

Family: Mimosaceae

Local name(s): Amna; *Ayurvedic (Sanskrit/Hindi) name:* Aadaribhed

Habit and Habitat: A large climber. Flowering heads white. Pods flat with strong sutures.

Wild. Part(s) used: Leaf. *Locality:* Udaipur.

Medical efficacy claimed (name of the disease or condition): Scorpion sting.

Name of the tribe/caste, and other sources from whom information collected: Garasias.

Folk medicinal use(s):

- Semidried leaves are smoked with tobacco to get instant relief from the painful, burning sensation of scorpion sting.

Biodynamic note(s): *Bark:* lupeol, α -spinasterol, stigmasterol, lactone of acacic acid; *Root:* tryptamine; *Seed:* acacinoic acid, saponin; *Aerial part:* hypothermic, CVS active.

9. Botanical Name: *Acanthospermum hispidum* DC.

Family: Asteraceae

Local name(s): Kantajhar; *Ayurvedic (Sanskrit/Hindi) name:* Gokshur, Tirkantak

Habit and Habitat: A tall hispid herb. Flowers yellow, minute. Achenes obconical, with hooked spines. Wild. *Part(s) used:* Fruit. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Menstrual disorders.

Name of the tribe/caste, and other sources from whom information collected: Juangs.

Folk medicinal use(s):

- Powdered fruits are given in the dose of 10 g once daily in the morning for 15 days to treat menstrual disorders.

Biodynamic note(s): Plant: terpens, glycoside, acanthospermum- β -galactosidopyranosid, melampolide, Cis-Cis-germacranolide; *Leaf:* antibacterial, antifungal.

10. Botanical Name: *Achyranthes aspera* L.

Family: Amaranthaceae

English name(s): Prickly-Chaff Flower; *Local name(s):* Apamarang, Apamarg, Bang, Chirchita, Chichhira, Chirehito, Katela ongha, Lamchichra, Lachirchira; *Unani name(s):* Atkumah, Chirchita, Khar-e-Wazoon; *Ayurvedic (Sanskrit/Hindi) name:* Apamarg, Chirchida

Habit and Habitat: An erect herb. Flowers greenish-white. Seeds sub-cylindrical, brown. Wild. *Part(s) used:* Fruit, leaf, root, stem, whole plant. *Locality:* Aligarh, Gonda, Keonjhar, Gorakhpur, Gwalior, Kheri, Mathura, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Abscesses, amenorrhea, backache, bone fracture, bronchial asthma, common fever, diabetes, dog bite, dysentery, epilepsy, intermittent fever, labor pain, leucorrhea, peptic ulcer, pneumonia, pyorrhea, scorpion sting, sensitive gum, sinus of spinal cord, slow and painful urination, snakebite, sprains, to facilitate delivery, to kill appetite, tonsillitis, toothache, whooping cough.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Doms, Kanjar, Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Leaf paste is given with curd to treat common fever.
- Crushed leaves are rubbed on aching back of the patient.
- In cases of pneumonia, lukewarm paste of the leaves is applied on chest of the patient to relieve chest pains.
- Fresh leaf juice (one teaspoonful) is taken with 10 g sugar, twice daily for 3 days to treat dysentery.
- Leaf juice is applied locally with common salt on sprains.
- Leaf paste is applied on abscesses twice daily for 3 days, to drain off pus.
- Semidried leaves are burnt to produce smoke. It is inhaled by the patient to relieve bronchial asthma.
- To treat dog bite, leaf paste (10g) is taken orally once daily early in the morning for 3 weeks. In another recipe, seven leaves are crushed and taken as single dose twice a week (on Tuesday and Sunday). During treatment taking water bath is prohibited and excessive use of ghee is recommended in diet. The treatment is effective only if given within 21 days after the bite.
- In case of intermittent fever, 10 g of fresh leaf paste are mixed with 100 g fresh curd and given once daily for 5 days.
- Leaf paste is applied externally over the abdomen of patient to obtain relief from slow and painful urination.
- 2-3 drops of leaf juice are dropped in the ear to alleviate toothache instantly.
- Root paste is applied locally to treat scorpion sting.

- To facilitate delivery, a long root is made into a ring and worn in the toe of left leg of the female. It is to be removed at once after the birth of child failing which it is said that uterus may come out.
- In cases of snakebite, root paste is given with water at short intervals, until the patient vomit and regains consciousness.
- A fresh, long piece of the root is used as tooth brush twice a day to relieve sensitive gums.
- Root is chewed twice daily to treat pyorrhea and to strengthen gums. Powder of dried stem is also used as dentifrice against pyorrhea.
- In cases of sinus of spinal cord, root paste is applied externally twice daily for 3 days. In another recipe, root paste is fried in ghee and applied till cure. It is washed with 'neem water' daily.
- Root paste mixed with honey is made into pills of about 3g each, two pills are taken once daily with water to control diabetes.
- Crushed root (50g) is boiled in 250 ml water and allowed to cool. This decoction is drunk once daily at bedtime for 7 days to treat amenorrhea.
- Fresh root is chewed to treat tonsillitis. In another recipe, root paste (lukewarm) is applied externally twice daily for 4-5 days, or till the cure is obtained.
- Root decoction with powder of black peppers is given to treat leucorrhea.
- Paste of 2-cm long piece of the stem mixed with powder of 5-6 grains of black pepper is given early in the morning for six months to treat epilepsy (fits).
- For the treatment of peptic ulcer, dried fruits are finely powdered; 1g of the powder is given thrice daily, for 7-10 days. Treatment may be extended for 1-2 month. Red chilies are restricted in the diet during the course of treatment.
- During famine, 10g fruit powder is taken once a day early morning to kill appetite.
- Plant paste is applied locally after setting right fractured bones, and tide with a cotton bandage. Besides, same paste in the dose of 100g mixed in 20g ghee and powder of 7-8 black pepper grains is taken orally for one month to expedite the healing process.
- Whole plant is burnt and made into ashes. It is dissolved in water, stirred, decanted and boiled to concentrate. A dose of 10 ml of this preparation is given thrice daily, in cases of whooping cough.
- A piece of root is tied on the right thigh of the pregnant women at the time of delivery to induce labor pain.

Biodynamic note(s): Plant: alkaloid-achyranthin; *Root:* ecdysterone, oleanolic acid; *Seed:* saponin A dimethyl ester & saponin B methyl ester, oleanolic acid.

Whole plant: hypoglycemic; *Leaf:* antibiotic.

11. Botanical Name: *Aconitum falconeri* Stapf

Family: Ranunculaceae

Local name(s): Meetha; *Ayurvedic (Sanskrit/Hindi) name:* Bachnag Meetha

Habit and Habitat: A tuberous herb. Inflorescence tomentose. Carpels quiet glabrous. Wild.

Part(s) used: Root. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Gouts, paralysis, rheumatism, sciatica.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Root after detoxification is used internally to treat both sciatica and paralysis.
- Roots (50g) are boiled in 1 liter of cow milk, until the milk becomes blackish and cooled. To this Sesamum oil is mixed in equal quantity and massage done on the affected joints 3-4 times a day to treat rheumatism and gouts.

Biodynamic note(s): alkaloids, bishatisine, bishaconitine, falconitine, mithaconitine.

12. Botanical Name: *Aconitum heterophyllum* Wall. ex Royle

Family: Ranunculaceae

English name(s): Atis Root; *Local name(s):* Atis; *Unani name(s):* Atees Shireen; *Ayurvedic (Sanskrit/Hindi) name:* Ativisha, Atees

Habit and Habitat: A downy herb. Flowers bright blue to greenish-blue with purplish veins.

Wild. Part(s) used: Root. *Locality:* Chakrata (Singh 203).

Medical efficacy claimed (name of the disease or condition): Fever and stomach pain.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Powdered root (1-2g) is mixed with mother's milk and given to children for 2-3 times in a day to treat fever and stomach pain.

Biodynamic note(s): *Root:* alkaloids, heterophyllisine, heterophylline, heterophyllidine, heteratisine, hestisine, hetidine. *Root:* antifertility agent.

13. Botanical Name: *Acorus calamus* L.

Family: Araceae

English name(s): Sweet Flag; *Local name(s):* Bach, Boja, Ghorbach, Ghurbad; *Unani name(s):* Bach, Waj-e-Turki; *Ayurvedic (Sanskrit/Hindi) name:* Vacha

Habit & Habitat: A semiaquatic perennial aromatic herb with creeping and much branched aromatic rhizome and fibrous root. Flowers yellowish. *Wild. Part(s) used:* Root. *Locality:* Chakrata, Gonda, Pauri Garhwal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Colds with fever, common fever, intestinal worms, menstrual disorders, to improve lost voice, to kill worms in cases of cattle.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Khasas, Mundas, Tharus.

Folk medicinal use(s):

- Root powder is given with water to treat common fever.
- A piece of root is hung on the neck of children to treat colds with fever.
- Root paste is given once daily, for 3 days in cases of intestinal worms.
- The paste of root is given orally to treat menstrual disorders.
- Powdered root is considered useful to regain and improve lost voice.
- Root paste is used to kill worms in the wounds of cattle.

Biodynamic note(s): Plant: glucoside, acorin, alkaloids, essential oil; *Leaf:* α - β -pinene, calacone, calamine, oxalic acid, calcium; *Root:* acoric acid, choline.

Plant: anticonvulsant; *Rhizome:* hypotensive, insecticidal, piscicidal, spasmolytic, CNS depressant.

14. Botanical Name: *Actinopteris dichotoma* Bedd.

Family: Actiniopteridaceae

English name(s): Peacock's tail; *Local name(s):* Morphankhi; *Unani name(s):* Morpankhi

Habit and Habitat: A small tufted fern. Fronds dichotomously divided into linear segments with toothed tips. Sori in continuous line on the side margins. Wild. *Part(s) used:* Leaf, whole plant. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Diarrhea, headache, tuberculosis.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Whole plant is ground with little water and 3g of this preparation are given with butter milk twice daily, for 1-2 days to treat diarrhea.
- Whole plant is ground with butter milk of cow, and made into a fine paste. This is applied on the head of the patient early in the morning for 3 days in cases of headache.
- Equal quantities of the leaves of 'morpankhi' and *Teramnus labialis* (L.f.) Spreng. are ground and made into paste with 'gur' (solidified sugarcane juice). Of this pills of 1 Bengal gram size are made and 5 pills each are given twice daily, for 3 months to treat tuberculosis.

Biodynamic note(s): Sporophyte: rutin; *Fronds:* hentriacontane, hentriacontol, β -sitosterol, palmitate and glucoside.

15. Botanical Name: *Adhatoda zeylanica* Medic. (Syn. *A. vasica* Nees)

Family: Acanthaceae

English name(s): Malabarnut, Vasaka; *Local name(s):* Adoosa, Vasanago; *Unani name(s):* Arusa, Bansa; *Ayurvedic (Sanskrit/Hindi) name:* Vasa, Adusa

Habit and Habitat: A bushy shrub. Flowers large, white. Capsules pubescent. Wild. *Part(s) used:* Flower, leaf. *Locality:* Gorakhpur, Gwalior, Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Asthma, colds and cough, swelling of body, tuberculosis.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Bihore, Magahiyas, Saharias.

Folk medicinal use(s):

- Leaf decoction mixed with powder of black peppers is given twice daily to treat acute asthma. In another recipe, about 2 kg of flowers are mixed in 250 ml water, heated for 35 minutes and juice is extracted which is kept in an earthen pot. To this 50g of 'naushadar' (ammonium chloride) and leaf juice of 'dhatura' (*Datura fastuosa* L.) leaves (50g) is added. The drug prepared, is given in the dose of 12 ml, thrice a day, for 5 days to treat asthma.
- About 500 g flowers and leaves are mixed and half of this quantity is filled in the earthen pot. Over this 25g dry ginger and 15g black salt is sprayed. Finally, remaining half of the flowers are put in the same earthen pot to form a layer. The pot is then covered with lid and made airtight. It is then heated from cow dung cake fire. Ash, thus prepared, is given in the dose of 2-5 mg twice daily with honey for a month to treat tuberculosis.
- Crushed leaves (500 g) are boiled in 2 litre water in an iron vessel, till it is left to 100 ml. This is given with honey in the divided dose, 4 times a day for 5 days to relieve colds and cough.
- For treatment of swelling of body, extract of 2 kg leaves is mixed with 100 ml mustard oil and 50g garlic and made to form a fine paste. It is applied externally on the affected part of body twice daily, till swellings subside.

Biodynamic note(s): Plant: betaine, vasicinone, vasicinine, β -sitosterol; *Root:* galactoside, sitosterol, glucoside, galactose; *Leaf:* vasicine, vasicinone, alkaloid; *Flower:* kaempferol, glycoside, quercetin, α -amyrin, β -sitosterol, visicine, vasicinone.

Root: hypoglycaemic; *Leaf:* antiviral, hypoglycemic, hypotensive, respiratory and uterine stimulant, antispasmodic.

16. Botanical Name: *Adiantum incisum* Forsk. (Syn. *A. caudatum* L.)

Family: Adiantaceae

Local name(s): Honsraj; *Unani name(s):* Parsiaoshan; *Ayurvedic (Sanskrit/Hindi) name:* Mayurshikha, Morpankhi

Habit and Habitat: A small tufted fern with slender fronds. Fronds linear-oblong. Rachis and stipes more or less pubescent or tomentose. Sori at the end of segments. Wild. *Part(s) used:* Whole plant. *Locality:* Gwalior (Singh 1205).

Medical efficacy claimed (name of the disease or condition): Pneumonia fever.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Plant paste is given with mother's milk to the infants for treating pneumonia.

Biodynamic note(s): Plant: hentriacontane, adiantone, isoadiantone, β -sitosterol, fernene.
Plant: hypoglycemic, spasmogenic.

17. Botanical Name: *Adiantum philippense* L. Syn. *A. lunulatum* Burm.

Family: Adiantaceae

English name(s): Walking Maiden hair Fern; *Local name(s):* Hansraj; *Ayurvedic (Sanskrit/Hindi) name:* Hanspadi

Habit and Habitat: A small tufted fern. Sori brown colored. Wild. *Part(s) used:* Fronds, Whole plant. *Locality:* Chakrata, Gwalior, Kheri.

Medical efficacy claimed (name of the disease or condition): Colds and cough, menstrual disorders; scabies; typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Khasas, Pasi, Rural population, Saharias.

Folk medicinal use(s):

- 5 ml of the juice extracted from the fresh plants are given twice daily, for colds and cough.
- Whole plants (100 g) mixed with 50 g seeds of *Balanites aegyptiaca* (L.) Del. and 50g gum of *Diospyros melanoxylon* Roxb. are ground and made into pills of Bengal gram size with solidified sugarcane juice; 2 pills are given twice daily for 3 days to alleviate typhoid fever. No food should be given except milk.
- The sap from freshly cut fronds is applied directly on the affected skin thrice daily for 7-10 days to treat scabies.
- Plant is made into paste with water and given orally for menstrual disorders i.e., extended and excess menstrual discharge in women. Also administered during menstrual cycles to regularize periods.

Biodynamic note(s): Plant: flavons, triterpenes, antibiotic.

18. Botanical Name: *Adiantum venustum* G. Don

Family: Adiantaceae

English name(s): Black Maiden hair, Venus hair; *Local name(s):* Hansraj

Habit and Habitat: A dark brown fern with fronds 3-4 times pinnate. Rachis slender. Sori 1-3, large roundish. Wild. *Part(s) used:* Whole plant. *Locality no.:* Chakrata.

Medical efficacy claimed (name of the disease or condition): Bronchitis, colds, cough.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- 5 ml juice of fresh plant is given twice daily, for 3 days for colds and cough. In case of bronchitis the treatment is continued upto 40 days.

Biodynamic note(s): Plant: tannins & mucilage.

19. *Botanical Name: Adina cordifolia* (Willd. ex Roxb.) Hook. f. ex Brandis (Syn. *Haldina cordifolia* (Roxb.) Rids.)

Family: Rubiaceae

English name(s): Haldu; *Local name(s):* Karam; *Unani name(s):* Dar-e-Hald; *Ayurvedic (Sanskrit/Hindi) name:* Haldu

Habit and Habitat: A large tree with broad crown. Stipules enclosing the terminal bud. Flowers small. Fruit a capsule. Wild. *Part(s) used:* Stem bark. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Fever, jaundice, urinary complaints.

Name of the tribe/caste, and other sources from whom information collected: Nagesia,

Folk medicinal use(s):

- Decoction of 500 g stem bark is prepared in 3 liter of water, and given in the dose of 100 ml thrice daily, for 5 days, in cases of fever.
- Stem bark decoction (5 g) is consumed twice daily to treat urinary complaints and jaundice.

Biodynamic note(s): *Stem:* α -amyrin, octacosanol; *Heart wood:* indol alkaloids-cordifoline, flavonoids-chrysin, gossypetin, kaempferol.

Plant: antibacterial; *Heart wood:* CNS depressant.

20. *Botanical Name: Aegle marmelos* (L.) Corr.

Family: Rutaceae

English name(s): Bael Tree; *Local name(s):* Bel, Beli, Belli; *Unani name(s):* Belgiri, Safarjal-e-Hindi; *Ayurvedic (Sanskrit/Hindi) name:* Bilva, Bel

Habit and Habitat: A small tree. Flowers greenish-white. Fruits globose, oval. Wild. *Part(s) used:* Fruit pulp, leaf, unripe fruit. *Locality:* Gwalior, Kheri, Mathura, Pauri Garhwal, Udaipur.

Medical efficacy claimed (name of the disease or condition): Blood dysentery, diabetes, dysentery, sunstroke, migraine, stomach disorders, to increase lactation in cattle, to stop vomiting, toothache.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Boxas, Damarias, Saharias, Siyana, Tharus, Vangujars.

Folk medicinal use(s):

- Pulp of the ripe fruits is taken twice daily, for a week to treat stomach disorders.
- Fruit pulp with equal quantities of 'lodh' (*Symplocos paniculata* (Thunb.) Miq.), crystalline sugar and grains of black peppers are ground and made into powder. A dose of 5 g is taken twice daily, for 4-5 days to treat blood dysentery.
- The decoction of pulp of unripe fruit is mixed with alum and gargled against toothache.

- The paste is prepared from the pulp of ripe fruit and mixed with paste of seeds of 'aam' (*Mangifera indica* L.) and galls obtained from 'kakar singhi' (*Pistacia chinensis* Bunge) in equal quantity is given as antiemetic.
- 12 ml of leaf juice are mixed with powder of black peppers (7-8) and given twice daily, for 1-2 months. In another recipe, equal quantities of the fresh leaves of the plant along with 'aam' (*Mangifera indica* L.), 'jamun' (*Syzygium cumini* (L.) Skeels) and 'amla' (*Phyllanthus emblica* L.) are crushed and squeezed to get the juice; two spoonful of this juice are taken twice daily, for 40 days to control diabetes.
- Leaf juice is inhaled or snuffed thrice daily, for 8-10 days to treat migraine.
- Raw fruit pulp is consumed when suffering from amoebic dysentery.
- Sharbat (sweet drink) is prepared by mashing ripen pulp in water with sugar and given in sun stroke.
- Ripe fruit pulp is given to increase lactation in Buffaloes and Cows.

Biodynamic note(s): Bark: coumarin, umbelliferone, β -sitosterol, marmin; *Leaf:* essential oil, aegelenine, lupeol, β -sitosterol; *Fruit:* marmelosin, psoralen, tannic acid, gum, β -sitosterols.

Root: hypoglycemic, spasmogenic; *Leaf:* antifungal; *Fruit:* hypoglycemic, spasmogenic.

21. Botanical Name: *Aerva lanata* (L.) A. Juss. ex Schult.

Family: Amaranthaceae

Local name(s): Chaya; *Ayurvedic (Sanskrit/Hindi) name:* Pattura, Pashan bhed

Habit and Habitat: A diffuse or prostrate herb. Flowering spikes white colored. Wild. *Part(s) used:* Root. *Locality:* Amarkantak.

Medical efficacy claimed (name of the disease or condition): Scabies.

Name of the tribe/caste, and other sources from whom information collected: Bundels.

Folk medicinal use(s):

- Powdered root is mixed in Sesamum oil in 1:2 ratio and boiled for 15 minutes. This oil is then filtered and applied on the affected skin 3-4 times a day, for 7-8 days.
-

Biodynamic note(s): Plant: palmitic acid, β -sitosterol, α -amyrin.

22. Botanical Name: *Aesculus indica* (Colebr.ex Wall.) Hook. F.

Family: Hippocastanaceae

English name(s): Indian Horse Chest nut; *Local name(s):* Pangar; *Ayurvedic (Sanskrit/Hindi) name:* Bankhor

Habit and Habitat: A large deciduous tree. Flowers white-yellow with red streaks. Fruits long, ovoid, smooth. Seeds long, dark brown, shining. Wild. *Part(s) used:* Fruit. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Fistula.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- The powder of roasted fruit is applied locally to treat fistula.

Biodynamic note(s): *Leaf:* quercetin, β -sitosterol, aescin, flavons, n-hentriacontane, palmitone; *Stem:* rutin, astragaline; *Seed:* saponin-aescine, flavonoid glycosides, aesculin, albumin, fatty oil.

Stem bark: antifungal.

23. Botanical Name: *Agave americana* L.

Family: Agavaceae

English name(s): Century Plant, American Aloe; *Local name(s):* Ramban, Hathchak; *Unani name(s):* Sibbara; *Ayurvedic (Sanskrit/Hindi) name:* Bankewda

Habit and Habitat: A stout shrubby rhizomatous plant, commonly variegated yellow leaves bearing reflexed spines. Capsules oblong-clavate, beaked. Wild. *Part(s) used:* Rhizome.

Locality: Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Filarial fever.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Rhizome paste is given for filarial fever.

Biodynamic note(s): *Plant:* tigogenin; *Leaf:* hecogenin, piscidic acid, agave-saponin C, steroidal saponins; *Flower:* chlorogenin, kaempferol-3-glucoside, kaempferol-3-rutinoside; *Seed:* steroid sapogenins, hecogenin.

Leaf: anticancer, piscicidal.

24. Botanical Name: *Ailanthus excelsa* Roxb.

Family: Simaroubaceae

English name(s): Tree of Heaven; *Local name(s):* Ajroka, Maharukha; *Ayurvedic (Sanskrit/Hindi) name:* Aralu, Araluka

Habit and Habitat: A tall, deciduous tree. Flowers yellow. Samaras spindle-shaped, glabrous, 1-seeded. Seeds oblong, glabrous. Wild. *Part(s) used:* Stem bark. *Locality:* Aligarh, Gwalior.

Medical efficacy claimed (name of the disease or condition): Constipation, diarrhea & dysentery, liver disorders.

Name of the tribe/caste, and other sources from whom information collected: Other rural population and Saharias.

Folk medicinal use(s):

- Stem bark (100 g) mixed with seeds (8-19) of *Balanites aegyptiaca* (L.) Del. and 5g gum of *Diospyros melanoxylon* Roxb. and ground to make 14 tablets in 'gur' (solidified sugarcane juice); these tablets are given twice daily, for a week to treat liver disorders.
- Fresh juice of stem bark is given for 3-5 days to treat diarrhea and dysentery of prolonged duration.
- In cases of constipation, stem bark paste (3-4 g) is given with old 'gur' (solidified sugarcane juice) twice daily with cold water.

Biodynamic note(s): Root bark: quassinoides, ailanthinone, glaucarbuninone, glaucarubol;

Trunk bark: malanthin, β -sitosterol.

Stem bark: CVS active, spasmolytic; *Root bark:* anticancer.

25. Botanical Name: *Ajuga bracteosa* Wall. ex Benth.

Family: Lamiaceae

Local name(s): Neel kanth; *Ayurvedic (Sanskrit/Hindi) name:* Neelkanthi

Habit and Habitat: A perennial herb. Flowers long, white-pink with axillary clusters. Nutlets globose-oblong. Wild. *Part(s) used:* Leaf. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Jaundice, leucorrhea.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Khasas.

Folk medicinal use(s):

- Powder of dried leaf is used to treat jaundice; a dose of 5g powder is given with water twice daily for 15 days.
- Leaf paste (10 g) is given twice daily for 7-8 days to treat leucorrhea.

Biodynamic note(s): Plant: ecdysteroids, ceryl alcohol, glycosides, tannins, β -sitosterol, γ -sitosterol; *Leaf:* alkaloids, cerotic and palmitic acid.

Plant: spasmogenic, anticancer.

26. Botanical Name: *Ajuga parviflora* Benth.

Family: Lamiaceae

Local name(s): Neel kanth

Habit and Habitat: A perennial herb. Flowers long, blue in long spikes, Nutlets long, rugosely pitted, smooth shining, rugose when dry. Wild. *Part(s) used:* Leaf, Whole plant.

Locality: Almora, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Jaundice, malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Khasas.

Folk medicinal use(s):

- Decoction of whole plant is prepared with leaves of 'goma' (*Leucas cephalotes* (Koen. ex Roth) Spreng.) and 'chirata' (*Swertia chirayita* (Roxb. ex Flem.) Karsten.) and given for malarial fever.
- About 2 g powdered leaves are given twice daily, for 15 days for jaundice.

Biodynamic note(s): Leaf: cardiostimulant.

27. Botanical Name: *Alangium chinense* (Lour.) Harms

Family: Alangiaceae

Local name(s): Ankula; Ayurvedic (Sanskrit/Hindi) name: Akhini

Habit and Habitat: A small thorny shrub. Flowers white, in axillary fascicles. Fruits ellipsoid, black, ribbed when dry. Wild. Part(s) used: Root. Locality: Keonjhar.

Medical efficacy claimed (name of the disease or condition): Dog and wolf-bite.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Root is ground and mixed with powder of 20 grains of black pepper and given in the dose of 50 g once only. The medicine should be taken within 20 days of bite.

Biodynamic note(s): Plant: ankorine, anabesine, venoterpine; Leaf: β -amyrin acetate, triacontanol, β -sitosterol; Wood: lignin, α -cellulose.

28. Botanical Name: *Alangium salvifolium* (L.f.) Wang.

Family: Alangiaceae

English name(s): Sage-leaved alangium; Local name(s): Akohar, Ankol; Unani name(s): Ankol; Ayurvedic (Sanskrit/Hindi) name: Ankolah, Ankol

Habit and Habitat: A large, deciduous shrub or small tree. Flowers white, subsilky. Fruits subglobose or ellipsoid. Wild. Part(s) used: Fruit, leaf, root bark, root, stem bark. Locality: Bahraich, Gwalior, Kheri.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds, dog bite, gonorrhea, leprosy, rheumatism; sciatica, snakebite.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus.

Folk medicinal use(s):

- Root is ground and given with water in the dose of 25 g twice daily, for 30 days to treat rheumatism.
- 20 g of root paste are given with water thrice daily, for one month to treat gonorrhea.
- Ash of the root bark is spread over the affected part 2-3 times daily for 3-4 months regularly in cases of leprosy. It claims to provide instant relief and cure.

- In cases of dog bite, fruits (2-3) are boiled in 500 ml water for one hour and this decoction is given once a day for 7 consecutive days. In another recipe, stem bark paste (25g) are taken orally twice daily, for 7 days.
- Stem bark paste is applied on cuts and wounds. In another recipe, leaf juice is poured over the wounds.
- To initiate vomiting, stem bark paste is given with lukewarm water to expel the poison in cases of snakebite. In another recipe, 15 g powdered bark mixed with 10-12 grains of black pepper is added with 60 g pure ghee. Whole of this preparation is given for treating snakebite as a single dose.
- Powdered stem bark (12g) mixed with 25 g ghee is given twice a day for 5 days to relieve sciatica pain. The vapors of leaf decoction are to be inhaled simultaneously.

Biodynamic note(s): Plant: alkaloids-alangimarckine, ankorine, alamarine, alangimaridine; *Stem bark:* alangine, akharkantine, akoline, lamarkine; *Root bark :* alkaloids alangium A, B and alanginine; *Leaf:* loganic acid, alangiside.
Leaf: antiprotozoal, hypoglycemic, spasmolytic.

29. Botanical Name: *Albizia lebbbeck* (L.) Benth.

Family: Mimosaceae

English name(s): Siris Tree, East Indian walnut; *Local name(s):* Gilhore; *Unani name(s):* Sultan-ul-ashjar, Siras; *Ayurvedic(Sanskrit/Hindi name):* Shirisha, Siris

Habit and Habitat: A deciduous tree. Flowers white, in heads. Pods large, thin, flat, indehiscent. Wild. *Part(s) used:* Root. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Hilkharia.

Folk medicinal use(s):

- In case of snakebites, root paste (50 g) is given orally and repeated at intervals of 30 minutes each till the patient regains consciousness. Some paste is also applied externally on the bite-point. The patient is not be allowed to sleep during the treatment.

Biodynamic note(s): Plant: saponins-lebbekanins A & B oleanolic acid, albigenin acid, albigenin, acacic acid; *Leaf:* echinocystic acid, β -sitosterol; *Bark:* tannin; *Pod:* saponin, labbekanin C; *Seed:* triterpene, sapogenins.

Pod: antiprotozoal, hypoglycemic, anticancer, *Seed:* hypoglycemic, anticancer, abortifacient.

30. Botanical Name: *Alhagi pseudalhagi* (Bieb.) Desv.

Family: Fabaceae

English name(s): Camel Thorn, Persian Manna Plant; *Local name(s):* Jawasa; *Unani name(s):* Khar-e-Shutar, Jawansa; *Ayurvedic (Sanskrit/Hindi) name:* Yavasaka, Jawasa

Habit and Habitat: An erect, spinous, bushy undershrub, flowers on axillary spines, red or pinkish. Pods linear- cylindric. Wild. *Part(s) used:* Root. *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): Cholera.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Root paste (12 g) with sugar is given twice daily to treat cholera.

Biodynamic note(s): Plant: tannins, flavonoids, rutin quercetin, coumarine derivatives, ascorbic acid, essential oil; *Stem & Root:* alkaloids- β phenethylamine, N-methyl- β -phenylethylamine, hordenine, Alhagain, a neutral proteinase.

Plant: antiprotozoal, spasmolytic, anticancer; *Leaf:* antibacterial.

31. Botanical Name: *Allium cepa* L.

Family: Liliaceae

English name(s): Onion; *Local name(s):* Peyaz; *Unani name(s):* Basal, Ansal, Piyaz; *Ayurvedic (Sanskrit/Hindi) name:* Piyaz

Habit and Habitat: Herb with fistular leaves. Bulb with membranous outer scales. Flowers white. Cultivated. *Part(s) used:* Bulb. *Locality:* Bhopal.

Medical efficacy claimed (name of the disease or condition): Diabetes.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- The bulbs are cut into pieces and mixed with 'post' (seeds of *Papaver somniferum* L.) in equal quantity, cooked and given in the dose of 5 g once a day after breakfast, for 3 months.

Biodynamic note(s): Bulbs: sulphur compounds, phenolic acid- protocatechuic acid, vanillic acid, monosaccharides, oligosaccharides.

Bulb: hypocholesterolemic, hypoglycemic; *Fresh juice:* antifungal, antibacterial.

32. Botanical Name: *Allium sativum* L.

Family: Liliaceae

English name(s): Garlic; *Local name(s):* Lahsan; *Unani name(s):* Lahsun, Seer; *Ayurvedic (Sanskrit/Hindi) name:* Lasuna, Lahsun

Habit and Habitat: A foetid herb with cylindric and fishtular leaves. Bulbs with membranous scales. Flowers greenish white. Cultivated. *Part(s) used:* Bulb. *Locality:* Kheri, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Menstrual disorders, otorrhea, rheumatic pain, vomiting.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Tharus.

Folk medicinal use(s):

- The juice of bulb is used to stop vomiting.
- Clones of garlic are cut into small pieces and boiled in mustard oil. This oil is cooled, filtered and poured (1-2 drops) in the ear twice daily, for 7 days to treat otorrhea.
- In cases of rheumatic pain bulb is crushed and boiled in equal quantity of animal fat and stored in a bottle. This preparation is applied to the affected parts externally and massage done gently 5-6 times a day till the disease is cured.
- Two to three clones are taken once daily in the morning, empty stomach for five days to treat menstrual disorders.

Biodynamic note(s): Bulb: volatile oil, alliinase, vitamins-thiamine, riboflavine, niacin, diallyl disulphide, diallyl trisulphide, allylmethyl disulphide.

Bulb: anti-inflammatory, hypocholesterolemic, hypotensive, antitumor, antibacterial, and antimicrobial, antifungal.

33. Botanical Name: *Aloe vera* (L.) Burm. F. (Syn. *A. barbadensis* Mill.)

Family: Liliaceae

English name(s): Barbados Aloe, Curacao Aloe, Indian Aloe, Jafarabad Aloe; *Local name(s):* Guarpatha; *Unani name(s):* Gheekwar, Sibr; *Ayurvedic (Sanskrit/Hindi) name:* Kanyasara, Kumari

Habit and Habitat: A stoloniferous plant with succulent thron edge leaves. Flowers vermilion-colored. wild. *Part(s) used:* Leaf pulp. *Locality:* Kheri, Udaipur.

Medical efficacy claimed (name of the disease or condition): Rheumatic pain.

Name of the tribe/caste, and other sources from whom information collected: Damars, Tharus.

Folk medicinal use(s):

- Leaf pulp is mixed with equal quantity of sugar and ghee, then fried and cooled; 10g of this preparation are taken once daily, for 3 months.

Biodynamic note(s): Plant: aloin, isobarbaloin, emodin, resin, gum; *Leaf:* 1- asparagine, aspartic acid, polysaccharides.

Plant: anti-inflammatory, antibacterial.

34. Botanical Name: *Alstonia scholaris* (L.) R.Br.

Family: Apocynaceae

English name(s): Dita Bark, Devil tree; *Local name(s):* Chachhad, Chitwan, Ajanía; *Unani name(s):* Kashim; *Ayurvedic (Sanskrit/Hindi) name:* Saptaparna

Habit and Habitat: An evergreen tree. Flowers greenish-yellow. Fruits of two slender pendulous long follicles. Wild. *Part(s) used:* Latex, stem bark, twig. *Locality:* Gorakhpur, Keonjhar, Kheri,

Medical efficacy claimed (name of the disease or condition): Lumbago, toothache, pyorrhea.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Tharus.

Folk medicinal use(s):

- Latex of the plant is directly applied on aching tooth.
- Tender twig is used regularly as tooth brush preferably twice daily, to treat pyorrhea.
- In cases of lumbago, stem bark paste is applied over the affected parts twice daily till the cure is obtained.
- Fresh latex obtained from the plant is applied to the gums to treat toothache.

Biodynamic note(s): Plant: alkaloids, echitenine, ditamine, echitamine, echitamidine: *Latex:* echitamine.

Stem bark: hypotensive, anticancerous, *Leaf:* antimicrobial.

35. Botanical Name: *Alysicarpus vaginalis* (L.) DC.

Family: Fabaceae

English name(s): Alyce Clover, One-leaved Clover; *Local name(s):* Bug panjar

Habit and Habitat: A diffuse herb. Flowers small in axillary racemes. Pods with cylindric joints. Wild. *Part(s) used:* Whole plant. *Locality:* Almora.

Medical efficacy claimed (name of the disease or condition): Common fever.

Name of the tribe/caste, and other sources from whom information collected: Sadhus.

Folk medicinal use(s):

- Paste of the aerial parts is given to treat common fever.

Biodynamic note(s): Leaf: anticancer.

36. Botanical Name: *Amaranthus spinosus* L.

Family: Amaranthaceae

English name(s): Prickly Amaranth; *Local name(s):* Kantachourai; *Unani name(s):* Buqla-e-Yahudia; *Ayurvedic (Sanskrit/Hindi) name:* Tanduliya, Chaulai-Kateli

Habit and Habitat: An erect herb or undershrub. Flowers green, in dense axillary, more or less globose clusters. Wild. *Part(s) used:* Root, Whole plant. *Locality:* Aligarh, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Amenorrhea, inflammation due to filariasis, quadriplegia (paralysis of all four limbs of cattle).

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Plant decoction is used locally for inflammation due to filariasis.
- Root paste is mixed with rice water and given to treat amenorrhea.
- 2-3 kg whole plant is cut into small pieces and given mixed with fodder to treat quadriplegia of cattle.

Biodynamic note(s): Plant: β -sitosterol, stigmasterol, campesterol, cholesterol; *Stem & Root:* α -spinasterol, hentriacontane; *Leaf:* α -spinasterol.

Plant: spasmolytic, antagonism of amphetamine hyperactivity.

37. Botanical Name: *Amaranthus tricolor* L.

Family: Amaranthaceae

English name(s): Chinese Spinach, Fountain Plant, Garden Amaranth, Weeping Willow Leaved Amaranth; *Local name(s):* Lal sag; *Ayurvedic (Sanskrit/Hindi) name:* Ramashitalika, Marisha, Lal marsa

Habit and Habitat: An erect stout herb. Flowers bright-pink colored in axillary, dense, clusters. Wild. *Part(s) used:* Leaf. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Cuts.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Leaf juice is applied externally over the cuts 3-4 times a day till cure is obtained.

Biodynamic note(s): Plant: cholesterol, campesterol, stigmasterol, sitosterol, fatty oils; *Leaf:* riboflavin, tryptophan, amarantin, betanin; *Seed:* vitamin B, riboflavin.

38. Botanical Name: *Amaranthus viridis* L.

Family: Amaranthaceae

English name(s): Green or Wild Amaranth, Green Pigweed; *Local name(s):* Choulai; *Ayurvedic (Sanskrit/Hindi) name:* Tanduliya bhed, Harichaulai

Habit and habitat: A slender herb. Flowers very minute in spikes. Utricle very rugose, long, acute, indehiscent. Wild. *Part(s) used:* Whole plant. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Anasarca (swellings of body).

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- The whole plant is cooked and eaten as vegetable to reduce general swellings and inflammation of the body.

Biodynamic note(s): Plant: saponin.

Plant: juvenomimetic.

39. Botanical Name: *Ammania baccifera* L.

Family: Lythraceae

English name(s): Blistering Ammania; *Local name(s):* Doob; *Unani name(s):* Dadmari;

Ayurvedic (Sanskrit/Hindi) name: Agnigarva

Habit and Habitat: An erect herb. Flowers minute, green. Capsules depressed, globose. Wild.

Part(s) used: Leaf. *Locality:* Mainpuri.

Medical efficacy claimed (name of the disease or condition): Ringworm.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Leaf paste is applied on ringworm.

Biodynamic note(s): Leaf: lawsone. Plant: antibacterial.

40. Botanical Name: *Amorphophallus paeoniifolius* (Dennst.) Nicolson (Syn. *A. campanulatus* Bl.)

Family: Araceae

English name(s): Elephant-Foot Yam; *Local name(s):* Jamikand, Kanda; *Ayurvedic (Sanskrit/Hindi) name:* Surana

Habit and Habitat: A very stout herb. Spathe with campanulate tube greenish-purple. Spadix very stout. Fruiting spikes with red obovoid berries, long. Wild. *Part(s) used:* Corm, Root. *Locality:* Baharich, Gwalior, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Bronchial asthma, piles, scabies.

Name of the tribe/caste, and other sources from whom information collected: Boxas, saharas, tharus.

Folk medicinal use(s):

- Root juice or powder is given twice daily, for 2 months to treat piles. In another recipe, one corm is fried in ghee and mixed with old 'gur' (solidified sugarcane juice). This preparation (50g) is given orally twice daily, for 15 days.
- One corm is hollowed and filled with fresh leaves of 'tambaku' (*Nicotiana tabacum* L.). It is wrapped in wet clay soil, burnt on fire of cowdung cake for about 1 h and allowed to cool. The soil coating is then removed and the corm pounded; 2 g of this corm powder are given once daily, for 1 month to treat bronchial asthma.
- The juice of corm mixed with 'neem water' is given orally in the dose of 10ml twice daily for 7 days in scabies.

Biodynamic note(s): Tuber: enzymes trypsin and chymotrypsin, lupeol, betulinic acid, β -sitosterol, glucose, galactose.

Plant: oxytocic.

41. Botanical Name: *Andrographis paniculata* (Burm.F.) Wall. ex Nees

Family: Acanthaceae

English name(s): Creat; *Local name(s):* Chiranta, Bhuineem; *Ayurvedic (Sanskrit/Hindi) name:* Kalmegh, Bhunimb

Habit and Habitat: An erect annual herb. Flowers pale-purple, or spotted purple. Capsules glabrous, sparsely gland-hairy. Wild. *Part(s) used:* Leaf, whole plant. *Locality:* Almora.

Medical efficacy claimed (name of the disease or condition): Common fever.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Rural population.

Folk medicinal use(s):

- Decoction of whole plant is given to treat common fever.
- Leaf juice half tea spoonful is given twice daily to treat common fever.

Biodynamic note(s): *Plant:* diterpene, glucoside, neoandrographolide, apigenin; *Root:* flavons, andrographin, panicolin, α -sitosterol, apigenin; *Leaf:* β -sitosterol, andrographolide panicolide.

Plant: antiulcer, antipyretic, antimalarial, anti-inflammatory; *Leaf:* hypotensive, antifertility.

42. Botanical Name: *Annona squamosa* L.

Family: Annonaceae

English name(s): Custard Apple; *Local name(s):* Cheetaphal, Nari-alava; *Unani name(s):* Sharifa; *Ayurvedic (Sanskrit/Hindi) name:* Sitaphal

Habit and Habitat: A shrub or small tree. Flowers greenish-yellow. Fruit tubercled. Cultivated. *Part(s) used:* Leaf, stem bark. *Locality:* Bhopal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Diabetes, pimples.

Name of the tribe/caste, and other sources from whom information collected: Asur, Gond.

Folk medicinal use(s):

- Crushed leaves are kept overnight in a cup of water. On the following day whole of the content is taken on empty stomach. This treatment is continued for 1-2 months regularly to treat diabetes.
- In cases of pimples, equal quantities of stem bark and leaves are ground and paste is applied externally 2-3 times a day till cure is obtained.

Biodynamic note(s): *Root:* alkaloids, diterpenes, β -sitosterol, volatile oil; *Stem:* alkaloids-corydine, iso-corydine, glucine; *Leaf:* alkaloids, essential oil; *Fruit:* polyphenol, folic acid, turpenes.

Root: antimicrobial; *Aerial part:* anticancer, insecticidal; *Leaf:* insecticidal, spasmogenic, spasmolytic, oxytocic; *Seed:* antifertility.

43. Botanical Name: *Anogeissus sericea* Brandis

Family: Combretaceae

English name(s): Button Tree; *Local name(s):* Dhaukra

Habit and Habitat: A middle sized tree. Flowers in globose heads. Fruits tomentose, broader than long. Wild. *Part(s) used:* Leaf. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Leaves are crushed and given with solidified sugarcane juice for treating typhoid fever.

44. Botanical Name: *Ardisia solanacea* Roxb.

Family: Myrsinaceae

Local name(s): Murgi-ankh, Bhakmal; *Ayurvedic (Sanskrit/Hindi) name:* Raktphar

Habit and Habitat: A small tree. Flowers waxy red colored. Berries depressed globose. Wild. *Part(s) used:* Flower, leaf, root. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): common fever, pimples.

Name of the tribe/caste, and other sources from whom information collected: Asur, Rural population.

Folk medicinal use(s):

- Root paste is applied externally over the pimples twice daily till cure. Simultaneously, leaves and flowers in 4:1 ratio, are boiled in water to make a decoction and given orally to patient in the dose of 100 ml each for 15 days as blood purifier.
- Root decoction (5ml) is given twice daily for 4 days.

Biodynamic note(s): *Root and Stem:* bauerenol; *Leaf:* bauerenol, α - and β -amyrin.

Aerial part: antiacetylcholine, CVS active.

45. Botanical Name: *Areca catechu* L.

Family: Arecaceae

English name(s): Arecanut or Betelnut Palm, Areca Palm, Pinang Palm; *Local name(s):* Supari; *Unani name(s):* Fufal; *Ayurvedic (Sanskrit/Hindi) name:* Puga, Supadi

Habit and Habitat: A very graceful palm with a slender trunk. Spathe glabrous compressed. Spadix much branched. Rachis stout, compressed. Fruits ovoid, smooth, orange or scarlet. The plant is cultivated in coastal regions of India. The nuts of this plant are commonly sold in local markets. *Part(s) used:* Nuts. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Menstrual disorders.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Nuts (250 g) are powdered and boiled in two liters of cow milk. To this 5 g 'kesar' (dried stigmas and top of the styles of *Crocus sativus* L.) and 'ilaychi' (seeds of *Elettaria cardamomum* Maton) are added and again boiled until it gets solidified. The preparation is locally known as 'suparipag' and taken 2-3 g with cold milk twice daily for 10 days to treat menstrual disorders. Oil, sour foods and red chillies are restricted in the diet.

Biodynamic note(s): Nuts: proteins, carbohydrates, minerals, tannine, fats, alkaloids, amino acids, arecaine, arecoline, arecaine.

Leaf: CVS active, spasmolytic; *Nuts:* antimicrobial, CVS active, spasmolytic.

46. Botanical Name: *Argemone mexicana* L.

Family: Papaveraceae

English name(s): Prickly Poppy, Mexican Poppy; *Local name(s):* Bang Kateli, Bhyarbar, Bharbanda, Satiyanasi, Sialkanta, Makhara; *Unani name(s):* Satyanasi, Katai-Khurd; *Ayurvedic (Sanskrit/Hindi) name:* Bhadbhad, Satyanasi, Swarnakshiri

Habit and Habitat: A robust herb or undershrub. Flowers yellow. Capsules long, prickled. Wild. *Part(s) used:* Latex, root bark, root, seed, stem, whole plant. *Locality:* Bahraich, Bharatpur, Gonda, Gorakhpur, Gwalior, Mainpuri, Mathura, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Asthma, boils, conjunctivitis, leprosy, leucoderma, leucorrhea, scabies, venereal diseases, wounds.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Boxas, Paharias, Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Plant juice is applied to the affected eye, once daily at bedtime for 3-5 days. In another recipe, 2-3 drops of yellow juice is applied in affected eye twice daily, for 3 days in cases of conjunctivitis.
- Juice of stem is applied on wounds. In another recipe, plant paste is fried in mustard oil and applied over the wound twice daily, for 3 days.
- The paste of root mixed with root powder of 'mulethi' (*Glycyrrhiza glabra* L.) and wood of 'safed chandan' (*Santalum album* L.) is given with cow's milk to treat leucorrhea.
- Root paste (10 g) is taken orally twice daily, for 7 days. Along with this treatment, paste of the seed is applied externally on the skin once daily to treat scabies.
- 2.5 Kg roots are kept in earthen pot. This pot is dugged in soil duly closed and subjected to fermentation. About 60 g dust of 'Roma mastgi' and 'Bahroza' are sprayed over the earthen pot. The fermented liquid is kept in the bottle and applied externally over the leucoderma patches after adding double the quantity of oil of 'Safed Sarson' (*Eruca sativa* Mill).

- Mature seeds are burnt in 'chilam' (Smoke pipe) and smoke is inhaled 2-3 times a day to treat venereal diseases.
- In cases of asthma seeds are soaked in the latex of 'madar' (*Calotropis procera* (Ait.) R. Br.) for some time and then burnt. Ashes thus obtained are given in the dose of 1 g with honey twice daily until the disease is cured.
- In cases of leprosy, seed paste is mixed with mustard oil and applied on the affected parts twice daily, till cure is obtained.
- Root bark is ground with equal quantity of 'kalimirsch' (*Piper nigrum* L.) and pills of the size of Bengal gram seeds are made. One pill is taken with water orally twice daily for 15 days in cases of skin diseases.
- Root is ground and given orally to treat boils.
- Latex is applied in the eyes in the evening to treat conjunctivitis.
- Seeds paste is applied locally to treat scabies.

Biodynamic note(s): Root and stem: protopine, berberine, resin, toxic principle; *Latex*: alkaloids, berberin, protopine, amino acids; *Flower*: isohamnetin.

Plant: antiviral, myocardial depressant.

47. Botanical Name: *Argyreia involucrata* Clarke

Family: Convolvulaceae

Local name(s): Hadjurva

Habit and Habitat: A large twiner. Flowers in subcapitate cymes. Fruits globose. *Part(s) used*: Leaf and Root. *Locality*: Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Fractured limb.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Paste of leaf and root is mixed with cooked rice and applied on fractured limb duly bandaged.

Biodynamic note(s): Aerial parts: anticancer.

48. Botanical Name: *Argyreia nervosa* (Burm.F.) Boj. (Syn. *A. speciosa* Sw.)

Family: Convolvulaceae

English name(s): Elephant Creeper, Woolly Morning-Glory; *Local name(s)*: Ghav-patta;

Ayurvedic (Sanskrit/Hindi) name: Bastantri, Virdhadaru, Ghav-patta

Habit and Habitat: A stout climber. Flowers white woolly, bright purple or rose within. Fruits like broad acorns. Wild. *Part(s) used*: Leaf. *Locality*: Mainpuri.

Medical efficacy claimed (name of the disease or condition): Abscesses.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Castor oil is applied to the lower surface of the leaf, warmed and then tied over the abscesses to drain off pus.

Biodynamic note(s): Leaf: β -sitosterol; Seed: ergoline alkaloids-agroclavine festuclavine, caffeic acid, ethyl caffeate lysergic acid amide.

Seed: hypotensive, CVS active, spasmolytic.

49. Botanical Name: *Arisaema tortuosum* (Wall.) Schott

Family: Araceae

English name(s): The Cobra Flower; *Local name(s):* Janglisuran

Habit and Habitat: A rhizomatous, perennial herb. Spathes green. Spadix curved or sigmoid.

Fruits ovoid, red. Wild. *Part(s) used:* Rhizome. *Locality:* Udaipur.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Garasias.

Folk medicinal use(s):

- Rhizome paste is applied externally on the bite point, and the juice extracted is given to drink repeatedly 7-10 times. The patient is not allowed to sleep during the treatment.

Biodynamic note(s): *Tuber:* stigmasterol, sitosterol, campesterol, and cholesterol; *Seed:* fatty acids, myristic, palmitic, arachidic, stearic, oleic & linoleic acids.

Plant: antifertility.

50. Botanical Name: *Aristolochia indica* L.

Family: Aristolochiaceae

English name(s): Indian Birthwort; *Local name(s):* Moeeli, Vahur; *Unani name(s):* Isharmul, Zarawand Hindi; *Ayurvedic (Sanskrit/Hindi) name:* Ishvari, Gandhna Kuli

Habit and Habitat: A prostrate or twining shrub. Flowers in few flowered axillary racemes.

Capsules oblong or globose-oblong Seeds deltoid, winged. Wild. *Part(s) used:* Leaf, root.

Locality.: Kheri, Udaipur.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- In case of snakebites, 100 g powdered root in 100 ml fresh water is given orally six times a day, until the patient develops signs of relief. Vomiting may occur during treatment, which is considered as a way to expel the poison. In another recipe, 100-150 ml leaf juice is given at short intervals of half an hour until the patient develops sign of relief.

Biodynamic note(s): Leaf and Fruit: Ceryl alcohol, β -sitosterol; *Seed:* β -sitosterol, aristolochic acid, alkaloids.

Plant: anticancer, insecticidal, antifertility.

51. Botanical Name: *Arnebia hispidissima* (Lehm.) DC.

Family: Boraginaceae

Local name(s): Ratanjot

Habit and Habitat: A prostrate herb. Flowers yellowish-white. Nutlets ovoid. Wild. *Part(s) used:* Leaf. *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): Spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Equal quantities of the leaves with leaves of *Corchorus depressus* (L.) Stocks and *Convolvulus microphyllus* Sieb. ex Spreng. are pounded and boiled in water. To this, powder of 10-15 black pepper grains is added and given in the dose of 15 ml once daily, for 7 days to treat spermatorrhea.

Biodynamic note(s): Flower: vitexin.

Flower: hypotensive, anti-inflammatory.

52. Botanical Name: *Artemisia nilagirica* (Cl.) Pamp. Syn. *A. vulgaris* L.

Family: Asteraceae

English name(s): Indian Wormwood; *Local name(s):* Kundja, Kundo, Kunjo; *Unani name(s):* Baranjasif

Habit and Habitat: A profusely branched undershrub. Flowers white. Achenes long, glabrous. Wild. *Part(s) used:* Leaf. *Locality:* Tehri Garhwal.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Fresh leaves are made into paste and applied 2-3 times daily, on fresh cuts and wounds.

Biodynamic note(s): *Plant:* camphor, p-cymene, vulgarol, farnesol, stigmasterol, β -sitosterol, α -amyrin, vulgarin, phytosterols, triterpenes.

Leaf: antibacterial, antifungal.

53. Botanical Name: *Arundinaria falcata* Nees

Family: Poaceae

English name(s): Himalayan Bamboo; *Local name(s):* Ganthbans

Habit and Habitat: A small shrubby bamboo. Spikelets divaricate racemose. Glumes distinctly tessellate. Wild. *Part(s) used:* Clum. *Locality:* Chakrata.

Medical efficacy claimed (name of the disease or condition): Abscesses.

Name of the tribe/caste, and other sources from whom information collected: Khasas.

Folk medicinal use(s):

- A paste of tender clum is applied on abscesses.

54. Botanical Name: *Asparagus curillus* Buch.-Ham. ex Roxb.

Family: Liliaceae

Local name(s): Shatavar; *Ayurvedic (Sanskrit/Hindi)*

name: Shatavari behd

Habit and Habitat: A much-branched subscandent spinous undershrub. Racemes corymbiform, few-flowered; bracts minute. Wild. *Part(s) used:* Root.

Locality: Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Diabetes; gonorrhea, piles.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Tharus.

Folk medicinal use(s):

- Powered root with seeds of 'methi' (*Trigonella foenum-graecum* L.) is given in diabetes mellitus.
- Root paste is used in gonorrhea.
- Decoction of root is given orally to treat diabetes.

Biodynamic note(s): Root: spirostanols, furostanols.

55. Botanical Name: *Asparagus racemosus* Willd.

Family: Liliaceae

English name(s): Wild asparagus; *Local name(s):* Santawar, Sataular; *Unani name(s):* Satawar; *Ayurvedic (Sanskrit/Hindi) name:* Shatavari

Habit and Habitat: A scandent, spinous undershrub. Flowers small, white. Berries green to scarlet. Wild. *Part(s) used:* Root. *Locality:* Bahraich, Gorakhpur, Keonjhar, Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Aphrodisiac, blood dysentery, common fever, fever due to summer heat, galactagogue, leucorrhea, menstrual disorders, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Birhores, Doms, Paharias, Rural population, Tharus.

Folk medicinal use(s):

- Root powder with 'gur' (solidified sugarcane juice) is made into tablets and given for common fever.
- Root paste is given with cow's milk for spermatorrhea. In another recipe, powdered root is given in dose of 3-5g once daily early morning for 30-40 days with cow's milk.
- Root paste is given with cow's milk to increase lactation in nursing mother.
- Root (100 g) is ground and mixed in solidified sugar cane juice. This is given in divided dose of three for 3 consecutive days to treat fever due to summer heat.
- Root (50 g) is ground with water and crystalline sugar is added to the taste. This is given as a full dose twice daily for 3 days to treat blood dysentery.
- In cases of menstrual disorders, root (4-5) is ground and given once early in the morning with milk for 30-40 days.
- Roots with equal amount of crystalline sugar are ground and given with the milk in the dose of 10g twice daily, for 3 days to treat leucorrhoea.

Biodynamic note(s): Plant: shatavarine 1-VI; *Root:* disaccharides;

Leaf: diosgenin; *Flower:* glycerides; *Fruit:* glycerides, cyaniding, sitosterol, stigmasterol, saponins.

Aerial part: anticancer, antifungal; *Bark:* antibacterial, antifungal;

Root: antioxytotic.

56. Botanical Name: *Avena sativa* L.

Family: Poaceae

English name(s): Oat, Common Oat; *Local name(s):* Jai; *Ayurvedic (Sanskrit/Hindi) name:* Yavika

Habit and Habitat: An annual grass with pendulous spikelets. Glumes very long acuminate.

Cultivated. *Part(s) used:* Seed. *Locality:* Bahraich.

Medical efficacy claimed (name of the disease or condition): To stop conception.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Seed powder of 'jai' is mixed with roasted placenta of Indian elephant and given to women in the dose of 20 g once daily on empty stomach, for 3 days after menses. This is claimed to check conception permanently. Placenta of elephant is often kept as house-hold remedy by the medicine men.

Biodynamic note(s): Plant: albuminoids; *Flower:* vitexin, isovitexin;

Seed: pentosan-furfural, cellulose, glutamic acid, avenic acid A, vitamin B₁.

57. Botanical Name: *Azadirachta indica* A. Juss.

Family: Meliaceae

English name(s): Neem Tree, Margosa Tree; Local name(s): Neeb, Nim; Unani name(s): Neem; Ayurvedic (Sanskrit/Hindi) name: Nimba, Neem

Habit and Habitat: A large tree. Flowers white, scented. Drupes ellipsoid, yellow when ripe. Wild. Part(s) used: Fruit, leaf, seed, stem bark. Locality: Aligarh, Gorakhpur, Gwalior, Kheri, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Abscesses, diabetes, headache, intermittent fever, migraine, vermifuge, wounds of cattle.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Powdered seeds are used in diabetes.
- Powdered seeds are given to treat migraine.
- Four drops of leaf juice are mixed in equal quantity of Sesamum oil and dropped in the nostrils of patients to treat severe headache instantly.
- Decoction of 20 g stem bark is given thrice daily, for 5-7 days to treat intermittent fever.
- Fruit and leaf juice (5 ml) is given once in the morning for 3-4 days as vermifuge in cases of children.
- In cases of abscesses, sundried leaves are mixed with feces of goat and 'guggal' (the gum resin exuded by *Commiphora wightii* (Arn.) Bhandari) and burnt on a fire in an earthen pot; the resulting smoke is passed in the affected area. This treatment is repeated twice daily, for 3-5 days.
- Leaf paste is applied on wounds of cattle.

Biodynamic note(s): Bark: bitter principles, nimbin; Wood: nimbolin, sterols; Leaf: meliacin, nimbolide, quercetin, β -sitosterol, kaempferol, azadirachtin; Flower: essential oil, quercetin, kaempferol; Fruit: azadirone, azadiradione, gedunin, triterpenes; Seed: azadiachtin, nimbin, tiglic acid; Seed oil: nimbidin.

Bark: anticancer, antiviral, spasmogenic, antibacterial; Leaf: antiviral, antineoplastic, antifungal; Flower: antibacterial; Seed kernel: larvicidal.

58. Botanical Name: *Bacopa monnieri* (L.) Wettst.

Family: Scrophulariaceae

English name(s): Thyme Leaved Gratiola;

Local name(s): Brahmi; Unani name(s): Jal brahmi; Ayurvedic (Sanskrit/Hindi) name: Jal brahmi, Brahmi

Habit and Habitat: A prostrate herb, rooting at nodes. Flowers bluish-purplish or white with bluish veins. Wild. Part(s) used: Whole plant. Locality: Aligarh.

Medical efficacy claimed (name of the disease or condition): Colds and cough.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Plant paste (10g) is given thrice daily, for 5 days.

Biodynamic note(s): Plant: saponins-bacosides A & B, betulic acid, monnierin, d-mannitol, stigmasterol, β -sitosterol, alkaloids.

Plant: anticancer and improves learning ability.

59. Botanical Name: *Balanites aegyptiaca* (L.) Del. (Syn. *B. roxburghii* Planch.)

Family: Balanitaceae

Local name(s): Hingota; *Unani name(s):* Hingot; *Ayurvedic (Sanskrit/Hindi) name:* Ingudi

Habit and Habitat: A spiny, deciduous shrub or small trees. Flowers pale or greenish-yellow.

Fruits ovoid, yellowish-green when ripe. Wild. *Part(s) used:* Fruit, stem bark. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Diarrhea and dysentery.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Stem bark and fruits are ground in fresh water and taken with butter milk 3-4 times a day in the dose of 5 ml, for 2 days.

Biodynamic note(s): Plant: diosgenin, yamogenin, balanitisins A-F; *Root:* steroid sapogenin; *Stem bark:* steroidal sapogenin, nitrogenin glucoside, sesquiterpene, balanitol, bergapten, d-marmesin.

Stem bark: CVS & CNS active, spasmolytic, hypothermic.

60. Botanical Name: *Baliospermum montanum* (Willd.) Muell.-Arg.

Family: Euphorbiaceae

Local name(s): Munjal; *Ayurvedic (Sanskrit/Hindi) name:* Danti

Habit and Habitat: An undershrub. Flowers green. Capsules long, pubescent. Seeds ellipsoid, quite smooth, mottled. Wild. *Part(s) used:* Leaf. *Locality:* Udaipur.

Medical efficacy claimed (name of the disease or condition): Sprains.

Name of the tribe/caste, and other sources from whom information collected: Meenas.

Folk medicinal use(s):

- The leaves are crushed and fried with a small amount of animal fat, and allowed to cool; this preparation is applied externally to the affected part with the help of a loose cotton bandage.

Biodynamic note(s): Root: mountanin, baliospermin;

Plant: CVS active, anticancer; *Root:* anticancer.

61. Botanical Name: *Barleria cristata* L.

Family: Acanthaceae

Local name(s): Andholi; *Ayurvedic (Sanskrit/Hindi) name:* Sahchar

Habit and Habitat: An erect herb or undershrub. Flowers blue-purple. Capsules ellipsoid 4-seeded. Wild. *Part(s) used:* Root. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Bodyache.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- A root paste, prepared by grinding the fresh root (10g) in little water, is taken orally once daily, for 3 days early in the morning.

Biodynamic note(s): Root: anthraquinones, barlacristone; *Flower:* apigenin, glucuronide, naringenin, malvindin.

Root: spasmogenic, hypoglycemic.

62. Botanical Name: *Barleria prionitis* L.

Family: Acanthaceae

Local name(s): Piabansa, Katsarya, Karva Kut; *Unani name(s):* Piyabansa; *Ayurvedic (Sanskrit/Hindi) name:* Sahachar, Sarayak (peet)

Habit and Habitat: A bushy, prickly undershrub. Flowers orange-yellow, in terminal spikes. Capsules black, pointed. Wild. *Part(s) used:* Flower, leaf, root, whole plant. *Locality:* Aligarh, Gwalior.

Medical efficacy claimed (name of the disease or condition): Alopecia, boils of head, common fever; stomachache.

Name of the tribe/caste, and other sources from whom information collected: Saharias and other rural population.

Folk medicinal use(s):

- Leaves and flowers mixed with root of 'madar' (*Calotropis procera* (Ait.) R.Br.), tender culm of 'munj' (*Saccharum bengalense* Retz.), fruits of 'kateli' (*Solanum virginianum* L.) and 'ber' (*Zizyphus mauritiana* Lam.) are made into decoction and given with powder of black pepper and crystalline sugar to treat common fever.
- In cases of stomach pain, ½ kg. whole plant is kept in one liter of cold water for 5-6 days. This is filtered and given in the dose of 5 ml twice daily, for a week.
- Root paste is applied locally on head.
- Root paste is given orally to treat alopecia.

Biodynamic note(s): Plant: β -sitosterol; *Stem and Leaf:* iridoids, barlerin; *Flower:* scutellarein.

Plant: antiseptic.

63. Botanical Name: *Barringtonia acutangula* Gaertn.

Family: Barringtoniaceae

English name(s): Indian Oak; *Local name(s):* Paniya, Paniha; *Unani name(s):* Samandar Phal; *Ayurvedic (Sanskrit/Hindi) name:* Nicula

Habit and Habitat: A medium-sized tree. Flowers pale-pink. Fruits oblong, quadrangular truncate long. Wild. *Part(s) used:* Fruits, seed, stem, twigs. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Dental care, indigestion in cases of cattle, intestinal worms in cattle.

Name of the tribe/caste, and other sources from whom information collected: Paharias, Rural population.

Folk medicinal use(s):

- Tender stem is used as toothbrush for dental care.
- Seed powder is given to treat turgid stomach (due to indigestion and gases) in cases of cattle.
- Fruits (200-250g) is given once daily for 5 days to animals to get relief from intestinal worms.

Biodynamic note(s): Heartwood: triterpene, dicarboxylic acid, barringtonic acid; *Leaf:* actangulic and barringtonic acid, stigmasterol glucoside, tangelic acid, oleanolic acid, β -amyrin, β -sitosterol; *Fruit:* barringtogenol D, C & B, barrigenic acid.

Stem bark: antiprotozoal; *Root:* hypoglycemic.

64. Botanical Name: *Bauhinia racemosa* Lam.

Family: Caesalpinaceae

Local name(s): Safed Kachnar; *Unani name(s):* Kachnal; *Ayurvedic (Sanskrit/Hindi) name:* Post-e-kachnal, Ashmantak

Habit and Habitat: A small tree. Flowers small whitish. Pods long septate, blunt at the apex, tapering at the base. Wild. *Part(s) used:* Stem bark. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Scrofula (glandular swellings on the neck).

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- About 12 g bark is ground in rice water and made into paste. This paste is applied externally on the affected part twice daily for a week in cases of scrofula.

Biodynamic note(s): Stem bark: β -amyrin, octacosane, β -sitosterol.

Stem bark: CVS & CNS active, hypothermic, anticancer; *Seed:* antibacterial.

65. Botanical Name: *Bauhinia roxburghiana* Voigt (Syn. *B. retusa* Roxb.)

Family: Caesalpiniaceae

Local name(s): Santa; *Ayurvedic (Sanskrit/Hindi) name:* Semla

Habit and Habitat: A medium-sized tree. Flowers white-purple. Pods suboblong. Cultivated.

Part(s) used: Pod. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Constipation.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- The pod is ground in water and 6 ml of this are given thrice daily, for 4-5 days in cases of indigestion or constipation.

Biodynamic note(s): Bark: quercetin, rutin.

Seed: hypoglycaemic; *Aerial part:* CVS active.

66. Botanical Name: *Benincasa hispida* (Thunb.) Cogn.

Family: Cucurbitaceae

English name(s): Ash Gourd; *Local name(s):* Petha; *Unani name(s):* Petha; *Ayurvedic (Sanskrit/Hindi) name:* Kusmanda

Habit and Habitat: A large trailing herb. Flowers large yellow. Fruits broadly cylindrical or spheroidal gourd with white flesh. Cultivated. *Part(s) used:* Fruit, root. *Locality:* Bahraich, Gwalior, Mathura.

Medical efficacy claimed (name of the disease or condition): External bleedings, liver disorders, menstrual disorders.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Thours and other rural population.

Folk medicinal use(s):

- Root paste (10g) mixed with powder of 5 grains of black pepper is given with milk once daily, for 8-10 days to treat liver disorders.
- Fruit is peeled and eaten raw in the dose of 100 g with 'misri' (crystalline sugar) up to three week in cases of menstrual disorders.
- Fruit juice (12 ml) is given three times a day for 3 days only. This checks bleeding from any part of the body except in tuberculosis cases and fresh cuts.

Biodynamic note(s): Fruit: lupeol, β -sitosterol, n-triacontanol, vitamin B, mannitol, amino acids.

Plant: antiviral; *Seed:* anthelmintic.

67. Botanical Name: *Berberis aristata* DC.

Family: Berberidaceae

English name(s): Indian Barberry; *Local name(s):* Kashmoi; *Unani name(s):* Darhald, Rasaut; *Ayurvedic (Sanskrit/Hindi) name:* Daruharidra

Habit and Habitat: A large thorny shrub. Flowers pale yellow. Berries oblong-globose. Seeds oblong-ellipsoid. Wild. *Part(s) used:* Leaf, root bark, root, stem bark, wood. *Locality:* Chakrata, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Colds with fever, common fever, conjunctivitis, hemorrhoids, malarial fever, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Khasas.

Folk medicinal use(s):

- Decoction of root bark is given to treat common non-specific fever.
- Leaf juice 5-10 drops is given 4 times a day for 3 days to treat malarial fever.
- Root juice is given to treat typhoid fever.
- Root decoction is administered orally, twice daily for 3 days to treat colds with fever.
- In cases of conjunctivitis, powdered stem bark is mixed with water and filtered. The filtrate is applied externally in the eyes twice daily, for a week.
- The extract of root bark and wood is given orally to treat hemorrhoids.

Biodynamic note(s): Root: benzyl-isoquinoline alkaloids-berberine, berbamine, oxyacanthin, aromoline, oxyberberine, taxilamine, karachine.

Root: hypoglycemic, anticancer, CVS active, antibacterial.

68. Botanical Name: *Bergenia ciliata* (Haw.) Sternb.

Family: Saxifragaceae

Local name(s): Pashanbhed; *Unani name(s):* Pakhanbhed; *Ayurvedic (Sanskrit/Hindi) name:* Pashanabheda

Habit and Habitat: A perennial herb. Flowers long, white, pink or purple. Fruits long, subglobose. Wild. *Part(s) used:* Root. *Locality:* Chakrata, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Abscesses, dysentery, kidney stones.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Khasas.

Folk medicinal use(s):

- Root paste is given orally to treat dysentery.
- Root paste is applied externally on abscesses.
- In cases of kidney stones, dried roots are ground with 'kulthi' (Horse Gram) and the powder is given in the dose of 1-2 g twice daily, till cure is obtained.

Biodynamic note(s): Root: (+) – afzelechin, bergenin, β -sitosterol.

Rhizome: antiprotozoal, anticancer, CVS active, spasmolytic.

69. Botanical Name: *Beta vulgaris* L.

Family: Chenopodiaceae

English name(s): Beet Root, Garden Beet; *Local name(s):* Chukander; *Unani name(s):*

Chuqander; *Ayurvedic (Sanskrit/Hindi) name:* Chukandar

Habit and Habitat: A glabrous herb with red, yellow or orange tap roots. Flowers in axillary spikes. Seeds horizontal with thin testa and floury albumen. Cultivated. *Part(s) used:* Root. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Hemorrhoids.

Name of the tribe/caste, and other sources from whom information collected: Khasas.

Folk medicinal use(s):

- The slices of root are given with butter in hemorrhoids.

Biodynamic note(s): Plant: betanin, uronic acid; Leaf: chlorobenzene, octane, chloroform, ferulic, caffeic, chlorogenic acid.

Leaf: antiparalytic; *Seed:* anti-inflammatory.

70. Botanical Name: *Biophytum sensitivum* (L.) DC.

Family: Geraniaceae

Local name(s): Lajwanti bari; Lajauni; *Ayurvedic (Sanskrit/Hindi) name:* Lakjan, Lajoni

Habit and Habitat: A pretty little herb with leaves and peduncles rising directly from a stout stock. Flowers yellow. Capsules ellipsoids, 5-grooved. Wild. *Part(s) used:* Leaf, whole plant. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Muscular and joints pain; to induce sleep.

Name of the tribe/caste, and other sources from whom information collected: Asur, Rural population.

Folk medicinal use(s):

- Whole plant is ground and given with water to induce sleep.
- Leaf poultice is used locally to ease muscular and joints pain.

Biodynamic note(s): Leaf: insulin like principle.

71. Botanical Name: *Bischofia javanica* Bl.

Family: Bischofiaceae

Local name(s): Marcha

Habit and Habitat: A moderate-sized tree. Male flowers yellow. Fruits brown or black. Wild.

Part(s) used: Stem bark. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Anemia.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Stem bark decoction is given in anemia.

Biodynamic note(s): *Root:* β -amyrin, ursolic acid, β -sitosterol; *Bark:* friedelin, betulinic acid, β -sitosterol; *Leaf:* tartaric acid, ellagic acid, β -sitosterol, friedelin.

Plant: antiulcerative.

72. Botanical Name: *Blumea lacera* (Burm.F.) DC.

Family: Asteraceae

Local name(s): Karonda; *Ayurvedic (Sanskrit/Hindi) name:* Kukundar

Habit and Habitat: A coarse slender herb with a strong smell of turpentine. Flower heads yellow in corymbose. Receptacles glabrous. Cypsel grey brown sub-angled, minutely pubescent. Wild. *Part(s) used:* Leaf. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Jaundice.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Leaf juice (two teaspoonful) is given to the patient to drink followed by a lump of sugar thrice daily, for 10 days.

Biodynamic note(s): *Plant:* hentriacontane, α -amyrin, lupeol; *Root:* triterpene, sterols; *Leaf:* campesterol, flavons.

Leaf: antimicrobial, antifungal.

73. Botanical Name: *Blumea membranacea* DC.

Family: Asteraceae

Local name(s): Kukronda

Habit and Habitat: An erect herb. Flowering heads purple-green. Achenes pubescent ribbed. Wild. *Part(s) used:* Root. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Stomatitis.

Name of the tribe/caste, and other sources from whom information collected: Doms.

Folk medicinal use(s):

- Root paste is applied in mouth against stomatitis.

Biodynamic note(s): *Plant:* sitosterol; *Leaf:* antibacterial.

74. Botanical Name: *Boehmeria macrophylla* Horn.

Family: Urticaceae

Local name(s): Khagsi.

Habit and Habitat: A large shrub. Flowers with long drooping axillary spikes. Fruiting perianth clavate or pyriform, compressed. Seeds albuminous. Wild. *Part(s) used:* Whole plant. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): To increase lactation in cattle.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Whole plant is fed to cows and buffaloes to increase lactation.

Biodynamic note(s): Plant: β -sitosterol; *Leaf:* pomolic, olenolic acids, lupeol.

Plant: CNS depressant, hypotensive.

75. Botanical Name: *Boerhavia diffusa* L.

Family: Nyctaginaceae

English name(s): The Spreading Hog-Weed; *Local name(s):* Bhakhapra, Mahenshi, Punarnava, Santh; *Unani name(s):* Handakuku, Safed Santh; *Ayurvedic (Sanskrit/Hindi) name:* Rakta punarnav, Punarnava

Habit and Habitat: A diffuse herb. Flowers rose-pink colored. Fruits clavate, 5-ribbed. Wild. *Part(s) used:* Leaf, root, whole plant. *Locality:* Aligarh, Gonda, Kheri, Mainpuri, Mathura, Udaipur.

Medical efficacy claimed (name of the disease or condition): Asthma, cholera, Hemorrhoids, irregular menstruation, jaundice, to improve vision.

Name of the tribe/caste, and other sources from whom information collected: Bhoxas. Damars, Other rural population, Tharus.

Folk medicinal use(s):

- Whole plant (50g) with two and a half (2.5) grains of black pepper is ground, boiled in 500 ml of water and cooled. This decoction is drunk twice daily, for 7 days to treat hemorrhoids.
- Fresh root paste (10 g) mixed with powder of 5-6 grains of black pepper is taken once daily on empty stomach early morning, for 10 days to treat jaundice.
- In cases of asthma, root paste (10 g) is taken together with 250 ml of goat's milk once daily for 20-30 days.
- 3 cm long piece of root is ground and mixed with 8-10 black pepper powder. It is mixed in 250 ml fresh water, sweetened with 'misri' (crystalline sugar), and boiled to make a syrup. Of this a dose of 10 ml is given twice daily, for 3-4 days in cases of cholera.
- Root powder (2 g) is mixed with 2g 'geru' (Ochre) during summer and given once a week for one month to treat irregular menstruation.
- Leaves are taken as cooked vegetable to improve vision.

Biodynamic note(s): Plant: β -sitosterol, alkaloids, myricyl alcohol, myristic acid, oxalic acid;
Root: ursolic acid, β -sitosterol, aspartic and glutamic acid.
Plant: antifibrinolytic; *Root:* antiviral, anticonvulsant; *Leaf:* anti-inflammatory.

76. Botanical Name: *Bombax ceiba* L. (Syn. *B. malabaricum* DC.)

Family: Bombacaceae

English name(s): Silkcotton Tree, Red Silk; *Local name(s):* Hemlia, Semal; *Unani name(s):* Mochras, Sembhal, Semal; *Ayurvedic (Sanskrit/Hindi) name:* Shalmali

Habit and Habitat: A large tree. Flowers large, bright red-scarlet. Capsules woody. Seeds enveloped in copious floss. Wild. *Part(s) used:* Fruit, heartwood, petal, root, stem bark.

Locality: Bahraich, Bhopal, Chakrata, Gorakhpur, Gwalior, Pauri Garhwal, Udaipur.

Medical efficacy claimed (name of the disease or condition): Aphrodisiac, boils, diabetes, impotency, leucorrhea, spermatorrhea, to induce sterility in males.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Doms, Gond, Khasas, Meenas, Paharias, Saharias, Tharus.

Folk medicinal use(s):

- The decoction of fruits and heartwood prepared in water is taken in the dose of 100 ml thrice daily, for a month to control diabetes.
- The fruit wall from 5-6 fruits is removed and mixed with 4 fruits of 'kakrao' (*Pistacia chinensis* Bunge). These are ground together along with fruits of banana and small tablets of 5-10g each are prepared. A dose of one tablet thrice daily is given for 5-6 days continuously to induce sterility in males.
- Powdered stem bark (10 g) is given with milk early morning once a day for 30-40 days to treat spermatorrhea.
- Stem bark paste is applied on boils to drain off pus.
- Powder of root is given in leucorrhea. In another recipe, five petals are soaked in water with 'misri' (crystalline sugar) in an earthen pot over night, then ground, and paste thus obtained is given orally once in the morning, for 15 days consecutively.
- Root powder (5 g) is taken with milk for 7 days in the morning to treat impotency. Treatment is repeated twice every alternate month.
- Root of the plant along with roots of 'kalimusli' (*Curculigo orchiodes* Gaertn.) and 'kamraj' (*Helminthostachys zeylanica* (L.) Hk.) are mixed together (50 g each), pounded, boiled in one litre of cow's milk for one hour and sweetened with little sugar; 100 ml of this preparation are taken once in the morning, for 30-40 days. This is well known aphrodisiac folk recipe in the area.

Biodynamic note(s): Root bark: naphthoquinone, hemigossypolone; *Bark:* lupeol, β -sitosterol; *Flower:* essential oil, hentriacontane, quercetin, kaempferol, β -sitosterol, glucoside, flavons; *Seed:* hexacosanol, tocopherol, terpenoids.

Seed: Oxytocic, cardiac stimulant.

77. Botanical Name: *Boswellia serrata* Roxb. ex Colebr.

Family: Burseraceae

English name(s): Indian Olibanum Tree; *Local name(s):* Salai; *Unani name(s):* Kundur; *Ayurvedic (Sanskrit/Hindi) name:* Shallaki

Habit and Habitat: A tall, deciduous trees. Flowers small, white. Drupes trigonous, containing 3 pyrenes. Wild. *Part(s) used:* Stem bark. *Locality:* Gwalior, Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Blood dysentery, colds and cough, Gastric pain.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Saharias.

Folk medicinal use(s):

- Stem bark is inhaled through 'chilam' (earthen censer used on hubble-bubble). It gives instant relief in gastric pains.
- Stem bark (100 g) is ground in water and given twice, just for a day to check blood dysentery.
- Stem bark is powdered and given with water in the dose of 6 g twice daily, for 3 days to treat colds and cough.

Biodynamic note(s): Plant: oleoresin, olenane, ursane;

Bark: β -sitosterol; *Gum:* diterpene, serratol, β -boswellic, 11-keto-boswellic acids.

Plant: antibacterial; *Root:* anticancer; *Seed:* hypoglycemic.

78. Botanical Name: *Bougainvillea spectabilis* Willd.

- *Family:* Nyctaginaceae
- *Local name(s):* Buganvillea
- *Habit and habitat:* A large scandent thorny shrub. Flowers greenish-yellow. Cultivated. *Part(s) used:* Leaf. *Locality:* Bhopal.
- *Medical efficacy claimed (name of the disease or condition):* Diabetes.
- *Name of the tribe/caste, and other sources from whom information collected:* Gond.
- *Folk medicinal use(s):*
- Leaf paste (5 g) with lukewarm water is taken for 10-15 days.

Biodynamic note(s):

Leaf: pinitol; *Flower:* glycosides-isorhamnetin, quercetin.

Leaf: hypoglycemic.

79. Botanical Name: *Brassica campestris* L. var. *sarson* Prain

Family: Brassicaceae

English name(s): Yellow Sarson, India Colza;

Local name(s): Sarson; *Unani name(s):* Sarshaf, Sarson;

Ayurvedic (Sanskrit/Hindi) name: Sarshapa

Habit and Habitat: An erect stout herb. Flowers yellow. Pods with a flat seedless beak.

Cultivated. *Part(s) used:* Seed. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Bronchial asthma.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Dried seeds are mixed with a pinch of common salt and grind to prepare a semi-solid paste. This is applied externally on chest of the patient to provide instant relief in cases of bronchial asthma.

Biodynamic note(s): Seed: arabinogalactan-L-arabinose, D-galctose, D-glucuronic acid, glycerides of erucic acid.

80. Botanical Name: *Buchanania lanzan* Spreng. (Syn. *B. latifolia* Roxb.)

Family: Anacardiaceae

English name(s): Almondette Tree, Cheronjee;

Local name(s): Char; *Unani name(s):* Chironji;

Ayurvedic (Sanskrit/Hindi) name: Priyala, Chironji

Habit and Habitat: A tall tree, flowers greenish-white. Drupes globose, black. Wild. *Part(s) used:* Seed, stem bark. *Locality:* Amarkantak, Gwalior, Keonjhar.

Medical efficacy claimed (name of the disease or condition): General debility, urinary complaints.

Name of the tribe/caste, and other sources from whom information collected: Gond, Juangs, Saharias.

Folk medicinal use(s):

- Kernels of 5-6 seeds are fried in ghee and taken with 250 ml cow's milk early morning, for three months to treat general debility.
- In cases of urinary complaints, powdered stem bark is given in dose of 10g twice daily with cold water for 7 days. Fresh bark may be chewed as such by the patients.

Biodynamic note(s): Plant: amino acids; *Bark:* tannin;

Seed: palmitic, stearic, oleic, linoleic acids.

Aerial part: anticancer, CVS active.

81. Botanical Name: *Butea monosperma* (Lam.) Taub. (Syn. *B. frondosa* Koenig Ex Roxb.)

Family: Fabaceae

English name(s): Flame of the Forest; Local name(s): Dhak, Dhako, Chhola, Shhola, Tesu;

Unani name(s): Palas papra, Dhak, Tesu; Ayurvedic (Sanskrit/Hindi) name: Palash, Palasa

Habit and Habitat: A small medium-sized tree. Flowers scarlet orange red. Pods long, flat.

Wild. Part(s) used: Flower, gum, leaf, seed, stem bark. Locality: Aligarh, Bahraich, Bhopal, Chakrata, Gwalior, Kheri, Pauri Garhwal, Ranchi, Udaipur.

Medical efficacy claimed (name of the disease or condition): Burning micturation, diabetes, hydrocele, intestinal worms, piles, post delivery backache, post delivery complaints, rheumatism, spermatorrhea, vermifuge.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhoxas, Damarias, Garasias, Gond, Khasas, Rural population, Saharias, Tharus.

Folk medicinal use(s):

- Powdered leaves in water are taken in the dose of 250 ml twice a day, for 6 months to control diabetes.
- In cases of piles, dried leaves are smoked once or twice daily for 15 days. Along with this the anus should be cleaned with the infusion of leaves during treatment.
- Powdered seeds (10g) are given with water once daily at bedtime, for one week as vermifuge to children.
- Stem bark is crushed, soaked in 250 ml water for 12 hours in an earthen pot and filtered. This is given as single dose early morning on empty stomach, for 15 days to treat spermatorrhea. Salt, sour and oily food are restricted in the diet.
- Flowers, stem bark and gum are mixed in equal quantities and powdered. About 6g of this powder are taken twice daily to treat rheumatism.
- A decoction of flower in the milk is made and a dose of 5 ml is given twice daily for 7 days in cases of post natal complaints.
- Decoction of flowers is given to treat post delivery backache.
- The flowers are boiled in water and the resulting vapors are used as fomentation to treat hydrocele.
- Decoction of flowers (5ml) is given for one week to treat burning micturation.
- Seeds mixed with seeds of babrang (*Embelia ribes*) in equal quantity are made into powder and 1-3 g of the powder is given for a week to get rid of intestinal worms.
- Flowers decoction is given orally and the flowers made into paste are simultaneously applied to abdomen to treat burning micturation.

Biodynamic note(s): Plant: flavon, glucoside, butin, butrin, isobutrin, palastrin, cantharic acids; Flower: butrin, coreopsin, monospermoside, sulphurein, chalcones; Seed: α -amyirin, β -sitosterol, glucoside.

Leaf: spasmolytic; Flower: antifertility; Seed: anthelmintic.

82. Botanical Name: *Caesalpinia bonduc* (L.) Roxb.

Family: Caesalpinaceae

English name(s): Molucca Bean, Bonducella Nut, Physic Nut, Fever Nut; *Local name(s):* Kanja, Karja, Kaya, Kunjula; *Unani name(s):* Karanjwa; *Ayurvedic (Sanskrit/Hindi) name:* Latakaranja

Habit and Habitat: A climbing or scrambling shrub; branches armed with straight prickles. Flowers pale-yellow. Pods echinate, broad-oblong prickly. Seeds ash colored. Wild.

Part(s) used: Leaf, seed, stem bark. *Locality:* Bahraich, Gonda, Gorakhpur, Gwalior, Kheri, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Appetizer, eczema, fever of long duration & malarial fever, non-specific fever, stomachache and other gastric troubles.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Doms, Saharias, Tharus.

Folk medicinal use(s):

- Powdered seeds are taken with water to treat common non-specific fevers including fever of long duration and malarial fever.
- Seeds are roasted, powdered and given in the dose of 2 g thrice daily, for 5 days to treat stomachache and other gastric trouble.
- In cases of eczema, leaf and stem bark are made into paste and applied externally on the affected part for 3-7 days.
- To enhance appetite, dried leaves (5 g) are ground with few grains of black pepper. A few drops of honey are mixed and this is licked twice daily for 3 days.

Biodynamic note(s): Seed: 3 bitter compounds α , β & γ -caesalpin, diterpene.

Plant: anti-inflammatory; *Root & Stem:* antiviral, antifungal; *Leaf:* antimicrobial; *Seed:* antifertility.

83. Botanical Name: *Caesalpinia digyna* Rottl.

Family: Caesalpinaceae

English name(s): Teri Pods; *Local name(s):* Tehra; *Ayurvedic (Sanskrit/Hindi) name:* Vakerimul

Habit and Habitat: A scandent shrub. Flowers bright pale-yellow. Pods oblong, thick fleshy, 1-4 seeded. Wild. *Part(s) used:* Leaf, seed. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Fever.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Seed and leaf decoction is given to treat fever.

Biodynamic note(s): Root: phenolic compound vakerin, identical with bergenin.

84. Botanical Name: *Cajanus cajan* (L.) Millsp.

Family: Fabaceae

English name(s): Red Gram, Pigeon Pea, Congo Pea; *Local name(s):* Arhar; *Unani name(s):* Arhar, Shakil; *Ayurvedic (Sanskrit/Hindi) name:* Adhaki

Habit and Habitat: An erect shrub. Flowers yellow. Pods narrow at the end. Cultivated.

Part(s) used: Leaf, root. *Locality:* Aligarh, Gorakhpur, Gwalior, Kheri, Mainpuri.

Medical efficacy claimed (name of the disease or condition): Cataract, cuts and wounds, dysentery, iritis.

Name of the tribe/caste, and other sources from whom information collected: Paharias, Rural population, Saharias, Tharus.

Folk medicinal use(s):

- Leaves are crushed and applied on fresh cuts and wounds to stop bleeding.
- Leaf paste with common salt is given for dysentery.
- Leaf juice is applied in the eyes daily, for 7 days in cases of iritis.
- Fresh root is finely ground with fresh water on slate and filtered in cotton. The filtrate thus obtained is applied in the affected eye twice daily, for 15-20 days to treat cataract.

Biodynamic note(s): *Plant:* α , β & γ -selenenes, copaene and eudesmols; *Root:* isoflavon, cajanone; *Root bark:* cajanflavanone, genistein, lupeol, α & β -amyrin, sitosterol, glucoside; *Leaf:* sterols, triterpenes, phytoalexins, phytosterols; *Seed:* oxalic acid, calcium, phosphorus, riboflavin, pyridoxine.

Root: antifungal; *Seed:* hypoglycemic.

85. Botanical Name: *Calotropis gigantea* (L.) R.Br.

Family: Asclepiadaceae

English name(s): Mudar, Gigantic Swallow wort; *Local name(s):* Akahua, Madar; *Unani name(s):* Madar; *Ayurvedic (Sanskrit/Hindi) name:* Alark (Shwet)

Habit and Habitat: An erect shrub or small tree, clothes white pubescence all over. Flowers purplish or white. Follicles glaucous green, recurved. Wild. *Part(s) used:* Latex, leaf, root bark. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Diarrhoea, filariasis, wounds of cattle.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- To ally inflammations due to filarial lymphedema, fresh latex is applied externally on toenails of the patients twice daily, for 30-40 days.
- Root bark (10g) is grind with 3g of black pepper (*Piper nigrum* L.) and pills of pea size are made. These are given in the dose of one pill thrice daily for 15 days to check diarrhea.

- In the treatment of wounds in cases of cattle, a leaf of about 8 cm x 15 cm size is fed daily till the cure is obtained.

Biodynamic note(s): Plant: β -sitosterol; *Leaf:* sapogenins; *Root bark:* triterpene; *Latex:* proteases, calotropains FI & FII; *Flower:* β -amyrin, stigmasterol.

Leaf: anticancer; *Root:* spasmolytic; *Latex:* antispasmodic, hypotensive.

86. Botanical Name: *Calotropis procera* (Ait.) R.Br.

Family: Asclepiadaceae

English name(s): Mudar; *Local name(s):* Ankra, Madar; *Unani name(s):* Aak; *Ayurvedic (Sanskrit/Hindi) name:* Arka (Rakt)

Habit and Habitat: A much branched shrub with fugaciously cottony leaves. Flowers white-purple. Follicles recurved, sausage-shaped. Seeds obovate. Wild. *Part(s) used:* Flower, latex, leaf, root bark, root, stem, stigma, tender branches. *Locality:* Aligarh, Chakrata, Gonda, Gorakhpur, Gwalior, Keonjhar, Kheri, Mainpuri, Mathura, Pauri Garwal, Udaipur.

Medical efficacy claimed (name of the disease or condition): Arthritis, cholera, colds & cough, conjunctivitis, dog bite, earache, eczema, gastritis in cattle, gastritis, indigestion & constipation, joints pain, malarial fever, migraine, parkinsonism, piles, pyorrhea, sinus-fistula, snakebite, to remove spines.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Bhuyans, Garasias, Khasas, Oraon, Paharias, Rural population, Saharias, Tharus.

Folk medicinal use(s):

- In case of malarial fever, flower buds (6g) with 7-8 grains of black pepper and common salt (3g) are ground and made into pills of a black gram size. Two pills are given twice daily, for 3-5 days. In another recipe, flower buds are mixed with 15 g 'gur' (solidified sugarcane juice) and given for 3-4 days, once a day.
- Flower buds (15-30 g) mixed with 'gur' (solidified sugarcane juice) are given for 21 days. This is given against rabies after dog bite.
- Equal quantities of black pepper, 'heeng' (asafoetida), 'zeera' (cumin seeds), Potassium carbonate and common or black salt are mixed and ground together to make it 500 g. To this 1 kg flowers of 'aak' are added. From this a dose of 3-6 g once a day is given in cases of indigestion and constipation.
- Fresh latex is applied externally on the affected point to take out spine from the skin.
- Latex is mixed with castor oil and applied externally on affected parts to treat parkinsonism.
- Fresh latex is applied externally 2-3 times a day for 3-4 weeks to treat eczema.
- One teaspoonful of latex is mixed with 20 g sugar and 1 g of calcium carbonate. This is made into pills of black gram size and given twice daily, for three days to treat arthritis.
- In cases of conjunctivitis, latex is filled in the space between nails and fingertips of the patient twice daily till cure is obtained.

- Ashes of 2-4 leaves with common salt are burnt into ashes and taken twice a day to treat gastritis.
- Smoke from the burning of semi-dried leaves and stems are used for piles. In another recipe, root is fried in animal fat, lukewarm and applied over anus twice a day, for 7-8 days.
- Mature yellow leaves are warmed and tied over the temporal bone to alleviate earache.
- In cases of migraine, one mature leaf mixed with cow dung is burnt and the smoke is inhaled by the patient. In another recipe, flowers with leaves of *Nicotiana tabacum* L. are mixed in equal quantity and dried. These are burnt and inhaled 2-3 times a day. Patient should not be exposed to sunlight in the morning.
- In cases when there is oozing of pus from any part of bones and even at the initial stage of bone T.B., the mature leaves (yellow) are filled in the earthen pot. The patient should urinate in this pot in the morning and evening for 7-8 days, till the pot is completely filled up. Then it should be covered with its lid and tied with cloth duly plastered by clay soil so as to make it air tight. After 10 days, it should be opened and this urine should be applied or poured on the affected bone/part by squeezing a cloth wet in this urine, taking care that it should not get dry, till disease is cured.
- Leaf paste is applied locally over the swelled-out stomach (caused by gases and indigestion) in cattle.
- Tender branches are heated for 30-40 minutes and cooled. Regular use of these leafless twigs as tooth brush is stated to cure the pyorrhea and strengthens the gums.
- In cases of colds and cough, the ash of root is given with honey orally twice a day till cure. The doses varies between 1-3 g, depending on the severity of the ailment.
- The root with ginger in the form of paste is used against cholera. In another recipe, about 12 g stigmas are added to 5-8 black pepper and black salt (3 g) and opium (equal to the weight of one seed of mustard). This is made into tablets of the size of black pepper and are given thrice daily, for 3 days only with hot water.
- In cases of snakebite, root juice is given orally in the dose of 10 ml, frequently till the taste is felt sweet by the patient. As soon as the taste changes to tasteless, the medicine is stopped indicating that there is no poison left in the body.
- Twenty-five leaves along with 10 g excreta of mouse is boiled in 200 g of mustard oil. The filtered is applied externally to treat joints pain.

Biodynamic note(s): Plant: calotropin, calotoxin, α & β -amyrin, β -sitosterol; *Leaf:* calotropin;

Latex: proceroside, sterols, calactin, voruscharin.

Root: anticancer, CVS active.

87. Botanical Name: *Canna indica* L. (Syn. *C. orientalis* Rosc.)

Family: Cannaceae

English name(s): Indian Shot; *Local name(s):* Ramkedari; *Ayurvedic (Sanskrit/Hindi) name:* Vijaya

Habit and Habitat: A perennial rhizomatous herb. Flowers deep red with greenish petal. Capsules globose. Seeds black. Wild. *Part(s) used:* Rhizome. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Rhizome is ground and mixed with water to make a fine mixture. It is given 10-20 ml at frequent interval, till the mouth taste of snake-bite patient remains sweet. Patient is also not allowed to sleep for 24 hours.

Biodynamic note(s): Plant: stigmasitosterol, β -sitosterol, campesterol.

Aerial part: hypotensive; *Tuber:* enterokinase.

88. Botanical Name: *Cannabis sativa* L.

Family: Cannabinaceae

English name(s): True Hemp, Soft Hemp, Marijuana, Marihuana; *Local name(s):* Bhang;

Unani name(s): Qinnab; *Ayurvedic (Sanskrit/Hindi) name:* Vijaya, Bhanga

Habit and Habitat: An annual, aromatic, suffruticose herb. Flowers white or cream. Fruits compressed, brownish-yellow. Cultivated. *Part(s) used:* Leaf. *Locality:* Aligarh, Bahraich, Kheri.

Medical efficacy claimed (name of the disease or condition): Antifatigue in cattle, piles.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Leaf poultice is applied over the anus for one month to treat piles.
- Leaf mixed with equal quantity of 'gur' (solidified sugarcane juice) is given to oxen, ploughing field or doing other heavy work to overcome their fatigue and to revitalize them for more work.

Biodynamic note(s): Plant: β -lectin, cannabidiol, cannabidiolic acid, cannabigerol; *Leaf:* flavonoid, glycosides; *Seed:* tetrahydrocannabinol.

Plant: CVS and CNS active, spasmolytic, analgesic.

89. Botanical Name: *Canscora diffusa* (Vahl) R.Br.

Family: Gentianaceae

Local name(s): Sankha phuli; *Ayurvedic (Sanskrit/Hindi) name:* Shankhapushpi-bhed

Habit and habitat: A much branched, erect, annual herb. Flowers in diffuse paniculate cymes, pink. Capsules narrowly oblong, as long as the calyx, membranous. Wild. *Part(s) used:* Root. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Worms.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Root juice is given in the dose of 25-30 ml once only at bedtime and repeated every week for 4 times.

Biodynamic note(s): Plant: antiviral, CNS active, hypothermic.

90. Botanical Name: *Capparis sepiaria* L.

Family: Capparaceae

Local name(s): Aralu, Tehra; *Unani name(s):* Kibr; *Ayurvedic (Sanskrit/Hindi) name:* Vyaghranakha

Habit and Habitat: A moderate-sized spreading shrub, sometimes climbing. Flowers small white. Fruits globose, black when ripe. Wild. *Part(s) used:* Fruit, root. *Locality:* Gwalior, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Pruritus ani (itching around anus), typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Saharias.

Folk medicinal use(s):

- Paste of the fruit is given for typhoid fever.
- Root paste is applied externally twice or thrice daily for treating reddish eruptions around the anus with itching among children.

Biodynamic note(s): Leaf: taraxasterol, α - β -amyrin, β -sitosterol, erythrodiol.

91. Botanical Name: *Capsicum annuum* L.

Family: Solanaceae

English name(s): Chilli, Spanish Pepper, Red Pepper, Cayenne Pepper; *Local name(s):* Mirch; *Unani name(s):* Filfil-e-Ahmar; *Ayurvedic (Sanskrit/Hindi) name:* Lal Mircha

Habit and Habitat: A perennial herb with white flowers. Berries variable in form and size. Seeds discoid smooth. Cultivated. *Part(s) used:* Leaf. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Earache.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Leaf juice(1-2 drops) mixed with butter milk is poured into the ear once only.

Biodynamic note(s): Fruit: quercetin, flavones, glycosides, capsaicin, vanillylamide caprylate, vanillylamide decylate, campesterol, stigmasterol, ascorbic acid.

Fruit: hypocholesterolemic.

92. Botanical Name: *Careya arborea* Roxb.

Family: Barringtoniaceae

English name(s): Kumbi; *Local name(s):* Asan gach, Kumbha; *Unani name(s):* Bai Khumb; *Ayurvedic (Sanskrit/Hindi) name:* Kumbhi

Habit and habitat: A small tree. Flowers white-pink. Fruits globose, green with calyx tube. Wild. *Part(s) used:* Stem bark. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Constipation, diarrhea, stomatitis.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Tharus.

Folk medicinal use(s):

- Stem bark juice (10 ml) is given with cold water before going to bed in night to treat constipation.
- Stem bark powder (10g) is given twice daily to treat diarrhea.
- Fresh stem bark is chewed to treat stomatitis.

Biodynamic note(s): *Bark:* lupeol, betulin; *Leaf:* hexacosanol, quercetin, ellagic acid, taraxerol, β -sitosterol, α -spinasterol, valoneic acid, tannin; *Seed:* α -spinasterol, careyagenol.

93. Botanical Name: *Carica papaya* L.

Family: Caricaceae

English name(s): Papaya, Papaw Tree; *Local name(s):* Papita; *Unani name(s):* Papita Desi; *Ayurvedic (Sanskrit/Hindi) name:* Erandakarkati

Habit and Habitat: A soft-wooded, dioecious tree, with usually unbranched trunk and milky sap. Flowers cream colored. Fruits oblong, yellow when ripe. Cultivated. *Part(s) used:* Flower, milky sap. *Locality:* Kheri, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Abortifacient, irregular menstruation.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Tharus.

Folk medicinal use(s):

- The milky juice from the unripe fruit is obtained, dried and given in the dose of 10 g with cow milk twice daily, for 10 days as abortifacient. The dried milk sap is also used as suppository to bring about abortion of three months pregnancy.
- The paste of flowers (5 g) is given with water thrice daily, for 10-15 days to treat irregular menses.

Biodynamic note(s): *Plant:* alkaloid-carpaine; *Latex:* enzymes-papain, chymopapain, alkaloids-carpaine.

Seed: antifertility activity, anthelmintic.

94. Botanical Name: *Carissa congesta* Wight

Family: Apocynaceae

Local name(s): Karonda, Karunda; *Unani name(s):* Karonda; *Ayurvedic (Sanskrit/Hindi) name:* Karonda

Habit and Habitat: A branched spinous shrub. Flowers white. Berries ellipsoid or globose, green-purplish on maturity. Wild. *Part(s) used:* Fruit, leaf, root, root bark. *Locality:* Aligarh, Bahraich, Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Diarrhea, piles, worms in wounds of cattle.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus and other rural population.

Folk medicinal use(s):

- For the treatment of diarrhea, decoction of fruit prepared in water is given in the dose of 100 ml once only. In another recipe, leaf paste mixed with black pepper is taken thrice a day, for 5-7 days with little water.
- Paste of fresh leaves, fruits and root bark in the dose of 100 g is given orally once early morning for 2-3 weeks to treat bleeding piles.
- Root juice is applied externally 3-4 times a day, for a week to treat worms in wounds of cattle.

Biodynamic note(s): *Root:* β -sitosterol glucoside, ursolic acid, a sesquiterpene-carissone, a ligman-carinol; *Root and stem bark:* β -sitosterol, lupeol.

Root: hypotensive.

95. Botanical Name: *Carissa opaca* Stapf

Family: Apocynaceae

Local name(s): Karon, Karvan, Karwan

Habit and Habitat: A rigid shrub. Flowers small white star like. Fruits ellipsoid or subglobose. Wild. *Part(s) used:* Leaf, root, root bark. *Locality:* Gonda, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds of cattle, dysentery, fever of long duration, stomachache, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Doms, Paharias, Tharus.

Folk medicinal use(s):

- Paste of root is given for fever of long duration.
- Crushed root bark mixed with black pepper is given to treat typhoid fever.

- Leaf juice with common salt is given for dysentery.
- Root decoction prepared with root of *Solanum virginianum* L. and fruits of *Zizyphus nummularia* (Burm.f.) Wt. & Arn. is taken for stomachache.
- Root is crushed, fried in mustard oil and allowed to cool. This preparation is applied externally on cuts and wounds of cattle once daily, until the cure is obtained.

Biodynamic note(s): Root: caffeic acid, cardiac glycosides-odorosides- B, C, G & H; Root bark: β -sitosterol, stigmasterol; Berry: α - & β -amyrin, sitgmasterol.

Plant: cardiotonic.

96. Botanical Name: *Cassia auriculata* L.

Family: Caesalpiniaceae

English name(s): Tanner's Cassia, Avaram; *Local name(s):* Tarwad; *Ayurvedic (Sanskrit/Hindi) name:* Avartaki, Adari

Habit and Habitat: A much branched shrub. Flowers large yellow. Pods flat, obtuse at each end. Seeds 6-10. Wild. *Part(s) used:* Buds, flowers. *Locality:* Bhopal.

Medical efficacy claimed (name of the disease or condition): Diabetes.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- Decoction of flowers and buds prepared in water is taken in the dose of 100 ml on empty stomach early in the morning, for 15-30 days to control diabetes.

Biodynamic note(s): Pod: nonacosane; Seed: β -sitosterol.

Root: antiviral, spasmolytic.

97. Botanical Name: *Cassia fistula* L.

Family: Caesalpiniaceae

English name(s): Indian Laburnum, Purging Fistula; *Local name(s):* Amaltas, Bharmusari, Varga; *Unani name(s):* Khiyar Shambar, Amaltas; *Ayurvedic (Sanskrit/Hindi) name:* Aragvadha, Amaltas

Habit and Habitat: A medium-sized, deciduous tree. Flowers bright yellow. Pods 1-2 ft. long, cylindrical drooping. Seeds ovate or ellipsoidal, glabrous. Wild. *Part(s) used:* Fruit, leaf, root, seed. *Locality:* Amarkantak, Bahraich, Bhopal, Gonda, Gorakhpur, Gwalior, Keonjhar, Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Appetizer, constipation, diabetes, diarrhea & dysentery, eczema, filariasis, high fever with loss of senses, migraine, edema of the body, pain in legs, pneumonia, rheumatic pain, swelling of gums.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Bundels, Gond, Saharias, Tharus.

Folk medicinal use(s):

- Crushed leaves are put in a thin cloth and squeezed to get the juice, this juice is applied externally three times a day, for two week to treat eczema.
- Decoction of pulp of ripe fruit is mixed with 'gur' (solidified sugarcane juice) and given in high fever with loss of senses (abnormal utterances) and also to treat pneumonia.
- Fruit pulp (25 g) is given with water once a day at bedtime, for 3 days in cases of constipation.
- Fruit pulp (10-20 g) is mixed in water and given twice a day for 3 days to treat diarrhea and dysentery.
- Pulp of unripe fruit (100 g) is given with the decoction of mango leaves prepared in water, for 6 months once a day to control diabetes.
- Fruit pulp is applied on legs to obtain immediate relief from swelling, especially in women.
- Seeds are ground with water to make a fine paste and applied on forehead of the patient to treat migraine.
- Seed paste is given orally to treat rheumatic pain.
- Seed paste is given orally to treat filariasis.
- Seed paste is applied on the swelling gums.
- Root paste is applied over the body twice a day for 7 days to treat edema of the body.
- Root is powdered and mixed in equal quantity of fruit pulp. A dose of 10 g of this preparation is given twice daily with warm water for 15 days at bedtime as appetizer.

Biodynamic note(s): Root bark: flavon, glycoside; Stem bark: leucoanthocyanidin, fistucacidin, lupeols, β -sitosterol, hexacosanol; Heartwood: flavons, fistucacidin, barbaloin, rhein; Flower: ceryl alcohol, kaempferol, fistulin, proanthocyanidins; Pod: aloemodin, emodin, chrysophanol, sennidin.

Pod & stem bark: antiviral, hypoglycemic, anticancer.

98. Botanical Name: *Cassia occidentalis* L.

Family: Caesalpinaceae

English name(s): Negro Coffee

Local name(s): Panwar; *Unani name(s):* Kasondi; *Ayurvedic (Sanskrit/Hindi) name:* Kasmard, Kasondi.

Habit and Habitat: An erect or diffuse undershrub. Flowers yellow. Pods linear-oblong, transversely septate. Seed subcylindric, smooth, greenish-brown. Wild. *Part(s) used:* Flowers, leaf, seed. *Locality:* Bahraich, Gorakhpur, Keonjhar, Kheri.

Medical efficacy claimed (name of the disease or condition): Night blindness, piles, ringworm, scabies, to reduce fat from the body.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Rural population, Tharus.

Folk medicinal use(s):

- In cases of scabies, powdered seeds mixed with mustard oil are applied externally on the affected parts 2-3 times a day, until the cure is obtained.
- Leaf and seed paste is applied on ringworms.
- Seeds are powdered with black pepper in equal quantity and kept in a bottle. A dose of 2 g is given with water thrice daily for 6 months to reduce fat from the body.
- The powder of dried leaves (15 g) mixed with powder of 3 grains of black pepper is taken orally twice daily, for 7 days to treat piles.
- Two or three flowers are chewed twice daily to cure night blindness.

Biodynamic note(s): Plant: xanthone-casiolline, islandicin, helminthosporin, xanthorin; *Root:* emodol, physcion, phytosterols; *Leaf:* dianthronic heteroside, apigenin anthraquinone; *Flower* -sitosterol; β : physcion, glucoside, emodin, *Pod:* sennosides; *Seed:* anthraquinone, glycoside.

Root, Leaf & Seed: antibacterial.

99. Botanical Name: *Cassia siamea* Lam.

Family: Caesalpiniaceae

Local name(s): Kaiso

Habit and Habitat: A moderate-sized tree. Flowers bright yellow. Pods compressed, reticulate, blackish-brown. Seeds flat, dark-brown. Wild. *Part(s) used:* Leaf. *Locality:* Udaipur.

Medical efficacy claimed (name of the disease or condition): Rheumatic pain.

Name of the tribe/caste, and other sources from whom information collected: Meenas.

Folk medicinal use(s):

- Leaf paste is applied externally to the affected parts daily, for 10-15 days.

Biodynamic note(s): Plant: isoquinolone derivative-siamin; *Leaf:* cassiachromone, anthraquinones; *Flower:* chromone, β -sorbitol, lupeol, cassiamin A, B & C.

Seed: γ -sitosterol, flavons.

100. Botanical Name: *Cassia sophera* L.

Family: Caesalpiniaceae

English name(s): Senna Sopheta, Senna Esculenta, Senna Purpurea; *Local name(s):* Kasondi;

Ayurvedic (Sanskrit/Hindi) name: Kasmard-bhed

Habit and Habitat: A tall, glabrous shrub or undershrub. Flowers in axillary and terminal panicles, yellow. Pods sub-terete or terete, septate. Seeds compressed, ovoid, bark-brown.

Wild. *Part(s) used:* Leaf, stem bark. *Locality:* Bhopal, Kheri.

Medical efficacy claimed (name of the disease or condition): Diabetes, piles.

Name of the tribe/caste, and other sources from whom information collected: Gond, Tharus.

Folk medicinal use(s):

- A decoction of 250 g stem bark prepared in water is taken along with 5-7 leaves of 'tulsi' (*Ocimum basilicum* L.) for 3-4 months regularly to control diabetes.
- Fresh leaf paste is taken with little sugar twice daily, to treat piles.

Biodynamic note(s): Leaf: flavonol-8-c-glycosides; Flower: anthraquinone, flavonol, glycosides.

Plant: spasmolytic.

101. Botanical Name: *Cassia tora* L.

Family: Caesalpiniaceae

English name(s): Fetid Cassia; *Local name(s):* Khambadiya, Panwar, Chakor; *Unani name(s):* Panwar, Sanjisboya; *Ayurvedic (Sanskrit/Hindi) name:* Prapunnad, Chakramard

Habit and Habitat: A tall, glabrous herb. Flowers axillary, yellow or reddish tinged. Pods sub terete, 4-angled. Wild. *Part(s) used:* Fruit, leaf, seed. *Locality:* Gwalior, Udaipur.

Medical efficacy claimed (name of the disease or condition): Dysentery, scorpion sting, stomachache, wasp sting.

Name of the tribe/caste, and other sources from whom information collected: Bhoxas, Garasias, Saharias.

Folk medicinal use(s):

- The powder of 5 g seeds is boiled in 250 ml fresh water, and the decoction is taken twice a day, for 2-3 days to treat stomachache.
- Powdered fruit is given with water 2-3 times daily, for 3-4 days to treat dysentery.
- Leaves are rubbed on scorpion sting. It is claimed to provide relief and prevents swelling and burning sensation.
- Leaf paste is applied locally to wasp sting to relieve pain.

Biodynamic note(s): Plant: glucose; Root: anthraquinones; β -sitosterols; Stem & Leaf: d-mannitol, myricyl alcohol, β -sitosterols; Pod: sennosides.

Plant: antiviral, spasmolytic; *Seed:* spasmolytic.

102. Botanical Name: *Cassine glauca* (Rottb.) O. Ktze (Syn. *Elaeodendron roxburghii* Wt. & Arm.)

Family: Celastraceae

Local name(s): Karvi; *Ayurvedic (Sanskrit/Hindi) name:* Krishnamokshak

Habit and Habitat: A small tree. Flowers small, greenish-white or brownish. Drupes oblong-obovoid. Wild. *Part(s) used:* Leaf, stem bark. *Locality:* Bahraich, Gwalior.

Medical efficacy claimed (name of the disease or condition): Bronchial asthma, scabies.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus.

Folk medicinal use(s):

- Dried leaves are ground and made into pills of 5g each with honey, one pill is given twice daily, for 45 days to treat bronchial asthma.
- Stem bark paste is applied over the affected parts of the body for 10-15 days in cases of scabies.

Biodynamic note(s): Bark: lupeol, ouratea-catechin, betulonic acid, cardiac glycoside, elaeodendradiol; *Leaf:* lupeol, β -sitosterol; *Heart wood:* β -sitosterol.

Aerial part: anticancer.

103. Botanical Name: *Catharanthus pusillus* (Murr.) G. Don

Family: Apocynaceae

Local name(s): Mirchi

Habit and Habitat: An erect, annual herb. Flowers axillary, white. Follicles long, very slender, membranous. Seeds oblong, black. *Part(s) used:* Leaf. *Locality:* Udaipur.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis.

Name of the tribe/caste, and other sources from whom information collected: Garasias.

Folk medicinal use(s):

- Two or three drops of the leaf juice are applied to the affected eye, once a day at bedtime for 7-8 days.

Biodynamic note(s): Plant: N-benzoyl, triterpenes, β -sitosterols, alkaloids, ajmalicine, vindorosine; *Root:* lochnericine, vincapausina, venoterpine; *Leaf:* lochnericine, ursolic acid, leurosine.

104. Botanical Name: *Catharanthus roseus* (L.) G. Don (Syn. *Vinca rosea* L.)

Family: Apocynaceae

English name(s): Madagascar periwinkle; *Local name(s):* Sadabahar; *Unani name(s):* Sadabahar; *Ayurvedic (Sanskrit/Hindi) name:* Sadabahar

Habit and Habitat: A perennial herb. Flowers white or deep rose colored. Follicles long. Cultivated. *Part(s) used:* Leaf. *Locality:* Bhopal.

Medical efficacy claimed (name of the disease or condition): Diabetes.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- Leaves are ground to make a paste and a dose of 50 g is given twice daily, for 30 days.

Biodynamic note(s): Plant: alkaloids vincarodine, leurocolombine, vinamidine; *Root:* ursolic acid, oleanolic acid, bronesitol; *Root bark:* vincaline.

Plant: hypoglycaemic, CNS depressant.

105. Botanical Name: *Cedrus deodara* Loud.

Family: Pinaceae

English name(s): Deodar, Himalayan Cedar; *Local name(s):* Devdar; *Unani name(s):* Deodar;

Ayurvedic (Sanskrit/Hindi) name: Shalmali Shwet, Kut Shalmali

Habit and Habitat: A large, robust tree with needle like leaves. Male cones cylindrical.

Female cone ovoid-cylindrical. Wild. *Part(s) used:* Whole plant. *Locality:* Chakrata.

Medical efficacy claimed (name of the disease or condition): Scabies.

Name of the tribe/caste, and other sources from whom information collected: Khasas.

Folk medicinal use(s):

- Oil obtained from the plant is applied on the affected parts; simultaneously, 3-4 drops of the oil are taken in a lump of sugar once a day, for 7 days to treat scabies.

Biodynamic note(s): *Wood:* himadarol, centdarol, taxifolin, cedeodarin, cedrin, cedrinoside, himachalol, α -pinene, isopimaric acid.

Stem: spasmolytic, anticancer.

106. Botanical Name: *Ceiba pentandra* (L.) Gaertn.

Family: Bombacaceae

English name(s): White Silk Cotton Tree, True Kapok Tree; *Local name(s):* Safed Semal

Habit and Habitat: A medium-sized deciduous tree. Branches prickly when young to bear digitated compound leaves. Flowers large. Capsules oblong. Cultivated. *Part(s) used:* Leaf, root. *Locality:* Amarkantak, Bhopal.

Medical efficacy claimed (name of the disease or condition): Diabetes, edema.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- Root juice is given at the rate of 20 ml thrice daily, for 3 months to control diabetes.
- About 40-50 leaves are boiled in one bucket of water (about 15 liters), and bath is taken by the patient with this medicated water, for 10-15 days to treat edema of body.

Biodynamic note(s): *Plant:* linarin, *Seed:* fattyacids, diglycerides, phospholipids, malvalic acid.

Aerial part: CNS active, diuretic.

107. Botanical Name: *Celastrus paniculatus* Willd.

Family: Celastraceae

English name(s): Climbing Staff Plant; *Local name(s):* Kakunan, Lakhan, Malia, Malkopni, Munjni, Malkangni; *Unani name(s):* Malkangni; *Ayurvedic (Sanskrit/Hindi) name:* Jyotismati, Malkangni

Habit and Habitat: A large woody climber. Flowers greenish-yellow, in terminal panicles. Fruits spherical, deep red or orange when ripe. Wild. *Part(s) used:* Fruit, leaf, seed. *Locality:* Chakrata, Gonda, Gorakhpur, Gorakhpur, Kheri, Pauri Garhwal, Ranchi, Udaipur.

Medical efficacy claimed (name of the disease or condition): Backache, bodyache due to high fever, common fever, cuts and injuries, irregular menses, piles, rheumatic pain, to take out dirty blood after delivery, tuberculosis.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhotias, Khasas, Meenas, Paharias, Tharus, Vangujars.

Folk medicinal use(s):

- The crushed leaves (100 g) are boiled in 250 ml of water with few grains of black pepper and cooled. The decoction is drunk twice daily, for 3 days to treat common fever.
- Leaf juice is used to treat irregular menses.
- Equal quantities of the fruits with oat, ginger and 'khajoor' (Date palm) are ground and fried in ghee and one teaspoonful of this preparation is given once daily for a week to treat piles.
- The oil, extracted by crushing the dried seeds is applied locally with light massage of the body to treat bodyache due to high fever.
- The oil, extracted by crushing the dried seeds is applied locally with light massage, 3-4 times a day. It is claimed to relieve the backache gradually.
- Seed oil is applied on joints in rheumatic pain.
- In cases of cuts and injuries, seed oil is applied externally on the affected part, 3-4 times a day, till cure is obtained.
- Seed oil is given orally in the dose of 10 drops every day after breakfast for one year continuously to treat tuberculosis in early stage.
- Seed oil is given to women in the dose of 5 ml after delivery twice daily, for 7 days to take out dirty blood after delivery.

Biodynamic note(s): Seed: triterpenes, paniculatadiol, malkanguniol, β -amyrin, β -sitosterol, sesquiterpene, malangunin.

Aerial part: antiviral; *Seed:* hypotensive, spasmolytic.

108. Botanical Name: *Centella asiatica* (L.) Urban

Family: Apiaceae

English name(s): Indian Pennywort; *Local name(s):* Brahmi; *Unani name(s):* Brahmi; *Ayurvedic (Sanskrit/Hindi) name:* Mandukaparni

Habit and Habitat: A creeping herb. Flowers in an umbel, pink to red. Fruits ovoid, compressed. Wild. *Part(s) used:* Aerial parts, leaf, whole plant. *Locality:* Chakrata, Gorakhpur, Kheri.

Medical efficacy claimed (name of the disease or condition): Headache, Post-natal fever, stomatitis, sunstroke, to improve memory.

Name of the tribe/caste, and other sources from whom information collected: Bhoxas, Khasas, Rural population, Tharus.

Folk medicinal use(s):

- Decoction of aerial parts with black pepper is given to treat post natal fever.
- One spoonful juice of the leaves is given once in the morning for 3-4 months to improve memory.
- Plant is crushed to make a fine paste and a dose of 100 g taken thrice daily, for 3-4 days to treat sunstroke.
- Fresh leaves are chewed to treat stommatitis.
- Plant paste is applied on forehead to treat headache.

Biodynamic note(s): Plant: stigmasterol, isothankuniside, amino acids-aspartic acids, glycine, glutamic acid, β -sitosterol, palmitic acid, stearic acid.

Plant: antiprotozoal, spasmolytic.

109. Botanical Name: *Chlorophytum tuberosum* (Roxb.) Baker

Family: Liliaceae

Local name(s): Safed musar, Safed musli; *Ayurvedic (Sanskrit/Hindi) name:* Mushli (Shwet)

Habit and Habitat: An annual herb with a small root-stock and many cylindric root-fibers ending in ellipsoid tubers. Flowers white. Fruits coriaceous or fleshy capsule. Wild.

Part(s) used: Root, whole plant. *Locality:* Amarkantak, Gonda.

Medical efficacy claimed (name of the disease or condition): Rheumatism, weakness after childbirth.

Name of the tribe/caste, and other sources from whom information collected: Gond, Tharus.

Folk medicinal use(s):

- Roots are ground, then fried in ghee and cooled; about 10g of this preparation are taken twice daily, for 45 days as general tonic by women after childbirth.
- Whole plant especially tubers are ground and mixed with 'gur' (solidified sugarcane juice). Of this, 5 g are given thrice daily, for 3-4 months to treat rheumatism.

110. Botanical Name: *Cichorium intybus* L.

Family: Asteraceae

English name(s): Chicory, Wild Endive; *Local name(s):* Kasni; *Unani name(s):* Kasni; *Ayurvedic (Sanskrit/Hindi) name:* Kasni

Habit and Habitat: A deep rooted, annual or perennial herb. Flowers blue in heads. Achenes turbinate, 5-angular, truncate at the apex. Pappus paleaceous. Cultivated. *Part(s) used:* Leaf. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Liver disorders.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Leaf juice (5ml) is mixed with 125 mg 'nausadar' (Ammonium chloride). This is given once daily for 1-2 months, in liver disorders.

Biodynamic note(s): *Root:* flavonoids, catechol tannins, unsaturated sterols, triterpenoids;

Flowers: a glucoside, cichoriin, esculin; *Seed:* carmin, cordial lactucopictin.

Plant: cholagogue, anti-inflammatory, antispermatogenic, antihepatic.

111. Botanical Name: *Cissampelos pareira* L.

Family: Menispermaceae

English name(s): False Pareira Brava; *Local name(s):* Batulia, Kali Pari, Purain Pari, Pari;

Ayurvedic (Sanskrit/Hindi) name: Patha, Padhi

Habit and Habitat: A slender climber. Flowers greenish-white, in clusters. Drupes ovoid, orange or scarlet. Wild. *Part(s) used:* Leaf, root. *Locality:* Bahraich, Gonda, Gorakhpur, Keonjhar, Kheri, Pauri Garhwal, Ranchi, Udaipur.

Medical efficacy claimed (name of the disease or condition): Boils, colds and cough, common and malarial fever, diabetes, dysentery, joints pain, stomachache.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Garasias, Tharus.

Folk medicinal use(s):

- A rosary of the dried root bits is prepared and worn in the neck of the patient to treat common fever. In another recipe, decoction of root prepared in water is given for 3 days, twice daily and also crushed leaves (50g) mixed with 5g of black pepper are boiled in 500 ml of water and cooled, the decoction thus prepared is drunk thrice a day, for 3 days.
- Powdered root in the dose of 10 g with powder of two and a half grains of black pepper is given twice daily, for 5-7 days to treat malarial fever.
- 1 cm piece of the root is chewed twice daily, to relieve stomachache.
- Decoction of root is given with honey in the dose of 10 ml 3-4 times daily, for 3 days to treat colds and cough.
- Leaf juice with common salt is given to treat dysentery.
- Leaf paste is applied on boils.
- Leaf juice along with powdered seeds of 'isabgol' (*Plantago ovata* L.), juice of root is 'kans' (*Saccharum spontaneum* L.) and juice of whole plant of 'dub' (*Cynodon dactylon* (L.) Pers.) is given in diabetes.
- A piece of root (about 3 cm) is ground with 5 grains of black pepper and the resulting paste is given three times daily to treat joints pain.

Biodynamic note(s): *Plant:* cissampareine; *Root:* cissamine chloride, essential oil; *Root bark:* cissamine, hayatine; *Leaf:* cycleanine, hyatine.

Root: hypoglycemic.

112. Botanical Name: *Cissus adnata* Roxb.

Family: Vitaceae

Local name(s): Hadjurwa; *Ayurvedic (Sanskrit/Hindi) name:* Koleghan

Habit and habitat: A climber. Flowers greenish. Berries purple-brown, globose, pyriform.

Wild. Part(s) used: Leaf. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Bone fractures.

Name of the tribe/caste, and other sources from whom information collected: Paharias.

Folk medicinal use(s):

- Leaf paste is applied as plaster over the fractured bone.

Biodynamic note(s): Tuber: diuretic.

113. Botanical Name: *Cissus quadrangula* L.

Family: Vitaceae

English name(s): Edible Stemmed Vine, Bone-setter; *Local name(s):* Hadjor; *Ayurvedic (Sanskrit/Hindi) name:* Asthi Shrankhla

Habit and Habitat: A fleshy jointed climber. Flowers greenish-white. Berries red. 1-seeded.

Wild. Part(s) used: Root and stem, whole plant. *Locality:* Gwalior, Mathura, Ranchi.

Medical efficacy claimed (name of the disease or condition): Bone fractures.

Name of the tribe/caste, and other sources from whom information collected: Asur, Saharias and other rural population.

Folk medicinal use(s):

- In cases of bone fractures, paste of the stem is taken once daily, for 3 days with animal fat. In another recipe, root and stem are ground in 1:8 ratio and given orally in the dose of 100 g with water for 15-30 days, once daily.

Biodynamic note(s): *Plant:* β -sitosterol, 3-ketosteroid, calcium oxalate, carotene, ascorbic acid.

Aerial part: antiprotozoal, hypotensive.

114. Botanical Name: *Citrullus colocynthis* (L.) Schrad.

Family: Cucurbitaceae

English name(s): Colocynth, Bitter Apple; *Local name(s):* Indrayan; *Unani name(s):* Hanzal; *Ayurvedic (Sanskrit/Hindi) name:* Indravaruni, Indrayan

Habit and Habitat: A prostrate, scabrous, grey coloured herb. Flowers yellow. Fruits globose, variegated green. Seeds obovate or ovate-oblong, compressed, smooth. *Wild. Part(s) used:* Root. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Easy delivery.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- Root paste is put in vagina at the time of delivery to facilitate it.

Biodynamic note(s): Plant: colocynthetin; *Root:* α -elaterin, hentriacontane; *Fruit:* glycoside-colocynthin, α -elaterin, elatericin B, dihydroclatericin B.

Plant: hypoglycemic.

115. Botanical Name: *Citrus medica* L.

Family: Rutaceae

English name(s): Citron; *Local name(s):* Jamir, Limmo; *Unani name(s):* Turanj; *Ayurvedic (Sanskrit/Hindi) name:* Bijpur

Habit and Habitat: A thorny, bushy shrub. Flowers pink. Fruits mamillate at the apex, succulent. Cultivated. *Part(s) used:* Fruit, seed. *Locality:* Chakrata, Mathura, Pauri Garhwal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Bruises, calculi of the kidney, common fever, migraine, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Asur, Boxas, Khasas and other rural population.

Folk medicinal use(s):

- Seed paste is given with cow's milk in typhoid fever.
- Fruit juice (10-15 drops) mixed with honey is given thrice daily, for 2-3 days in common fever.
- In case of bruises, fruit juice is applied on the affected part 2-3 times a day.
- Fruit juice is filled in a glass bottle, and 10-12 needles are put in this juice. The bottle is put in a bag filled with wheat grains for one month. This juice is given in the dose of ½ spoon twice daily for 2 months to treat calculi of the kidney.
- In cases of migraine, fruit juice is mixed with powder of 10 black pepper & applied externally on the forehead and temple bones of the patient for instant relief.

Biodynamic note(s): Seed: obacunone, limonin.

Aerial part: anticancer.

116. Botanical Name: *Clausena excavata* Burm. F.

Family: Rutaceae

Local name(s): Chhota giddela; *Ayurvedic (Sanskrit/Hindi) name:* Agnijhad

Habit and Habitat: An undershrub. Flowers green-yellow. Berries small, ovoid or globose. Wild. *Part(s) used:* Aerial parts. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Menorrhagia.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- The decoction of aerial parts is given against menorrhagia.

Biodynamic note(s): Root and stem bark: coumarins, clausenin, clausenidin.

117. Botanical Name: *Cleome gynandra* L.

Family: Cleomaceae

Local name(s): Hulhul, Hurhur; *Ayurvedic / Hindi name:* Ajagandha

Habit and Habitat: An annual, pubescent herb. Flowers white, cream-pale pink colored.

Capsules long, striate. Wild. *Part(s) used:* Leaf, seed. *Locality:* Mathura, Mainpuri.

Medical efficacy claimed (name of the disease or condition): Headache, malarial fever, odontalgia (toothache).

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Leaf juice 10-15 ml are given with crystalline sugar to treat malarial fever.
- Leaf juice (3-5 drops) is applied on the affected tooth and also dropped in both ears of the patient to obtain immediate relief from toothache.
- Seed paste is applied on forehead to get relief from headache.

Biodynamic note(s): Plant: glycoflavanone, diterpene, lactone, cleomeolide; *Root:* 3-glucuronides of kaempferide, lupeol, betulin, betulinic acid, β -sitosterol; *Seed:* umbelliferone, cleosandrin, cleomiscosin, 7-phenoxy coumarine.

Leaf: antifungal.

118. Botanical Name: *Cleome viscosa* L.

Family: Cleomaceae

English name(s): Wild Mustard, Dog Mustard, Stricky Cleome; *Local name(s):* Hurhura;

Unani name(s): Hulhul; *Ayurvedic (Sanskrit/Hindi) name:* Tilparni

Habit and Habitat: An erect herb. Flowers yellow. Capsules striate, glandular pubescent.

Part(s) used: Seed. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Earache.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Seed powder is boiled in mustard oil, and filtered; this lukewarm oil (1-2 drops) is poured in ear for earache.

Biodynamic note(s): Leaf: diterpene, lactone-cleomeolide; *Seed:* 7-phenoxy coumarine, myristic, palmitic, stearic, linoleic acids.

119. Botanical Name: *Clerodendrum phlomidis* L.F.

Family: Verbenaceae

Local name(s): Inni; *Unani name(s):* Baharangi; *Ayurvedic (Sanskrit/Hindi) name:* Agnimantha laghu, Takarri

Habit and Habitat: A large rambling shrub. Flowers white with long tube. Drupes broadly obovoid depressed. Wild. *Part(s) used:* Flower, leaf, whole plant. *Locality:* Bhopal, Gwalior.

Medical efficacy claimed (name of the disease or condition): Arthritis (joints pain), diabetes.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- The decoction of leaves and flowers prepared in water is given in the dose of 100 ml twice a day, for one month.
- In case of joints pain, whole plant is made into paste and applied externally on the affected part.

Biodynamic note(s): *Leaf:* flavonoids-scutellarin, pectolinarigenin; *Root:* ceryl alcohol, clerodin, clerosterol, clerodendrin A.

120. Botanical Name: *Clerodendrum serratum* (L.) Moon

Family: Verbenaceae

Local name(s): Ghato, Bhand, Kali bhanti; *Unani name(s):* Bharangi; *Ayurvedic (Sanskrit/Hindi) name:* Bharangi

Habit and Habitat: A perennial shrub. Flowers blue, pale pink-white. Drupes succulent, connate drupels. Wild. *Part(s) used:* Latex, leaf, root, shoot. *Locality:* Ranchi (Singh 2371).

Medical efficacy claimed (name of the disease or condition): Typhoid fever, wounds.

Name of the tribe/caste, and other sources from whom information collected: Asur, Rural population.

Folk medicinal use(s):

- Young shoots and roots are crushed and given with 'gur' (solidified sugarcane juice).
- Leaf paste is applied locally on wounds. The latex is used to stop blood flow in fresh wounds.

Biodynamic note(s): *Root:* saponin, mannitol; *Root bark:* saponin, mannitol, stigmasterol; *Bark:* sapogenins, oleanolic queretaroic and serratogenic acid; *Leaf:* (+) – catechin, α -spinasterol, luteoline, glucuronide, polyphenolic components.

Aerial part: spermicidal, CNS depressant; *Root:* antihistaminic, antiallergic.

121. Botanical Name: *Clerodendrum viscosum* Vent.

Family: Verbenaceae

Local name(s): Bhata, Bhatwansi

Habit and habitat: A brownish-pubescent shrub. Flowers in terminal cymose panicle. Drupes within enlarged pinkish or reddish calyx, subglobose, black. Wild. *Part(s) used:* Leaf, seed. *Locality:* Bahraich, Gonda, Gorakhpur, Kheri.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis, to kill lice, vermifuge, cattle wounds.

Name of the tribe/caste, and other sources from whom information collected: Paharias, Tharus.

Folk medicinal use(s):

- Leaf juice (2 drops) is applied to the affected eye twice daily, for 3 days to treat conjunctivitis.
- Leaf paste is applied locally on the body of cattle to kill lice.
- Leaf juice is applied on cattle wounds.
- Seed powder mixed with 'gur' (solidified sugarcane juice) is given as vermifuge.

Biodynamic note(s): *Leaf:* flavonoids; *Flower:* β -sitosterol, fumaric acid, caffeic acid, diterpenoid-clerodin, hentriacontane.

122. Botanical Name: *Coccinia grandis* (L.) Voigt (Syn. *C. indica* Wt. & Arn.)

Family: Cucurbitaceae

English name(s): Ivy Gourd; *Local name(s):* Kundru; *Ayurvedic (Sanskrit/Hindi) name:* Bimbi

Habit and Habitat: A climbing herb. Flowers white solitary axillary. Fruits smooth, fleshy, cylindric. Wild. *Part(s) used:* Leaf, root, tuber. *Locality:* Mainpuri, Pauri Garhwal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Bodyache, cataract, kidney stones, rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhotias and other rural population.

Folk medicinal use(s):

- Leaf juice (3-4 drops) is applied in the eyes as a preventive measure against cataract.
- Root paste (25g) is ground and given twice daily, for 3 days to treat bodyache.
- Root paste is given orally in the dose of 25 g twice daily, for 30 days. It is also applied externally over the affected joints 3-4 times a day to treat rheumatism.
- The root paste (50g) is given for a month twice daily to treat kidney stones.

Biodynamic note(s): *Aerial part:* alcohol cephalandrol, tritriacontane, β -sitosterol; *Fruit:* β -sitosterol, taraxerol, β -amyrin, lupeol.

Plant: hypoglycemic; *Root:* hypoglycemic.

123. Botanical Name: *Cocculus hirsutus* (L.) Diels

Family: Menispermaceae

English name(s): Broom Creeper, Ink berry; *Local name(s):* Chirenta; *Ayurvedic (Sanskrit/Hindi) name:* Patalgarudi

Habit and Habitat: A slender, villously tomentose climber. Flowers minute greenish. Drupes dark purple, compressed. Wild. *Part(s) used:* Whole plant. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Jaundice.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Whole plant (100 g) is made into decoction in 500 ml water and given for 3-4 days.

Biodynamic note(s): Plant: β -sitosterol, ginnol; *Root and stem:* cyclopeptide alkaloids, coclaurine, magnoflorine, trilobine; *Leaf:* alkaloids.

Root and Stem: hypotensive, spasmolytic, cardiogenic.

124. Botanical Name: *Cochlospermum religiosum* (L.) Alston

Family: Cochlospermaceae

English name(s): Silk Cotton Tree; *Local name(s):* Kumbi; *Unani name(s):* Kateera; *Ayurvedic (Sanskrit/Hindi) name:* Galgal, Kateera Gond

Habit and Habitat: A small, very soft-wooded tree. Flowers yellow. Fruits large, pear shaped, pendulous. Wild. *Part(s) used:* Gum. *Locality:* Bhopal.

Medical efficacy claimed (name of the disease or condition): Diabetes.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- The gum (2g) obtained from the plant is taken along with 5-7 green leaves of 'loquat' (*Eriobotrya japonica* Lindl.), for 15-30 days.

Biodynamic note(s): Leaf: terpenes, saponins, tannins; *Gum:* acidic oligosaccharides.

Stem bark: hypotensive, CVS active.

125. Botanical Name: *Coix lachryma-jobi* L.

Family: Poaceae

English name(s): Adlay, Job's Tears; *Local name(s):* Gadgar; *Ayurvedic (Sanskrit/Hindi) name:* Gavedhuka

Habit and Habitat: A very stout grass. Spikes terminal forming a large panicle. Pseudocarp broadly ovoid long, white or bluish polished. Wild. *Part(s) used:* Fruit, root. *Locality:* Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Rheumatism, worms.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans.

Folk medicinal use(s):

- Roots (50-100 g) are ground in local liquor (prepared from the distillation of flowers of *Madhuca indica* Gmel.) and given once at bed time for 3-5 days to expel worms.
- Fruits are ground to make a powder and given with water in the dose of 6 g twice daily, for 40 days to treat rheumatism.

Biodynamic note(s): Plant: dihydroxybenzaldehyde; *Seed:* coixenolide, palmitoleinic acid, vaccenic acid, coixenolide.

Seed: anticancer activity.

126. Botanical Name: *Commiphora berryi* Engl.

Family: Burseraceae

English name(s): Indian Balm, Indian Gilead; *Local name(s):* Gugal; *Unani name(s):* Murr

Habit and Habitat: A much branched small tree or bush. Flowers small, solitary or fascicled cymes. Drupes oblong, apiculate. Wild. *Part(s) used:* Gum. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Heart diseases.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Gum resin (2g) is taken for 3-4 months regularly, helps checking cholesterol formation leading to reducing heart ailments.

Biodynamic note(s): Plant: gum-resins.

127. Botanical Name: *Commiphora wightii* (Arn.) Bhandari

Family: Burseraceae

English name(s): Hill-Mango; *Local name(s):* Gugal; *Unani name(s):* Muqil; *Ayurvedic (Sanskrit/Hindi) name:* Guggulu

Habit and Habitat: A tall, deciduous shrub with greenish-yellow bark and soft white wood. Flowers solitary. Drupes ovoid, deep red. Wild. *Part(s) used:* Gum. *Locality:* Udaipur.

Medical efficacy claimed (name of the disease or condition): Abscesses.

Name of the tribe/caste, and other sources from whom information collected: Meenas.

Folk medicinal use(s):

- Lukewarm gum resin is put on a pice of cloth and tied over the abscesses to drain off pus.

Biodynamic note(s): *Gum:* resins-guggulsterones Z & E; *Flower:* myricyl alcohol, β -sitosterol, quercetin, flavons; *Fruit:* myricyl alcohol, β -sitosterols.
Gum: hypocholesteremic.

128. Botanical Name: *Convolvulus arvensis* L.

Family: Convolvulaceae

English name(s): Deer's Foot; *Local name(s):* Badi Shankhahuli; *Ayurvedic (Sanskrit/Hindi) name:* Hirankhuri

Habit and Habitat: A pretty twining herb. Flowers pink, white streaked. Capsules glabrous.

Wild. Part(s) used: Whole plant. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Impotency.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Whole plant (5-7g) is crushed and boiled in milk. It is filtered and given thrice daily for 8-10 days only.

Biodynamic note(s): *Plant:* alkaloids-cuscohygrine, caffeic acid; *Aerial part:* n-alkanes, n-alkanols, α -amyrin, β -sitosterol, camprsterol, stigmasterol, kaemferol, coumarins-umbelliferone, scopoletin.

129. Botanical Name: *Convolvulus microphyllus* Sieb.ex Spreng.

Family: Convolvulaceae

Local name(s): Shankhaholi; *Ayurvedic (Sanskrit/Hindi) name:* Shankhpushpi

Habit and Habitat: A sub-erect, herb. Flowers rose-yellow. Capsules sub-globose. Wild.

Part(s) used: Leaf, whole plant. *Locality:* Aligarh, Kheri, Mainpuri.

Medical efficacy claimed (name of the disease or condition): Diabetes, piles, quadriplegia (paralysis of all four limbs of cattle), spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population

Folk medicinal use(s):

- Leaf paste (10 g) is given once in the morning after breakfast for one month to control diabetes, not cure.
- Plant paste (10 g) is taken orally twice daily for one month. Paste of the plant is also applied externally on piles.
- Whole plant (100 g) is ground with little water and taken with sugar once daily, for 21 days to treat spermatorrhea.
- Whole plant (250g) with 10 g black pepper is boiled in 250 ml water to prepare decoction. This is given as full dose twice daily, for 7-10 days to cattle to treat quadriplegia.

Biodynamic note(s): Plant: ceryl alcohol, coumarin, β -sitosterol.

Leaf & Flower: antifungal.

130. Botanical Name: *Corchorus aestuans* L.

Family: Tiliaceae

English name(s): Jute; *Local name(s):* Sanvraj

Habit and Habitat: A glabrous, annual herb. Flowers yellow. Capsules 6-angled, apex with spreading beak. Seeds truncate, dark-brown. Wild. *Part(s) used:* Seed. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Stomachache; weakness after prolonged illness.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Powdered seeds are given in the dose of 10g to relieve stomachache.
- Powdered seeds (10-15 g) are taken once daily with milk or water at bedtime for 30-40 days to treat weakness after prolonged illness.

Biodynamic note(s): Plant: quercetin; *Seeds:* crysimoside, olitoriside, fat, β -sitosterol, ceryl alcohol, corchoroside.

Plant: anticancer, CVS active.

131. Botanical Name: *Cordia dichotoma* Forst.F. (Syn. *C. myxa* auct. Plur. non L.)

Family: Ehretiaceae

English name(s): Sebesten; *Local name(s):* Lahtora, Lasora, Nisora;

Unani name(s): Sapistan; *Ayurvedic (Sanskrit/Hindi) name:* Shleshmataka, Lisoda

Habit and Habitat: A moderate-sized tree, usually with crooked trunk. Flowers white, fragrant. Fruits with viscous mesocarp, globose, yellow, pink or orange to reddish when ripe. Wild. *Part(s) used:* Fruit, leaf, stem bark.

Locality: Aligarh, Bharatpur, Gonda, Gorakhpur, Kheri.

Medical efficacy claimed (name of the disease or condition): Bronchitis, burns, dysentery, general weakness.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Fruits are ground and given with 'misri' (crystalline sugar) as tonic in general weakness.
- Stem bark decoction is given with common salt for bronchitis. In another recipe, equal quantities of fruit along with 'amrud' (*Psidium guajava* L.) and flowers of 'madar' (*Calotropis procera* (Ait.) R.Br.) are roasted in an earthen pot. The mixture

is then powdered, sweetened with honey, and made into pills of 5 g. Of these, one pill is given thrice daily, for 3-4 weeks.

- Stem bark juice (50-100 ml) is taken for dysentery. In another recipe, about 250 g of the leaves are boiled in one liter of water and cooled, 100 ml of this decoction are drunk twice daily, for 3 days.
- Ash of the leaf (2g) mixed with turpentine oil is applied on burns, 3-4 times a day.

Biodynamic note(s): Bark: tannin;

Seed: D-glucose, D-xylose, glycin, glutamic acid.

Stem bark and leaf: antimicrobial.

132. *Botanical Name: Cordia gharaf* (Forsk.) Ehrenb. ex Asch.

Family: Ehretiaceae

Local name(s): Chhota lasora

Habit and Habitat: A medium-sized tree. Flowers small, white. Drupes ovoid, mucronate, striate, yellow when ripe, usually one seeded. Wild. *Part(s) used:* Stem bark. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Toothache.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Stem bark is put into water for 15 minutes and chewed to relieve toothache.

Biodynamic note(s): Stem: sitosterol;

Fruit: n-hentriacontane, β -amyrin, β -sitosterol.

Aerial parts: CNS depressant.

133. *Botanical Name: Cordia vestita* (DC.) Hook. F. & Thoms.

Family: Ehretiaceae

Local name(s): Lithora

Habit and Habitat: A small, deciduous tree. Flowers yellowish-white. Fruits long, ellipsoid, acute, supported by the saucer-shaped or campanulate, strongly ribbed accrescent calyx. Wild. *Part(s) used:* Leaf. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Colds and cough.

Name of the tribe/caste, and other sources from whom information collected: Paharias.

Folk medicinal use(s):

- Leaf decoction is given for colds and cough.

134. Botanical Name: *Coriandrum sativum* L.

Family: Apiaceae

English name(s): Coriander; *Local name(s):* Dhaniya; *Unani name(s):* Kishneez; *Ayurvedic (Sanskrit/Hindi) name:* Dhanyaka, Dhaniya

Habit and Habitat: A glabrous, annual herb. Flowers white or pinkish. Fruits sub-globose, prominently ribbed. Cultivated. *Part(s) used:* Fruit. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): To induce male sterility.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Dried fruits (100g) are soaked in water overnight, crushed and squeezed to obtain the juice. This is taken by men for 10 days at a stretch as a family planning measure.

Biodynamic note(s): *Fruit:* umbelliferone, scopoletin; *Seed:* quercetin, kaempferol 3-glucoside.

Fruit: antimicrobial; *Seed:* antimicrobial, fungitoxic.

135. Botanical Name: *Cotoneaster microphyllus* Wall. ex Lindl.

Family: Rosaceae

Local name(s): Bhedra

Habit and Habitat: A deciduous shrub. Flowers white. Fruits globose, bright red. Wild. *Part(s) used:* Root. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Scrofula.

Name of the tribe/caste, and other sources from whom information collected: Bhotias

Folk medicinal use(s):

- Powder of dried root is given with cow's milk in scrofula.

Biodynamic note(s): *Twig:* sorbitol, hydrocyanic acid; *Leaf:* sorbitol, cyanogenetic glucoside, prulaurasin; *Seed:* hydrocyanic acid.

136. Botanical Name: *Crateva nurvala* Buch.-Ham.

Family: Capparaceae

Local name(s): Barna; *Ayurvedic (Sanskrit/Hindi) name:* Varuna

Habit and Habitat: A small deciduous tree. Flowers white cream to yellow. Berries subglobose or ovate-oblong. Wild. *Part(s) used:* Stem bark. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Burning micturition.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Stem bark decoction (12 ml) with crystalline sugar is given twice daily, for 10-15 days.

Biodynamic note(s): Root bark: lupeol, β -sitosterol, rutin, quercetin, lupenone, taraxasterol;

Stem bark: ceryl alcohol, friedelin, betulinic acid, triacontane; Leaf: 1-stachydrine.

Plant: Cholinergic; Root: antibacterial.

137. Botanical Name: *Crinum defixum* Ker.-Gawl.

Family: Amaryllidaceae

Local name(s): Sudarshan, Vanlehsan; *Ayurvedic (Sanskrit/Hindi) name:* Vishnukand

Habit and Habitat: A stout, perennial herb with ovoid bulb and fusiform stoloniferous base.

Flowers white. Fruits with membranous pericarp, subglobose. Wild. *Part(s) used:* Corm, leaf. *Locality:* Bahraich, Gwalior.

Medical efficacy claimed (name of the disease or condition): Bruises with swellings, muscular pain, otitis.

Name of the tribe/caste, and other sources from whom information collected: Lunias, Saharias, Tharus.

Folk medicinal use(s):

Leaf juice (2-3 drops) is poured in the affected ear twice a day to treat otitis.

Corn is made into paste and lukewarmed with turmeric powder. This paste is applied externally on affected part once daily, for 3-4 days in cases of bruises with swellings.

Crushed bulb is boiled in mustard oil. The medicated oil is applied locally with a light massage, 3-4 times daily to relieve muscular pain.

Biodynamic note(s): Bulb: lycorine, homolycorine.

Plant: anti-inflammatory, CNS depressant.

138. Botanical Name: *Crocus sativus* L.

Family: Iridaceae

English name(s): Saffron; *Local name(s):* Kesar; *Unani name(s):* Zafran; *Ayurvedic (Sanskrit/Hindi) name:* Kunkuma, Keshar

Habit and Habitat: A small, bulbous, perennial herb. Flowers have trifold, orange-colored stigmas which along with the style-tops yield the saffron. It is cultivated in Pampur in Kashmir and Kishtwar in Jammu. The saffron is sold in the local market as spice.

Cultivated at higher altitudes. *Part(s) used:* Flower (stamens). *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): Typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- About 20 stamens of 'kesar' are mixed with 15 g roots of *Musa paradisiaca* L. and given only once in the morning for 5 days to treat most complicated cases of typhoid fever.

Biodynamic note(s): Plant: crocetin, picrotoxin, crocins, carotenoid.

139. Botanical Name: *Crotalaria linifolia* L.F.

Family: Fabaceae

Local name(s): Phula, Nannabdbishya

Habit and Habitat: An erect herb clothed with appressed hairs. Racemes terminal, lax. Pods oblong-ovoid, black when ripe. Wild. *Part(s) used:* Leaf. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Eye injuries, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Dhimars, Tharus.

Folk medicinal use(s):

- Leaf paste (10g) is taken orally once daily, for 5 days.
- Leaf paste mixed with crude sugar is given to treat spermatorrhea.

140. Botanical Name: *Croton bonplandianum* Baill.

Family: Euphorbiaceae

Local name(s): Kalabhangra

Habit and Habitat: An erect, diffuse, annual shrub. Flowers whitish. Capsules 3-angled. Seeds shining spongy with white cap. Wild. *Part(s) used:* Leaf. *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): Leprosy, swelling of the body.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Four leaves are mixed with 'gur' (solidified sugar cane juice) and powder of 10-15 black pepper. This is given for 15-20 days to treat leprosy. The treatment should be repeated after a gap of one month till cure.
- Four leaves and 10-15 grains of black pepper are ground in the juice of *Citrus medica* L. and paste given for 4-5 days once daily, to treat swelling of the body, in cases of women.

Biodynamic note(s): Plant: alkaloids, sparsiflorin, isoquinoline, crotoflorine, crotozparnine;

Stem: β -sitosterol, taraxerol, vomifoliol, ursolic acid; *Leaf:* alkaloids, sparsiflorin, isoquinoline, β -sitosterol, taraxerol, vomifoliol, ursolic acid.

Plant: hypotensive, spasmolytic.

141. Botanical Name: *Croton roxburghii* Balakr. (Syn. *C. oblongifolius* Roxb.)

Family: Euphorbiaceae

Local name(s): Arjuna; Ayurvedic (Sanskrit/Hindi) name: Nagdanti

Habit and Habitat: A medium-sized deciduous tree. Flowers yellowish-green, in long racemes. Capsules 2-valved cocci. Wild. Part(s) used: Root, stem bark. Locality: Gonda, Ranchi.

Medical efficacy claimed (name of the disease or condition): Cardiogenic, stomachache.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- The powder of stem bark is given in the dose of 10g with milk once daily, for one month as cardiogenic.
- 3-5 cm long piece of root is ground with water and given twice daily, for 3 days to treat stomachache.

Biodynamic note(s): Bark: β -sitosterol, diterpene, oblongifoliol, deoxyoblongifoliol, oblongifolic acid.

Plant: hypotensive.

142. Botanical Name: *Croton tiglium* L.

Family: Euphorbiaceae

English name(s): Purging Croton; Local name(s): Jamalgota; Unani name(s): Habb-us-Salateen; Ayurvedic (Sanskrit/Hindi) name: Jayapala

Habit and Habitat: A small tree. Flowers small green. Fruits long and broad, 3-lobed. Seeds black, slightly compressed, ellipsoid, with 8 raised lines. Cultivated. Part(s) used: Seed. Locality: Amarkantak.

Medical efficacy claimed (name of the disease or condition): Purgative.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- Seed oil is given in the dose of 5-10 ml once at bedtime as purgative.

Biodynamic note(s): Seed: β -sitosterol.

Seed: cocarcinogenic.

143. Botanical Name: *Cryptolepis buchanani* Roem. & Schult.

Family: Periplocaceae

Local name(s): Dudhibanwar; Ayurvedic (Sanskrit/Hindi) name: Krishnasariva

Habit and Habitat: A large twining shrub. Flowers pale yellow. Follicles poniard shaped. Seeds ovate-oblong, compressed, white. Wild. *Part(s) used:* Latex, root. *Locality:* Gonda, Ranchi.

Medical efficacy claimed (name of the disease or condition): Malarial fever, polydipsia (excessive thirst).

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- 2-3 drops of milky juice are given twice daily, for 3 days in cases of polydipsia.
- Roots (50g) are mixed with 10-15 grains of black pepper and ground. It is given as full dose thrice daily, for 7 days to treat malarial fever.

Biodynamic note(s): *Plant:* alkaloid buchanamine; *Stem:* alkaloid, triterpenes; *Leaf:* α - & β -amyrin.

Root: hypotensive, CNS depressant, antiamphetamine.

144. Botanical Name: *Curculigo orchioides* Gaertn.

Family: Hypoxidaceae

English name(s): Black Musale; *Local name(s):* Kamraj, Kalimusul; *Unani name(s):* Muslisiyah; *Ayurvedic (Sanskrit/Hindi) name:* Talamuli, Kali mushli

Habit and Habitat: Herb with a tuberous root stock. Flowers yellow. Capsules long, 1-4 seeded. Wild. *Part(s) used:* Root, rhizome. *Locality:* Bahraich, Gorakhpur, Keonjhar, Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Anaemia, aphrodisiac, blood dysentery, hysteria, to treat male sterility.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Paharias, Tharus.

Folk medicinal use(s):

- Root paste is taken by men in the dose of 10 g with water as a potent single aphrodisiac drug.
- Paste of root-stock is given to treat sterility in men.
- Paste of root-stock is given to treat anemia in women.
- Root stock (1-2) is ground with water and given once daily, for 7 days to treat blood dysentery.
- Root stock is ground and mixed with 10 grains of black pepper. It is given with water in the dose of 15 ml twice daily, for 3 days in cases of hysteria. Treatment is repeated twice after an interval of one week for complete cure of disease.
- Root (5g) is consumed with milk twice daily as an aphrodisiac.

Biodynamic note(s): *Plant:* flavones glycoside; *Rhizome:* glycoside, yuccagenin, alkaloid & lycorine.

Plant: hypoglycemic, anticancer, spasmolytic.

145. Botanical Name: *Curcuma amada* Roxb.

Family: Zingiberaceae

English name(s): Mango-Ginger; *Local name(s):* Vanhaldi; *Unani name(s):* Amba Haldi;

Ayurvedic (Sanskrit/Hindi) name: Haridra-Amra haridra, Ama haldi

Habit and Habitat: A herb with rhizomatous and tuberous roots. Flowers yellow. Wild.

Part(s) used: Rhizome. *Locality:* Keonjhar, Kheri.

Medical efficacy claimed (name of the disease or condition): Jaundice, skin diseases.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Tharus.

Folk medicinal use(s):

- Fresh rhizomes are crushed to make a fine paste. It is applied externally over the affected skin 2-3 times a day, for 15 days to treat skin diseases.
- A garland from dried bits of rootstock is prepared and worn in the neck by the patient to treat jaundice.

Biodynamic note(s): Rhizome: curcumin, phytosterols, azulenogenic oil having pinine, camphor, α - β & α - γ - curcumene, turmerone, ocimene, linalyl acetate, safrol.

Rhizome: CNS active, hypothermic.

146. Botanical Name: *Curcuma aromatica* Salisb.

Family: Zingiberaceae

English name(s): Wild Turmeric, Yellow Zedoary; *Local name(s):* Vanhaldi

Habit and Habitat: A herb with rhizomatous and tuberous roots. Flowers white. Wild. *Part(s) used:* Rhizome. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Dysentery.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- Powdered rhizome mixed with very little amount of opium is used to treat dysentery.

Biodynamic note(s): Essential oil: α - & β -curcumene, d-camphor, P-methoxycinnamic acid.

Rhizome: spasmolytic.

147. Botanical Name: *Curcuma longa* L. (Syn. *C. domestica* (Medik) Val.)

Family: Zingiberaceae

English name(s): Turmeric; *Local name(s):* Bayadi, Haldi; *Unani name(s):* Haldi, Zardchob;

Ayurvedic (Sanskrit/Hindi) name: Haridra, Vanhaldi, Haridra-aranya

Habit and Habitat: A herb with rhizomatous and tuberous roots. Flowers yellow. Wild.

Part(s) used: Flower, rhizome. *Locality:* Almora, Bahraich, Bhopal, Chakrata, Gorakhpur, Kheri.

Medical efficacy claimed (name of the disease or condition): Bruises, diabetes, fever of long duration, flatulence in cattle, jaundice, stomachache, to prevent conception.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Gond, Khasas, Paharias, Tharus.

Folk medicinal use(s):

- Powdered rhizome mixed with fruit juice of 'amla' (*Phyllanthus emblica* L.) is prescribed in the dose of 5g twice daily, for one week to control diabetes.
- About 50 g roots are ground with 'gur' (solidified sugarcane juice) and given orally for 5-6 days once a day in cases of bruises.
- Root-stock paste is given to prevent conception.
- Decoction of flower is given to treat jaundice.
- Powdered rhizome (2-3 g) is given with a pinch of lime powder or paste of garlic to treat stomachache.
- Equal quantities of the dried rhizomes of 'haldi,' 'kamraj' (*Helminthostachys zeylanica* (L.) Hk.), 'adrak' (*Zingiber officinalis* Rosc.) and 'satawar' (*Asparagus racemosus* Willd.) are mixed together and ground to make a powder; 5 g of this powder are taken thrice daily, for 7-10 days to treat fever of long duration.
- Fresh flowers are given with fodder to cattle for flatulence.

Biodynamic note(s): Rhizome: curcumin.

Rhizome: anti-inflammatory, antiprotozoal, spasmolytic, CNS depressant.

148. Botanical Name: *Cuscuta reflexa* Roxb.

Family: Cuscutaceae

English name(s): The Dodder; *Local name(s):* Akash banwaria, Akashbel, Amarbanwaria;

Unani name(s): Kasoos, Aftimoon; *Ayurvedic (Sanskrit/Hindi) name:* Amarvalli, Amarbel

Habit and Habitat: A leafless twining parasitic herb. Flowers whitish. Wild. *Part(s) used:* Whole plant. *Locality and collection no.:* Bahraich, Gonda, Gorakhpur, Gwalior, Lakhimpur-Kheri, Mathura.

Medical efficacy claimed (name of the disease or condition): Boils and wounds of oxen, bronchitis, eczema, general swelling of the body, rheumatic pain, sterility in women.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus and other rural population

Folk medicinal use(s):

- In cases of general swelling of body, whole plant with equal quantities of fruit pulp of 'imli' (*Tamarindus indica* L.) and 'meodi' leaves (*Vitex negundo* L.) are crushed together, boiled in little water and made into paste. This paste is applied locally twice daily, for 10 days.
- Plant decoction (10 ml) is taken twice daily for a month for rheumatic pain.

- Plant paste is applied externally on boils to treat inflammation and wounds on the neck of oxen due to excessive pressure of wooden plough in the course of tilling the fields.
- After menstruation, 10 ml juice of whole plant is given to women once only. This would make women sterile forever.
- Whole plant and pods of *Cassia tora* L. in equal quantity is made into paste and applied over the affected part thrice daily, till cure, in cases of eczema.
- The decoction of 100 g plant is taken thrice daily, for 5 days to treat bronchitis.

Biodynamic note(s): Plant: D-mannitol, dulcitol, leutolin, kaempferol (1-4), β -sitosterol, bergenin.

Plant: spasmolytic, antifertility.

149. Botanical Name: *Cymbopogon martinii* (Roxb.) Watson

Family: Poaceae

English name(s): Rosha Grass, Rusa Grass; *Local name(s):* Jarakush; *Unani name(s):* Izkhar; *Ayurvedic (Sanskrit/Hindi) name:* Rohishtran

Habit and Habitat: A tufted, erect, sweet-scented, perennial grass. Inflorescence long, spatheate, orange-red at maturity. *Wild. Part(s) used:* Whole plant. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Bronchitis.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Equal quantities of whole plant of 'jarakush', leaves of 'lasora' (*Cordia dichotoma* Forst. f.), root of 'pipar' (*Piper longum* L.) and 'gur' (solidified sugarcane juice) are mixed, crushed, boiled in water and allowed to cool; about 25 ml of this decoction are drunk twice daily, for 5 days.

Biodynamic note(s): Plant: geraniol, geranyl acetate, citronellol, linalool, β -selinene, α -terpinene, α -phallandrene.

Plant: CNS active, hypothermic.

150. Botanical Name: *Cynodon dactylon* (L.) Pers.

Family: Poaceae

English name(s): Dhub Grass, Bermuda, Bahama Grass; *Local name(s):* Dubghas; *Unani name(s):* Doob; *Ayurvedic (Sanskrit/Hindi) name:* Durva, Doob

Habit and Habitat: A perennial creeping grass. Spikes green or purplish. Caryopsis long, mostly turgid. *Part(s) used:* Whole plant. *Locality:* Aligarh, Gorakhpur, Mathura.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis, leucorrhea, scorpion sting.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Plant juice is mixed with leaves of *Leucas cephalotes* (Roth.) Spreng. and *Eclipta alba* (L.) Hassk. and common salt. This preparation is applied on scorpion sting.
- 2-3 drops fresh plant juice is applied in the eyes for 3-5 days to treat conjunctivitis.
- Roots with equal quantity of root of *Saccharum spontaneum* L. are ground and made into paste. About 5 g of this paste are given with cow milk and sugar early in the morning for one month, to cure leucorrhea.

Biodynamic note(s): Plant: tricin; *Leaf:* flavonoid sulphate, flavones C-glycoside, tricin.

Plant: antifungal, antiviral, hypoglycemic, antilithic.

151. Botanical Name: *Cyperus rotundus* L.

Family: Cyperaceae

English name(s): Nut Grass; *Local name(s):* Garha gintu, Motha; *Unani name(s):* Sad Kufi; *Ayurvedic (Sanskrit/Hindi) name:* Musta

Habit and Habitat: A small slender sedge with 3-quetrous stem. Spikelets brown. Glumes ovate to ovate-elliptic. Nuts oblong to obovate-oblong, triquetrous, brown. Wild. *Part(s) used:* Rhizome. *Locality:* Aligarh, Keonjhar, Mathura, Pauri Garhwal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Constipation, dog bite, malarial fever, scorpion sting, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhotias, Bhuyans and other rural population.

Folk medicinal use(s):

- Decoction of rhizome is prepared with stem bits of 'Gilo' (*Tinospora cordifolia* (Willd.) Miers) and dried ginger and given to treat malarial fever.
- Rhizome is mixed with leaves of 'chirata' (*Swertia chirayita* (Roxb. ex Flem.) Karsten.), 'Shahtara' (*Fumaria indica* (Haussk.) Pug.), black pepper and ginger. This is made into decoction and given to treat typhoid fever.
- Rhizome is ground and applied on scorpion sting.
- Rhizomes are ground and given 25 g daily, for 21 days once early in the morning in cases of dog bite.
- Rhizome juice is given in the dose of 25 ml thrice daily, for 3 days to treat constipation.

Biodynamic note(s): Plant: essential oil, pinene, sesquiterpenes, fatty oil, glycerol, linolenic, linolic, oleic, stearic acids, alkaloids.

Plant: diuretic, antimicrobial, anthelmintic; *Tuber:* hypotensive, antipyretic, analgesic.

152. Botanical Name: *Cyperus scariosus* R.Br.

Family: Cyperaceae

Local name(s): Motha; Ayurvedic (Sanskrit/Hindi) name: Musta-bhed

Habit and Habitat: A small slender sedge with 3-quetrous stem. Spikelets brown. Wild.

Part(s) used: Whole plant. Locality: Mathura.

Medical efficacy claimed (name of the disease or condition): Typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Plant along with leaves of *Swertia chirata* (Roxb. ex Flem.) Karsten., fruits of *Piper nigrum* L., whole plant of *Fumaria indica* (Haussk.) Pung., rhizome of *Zingiber officinale* Rosc. in equal quantities are mixed and made into a decoction. A dose of 30 ml of this decoction is taken thrice daily, for 21 days in cases of typhoid fever.

Biodynamic note(s): Leaf: new glycoside-leptosidin; Tuber: sesquiterpene, cyperenone.

Rhizome: CVS active.

153. Botanical Name: *Dalbergia sissoo* Roxb.

Family: Fabaceae

English name(s): Sissoo; Local name(s): Shisho; Unani name(s): Sheesham; Ayurvedic (Sanskrit/Hindi) name: Shinshapa, Sesam

Habit and Habitat: A large tree. Flowers small yellowish. Pods strap-shaped with cuneate base. Wild or cultivated. Part(s) used: Leaf. Locality: Bahraich, Gwalior, Mathura.

Medical efficacy claimed (name of the disease or condition): Dysentery, pain in spinal cord, vermifuge.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus and other rural population

Folk medicinal use(s):

- Leaves are crushed and given orally once a day as vermifuge.
- 5-6 green leaves are mixed with mint (*Mentha spicata* L.) and given twice a day for 3 days to treat dysentery.
- In cases of sinus in spinal cord, about 1 kg stem wood is ground and filled in the earthen pot and closed with its lid. A hole is made at the base of this pot and another pot is kept below this. This is to be heated which results in the extraction of oil locally known as 'sissoo-ka-tel'. This oil is applied on the spinal cord externally with light massage done to relieve pain, 3-4 times a day till cure.

Biodynamic note(s): Bark: dalbergenone, dalbergin, methyl dalbergin, dalbergichromene;

Pod: isoflavone glucoside, tectorigenin, dalbergin.

Aerial part: spasmolytic.

154. Botanical Name: *Datura fastousa* L. (Syn. *D. metel* L.)

Family: Solanaceae

English name(s): The Black Datura; *Local name(s):* Dhatoora, Dhatura, Kaladhatura; *Unani name(s):* Jaoz, Masil; *Ayurvedic (Sanskrit/Hindi) name:* Dhattur, Dhatura Safed

Habit and Habitat: A herb or undershrub. Flowers purple outside whitish within. Fruits subglobose, deflexed, clothed with blunt tubercles, dehiscing irregularly. Seed pale-brown. Wild. *Part(s) used:* Fruit, leaf, root, seed. *Locality:* Aligarh, Bahraich, Chakrata, Keonjhar, Mainpuri, Mathura.

Medical efficacy claimed (name of the disease or condition): Boils, bronchial asthma, common fever, diarrhea of cattle, eruption of skin around nose and anus of cattle, fistula of spinal cord, malarial fever, to dissolve the spine.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Khasas, Tharus, and other rural population.

Folk medicinal use(s):

- Decoction of root is given for common fever.
- Seeds are burnt to make ash with clove and taken with honey to treat malarial fever.
- In cases of bronchial asthma, after removing the seeds, half part of one mature fruit is filled with cloves, then roasted, ground and made into pills of 5 g each with honey, one pill is given with water twice a day for 7 days and also at the time of asthmatic attack for instant relief. The treatment is repeated every alternate month, till the cure is obtained.
- Seed paste is applied externally for 4-5 days, to treat boils.
- Leaf juice is applied externally on the affected parts to treat fistula of spinal cord.
- 1/4th piece of leaf along with 'gur' (solidified sugar cane juice) is chewed once only. This dissolves the spine within 24 hours, as per local claims.
- Fruit is wrapped in a wet cloth which is then burnt along with cow dung cakes and given with flour of barley to the cattle for diarrhea.
- Poultice of unripe fruits is applied externally on the affected parts of cattle, to cure swelling and eruption of skin.

Biodynamic note(s): *Plant:* alkaloid-hyoscine, hyoscyamine; *Root:* alkaloid; *Stem and Leaf:* alkaloid-nicotianamine, scopolamine, hyoscyamine; *Fruit:* alkaloids, β -sitosterol, triterpene; *Seed:* alkaloids-hyoscine, hyoscyamine, daturaolone.

Plant: anthelmintic, anticancer; *Leaf:* anticholinergic; *Fruit:* spasmogenic, depressant, anticholinergic.

155. Botanical Name: *Datura stramonium* L.

Family: Solanaceae

English name(s): Jimson Weed, Stink Weed, Mad Apple, Thorn Apple, Stramonium; *Local name(s):* Dhatoor; *Unani name(s):* Dhatura; *Ayurvedic (Sanskrit/Hindi) name:* Dhattur-bhed

Habit and Habitat: A herb or undershrub, clothed with fine purple dust. Flowers axillary, solitary, purple outside, whitish within. Capsules subglobose, deflexed with blunt tubercles. Wild. *Part(s) used:* Leaf, whole plant. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Malarial fever, swelling of body.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Leaf is taken in the morning with some sweets or uncooked grains of rice, on three days in a week (i.e., on Sunday, Tuesday, and Saturday) to treat malarial fever.
- Juice of the whole plant is applied externally on the body, 2-3 times a day to treat swelling of body.

Biodynamic note(s): Plant: hyoscyamine, skimmianine, apohyoscyne, apoatrophine, tropine, α - & β -belladonine.

156. Botanical Name: *Daucus carota* L.

Family: Apiaceae

English name(s): Wild Carrot, Queen Anne's Lace; *Local name(s):* Gajar; *Unani name(s):* Gajar; *Ayurvedic (Sanskrit/Hindi) name:* Gajar

Habit and Habitat: An annual herb with conical, fleshy root and yellow, white or light purple flowers. Cultivated. *Part(s) used:* Leaf. *Locality:* Aligarh.

Medical efficacy claimed (name of the disease or condition): Migraine.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Leaf juice mixed in ghee in 2:1 ratio is dropped in the nostril of patient to relieve migraine pain instantly.

Biodynamic note(s): *Root:* daucic acid, β -carotene, Cholesterol, β -sitosterol, stigmasterol;

Seed: n-alkanes, β -sitosterol, glucose, aminoacid.

Seed: antifertility activity.

157. Botanical Name: *Delonix regia* (Bojer) Rafin

Family: Caesalpinaceae

English name(s): Flamboyant Flame Tree, Gulmohr, Gold Mohur; *Local name(s):* Hathchak; *Ayurvedic (Sanskrit/Hindi) name:* Gulmohar

Habit and Habitat: A magnificent tree with an umbrella-shaped crown. Flowers red or orange red. Pods 30-60x5 cm, flat. Seeds numerous, oblong. Cultivated. *Part(s) used:* Seed.

Locality: Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Acidity.

Name of the tribe/caste, and other sources from whom information collected: Paharias.

Folk medicinal use(s):

- Seed powder is given with water to treat acidity.

Biodynamic note(s): Bark: leucocyanidin; *Flower:* hentriacontane, hentriacontanol, quercetin, β -sitosterol; *Seed:* saponin, galactomannan.

Bark: CNS depressant.

158. Botanical Name: *Dendrophthoe falcata* (L.F.) Ettingsh. (Syn. *Loranthus longiflorus* Desr.)

Family: Loranthaceae

Local name(s): Banda, Tan; *Ayurvedic (Sanskrit/Hindi) name:* Vanda

Habit and Habitat: A perennial, partial stem parasite, with twiggy and woody branches.

Flowers red, orange red or yellow-red. Berries globose or ovoid, bright red. Wild. *Part(s) used:* Flower, fruit, leaf. *Locality:* Kheri, Udaipur.

Medical efficacy claimed (name of the disease or condition): Bronchial asthma, kidney stones.

Name of the tribe/caste, and other sources from whom information collected: Garasias, Tharus.

Folk medicinal use(s):

- Flower and fruit paste is taken in a dose of 10 g twice a day, for 7 day to treat kidney stones. The treatment is repeated at an interval of 15 days.
- Leaf is used to treat bronchial asthma.

Biodynamic note(s): Stem: β -amyrin, oleanolic acid, β -sistosterol, stigmasterol; *Leaf:* flavons; *Plant:* hypotensive, antiviral.

159. Botanical Name: *Desmodium gangeticum* (L.) DC.

Family: Fabaceae

Local name(s): Salpani; *Ayurvedic (Sanskrit/Hindi) name:* Salaparni

Habit and Habitat: An undershrub, upto 1 m high. Flowers purple-pink. Pods curved, 6-8 jointed, usually with minute hooked hairs. Wild. *Part(s) used:* Root, whole plant.

Locality: Keonjhar.

Medical efficacy claimed (name of the disease or condition): Malarial fever, menorrhagia.

Name of the tribe/caste, and other sources from whom information collected: Paharias, Rural population.

Folk medicinal use(s):

- Whole plant is ground and decoction is prepared in water. It is given in cases of malarial fever in the dose of 5 ml thrice a day, for 5 days.

- Root (5-7 cm) is ground with 2-3 black pepper and taken for a week to check excess menstruation.

Biodynamic note(s): Plant (Aerial part): 5-tryptamine derivatives; *Root:* alkaloids, hypaphorine, hordenine, candicine, pterocarpanoids, gangetinin, desmodin; *Seed:* β -carboline alkaloids, carbolines.

Aerial part: hypotensive.

160. Botanical Name: *Desmodium triangulare* (Retz.) Merrill

Family: Fabaceae

Local name(s): Ram Daturi

Habit and Habitat: A shrub with distinctly 3-leaflets. Flowers yellow or reddish in dense axillary umbels. Pods pubescent, silky. *Part(s) used:* Root. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Blood through urine.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Roots of 'ram daturi' and 'satawar' (*Asparagus racemosus* Willd.) are ground in equal quantities and mixed with 'misri' (crystalline sugar) to the taste. A dose of 100 g is given twice daily for 8 days. Use of chillies is restricted in the diet.

Biodynamic note(s): Leaf: tyramine, salsolidine; *Root:* salsolidine, hordenine, tyramine, candicine.

161. Botanical Name: *Desmostachya bipinnata* (L.) Stapf

Family: Poaceae

English name(s): Sacrificial Grass; *Local name(s):* Kush; *Ayurvedic (Sanskrit/Hindi) name:* Kusha

Habit and Habitat: A perennial, rhizomatous, tall grass. Clums high, tufted. Spikelets linear-oblong. Panicles long, columnar, brown. Wild. *Part(s) used:* Root. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Irregular menses.

Name of the tribe/caste, and other sources from whom information collected: Doms.

Folk medicinal use(s):

- Root paste (50 g) with rice water is taken by the woman for a month in cases of irregular menses.

162. Botanical Name: *Dillenia aurea* Sm.

Family: Dilleniaceae

Local name(s): Kurkota

Habit and Habitat: A small crooked tree. Flowers large, yellow, solitary. Fruits capsular or baccate. Wild. *Part(s) used:* Stem bark. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Stem bark paste is applied externally 2-3 times a day, and bandage done.

Biodynamic note(s): Plant: lupeol, betulin, betulinic acid, β -sitosterol.

163. Botanical Name: *Dioscorea bulbifera* L.

Family: Dioscoreaceae

English name(s): Potato Yam, Air Potato; *Local name(s):* Genthī; *Ayurvedic (Sanskrit/Hindi) name:* Varahi

Habit and Habitat: A climbing rhizomatous herb. Flowers green-purple. Capsule broadly oblong. Wild. *Part(s) used:* Rhizome, root. *Locality:* Amarkantak, Gorakhpur, Keonjhar, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Common fever, intestinal worms, rheumatism, seminal weakness, to stop conception.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Boxas, Gond, Rural population, Tharus.

Folk medicinal use(s):

- Rhizome paste (50g) is given for 7 days against intestinal worms.
- Rhizome paste is given in the dose of 100 g once a day, for 15 days to treat rheumatism. Drug is not to be taken on empty stomach.
- The powder of rhizome (50g) is taken by women for 5 days after menses, once daily orally to stop conception.
- Roots along with roots of *Phoenix sylvestris* (L.) Roxb., *Asparagus racemosus* Willd. and young leaves of *Diospyros montana* Roxb. are crushed in equal quantity, and 'misri' (crystalline sugar) is added to the taste. It is given in the dose of 100 g early morning with milk for 21 days in cases of seminal weakness.
- Rhizome (3g) pounded and given twice daily to treat common fever.

Biodynamic note(s): Rhizome: furanoid norditerpenes, diosbulbinoside D&F, sapogenin, dihydrophenanthrene, phenanthrene, d-sorbitol, diosbulbin B&D, diosgenin.

164. Botanical Name: *Diospyros melanoxylon* Roxb.

Family: Ebenaceae

English name(s): Coromandel Ebony Persimmon; *Local name(s):* Kendu, Tendu; *Ayurvedic (Sanskrit/Hindi) name:* Tinduk-bhed

Habit and Habitat: A small tree. Fruits globose or ovoid, yellow when ripe. Seeds obovate-oblong, blackish. Wild. *Part(s) used:* Fruit, gum, leaf, seed, stembark. *Locality:* Bhopal, Gwalior, Ranchi.

Medical efficacy claimed (name of the disease or condition): Decaying of fingers, diabetes, diarrhea, dysentery and stomachache, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Asur, Gond, Saharias.

Folk medicinal use(s):

- Decoction of gum is prepared in solidified sugarcane juice and given for typhoid fever.
- A decoction of leaves and seeds prepared in water and 1 g powder of grains of black pepper is added. This is given in the dose of 100 ml on empty stomach once daily for 6 months to control diabetes.
- Pulp of unripe fruit is applied externally 2-3 times daily on the decayed fingers.
- Unripe fruits (2-4) are crushed after removing the seeds, and given once daily for 5 days to treat diarrhea and dysentery.
- Stem bark (25-30 g) is ground in water and given thrice daily to treat stomachache, for 2 days.

Biodynamic note(s): *Bark:* lupeol, tannin, betulinic acid, β -sitosterol, *Heart wood:* naphthaquinone, dimelquinone; *Leaf:* ceryl alcohol, sequoyitol, bauerenol, ursolic and oleanolic acids, α -amyirin.

Aerial part: hypotensive, *Seed oil:* antibacterial.

165. Botanical Name: *Diospyros montana* Roxb.

Family: Ebenaceae

English name(s): Mountain Persimmon; *Local name(s):* Konsa; *Ayurvedic (Sanskrit/Hindi) name:* Vish Tinduk

Habit and Habitat: A small tree. Flowers green-yellow. Fruits globose with conical tip. Wild.

Part(s) used: Root. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Small pox.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Decoction of root prepared in water is given in the dose of 20 ml thrice daily, for 7-10 days.

Biodynamic note(s): *Stem:* lupeol, diospyrin, tetrahydrodiospyrin; *Leaf:* triterpene, β -dihydrodiospyrin, diopyrin, lupeol, betulinic acid; *Fruit:* triterpenes, α -amyirin, ursolic, oleanolic and betulinic acid; *Seed:* betulinic acid.

Leaf and Seed: antibacterial.

166. Botanical Name: *Diplocyclos palmatus* (L.) Jeffrey. Syn. *Bryonopsis laciniosa* (L.) Naud

Family: Cucurbitaceae

Local name(s): Kawalbel, Shivlingi; Ayurvedic (Sanskrit/Hindi) name: Shivlingi

Habit and habitat: A climbing annual herb. Flowers small, yellowish. Fruits globose, green with white longitudinal stripes, red when ripe. Seeds in a blue green pulp, pear shaped. Wild. Part(s) used: Fruit, leaf, seed. Locality: Gorakhpur, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Constipation, diabetes, to aid conception.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Lunias, Tharus.

Folk medicinal use(s):

- Fruit juice (100 ml) is given twice daily for 3 days to treat constipation.
- Leaf juice (100ml) is given once early morning on empty stomach for 30 days in diabetes.
- Two seeds are given to women in the morning on an empty stomach for 7 days following menstruation, to aid conception. During the course of treatment sour items are restricted in diet.

Biodynamic note(s): Aerial part: spasmolytic; Leaf and Seed: antibacterial.

167. Botanical Name: *Drimia indica* (Roxb.) Jessop Syn. *Urginea indica* (Roxb.) Kunth

Family: Liliaceae

English name(s): Indian Squill, True Squill, Sea-Onion; Local name(s): Banollo, Jangli piyaz, Van piyaz, Vantiyaz; Unani name(s): Isqeel; Ayurvedic (Sanskrit/Hindi) name: Vajrakand

Habit and Habitat: A bulbiferous herb. Flowers on the scape on very long pedicels. Capsules ovoid-oblong, coriaceous. Wild. Part(s) used: Bulb. Locality: Gonda, Gwalior, Keonjhar, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Finger decay, post-natal pain, snakebite, stomatitis and goiter in cattle.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Bhuyans, Saharias, Tharus.

Folk medicinal use(s):

- The paste of bulb is applied externally in finger decay.
- Half bulb along with 300 mg powder of black pepper and 50 g animal fat are ground to make a paste and given thrice daily in cases of snake bite.
- Bulbs (1-2) are cut into pieces and boiled. These are taken for 2-3 days in the dose of 5 g once daily to treat post natal pain.

- The bulbs are crushed and given with fodder for 7-10 days to treat stomatitis in cattle.
- One corm is mixed with 300 mg 'haldi' (powder of *Curcuma longa* L.) and 200 ml country liquor. It is given twice a day to cattle suffering from goiter.

Biodynamic note(s): *Bulb*: hentriacontanol, octacosanoic acid, sitosterol, mannose, glucose, xylose.

Bulb: antiprotozoal, anticancer, hypoglycemic.

168. Botanical Name: *Drypetes roxburghii* (Wall.) Hurusawa (Syn. *Putranjiva roxburghii* Wall.)

Family: Euphorbiaceae

Local name(s): Patjhi; *Ayurvedic (Sanskrit/Hindi) name*: Putrajivak

Habit and Habitat: A tall, evergreen tree. Flowers green, yellow. Drupes ellipsoid. Wild.

Part(s) used: Fruit, seed. *Locality*: Gonda, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Migraine, urticaria.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- A rosary from dried fruit is prepared and worn in the neck by the patient until the cure is obtained in cases of urticaria.
- Seed paste is applied on forehead of the patient to treat migraine.

Biodynamic note(s): *Bark*: putric acid, putranjivic acid; *Leaf*: friedelin, putraflavone; *Fruit*: mannitol, saponin glucoside; *Seed*: fatty acids, palmitic, arachidic acids, putrone, putrol.

169. Botanical Name: *Echinops echinatus* Roxb.

Family: Asteraceae

English name(s): Camels's Thistle; *Local name(s)*: Kareta, Oont Katara; *Unani name(s)*:

Usht-ur-Khar; *Ayurvedic (Sanskrit/Hindi) name*: Utkantak

Habit and Habitat: A much branched, thistle-like, deep rooted, annual herb. Flowers pale blue. Achenes obconic, silky. Wild. *Part(s) used*: Root, whole plant. *Locality*: Gwalior, Mathura, Udaipur.

Medical efficacy claimed (name of the disease or condition): Difficult delivery, loss of appetite, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Garasias, Saharias and other rural population.

Folk medicinal use(s):

- In case of difficult delivery, the paste of root is applied on the head of the woman who is giving birth with the belief that it will facilitate delivery.

- 15 g of whole plant are mixed with 15 g of drugs namely 'shankahuli,' 'ratanjot,' 'jawasi,' 'aundhaphali' along with 7-8 'ilaichi' and ground to make a fine powder. This is divided into 8 equal parts and given, for 8 days once a day at bedtime with milk to treat spermatorrhea.
- In case of loss of appetite, plant paste is applied on naval region. Also a twig of plant is twisted thrice in the name of patient and later pressed under a stone. It is essential that patient should have taken enough breakfast before treatment.
- Root is pounded with sugar in the ratio of 4:1 to prepare a paste and given in the dose of 6-10 g orally once daily in the morning to treat spermatorrhea.

Biodynamic note(s): Plant: hentriacontane, hentriacontanol, β -amyrin, lupeol.

Root: hypoglycemic, diuretic

170. Botanical Name: *Eclipta alba* (L.) Hassk. Syn. *E. prostrata* (L.) L.

Family: Asteraceae

English name(s): Trailing Eclipta;

Local name(s): Bhangraj, Bhangriya, Kala Bhangra, Rajbhang; *Unani name(s):* Bhangra; *Ayurvedic (Sanskrit/Hindi) name:* Bhrangaraja

Habit and Habitat: A diffuse or erect herb. Flowers white. Achenes cuneate, compressed, tuberculate with a thickened margin. Wild. *Part(s) used:* Whole plant.

Locality: Gwalior.

Medical efficacy claimed (name of the disease or condition): Jaundice, skin diseases, snakebite.

Name of the tribe/caste, and other sources from whom information collected: Saharias and other rural population.

Folk medicinal use(s):

- About 12 g whole plant mixed with powder of 4-5 cloves and animal fat (pure ghee), is given to the patient for at least 6 times in an hour till cure. It is stated that whole poison will come out through anus by this treatment in case of snakebite.
- Plant (1/2 kg.) is crushed and juice is extracted by squeezing it through muslin cloth. This is boiled with 1/2 kg. of mustard oil until the water is totally evaporated. This oil is used as liniment over the body to treat skin diseases.
- Plant (5g) is taken orally early morning on empty stomach for a month to treat jaundice.

Biodynamic note(s): Plant: β -amyrin, phytosterol A;

Leaf: stigmasterol, α -terthienyl methanol.

Plant: antiviral, spasmogenic;

Leaf: myocardial depressant, hypotensive.

171. Botanical Name: *Elephantopus scaber* L.

Family: Asteraceae

English name(s): Prickly-Leaved Elephant's Foot; *Local name(s):* Murga chundi, Sajwanbuti, Satsoor, Ban muraiya; *Unani name(s):* Quinbeet; *Ayurvedic (Sanskrit/Hindi) name:* Mayurshikha

Habit and Habitat: An erect, rigid herb. Flowers in terminal clusters, green-purple. Fruits long, brown, ribbed, hairy, with an oblique callus at the base. Wild. *Part(s) used:* Root.

Locality: Gorakhpur, Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Boils, common fever, cuts and wounds, dysentery, excessive menses, jaundice, ringworms, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus and other rural population.

Folk medicinal use(s):

- Garland of root-bits is worn round the neck, especially to treat fever of children.
- Root paste (50g) is given orally twice daily for a month in excess menses.
- Root paste is used locally on ringworms.
- Root paste is directly applied on boils.
- Root paste and powder of few grains of black pepper are mixed. This is taken at the rate of 15 g thrice daily, for 15 days to treat typhoid fever.
- Three roots are ground and mixed with two and a half grains of black pepper to make a fine paste. This is taken twice a day with water in the morning and evening for 3 weeks in cases of jaundice.
- Root paste (5 g) is given orally to treat dysentery.
- Root paste is applied on fresh cuts and wounds.

Biodynamic note(s): Plant: germancranolide, elephantopin, lupeol, stigmasterol.

Plant: anticancer.

172. Botanical Name: *Elytraria acaulis* (L.F.) Lindau.

Family: Acanthaceae

Local name(s): Gathia, Hazarmool; *Ayurvedic (Sanskrit/Hindi) name:* Shatmul

Habit and Habitat: A fibrous rooted herb. Flowers white, pale colored. Capsules ovoid, glabrous, brownish. Seeds many, minute, papillose, brown. Wild. *Part(s) used:* Root.

Locality: Bahraich, Udaipur.

Medical efficacy claimed (name of the disease or condition): Dracontiasis (infestation with guinea worm), rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Garasias, Tharus.

Folk medicinal use(s):

- In case of dracontiasis, roots are ground and made into pills of 3 g each with 'gur' (solidified sugarcane juice). One pill is taken with water once daily for 3 consecutive days, early in the morning on empty stomach.
- Crushed roots are boiled in mustard oil, filtered and allowed to cool. This oil is applied externally 2-3 times a day on the affected joints, for one month to treat rheumatism.

Biodynamic note(s): Plant: vilangin; *Stem:* embelin; *Fruit:* embelin, quercitol, potassium hydrogen oxalate.

Fruit: taenifuge, carminative.

173. Botanical Name: *Embelia ribes* Burm. F.

Family: Myrsinaceae

English name(s): Embelia; *Local name(s):* Bai-Bidang; *Unani name(s):* Bao Barang; *Ayurvedic (Sanskrit/Hindi) name:* Vidanga

Habit and Habitat: A large scandent shrub. Fruits globular, wrinkled or warty, varying in colour from dull red to nearly black. Fruits of this plant are sold in local market. *Part(s) used:* Fruit. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Intestinal worms.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- About 1 g of the fruit powder is given with water twice daily for a month in cases of intestinal worms.

Biodynamic note(s): Fruit: quinines-embelin, rapanone, homoembelin, homorapanone, vilangin.

Fruit: contraceptive, anthelmintic, antibacterial; *Seed:* spermicidal, oxytotic.

174. Botanical Name: *Embelia robusta* Roxb.

Family: Myrsinaceae

Local name(s): Bari Matha

Habit and Habitat: A large shrub or small tree. Flowers greenish-white. Fruits red, subglobose, tipped by the style. Wild. *Part(s) used:* Root.

Locality: Ranchi.

Medical efficacy claimed (name of the disease or condition): Swelling of body.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Roots (500 g) along with 51 black pepper are ground and fried on 50 g ghee. Of this 21 pills are prepared and given once daily with milk.

Biodynamic note(s): *Plant:* vilangin; *Fruit:* embelin, quercitol, potassium hydrogen oxalate.
Fruit: taenifuge, carminative.

175. Botanical Name: *Enicostema axillare* (Lam.) Raynal (Syn. *E. verticillatum* (L.) Engl.)

Family: Gentianaceae

Local name(s): Nai; *Ayurvedic (Sanskrit/Hindi) name:* Mamjajak

Habit and Habitat: A perennial herb with many quadrangular branches from the base. Flowers white. Capsules ellipsoid-oblong, glabrous. Wild. *Part(s) used:* Whole plant.

Locality: Gwalior.

Medical efficacy claimed (name of the disease or condition): Malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Whole plant (100 g) is crushed and taken with powder of black pepper and black salt to treat malarial fever.

Biodynamic note(s): *Plant:* alkaloids-gentianine, gentiocrucine, flavonoids-apigenin, iso-vitexin, saponarin.

Plant: anti-inflammatory, anthelmintic, cardostimulant.

176. Botanical Name: *Equisetum debile* Roxb.

Family: Equisetaceae

Local name(s): Joratora

Habit and Habitat: Stem lax scrambling. Cones or spikes long, sessile in the funnel shaped tip of the branch. Sporangia oblong, yellow. Wild. *Part(s) used:* Whole plant. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Bone fracture.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- A few plants with stem bark of 'maid' (*Litsea glutinosa* (Lour.) Robins.) are crushed with little water to make a fine paste. This preparation is used as plaster on fractured limb using splints with the help of bandage. This is applied afresh every day till the cure is obtained.

Biodynamic note(s): *Plant:* kaempferol-3-so-phorosids, luteolin-7-glucoside.

Plant: antigonorrhoeic.

177. Botanical Name: *Eragrostis viscosa* (Retz.) Trin.

Family: Poaceae

Local name(s): Siyar punch

Habit and Habitat: A small, tufted annuals. Spikelet 5 to 20-flowered, purplish-green.

Caryopsis ellipsoid, brownish. Wild. Part(s) used: Whole plant. Locality: Ranchi.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Whole plant, especially root is given as paste at frequent intervals, till the patient regains consciousness.

178. Botanical Name: *Eruca sativa* Mill. Var. *Sativa* (Mill.) Thell. (Syn. *E. vesicaria* (L.) Cav.)

Family: Brassicaceae

English name(s): Rocket-Salad, Roquette, Tara-Mira; Local name(s): Duan; Unani name(s):

Jirjir; Ayurvedic (Sanskrit/Hindi) name: Tuvri, Tori

Habit and Habitat: An erect annual herb. Flowers in long terminal racemes, yellow, turning white on maturity. Siliquae turgid, glabrous. Seeds globose or ovate, brownish-black.

Cultivated. Part(s) used: Leaf. Locality: Bharatpur, Mainpuri.

Medical efficacy claimed (name of the disease or condition): Piles.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Five fresh leaves are ground and made into paste, and taken orally twice daily, for 15 days.

Biodynamic note(s): Plant: glucoerucin; Leaf: iso-rhamnetin.

Seed: antibacterial.

179. Botanical Name: *Erythrina suberosa* Roxb.

Family: Fabaceae

Local name(s): Paldhua; Ayurvedic (Sanskrit/Hindi) name: Paribhadra

Habit and habitat: A small tree with deeply cracked bark and yellowish-white prickles.

Flowers scarlet in racemes. Pods spindle shaped. Wild. Part(s) used: Leaf. Locality: Keonjhar.

Medical efficacy claimed (name of the disease or condition): Worms.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Extract of one leaf is given with honey once to children at bedtime to expel worms.

Biodynamic note(s): Bark: Wax esters, alcohol, alkyl ferulate sterols; *Leaf:* alkaloid erysotyrin; *Flower:* cyanidin, pelargonidin; *Seed:* erysodine, erysotrine, hypaphorine, erythraline.

Seed: antifungal.

180. Botanical Name: *Erythrina variegata* L. (Syn. *E. indica* Lamk.)

Family: Fabaceae

English name(s): Indian Coral Tree; *Local name(s):* Pharad; *Ayurvedic (Sanskrit/Hindi) name:* Paribhadra

Habit and Habitat: A small prickly tree. Flowers scarlet. Pod long, torulose. Cultivated or wild. *Part(s) used:* Leaf. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds of cattle.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Leaf paste is applied on cuts and wounds of cattle.

Biodynamic note(s): Bark: alkaloid, erysotrine, erysodine, erysovine, erysonine, hypaphorine, stachydrine, wax alcohol, alkyl ferulates, phenolates, sterols, erythrinins A, B & C; *Leaf:* alkaloid, erysotrine, erysodine, hypaphorine, erythrinine.

Stem and leaf: spasmogenic; *Aerial part:* diuretic and anticancer.

181. Botanical Name: *Euphorbia chamaesyce* L. (Syn. *E. prostrata* Ait.)

Family: Euphorbiaceae

Local name(s): Lilgudi; *Ayurvedic (Sanskrit/Hindi) name:* Brhat dugdhika

Habit and Habitat: A prostrate, annual herb. Involucres stalked, campanulate. Capsules usually deflexed, trigonous. Seeds 4-angled, brown. Wild. *Part(s) used:* Whole plant. *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): Spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Whole plant is made into squash. It is taken in cases of spermatorrhea once daily in the morning in the dose of 5-10 ml for 10 days.

Biodynamic note(s): Plant: kaempferol, quercetin, α -amyrin acetate, β -sitosterol, campesterol, stigmasterol, cholesterol.

Plant: antifungal activity.

182. Botanical Name: *Euphorbia fusiformis* Buch.-Ham. (Syn. *E. acaulis* Roxb.)

Family: Euphorbiaceae

Local name(s): Vanmuli; Ayurvedic (Sanskrit/Hindi) name: Adhoguda, Banmuli

Habit and Habitat: A dark, glabrous herb. Flowers monoecious. Involucres long peduncled cyme. Capsules compressed. Seed ovoid, sub-acute. Wild. Part(s) used: Latex, root.

Locality: Kheri.

Medical efficacy claimed (name of the disease or condition): Leucorrhea, rheumatic pain.

Name of the tribe/caste, and other sources from whom information collected: Linias, Tharus.

Folk medicinal use(s):

- Root paste is applied externally on affected joints and bandaged. Simultaneously, about 2 mg of the root paste mixed with a powder of 3-4 grains of black pepper are taken orally till the cure is obtained.
- Latex (3-5) drops in a lump of sugar is given to women in cases of leucorrhea.

Biodynamic note(s): Rhizome: new diterpene lactone-caudicifolin.

183. Botanical Name: *Euphorbia geniculata* Orteg.

Family: Euphorbiaceae

Local name(s): Dudhi

Habit and Habitat: An annual herb. Involucres very small. Capsules glabrous, 3-celled.

Part(s) used: Latex, whole plant. Locality: Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis, dysentery.

Name of the tribe/caste, and other sources from whom information collected: Paharias.

Folk medicinal use(s):

- Latex is used for conjunctivitis.
- Plant paste is given for dysentery.

Biodynamic note(s): Plant: kaempferol, rutinoid, quercetin, quercitrin, β -amyrin, β -sitosterol, campesterol, stigmasterol, cholesterol.

Plant: spasmogenic.

184. Botanical Name: *Euphorbia heyneana* Spreng. (Syn. *E. bombaiensis* Sant.)

Family: Euphorbiaceae

Local name(s): Chhoti Dudhi, Dodhi

Habit and Habitat: An annual herb. Involucres axillary, solitary, cuplike, glabrous. Capsules oblong-trigonal. Seeds bluish-yellow, smooth, oblong, 4-angled. Wild. Part(s) used: Root, stem, whole plant. Locality: Aligarh, Gwalior, Kheri, Mainpuri, Udaipur.

Medical efficacy claimed (name of the disease or condition): Diabetes, leucorrhea, rickets, spermatorrhea, to check conception, to increase lactation.

Name of the tribe/caste, and other sources from whom information collected: Garasias, Saharias, Tharus and other rural population.

Folk medicinal use(s):

- About 100g stem is made into 12 pills of equal size. Of these, four pills, are taken by the women early in the morning on empty stomach for 3 consecutive days to treat leucorrhea.
- In cases of spermatorrhea, plant paste (10 g) is mixed with sugar to taste. This is taken with milk for 7 days early morning for a week or more. This stops night emissions.
- Plant paste (24g) is mixed in 3 g powder of black pepper. This preparation is taken for 8 days with 250 ml cow milk adding sugar to the taste diabetes.
- Dried plant is powdered, 5 g of this powder are given to children suffering from rickets, thrice daily, for one month.
- Plant paste (100 g) is given with cow's milk once daily early morning before menses for 3 consecutive cycles to check conception.
- About 10-12 g root paste with rice taken once daily, for 7-10 days to increase lactation among women.

Biodynamic note(s): Plant: terpenes, anthocyanins, alcohol, steroids, euphorbol hexacozoate, shikimic acid, choline.

Plant: galactagogue.

185. Botanical Name: *Euphorbia hirta* L.

Family: Euphorbiaceae

English name(s): Australian Asthma Weed; *Local name(s):* Dudhi; *Unani name(s):* Dudhi; *Ayurvedic (Sanskrit/Hindi) name:* Brhatdugdika

Habit and Habitat: An annual, erect, decumbent herb. Flowers white, in cymes. Capsules hairy, reddish, 3-keeled. Wild. *Part(s) used:* Whole plant. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Blood dysentery, diarrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur, Rural population.

Folk medicinal use(s):

- Plant is ground in water and given in the dose of 30-40 ml thrice daily, for 3 days to treat blood dysentery.
- Plant paste is given (2 g) daily to treat diarrhea.

Biodynamic note(s): Plant: leucocyanidol, compol, choline, shikimic acid, l-inositol, sugar;

Root: taraxerone; *Stem:* henitriacontane, myricyl alcohol, taraxerol; *Flower:* ellagic acid.

Plant: anticancer, hypoglycemic, antiprotozoal, spasmolytic.

186. Botanical Name: *Euphorbia neriifolia* L.

Family: Euphorbiaceae

Local name(s): Suru; *Ayurvedic (Sanskrit/Hindi) name:* Snuhi, Thuhar

Habit and Habitat: A large, erect, glabrous shrub or small tree. Involucres 3-nate. Capsules deep red or pale brown, smooth, glabrous. Wild. *Part(s) used:* Latex. *Locality:* Gwalior, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Otorrhea, to regenerate hair, toothache.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Saharias.

Folk medicinal use(s):

- Fresh latex is poured in the ear to treat otorrhea.
- Latex is applied on bald head to regenerate hair.
- Latex is carefully applied over the aching tooth once only.

Biodynamic note(s): Stem and Leaf: taraxerol, euphol, euphorbol hexacozoate, cycloartenol.

187. Botanical Name: *Euphorbia royleana* Boiss.

Family: Euphorbiaceae

Local name(s): Thor; *Unani name(s):* Zaqoom, Thuhar;

Ayurvedic (Sanskrit/Hindi) name: Snuhi-bhed

Habit and Habitat: A fleshy cactus like shrub. Involucre greenish-yellow. Capsules trigonous, cocci compressed, glabrous. Wild. *Part(s) used:* Whole plant.

Locality: Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Eczema and scabies.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- In cases of eczema and scabies, latex from plant is collected and a cotton cloth is soaked into it and dried. This cloth is burnt to ash and ointment prepared by mixing mustard oil and applied locally on the affected parts of the skin 2-3 times a day till cure is obtained.

Biodynamic note(s): Plant: ingenol; *Stem:* lupeol, β -amyirin, β -sitosterol, taraxerol;

Latex: cycloroylenol, octacosanol, coumarins, carboxylic acids, stigmasterol, α -amyirin;

Flower: ellagic acid.

Stem: antiviral, spasmolytic.

188. Botanical Name: *Euphorbia thymifolia* L.

Family: Euphorbiaceae

Local name(s): Dudhi; *Unani name(s):* Dudhi Khurd; *Ayurvedic (Sanskrit/Hindi) name:* Dugdhika

Habit and Habitat: A small, annual herb. Involucres axillary, solitary or 2 to 3- together, campanulate, hairy. Capsules obtusely keeled, pubescent. Wild. *Part(s) used:* Whole plant. *Locality no.:* Kheri.

Medical efficacy claimed (name of the disease or condition): Dysentery.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Plant juice one teaspoonful is taken thrice daily in cases of dysentery for 5 days.

Biodynamic note(s): *Plant:* flavons, hexacosanol; *Aerial parts:* equitaraxerol, n-hexacosanol, euphorbol, quercetin-3 β -galactoside.

Plant: antifungal, antispasmodic.

189. Botanical Name: *Evolvulus alsinoides* (L.) L. (Syn. *Convolvulus alsinoides* L.)

Family: Convolvulaceae

Local name(s): Choti Shankhahuli; *Unani name(s):* Sankhaholi; *Ayurvedic (Sanskrit/Hindi) name:* Vishnukranta, Shankhpushpi-bhed

Habit and habitat: A prostrate or ascending, slender herb, clothed with spreading hairs. Flowers light blue. Capsules 4-seeded. Seeds glabrous, dark brown. Wild. *Part(s) used:* Whole plant. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Whole plant is made into paste and given in the dose of 10 g for 8-10 days only for treating night emission

Biodynamic note(s): *Plant:* pentatriacontane, triacontane, β -sitosterol, alkaloid, evolvine, stearic, oleic, linolic acid.

Plant: diuretic, antifungal.

190. Botanical Name: *Ficus benghalensis* L.

Family: Moraceae

English name(s): Banyan; *Local name(s):* Bad, Badh, Bargad, Pas Pipal; *Unani name(s):* Reesh-e-Bargad, Bargad; *Ayurvedic (Sanskrit/Hindi) name:* Nyagrodha, Vatt

Habit and Habitat: A large evergreen tree. Receptacles depressed-globose, bright-red when ripe. Wild. *Part(s) used:* Adventitious root, aerial root, latex, stem bark. *Locality:* Bhopal, Gonda, Gorakhpur, Gwalior, Kheri, Udaipur.

Medical efficacy claimed (name of the disease or condition): Bronchitis, decaying of fingers, diabetes, gonorrhea, rheumatism, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Garasias, Gond, Saharias, Tharus.

Folk medicinal use(s):

- A decoction of stem bark prepared in water is given in the dose of 250 m twice daily, for 40 days to control diabetes.
- Latex mixed with numerous aerial roots is used to treat acute cases of bronchitis, especially in children. Also 5 drops of fresh latex in 5 lumps of sugar are taken once daily in the morning, for 21 days.
- 2 drops of fresh latex in a lump of sugar are taken once a day on empty stomach early in the morning, for 15-30 days to treat spermatorrhea.
- Fresh latex is filled in two 'batasha' (lump of sugar) and taken once daily in the morning for 10 days to treat rheumatism.
- Latex is filled in 'batasha' (lump of sugar). Two pieces of this 'batasha' are taken once daily in the morning for 3 consecutive days to treat gonorrhea.
- In cases of decaying fingers, adventitious roots are mixed with fruits of *Salvadora oleoides* Decne equally and made into paste. This is applied externally twice daily, on the affected part.

Biodynamic note(s): *Bark:* glucoside, bengalenoside, leuco-anthocyanidins, phytosterolin, β -sitosterol; *Leaf:* friedelin, β -sitosterol, quercetin 3-galactoside, rutin.

Bark and leaf: antifertility, hypoglycemic, *Seed:* progenitive.

191. Botanical Name: *Ficus benjamina* L.

Family: Moraceae

Local name(s): Cheeta

Short botanical description: A small or large tree. Receptacles in axillary pairs, sessile subglobose, succulent white or purple. Wild. *Part(s) used:* Latex. *Locality:* Bahraich.

Medical efficacy claimed (name of the disease or condition): Leucoderma.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Latex is applied locally on white patches of skin, 2-3 times a day, for 30-40 days.

Biodynamic note(s): Fruit: bergapten.

Aerial part: CNS active, hypothermic, diuretic.

192. Botanical Name: *Ficus hispida* L.F.

Family: Moraceae

Local name(s): Kath Gular; Unani name(s): Kath Gular, Anjeer Dashti; Ayurvedic (Sanskrit/Hindi) name: Phalgu, Kakodumbar

Habit and Habitat: A large, hispidly hairy shrub or small tree. Receptacles extra axillary, on leafless branches. Wild. Part(s) used: Aerial root. Locality: Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Paralysis (loss of sensation in a part of body).

Name of the tribe/caste, and other sources from whom information collected: Paharias.

Folk medicinal use(s):

- Root paste is applied locally for conditions like paralysis.

Biodynamic note(s): Plant: 10-keto-tetracosyl arachidate, hispidine; Leaf: bergapten, psoralen, β -amyrin, β -sitosterol.

Aerial part: CNS active, hypothermic.

193. Botanical Name: *Ficus racemosa* L. (Syn. *F. glomerata* Roxb.)

Family: Moraceae

English name(s): Cluster-Fig, Gular Fig or Country Fig Tree; Local name(s): Gular; Unani name(s): Gular, Jamiz; Ayurvedic (Sanskrit/Hindi) name: Udumbara

Habit and habitat: A large, evergreen tree. Receptacles globose or pyriform, pubescent, reddish colored. Wild. Part(s) used: Fruit, latex. Locality: Bharatpur, Gonda, Gorakhpur, Mainpuri.

Medical efficacy claimed (name of the disease or condition): Dysentery, redness of eye, spermatorrhoea.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Two drops of the latex are applied to the affected eye once daily, for 3-5 days in cases of redness of eye.
- Fresh latex (5 drops) in a lump of sugar is taken early in the morning for 15 days to treat spermatorrhea.
- Ripe fruit is given to treat dysentery.

Biodynamic note(s): Bark: ceryl behenate, lupeol, α -amyrin, β -sitosterol; Leaf: gluanol acetate, β -amyrin, β -sitosterol; Fruit: β -sitosterol, sterol, hentriacontane, tiglic acid, glucose.

Bark: anti-inflammatory, hypoglycemic, antiprotozoal.

194. Botanical Name: *Ficus religiosa* L.

Family: Moraceae

English name(s): Peepal Tree, Sacred Fig; *Local name(s):* Pipal; *Unani name(s):* Pipal; *Ayurvedic (Sanskrit/Hindi) name:* Ashvatth, Pippal

Habit and Habitat: A large, deciduous, glabrous tree. Receptacles axillary pairs, spherical, reddish-purple when ripe. Wild. *Part(s) used:* Adventitious root, aerial root, leaf, receptacles, stem bark. *Locality:* Gwalior, Kheri, Mathura, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Abscesses, bronchial asthma, chicken pox, malarial fever, palpitation, snakebite, sterility in women, to prevent conception.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Aerial roots are ground and pills of 20 g each prepared in 'gur' (solidified sugarcane juice), these are given to treat malarial fever.
- Adventitious roots (5-10 g) mixed with crystalline sugar are given in fresh water for 7-8 days continuously, once a day in cases of chicken pox.
- The powder of dried leaves along with honey is given in bronchial asthma.
- In cases of abscesses, thick paste of curd and boiled rice is applied over the dorsal surface of leaf and this is tied over the affected part once a day till cure is obtained.
- In cases of sterility in women, stem bark mixed with 'kesar' (*Crocus sativus* L.), root of 'asgand' (*Withania somnifera* (L.) Dunal) and stem bark of 'kapha' (*Myrica esculenta* Ham. ex Don) in the form of powder is given as potent fertility agents. In another recipe, adventitious roots are made into tablets of 1 Bengal gram size in two years old 'gur' (solidified sugarcane juice). This is given to women once daily on empty stomach, immediately the day followed menstruation.
- Stem bark is burnt to ash and given in the quantity of 3-4 mg with honey thrice daily, for 1-2 months in cases of enhanced palpitation of heart.
- Stem bark (25 g) is ground with 8-10 cloves and animal fat. This is given 4-6 times daily, for treating snakebite.
- To prevent conception, receptacles (20 g) are given just before menstruation. This should be repeated for 3-4 months.

Biodynamic note(s): Bark: β -sitosterol, glucoside.

Root bark: hypoglycemic, antiprotozoal, anthelmintic, antiviral; *Stem bark:* antiprotozoal, anthelmintic, antiviral.

195. Botanical Name: *Ficus virens* Ait.

Family: Moraceae

Local name(s): Bhurkand; *Ayurvedic (Sanskrit/Hindi) name:* Palksa

Habit and Habitat: A large tree. Receptacles sessile or stalked, sub-globose without the broad base, whitish or red. Wild. *Part(s) used:* Stem bark. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Stem bark is made into paste with water and given orally at frequent intervals, till the patient regains consciousness. It is also applied externally at the bite point.

Biodynamic note(s): Leaf: hydrocarbons, alcohol, sterols, hexacosanol, sitosterol, stigmasterol, campesterol, triterpenoids-lupeol, α - & β -amyirin.

196. Botanical Name: *Flacourtia indica* (Burm.F.) Merrill (Syn. *F. sepiaria* Roxb.)

Family: Flacourtiaceae

English name(s): Governor's Plum, Madagascar Plum; *Local name(s):* Katey; *Ayurvedic (Sanskrit/Hindi) name:* Sruvavriksha, Vikakant

Habit and Habitat: A small, deciduous thorny shrub. Flowers very small, greenish-yellow. Fruits globose, glabrous, deep red or purple. Wild. *Part(s) used:* Stem bark. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Stem bark paste with buttermilk is given for rheumatism.

Biodynamic note(s): Plant: hypotensive, CNS & CVS active, diuretic, spasmolytic, hypothermic.

197. Botanical Name: *Flemingia chappar* Buch.-Ham. ex Benth.

Family: Fabaceae

Local name(s): Galphuli, Kusront

Habit and Habitat: An erect shrub. Flowers white, minute, in folded bracts. Wild. *Part(s) used:* Root, stem twig. *Locality:* Gorakhpur, Ranchi.

Medical efficacy claimed (name of the disease or condition): Tonsillitis; to strengthen gums.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- Roots are ground to make a fine paste which is heated for 15 minutes and cooled. It is applied externally on tonsils 2-3 times daily, for 7 days.
- Stem twigs are used as toothbrush to strengthen gums.

Biodynamic note(s): Plant: β -sitosterol; *Root:* coumestan-flemichapparin C, chromenochalone-flemichapparin A, pterocarpan-flemichapparin B.

198. Botanical Name: *Flemingia phursia* Ham. (Syn. *Moghania phursia* O.Ktze.)

Family: Fabaceae

Local name(s): Salpani

Habit and Habitat: A large shrub. Flowers reddish, in dense axillary panicles. Wild. Part(s) used: Root, whole plant. Locality: Keonjhar.

Medical efficacy claimed (name of the disease or condition): Diabetes; malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Root (100 g) is ground and taken with rice water every day for 30-40 days to control diabetes.
- Whole plant is crushed and boiled in water to make a decoction. It is given in the dose of 250 ml twice daily for 5 days to treat malarial fever.

199. Botanical Name: *Flemingia prostrata* Roxb.

Family: Fabaceae

Local name(s): Ek sorniya

Habit and Habitat: A diffuse branched undershrub. Flowers in dense axillary racemes. Wild. Part(s) used: Root. Locality: Gonda.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s): The paste of root is boiled in mustard oil and allowed to cool; this paste is applied on cuts and wounds externally twice daily, till cure.

200. Botanical Name: *Flemingia strobilifera* (L.) R.Br. ex Ait.

Family: Fabaceae

Local name(s): Salpani

Habit and Habitat: A bushy shrub. Flowers white-purple. Pods oblong, turgid. Wild. Part(s) used: Whole plant. Locality: Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Gout, rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Whole plant in the form of decoction is given orally to treat gout and rheumatism.

Biodynamic note(s): Root: chalcones, n-triacontane, β -sitosterol; Leaf: leptosidin glucoside, leptosin, phloridizin, naringin.

201. Botanical Name: *Foeniculum vulgare* Mills.

Family: Apiaceae

English name(s): Fennel; *Local name(s):* Saunf; *Unani name(s):* Badiyan, Saunf; *Ayurvedic (Sanskrit/Hindi) name:* Madhurika, Sonf

Habit and Habitat: An annual herb. Flowers yellow. Fruits oblong, ribbed, on drying become pale-green. Cultivated. *Part(s) used:* Fruit, Seed. *Locality:* Gorakhpur, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): To prevent conception, vomiting.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Tharus.

Folk medicinal use(s):

- Fruit powder is given to women to prevent conception.
- Fennel water mixed with mint and powder of black peppers is given to stop vomiting.

Biodynamic note(s): *Root:* umbelliferone, decursinol, bergapten, grandivitin; *Leaf:* kaempferol; *Fruit:* quercetin, anethole, phellandrene, limonene, methyl chavicol. *Essential Oil:* antimicrobial.

202. Botanical Name: *Fumaria indica* (Haussk.) Pugsley (Syn. *F. parviflora* Lam.)

Family: Fumariaceae

English name(s): Common Fumitory; *Local name(s):* Pitpara; *Unani name(s):* Shahatra; *Ayurvedic (Sanskrit/Hindi) name:* Parpata-bhed

Habit and Habitat: A diffuse much branched annual herb. Flowers small whitish or rose-colored. Fruits subglobose, rugose, pale brown. Wild. *Part(s) used:* Whole plant. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Filariasis.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Plant with stem bark of 'neem' (*Azadirachta indica* A. Juss.), stem bits of 'giloe' (*Tinospora cordifolia* (Willd.) Miers), fruits of 'Dhaniya' (*Coriandrum sativum* L.) and chopped wood of *Cedrus deodara* (Roxb.) Loud. are boiled in water to make a decoction. Of this, 100 ml is given twice daily for a month in cases of filariasis.

Biodynamic note(s): *Plant:* Isoquinoline, alkaloid-fumariline, fumaridine, protopine, narlumidine, coptisine, fumarilicine, narceimine; *Stem & Leaf:* Protopine, non-acosanol, sitosterol.

203. Botanical Name: *Gardenia latifolia* Ait.

Family: Rubiaceae

English name(s): Boxwood Gardenia; *Local name(s):* Pindarey; *Ayurvedic (Sanskrit/ Hindi) name:* Parpatki

Habit and Habitat: A small tree. Flowers large, solitary, white. Fruits globose, slightly scabrous. Wild. *Part(s) used:* Fruit. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Diarrhea.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Fruits (200 g) are cooked and taken as vegetable daily, for 3 days to treat diarrhea.

Biodynamic note(s): *Stem bark:* sitosterol, oleanolic, siarasinolic, spinosic acids, hederagenin.

204. Botanical Name: *Gardenia turgida* Roxb.

Family: Rubiaceae

Local name(s): Khareri, Kharhar, Patadh; *Ayurvedic (Sanskrit/Hindi) name:* Karhat

Habit and habitat: A small tree, branches armed with straight thorns. Flowers white. Fruit a berry or drupe, large. Seeds hard, angular. Wild. *Part(s) used:* Fruit, root, stem bark.

Locality: Amarkantak, Gwalior, Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Common fever, conjunctivitis, dysentery in cattle, fever with headache, filarial fever, migraine.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Gond, Saharias.

Folk medicinal use(s):

- Paste of fruit and root is applied on the navel of the patient, especially in summer season to treat common fever.
- Root and stem bark are ground with fresh stem bark of *Holarrhena pubescens* (Buch.-Ham.) Wall. ex G. Don and grains of black pepper to make a paste and given in the dose of 100 g twice daily orally for filarial fever.
- Root juice is inhaled to provide instant relief from migraine.
- A rosary of the fruits is prepared and worn by the patient in neck, for 7 days or till conjunctivitis is cured.
- Fruit paste is applied on the navel of the patient. Simultaneously, root paste (25-30g) is given orally thrice daily, for 5 days to treat fever with headache.
- Powdered fruit is given twice a day or two, to treat dysentery in cattle.

Biodynamic note(s): *Root:* D-mannitol, gardenins, A, B & E oleanolic acid, α -amyrin, β -sitosterol; *Bark & wood:* D-mannitol, sitosterol, gypsogenic acid.

Plant: antiviral, hypotensive, anticancer.

205. Botanical Name: *Gentiana kuroo* Royle

Family: Gentianaceae

English name(s): Indian Gentian; *Local name(s):* Karru; *Unani name(s):* Neel Kanthi, Pashanbheda; *Ayurvedic (Sanskrit/Hindi) name:* Trayamana, Tryanti

Habit and Habitat: A small, decumbent, tufted herb with thick, perennial root stock. Flowers blue, spotted with white. Capsules oblong. Wild. *Part(s) used:* Leaf, root, stem bark. *Locality:* Chakrata.

Medical efficacy claimed (name of the disease or condition): Asthma, knotting of umbilical cord.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Khasas.

Folk medicinal use(s):

- Dried leaves and stem bark are ground and powdered which is kept in an earthen pot along with wheat flour in equal quantities and left for 3 days to age. A dose of 25 g of this preparation is given twice daily, for two months to treat asthma.
- A 1-2 cm long piece of the root is chewed to relieve knotting of umbilical cord.

Biodynamic note(s): *Plant:* 6,7, -di-MeO-Coumarin; *Root:* gentiopicroin, gentianic acid, pectin & sugar.

206. Botanical Name: *Gerbera gossypina* (Royle) Beauv.

Family: Asteraceae

Local name(s): Kapasi

Habit and Habitat: A perennial, rhizomatous, creeping herb. Involucral bracts narrow-lanceolate, white-woolly. Achenes long, brown-black. *Part(s) used:* Root. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Menstrual disorders.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Root juice (10 ml) is given twice daily, for 21 days.

Biodynamic note(s): *Plant:* taraxerol, spasmolytic.

207. Botanical Name: *Girardinia diversifolia* (Link) Fries

Family: Urticaceae

Local name(s): Kandeli marsu; *Ayurvedic (Sanskrit/Hindi) name:* Bichhubuti

Habit and Habitat: A perennial herb. Flowers green. Achenes ovate, flattened, black. Wild. *Part(s) used:* Root. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Injuries; spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- The paste of root is applied externally in cases of cuts and minor injuries.
- The paste of root (12 g) is mixed with crystalline sugar and given to treat spermatorrhea.

Biodynamic note(s): *Plant:* β -sitosterol, histamine; *Leaf:* 5-OH-tryptamine, histamine.

208. Botanical Name: *Girardinia palmata* (Forssk.) Gaud.

Family: Urticaceae

Local name(s): Tagiya

Habit and Habitat: A coarse herb with stout stinging hairs. Flowers greenish. Fruits coriaceous. Wild. *Part(s) used:* Whole plant. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Scabies.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Whole plant is crushed and boiled with seed oil of 'karanj' (*Pongamia pinnata* (L.) Pierre) in 1:3 ratio for 30-40 minutes and filtered. Massage is done with this oil 3-4 times daily, for 10 days, in cases of scabies.

Biodynamic note(s): *Plant:* 5-hydroxytryptamine, histamine, cellulose.

209. Botanical Name: *Gloriosa superba* L.

Family: Liliaceae

English name(s): Malabar Glory Lily; *Local name(s):* Kalihari, Kariar; *Ayurvedic (Sanskrit/Hindi) name:* Langali, Kalihari

Habit and Habitat: A beautiful scrambling, perennial herb. Flowers lower half yellow, upper half red. Capsules oblong, septicidal. Seeds many, subglobose. Wild. *Part(s) used:* Leaf, rhizome. *Locality:* Gorakhpur, Gwalior.

Medical efficacy claimed (name of the disease or condition): Blood purifier, rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Rural population, Saharias, Tharus.

Folk medicinal use(s):

- Root stock is cut into pieces, meshed and boiled in 'Sesamum oil' for an hour. This oil is filtered and applied twice a day on joints having pain, for a month.
- Leaf decoction (5-10 ml) is give for 15 days to purify blood.

Biodynamic note(s): *Root:* colchicines; *Tuber:* sitosterol, glucoside, β & γ - lumicolchicine, β -sitosterol; *Flower:* β - & γ -lumicolchicine, Me-colchicine; *Seed:* colchicine.

Plant: uterine stimulant; *Rhizome*: oxytotic; *Root*: antibiotic.

210. Botanical Name: *Glossocardia bosvallea* (L.F.) DC. Syn. *G. setosa* Blatt. & Hallb.

Family: Asteraceae

English name(s): Rock Anethum; *Local name(s)*: Soyaserai; *Ayurvedic (Sanskrit/Hindi) name*: Parpat

Habit and Habitat: A small, annual herb. Heads pedunculate, solitary, axillary, yellow. Achenes oblong, flattened, hairy, brown. Wild. *Part(s) used*: Whole plant. *Locality*: Udaipur.

Medical efficacy claimed (name of the disease or condition): Dracontiasis (Infestation with guinea worms).

Name of the tribe/caste, and other sources from whom information collected: Garasias.

Folk medicinal use(s):

- Two parts of plant material are mixed with one part of 'gur' (solidified sugarcane juice) and 10 g of this mixture are given to the patient twice daily, for one week.

Biodynamic note(s): Plant: essential oil.

Plant: antimicrobiol.

211. Botanical Name: *Glycyrrhiza glabra* L.

Family: Fabaceae

English name(s): Liquorice, Licorice; *Local name(s)*: Mulethi; *Unani name(s)*: Asl-us-Soos; *Ayurvedic (Sanskrit/Hindi) name*: Yashti, Madhuyashtika, Mulethi

Habit and Habitat: A prostrate, perennial plant. Flowers long. Pods oblong to linear, flattened. The root of the plant is sold in local market. *Part(s) used*: Root. *Locality*: Gwalior, Mathura.

Medical efficacy claimed (name of the disease or condition): Excessive menstruation, palpitation.

Name of the tribe/caste, and other sources from whom information collected: Saharias and other rural population.

Folk medicinal use(s):

- Two part root paste and one part ochre in the dose of 2 g are given once daily, for one month to treat palpitation.
- About 30g of root mixed with 30 g seeds of *Nelumbo nucifera* Gaertn. are ground with milk, and given in the divided dose of three, for 3-4 days only.

Biodynamic note(s): *Root*: glycyrrhizin, saponin, flavon, isoflavones, coumarins, glabridin, glabrene, glabrol, glycyrrhizic acid.

Root: anti-inflammatory, antiulcerous, antiviral.

212. Botanical Name: *Gmelina arborea* Roxb.

Family: Verbenaceae

English name(s): Gumhar, Cashmeri Tree; *Local name(s):* Gambhari; *Ayurvedic (Sanskrit/Hindi) name:* Gambhari

Habit and Habitat: A moderate-sized tree. Flowers yellow to yellow-brown. Drupes obovoid, yellowish-orange when ripe. Wild. *Part(s) used:* Leaf, stem bark. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Abscess, deficient lactation.

Name of the tribe/caste, and other sources from whom information collected: Bhoxas, Saharias.

Folk medicinal use(s):

- Stem bark is dried and made into powder. This is given in the dose of 6 g twice daily with milk, for 15 days, in case of deficient lactation.
- Leaf poultice is applied to abscesses.

Biodynamic note(s): *Root:* gmelinol, hentriacontanol, ceryl alcohol, β -sitosterol, sesquiterpene; *Heartwood:* ceryl alcohol, β -sitosterol, bromoisobornol, lignin hemiacetal, gummidiol; *Leaf:* luteolin, apigenin, quercetin, hentriacontanol, β -sitosterol.

Stem wood and Bark: hypoglycemic; *Stem bark:* antiviral.

213. Botanical Name: *Gossypium herbaceum* L.

Family: Malvaceae

English name(s): Levant cotton; *Local name(s):* Desi Kapas; *Unani name(s):* Pambadana; *Ayurvedic (Sanskrit/Hindi) name:* Karpasa

Habit and Habitat: A small tree. Flowers solitary, yellow with purple center or yellow or white with a purple tinge, usually campanulate. Capsules loculicidal. Seeds with brownish or greenish fuzz. Cultivated. *Part(s) used:* Leaf, seed. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Nasal maggots, scrofula.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- In cases of nasal maggots, leaf juice is inhaled 2-3 times a day through nostrils for 4-5 days. It is stated that by doing this all worms (fly larvae) are expelled.
- Cotton seeds (25 g) are mixed with 12 g sulphur and this powder is mixed in 250 ml mustard oil. Whole of this is boiled for half an hour and filtered oil thus obtained is applied externally on the affected part for 6-7 days in cases of scrofula.

Biodynamic note(s): *Root, Stem & Seed:* gossypol.

Leaf: antibacterial.

214. Botanical Name: *Grewia flavescens* Juss.

Family: Tiliaceae

Local name(s): Gangera

Habit and Habitat: A large straggling shrub. Flower buds oblong. Fruits covered with stellate hairs. Wild. *Part(s) used:* Root. *Locality:* Gwalior (Singh 1194).

Medical efficacy claimed (name of the disease or condition): Sexual debility.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Powdered root (12-15 g) is given with 500 ml milk for a month to treat sexual debility.

Biodynamic note(s): *Bark:* α -amyrin, β -amyrin, β -sitosterol, erythrodiol; *Root:* α -amyrin, β -amyrin, betulin.

215. Botanical Name: *Grewia hirsuta* Vahl.

Family: Tiliaceae

Local name(s): Gur Chikri, Lasar, Sita sapaen; *Ayurvedic (Sanskrit/Hindi) name:* Gudsharkara

Habit and Habitat: A large shrub. Flowers pale to bright yellow. Drupes 4-lobed, sparsely hairy. Wild. *Part(s) used:* Fruit, leaf, root, stem bark. *Locality:* Bahraich, Gonda, Gorakhpur, Kheri, Pauri Garhwal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Blood dysentery, common fever, cuts and wounds, hydrocele, leucorrhea, malarial fever, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhotias, Tharus.

Folk medicinal use(s):

- Root paste is given to treat malarial fever.
- Roots are mixed with equal amount of crystalline sugar, fried in ghee and cooled, about 15 g of this preparation are given with milk once daily, for 10 days to treat common fever.
- Root paste (20 g) is given with sweet milk once a day, for 20 days to treat spermatorrhea.
- Crushed root (100 g) is boiled in one litre of mustard oil and filtered. This oil is applied on cuts and wounds externally 3-4 times daily, till the cure is obtained in cases of cuts and wounds.
- Leaf and stem bark paste is given for leucorrhea. In another recipe, 2 cm long root piece is ground and taken once daily, on empty stomach, for 7 days.
- Root (50-100 g) is ground in water and taken twice daily, for 3-4 days. In another recipe, powdered fruits (2-4 g) are taken twice daily, for 7 days to treat blood dysentery.

- Fruits (100 g) are dried in shade, and powdered with 10-15 black pepper. Of this 14 doses are prepared and given twice daily, with water for a week in cases of hydrocele.

Biodynamic note(s): Plant: antiviral, diuretic.

216. Botanical Name: *Grewia oppositifolia* Roxb.

Family: Tiliaceae

Local name(s): Bhimal

Habit and Habitat: A moderate-sized tree. Flowers in axillary or leaf-opposed umbellate cymes. Drupes glabrous, dark purple. Wild. Part(s) used: Stem bark. Locality: Chakrata, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Bone fracture.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Khasas.

Folk medicinal use(s):

- Stem bark paste is applied as plaster on fractured bones.

Biodynamic note(s): Leaf: crude protein, calcium, phosphorus, tannin.

217. Botanical Name: *Grewia subinaequalis* DC. Syn. *G. asiatica* L.

Family: Tiliaceae

Local name(s): Biyal, Falsa, Phirsa; Unani name(s): Falsa; Ayurvedic (Sanskrit/Hindi) name: Parushk, Phalsa

Habit and Habitat: A tomentose shrub. Flowers yellow. Fruits dark-purple when ripe. Wild.

Part(s) used: Fruit, root, stem bark. Locality: Bhopal, Chakrata, Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Aphrodisiac, backaches, diabetes, gonorrhea, rheumatism, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Thar.

Folk medicinal use(s):

- Fruits are pounded with the seeds of 'kapas' (*Gossypium arboreum* L.) and 'karela' (*Momordica charantia* L.), in equal quantity and the extract thus obtained is given in the dose of 5 ml twice daily, for one month to control diabetes.
- Crushed stem bark (100 g) is boiled in one liter of water and cooled. 100 ml of this decoction mixed with a powder of two grains of black pepper are taken twice daily, for 10 days to treat rheumatism. During the course of treatment plenty of water is given to the patient.
- Stem bark (25 g) is mixed with 'sufaid mirch' (*Capsicum* sp.) and given with sugar and fresh water for 7-10 days, twice daily to treat gonorrhea.
- Crushed stem bark paste (50 g) is taken with water once daily, for 15 days to treat spermatorrhea.

- Root paste is applied on the back especially by the women before going to bed to treat backaches.
- Powdered stem bark mixed with 'cardamom' in the ratio of 4:1 is given (5g) on an empty stomach daily for 40 days as an aphrodisiac.

Biodynamic note(s): Bark: erythrodiol, taraxasterol, β -sitosterol, β -amyrin, betulin, lupeol, lysine, kaempferol; *Leaf:* quercetin, kaempferol.

Bark: antifertility.

218. Botanical Name: *Grewia tiliaefolia* Vahl

Family: Tiliaceae

English name(s): Dhaman; *Local name(s):* Pharsa; *Ayurvedic (Sanskrit/Hindi) name:* Dhanvan

Habit and Habitat: A tree. Flowers in axillary, pedunculate cymes, yellow. Fruits globose, entire or 2-lobed, black. Wild. *Part(s) used:* Stem bark. *Locality:* Bahraich.

Medical efficacy claimed (name of the disease or condition): Spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Stem bark is kept in water overnight and paste prepared. This is given with milk in the dose of 50 g adding sugar to the taste, once early morning for 30 days.

Biodynamic note(s): Root: triterpene.

Stem bark: semen coagulant, CVS active.

219. Botanical Name: *Gymnema sylvestre* (Retz.) R.Br. ex Schultes

Family: Asclepiadaceae

English name(s): Periploca of the Woods; *Local name(s):* Gudmar; *Unani name(s):* Gurmar buti; *Ayurvedic (Sanskrit/Hindi) name:* Meshashringi, Gudmar-bhed

Habit and Habitat: A woody climber. Flowers minute, yellow. Follicles solitary tapering from base to tip. Wild. *Part(s) used:* Leaf, stem bark, whole plant. *Locality:* Bhopal, Gwalior.

Medical efficacy claimed (name of the disease or condition): Asthma, diabetes, iritis, parkinsonism.

Name of the tribe/caste, and other sources from whom information collected: Gond, Saharias.

Folk medicinal use(s):

- Leaf and stem bark decoction of 'marorphali' (*Helicteres isora* L.), prepared in water is taken in the dose of 100 ml twice daily, for 30-40 days to control diabetes.
- Leaves (12 g) are mixed with 5-6 grains of black pepper and made into powder. 30 g of this powder are given thrice daily, for 15 days to treat asthma.
- Leaf juice is applied externally in eyes for 3-4 days for treating iritis in eyes.

- Whole plant (60 g) is ground with 25 g dry ginger, and rock salt is added to the taste. 4 g of this are given thrice daily, for a fortnight to treat Parkinsonism. Treatment should be repeated after a month's interval till cure.

Biodynamic note(s): Leaf: nonacosane, hentriacontane, tritricontane, β -chlorophyll, phytin, inositol, gymnemic acid.

Leaf: antidiabetic, antiviral.

220. Botanical Name: *Haemanthus multiflorus* Martyn

Family: Amaryllidaceae

English name(s): Painter's Brush Lily

Habit and Habitat: A very handsome plant. Flowers scarlet with exerted stigmas. *Part(s) used:* Root stock. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Root stock is ground and given orally many times till the patient develops consciousness.

Biodynamic note(s): Bulb: lycorine, haemanthine, coccinine, manthidine, manthine, montanine.

Bulb: hypotensive.

221. Botanical Name: *Hedychium coronarium* Koenig

Family: Zingiberaceae

English name(s): Common Ginger Lily, Garland Flower; *Local name(s):* Gul-bakavli; *Ayurvedic (Sanskrit/Hindi) name:* Shati-bhed

Habit and Habitat: A stout, leafy rhizomatous herb. Flowers fragrant, usually pure white. *Wild. Part(s) used:* Flower. *Locality:* Amarkantak.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- Equal quantities of flowers and seeds of *Elettaria cardamomum* L. and floral buds of *Syzygium aromaticum* (L.) Merr. & Perry. are ground to make a fine paste. To this 1-2 g ghee is added and mixed well. It is applied in the eyes at bedtime for five days.

Biodynamic note(s): Rhizome: furanoditerpene-hedychenone, α - & β -pinene, limonene, β -caryophyllene, borneol, methyl salicylate, eugenol.

Rhizome: anthelmintic.

222. Botanical Name: *Hedychium spicatum* J.E. Smith

Family: Zingiberaceae

English name(s): Spiked Ginger Lily; *Local name(s):* Ban Haldi, Kapoor kachri, Kapoor kesri; *Unani name(s):* Kapoor kachri; *Ayurvedic (Sanskrit/Hindi) name:* Shati, Kapoor kachri

Habit and Habitat: A perennial herb with tuberous root stocks. Flowers white in terminal spikes. Capsules globular, glabrous 3-valved with orange red lining. Seeds black, with a red aril. Wild. *Part(s) used:* Whole plant. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- The paste of whole plant is applied externally on fresh cuts and wounds.

Biodynamic note(s): *Rhizome:* sitosterol, glucoside, furanoid, diterpene-hedychenone, cineole, β -phellandrene.

Rhizome: antimicrobial, anti-inflammatory, hypoglycemic, spasmolytic, hypotensive.

223. Botanical Name: *Helicteres isora* L.

Family: Sterculiaceae

English name(s): East Indian Screw Tree; *Local name(s):* Ail, Dhanmad, Murrah, Marorphali; *Unani name(s):* Marorphali; *Ayurvedic (Sanskrit/Hindi) name:* Avartani, Marorphali

Habit and Habitat: A shrub or small tree. Flowers scarlet. Fruits woody, of 5-spirally rolled carpels. Wild. *Part(s) used:* Fruit. *Locality:* Bahraich, Gwalior, Mathura, Udaipur.

Medical efficacy claimed (name of the disease or condition): Infantile diarrhea & dysentery, postnatal care, stomachache, to keep away evil spirit.

Name of the tribe/caste, and other sources from whom information collected: Garasias, Rural Population, Saharias, Tharus.

Folk medicinal use(s):

- Five grams of the fruit paste are taken twice daily, for three days to treat infantile diarrhea and dysentery.
- Fruits and roots (10 g) each are ground in water and given four times daily, in diarrhea.
- Fruits are ground and taken in the dose of 2-3 g twice daily, for 2 days to treat stomachache. In another recipe, roots (5-10 g) are ground with water and given thrice daily, for a week.
- Fruit decoction (10 ml) is given daily to mother for three days after delivery to overcome post natal problems.
- Fruits are kept on the bed of mother with newly born child to protect them from evil spirit.

Biodynamic note(s): *Bark:* chloroplast pigments, phytosterol, hydroxyl-carboxylic acid, an orange-yellow coloring matter, saponins, sugars, phlobatannins, lignin; *Seed:* diosgenin. *Aerial part:* spasmolytic; *Fruit:* mild uterine stimulant.

224. Botanical Name: *Heliotropium indicum* L.

Family: Boraginaceae

English name(s): Indian Lurnsole; *Local name(s):* Jangligli; *Ayurvedic (Sanskrit/Hindi) name:* Hastishundi

Habit and Habitat: A coarse herb. Flowers lilac, in elongate spikes. Fruits long, 2-lobed, each lobe 4-ribbed. Wild. *Part(s) used:* Whole plant. *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): To increase lactation in cattle.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Whole plant (250 g) is given twice daily, with fodder for 15-20 days.

Biodynamic note(s): *Plant:* alkaloids – indicine, echinatine, supinine, heleurine, heliotrine; *Root:* trachelanthamidine, supinidine, lindelofidine, indicinine, acetylindicine.

Leaf: anticancer, antifungal.

225. Botanical Name: *Heliotropium supinum* L.

Family: Boraginaceae

Local name(s): Goma

Habit and Habitat: A prostrate, villous herb. Flowers in short wooly spikes, white. Fruits of usually one developed nutlet. Wild. *Part(s) used:* Whole plant. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Whole plant is ground and applied externally over the point of snake bite. Juice of the plant administered internally in the dose of 5 ml at frequent intervals, till cure.

Biodynamic note(s): *Plant:* pyrrolizidine alkaloids – supinine, heliosupine, echinatine.

226. Botanical Name: *Helminthostachys zeylanica* (L.) Hk.

Family: Helminthostachyaceae

Local name(s): Kamraj

Habit and habitat: A fern with thick fleshy creeping rhizome. Fertile part of frond, spiciform. Sporangia globose. Wild. *Part(s) used:* Rhizome. *Locality:* Bahraich, Gonda, Gorakhpur, Kheri.

Medical efficacy claimed (name of the disease or condition): Aphrodisiac, general weakness, rheumatism, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- The Fresh rhizome is ground and taken in the dose of 10 g with milk once daily, in the morning, for 15 days to treat general weakness.
- Paste (20g) of rhizome is taken with cow milk once daily, for one month as an aphrodisiac.
- Rhizome paste is given for rheumatism.
- Rhizome paste (20 g) is taken with goat's milk once daily at bedtime, for one week to treat spermatorrhea.

Biodynamic note(s): Rhizome: flavonoids-ugonins A, B, C & D.

Leaf / Frond: antiviral.

227. Botanical Name: *Hemidesmus indicus* (L.) R. Br. *Syn. periploca Indica* L.

Family: Periplocaceae

English name(s): Indian Sarasparilla; *Local name(s):* Dodh, Gay pauri, Kapoori, Patal nag;

Unani name(s): Ushba-e-Hindi; *Ayurvedic (Sanskrit/Hindi) name:* Sariva

Habit and Habitat: A scandent undershrub with woody root-stock. Flowers dull yellow with purple eye. Follicles tapering to a point, slightly fulcate, glabrous. Wild. *Part(s) used:* Root. *Locality:* Bahraich, Keonjhar, Ranchi, Ranchi, Udaipur.

Medical efficacy claimed (name of the disease or condition): Anemia, bodyache, fever of long duration, malarial fever, scorpion sting, small pox, snakebite, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Garasias, Tharus.

Folk medicinal use(s):

- Root is powdered with few grains of black pepper and given to treat fever of long duration.
- For the treatment of scorpion sting, root paste is applied locally 3-4 times a day and duly bandaged. It is claimed to provide relief from the stinging pain.
- About 10 g root paste is given in the morning with milk, for two weeks, in cases of anaemia.
- Roots (50 g) are powdered and mixed with 10-12 grains of black pepper. It is given thrice daily, as full dose for five days to treat malarial fever.
- Root (5 g) is ground in water and given once daily for 7 days to treat spermatorrhea.
- In cases of bodyache, roots are ground and applied externally on the body and massage is done.

- 10 ml root decoction mixed with powder of 10-12 black pepper is given thrice daily for 10 days, in cases of small pox.
- In case of snake bite, equal quantity of root juice of 'jhimka' (*Cyperus rotundus* L.) and 'patal nag' is mixed and given orally in the dose of 10 ml at an interval of 30 minutes each, till the patient regains consciousness. Paste of the root is also applied externally over the bite point.

Biodynamic note(s): Root: essential oil, β -sitosterol, α - & β -amyrin, lupeol, saponins, glycosides, ketone; Leaf: rutin, steroids.

Plant: antiviral, antilithic.

228. Botanical Name: *Hemigraphis hirta* (Vahl) T. Anders.

Family: Acanthaceae

Local name(s): Patharchata, Safed santhi, Van poti

Habit and Habitat: A small, prostrate, hirsute-villous herb. Flowers pale-blue or lilac. Capsules linear-oblong. Seeds compressed, discoid, brownish. Wild. *Part(s) used:* Leaf.

Locality: Gorakhpur, Kheri.

Medical efficacy claimed (name of the disease or condition): Bone fracture, burning micturation, migraine.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Leaf paste is given orally for bone fractures.
- Fresh leaf juice (2 teaspoonful) is given 3-4 times a day, for 14-15 days, in cases of burning micturation.
- In cases of migraine, leaf juice is mixed with onion juice in equal quantities and used as nasal drop once only. This gives instant relief.

229. Botanical Name: *Hibiscus cannabinus* L.

Family: Malvaceae

English name(s): Bimli Jute, Bimlipatam Jute, Ambari Hemp, Deccan Hemp, Kenaf, Mesta;

Local name(s): Patsan; *Ayurvedic (Sanskrit/Hindi) name:* Patsan

Habit and Habitat: A tall, unbranched prickly herb. Flowers white or pale yellow with purple eye, auxiliary, sub-sessile. Calyx campanulate, tuberculate, with 5 large sessile glands. Cultivated. *Part(s) used:* Seed. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Bronchial asthma.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- The roasted seeds are ground and made into pills of a gram size with three years old 'gur' (solidified sugarcane juice). Two pills are taken with warm water twice daily, for 15 days to treat bronchial asthma.

Biodynamic note(s): Plant: vitamin B₆, *Leaf:* 5 flavoneglycosides, rutin, isoquercitrin, kaempferol; *Flower:* myricetin glucoside.
Aerial part: CNS depressant.

230. Botanical Name: *Hibiscus rosa-sinensis* L.

Family: Malvaceae

English name(s): Shoe Flower, Chinese Hibiscus; *Local name(s):* Gurhar; *Unani name(s):* Gurhal; *Ayurvedic (Sanskrit/Hindi) name:* Japa

Habit and Habitat: An evergreen shrub. Flowers red-yellow. Fruits oblong. *Part(s) used:* Flower buds. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Dysentery, to expel gall bladder stone.

Name of the tribe/caste, and other sources from whom information collected: Rural population, Tharus.

Folk medicinal use(s):

- Crushed flowering buds (2-3) are taken with water twice daily, for 3 days, in case of dysentery.
- Flower buds (1 Kg.) is ground in one liter of water and 'khand' (a preparation from solidified sugar cane juice) is mixed to make syrup. This preparation is consumed with plenty of water to break and expel stones from gall bladder. This should be taken on empty stomach and 3-4 times a day and no meal should be taken the whole day.

Biodynamic note(s): Stem & Leaf: taraxeryl, OAc & β -sitosterol; *Flower:* flavons.

Plant: antiestrogenic; *Leaf:* analgesic, anti-inflammatory; *Flower:* antifertility.

231. Botanical Name: *Hodgsonia macrocarpa* (Bl.) Cogn.

Family: Cucurbitaceae

Local name(s): Godloulkia

Habit and habitat: A large, vigorous climber. Leaf palmate. Fruits large, globose, rare. Wild. *Part(s) used:* Root. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Filariasis.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Root paste is applied locally on swellings due to filariasis.

Biodynamic note(s): Kernel: protein, fatty oil, myristic, palmitic, stearic, arachidic, hexadecenoic acids.

232. *Botanical Name: Holarrhena pubescens* (Buch.-Ham.) Wall. Ex G.Don (Syn. *H. antidysenterica* (L.) Wall. ex A. DC.)

Family: Apocynaceae

English name(s): Kurchi Bark, Conessi Bark; *Local name(s):* Koriya, Dudhi; *Unani name(s):* Inderjo Talkh, Teewaj; *Ayurvedic (Sanskrit/Hindi) name:* Kutaja, Indrayav

Habit and Habitat: A large shrub or small tree. Flowers white, scented. Follicles slender, divaricate, long. Seeds linear-oblong, with a long-brown coma. Wild. *Part(s) used:* Fruit, latex, root, stem bark. *Locality:* Gorakhpur, Gwalior, Keonjhar, Kheri.

Medical efficacy claimed (name of the disease or condition): Arthritis, common fever, cuts and wounds, diarrhea and dysentery, filariasis, malarial fever, snakebite.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Fruit decoction is given for dysentery.
- Stem bark decoction is given to treat common fever.
- Stem bark is boiled in mustard oil and massage is recommended twice daily, for one month, in cases of arthritis.
- In cases of snakebite, stem bark juice mixed with water in 4:1 ratio is given in the dose of 10 ml at an interval of 30 minutes each, till vomiting continues. Patient is also not allowed to sleep.
- Roots are finely ground and powdered. This is boiled in water in 1:2 ratio. A dose of 100 ml is given twice daily, for 21 days to treat filariasis.
- Root and stem bark are powdered and given in the dose of 10 g thrice daily, for 3 days to treat diarrhea and dysentery.
- Fresh latex is applied on cuts and wounds and bandaged. This is repeated every day, for 3-4 days.
- A powdered stem bark (3-5g) is given orally for 2-4 times daily to treat diarrhea and dysentery.
- Stem bark decoction is given to treat malarial fever.

Biodynamic note(s): Plant: alkaloids-conessine, kurchine, kurchicine; *Root bark:* holacetine; *Stem bark:* conessine, holarrhimine, conarrhimine, conimine, conessimine, isoconessimine, conimine; *Leaf:* alkaloids-kurchiphylline, kurchiphyllamine, kurchaline, holadysine, holadysamine, flavons; *Seed:* alkaloid conkurchine.

Stem bark: hypotensive; *Fruit:* antiprotozoal, anticancer, hypoglycemic.

233. *Botanical Name: Holoptelea integrifolia* (Roxb.) Planch.

Family: Ulmaceae

English name(s): The Entire Leaved Elm, Indian Elm; *Local name(s):* Papri; *Ayurvedic (Sanskrit/Hindi) name:* Chirbilva

Habit and Habitat: A large spreading, almost glabrous tree. Flowers greenish-yellow. Samara broadly elliptic, with a long stipes and slender pedicels. Wild. *Part(s) used:* Leaf, stem bark. *Locality:* Bharatpur, Gwalior, Mainpuri.

Medical efficacy claimed (name of the disease or condition): Common fever, ringworm, scabies.

Name of the tribe/caste, and other sources from whom information collected: Saharias and other rural population

Folk medicinal use(s):

- Paste of stem bark is applied on forehead of the patient to treat common fever.
- Paste of stem bark is applied over the affected parts, in cases of scabies.
- Leaf paste is applied on ringworm.

Biodynamic note(s): Bark: β -sitosterol, friedelin; *Leaf:* β -sitosterol, β -amyirin, hexacosanol.

234. Botanical Name: *Hygrophila auriculata* (Schum.) Heine (Syn. *H. spinosa* T. Anders.)

Family: Acanthaceae

English name(s): Long Leave Barleria; *Local name(s):* Makhan; *Unani name(s):* Talmakhana; *Ayurvedic (Sanskrit/Hindi) name:* Kokilaksha, Talmakhana

Habit and Habitat: A hispid, annual herb, armed with axillary spines. Flowers purple-blue. Capsules linear-oblong, 4-8 seeded. Wild. *Part(s) used:* Seed. *Locality:* Bahraich.

Medical efficacy claimed (name of the disease or condition): General swellings of body.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Seeds are ground and boiled in water and allowed to cool. This decoction is used by the patient to take bath once a day, for 2 weeks to treat general swellings of body.

Biodynamic note(s): Plant: phytosterol, essential oil, lupeol, stigmasterol, hydrocarbon; *Aerial part:* alkaloid, sterols; *Flower:* apigenin, glucuronide; *Seed:* asteracanthine, asteracanthicine, sterols, unsaponable matter.

Plant: diuretic, spasmolytic, hypotensive, antibacterial.

235. Botanical Name: *Ichnocarpus frutescens* (L.) R.Br.

Family: Apocynaceae

English name(s): Black Creeper; *Local name(s):* Dudhi; *Ayurvedic (Sanskrit/Hindi) name:* Krishnasariva-behd

Habit and Habitat: A large, twining shrub. Flowers small, greenish-white. Follicles divaricate, slender, rigid and compressed. Wild. *Part(s) used:* Root. *Locality:* Gorakhpur, Ranchi.

Medical efficacy claimed (name of the disease or condition): Hysteria, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- Root paste is given for spermatorrhea.
- Roots (10-15g) are ground and given orally with water once daily, for 7 days in cases of hysteria.

Biodynamic note(s): Plant: β -sitosterol, friedelin, kaempferol; *Stem:* triterpene, glycoside;

Root: alkaloids, flavonoids; *Leaf:* flavons, phenolic acid.

Plant: antiviral.

236. Botanical Name: *Imperata cylindrica* (L.) Raeuschel. (Syn. *I. arundinacea* Cyrill.)

Family: Poaceae

English name(s): Thatch Grass; *Local name(s):* Seeru; *Ayurvedic (Sanskrit/Hindi) name:* Darbha

Habit and Habitat: A perennial, rhizomatous, erect grass. Panicles silvery-white, hairy.

Spikelets long. Wild. *Part(s) used:* Root. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Arthritis.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Root is ground in mustard oil to make a paste which is applied on the affected joints for 30-40 days once daily, and bandage done.

Biodynamic note(s): Plant: aundoin, cylindrin, serotonin.

Aerial part: antiviral.

237. Botanical Name: *Indigofera tinctoria* L.

Family: Fabaceae

English name(s): Common Indigo, Indian Indigo; *Local name(s):* Lal Santh, Sarphonk; *Unani name(s):* Neel; *Ayurvedic (Sanskrit/Hindi) name:* Neel

Habit and habitat: A slender, erect shrub. Flowers small, red. Pods straight or slightly curved, long. Wild. *Part(s) used:* Leaf. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Constipation in cattle.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Leaves are given with fodder to cattle for constipation.

Biodynamic note(s): Plant: glycoside-indican.

Aerial part: antihepatotoxic, hypoglycemic.

238. Botanical Name: *Indoneesiella echioides* (L.) Sreemadh. (Syn. *Andrographis echioides* (L.) Nees)

Family: Acanthaceae

Local name(s): Bhuinibba, Kak-jhanga, Sap jharni

Habit and habitat: An erect herb. Flowers pale, purple spotted. Capsules ellipsoid-oblong, compressed. Wild. Part(s) used: Leaf, root, whole plant. Locality: Chakrata, Keonjhar, Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Fever, malarial fever, marasmus, skin diseases, snakebite.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Khasas.

Folk medicinal use(s):

- Decoction of roots and leaves are given to treat malarial fever.
- Whole plant especially aerial parts of the plant are ground with water and the decoction is given 3 times daily, upto 3 days to treat marasmus. Bath by boiling ½ kg of whole plant in one bucket of water is also recommended.
- Whole plant specially leaf paste is given with water in the dose of 50-100 g frequently and also applied externally on bite point in cases of snakebite.
- Whole plant (250 g) is ground and mixed in 'gur' (solidified sugarcane juice) in 2:1 ratio. It is boiled in 1 liter of water to make a decoction, and given 10 ml thrice daily, for 3 days to treat common fever.
- In cases of skin diseases (ringworm, scabies) aerial parts of the plant are crushed and expressed juice is applied externally on the skin 3-4 times daily, till cure.

Biodynamic note(s): Plant: flavons-echioidinin.

Plant: diuretic.

239. Botanical Name: *Ipomoea carnea* Jacq. Ssp. *Fistulosa* (Mart. ex Choisy) D. Austin. (Syn. *I. fistulosa* Mart. ex Choisy)

Family: Convolvulaceae

Local name(s): Besharam

Habit and habitat: A large, straggling shrub with milky juice. Flowers large, pink. Wild. Part(s) used: Latex, leaf. Locality: Gwalior.

Medical efficacy claimed (name of the disease or condition): Abscesses, scorpion sting.

Name of the tribe/caste, and other sources from whom information collected: Saharias and other rural population.

Folk medicinal use(s):

- Leaf is applied with any edible oil and tied on the abscesses.
- Latex is applied on the scorpion sting to get relief.

Biodynamic note(s): Leaf: polysaccharide ipomose, glucoside, gum, jalpine, saponins.

Root: hypotensive; *Leaf:* CNS depressant.

240. Botanical Name: *Ipomoea hederifolia* L.

Family: Convolvulaceae

Local name(s): Beena

Habit and Habitat: A much branched, slender twiner. Flowers deep red, in racemes. Capsules globose. Wild. *Part(s) used:* Seed. *Locality:* Keonjhar (Singh 910).

Medical efficacy claimed (name of the disease or condition): To kill lice.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Seed paste is mixed in water and hairs are washed with this preparation for 4 consecutive days.

241. Botanical Name: *Jatropha curcas* L.

Family: Euphorbiaceae

English name(s): Physic Nut, Purging Nut; *Local name(s):* Baglel, Pindi, Rendi

Habit and habitat: A shrub or small tree. Flowers yellowish. Capsules subglobose or ellipsoid, long. Wild. *Part(s) used:* Latex, root, twig. *Locality:* Gorakhpur, Ranchi.

Medical efficacy claimed (name of the disease or condition): Intestinal wounds or ulcer, stomatitis, toothache, tooth decay, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- Root is crushed and given with water to treat typhoid fever.
- Root paste mixed with mustard oil is given for 15 days in the dose of 100 g once daily at bedtime to treat intestinal wounds or ulcer.
- Latex with water is gargled against toothache.
- Latex is applied in mouth for stomatitis.
- Stem twigs are used as tooth brush to strengthen gums and stops the decaying of teeth.

Biodynamic note(s): Bark: β -amyirin, taraxerol, β -sitosterol;

Leaf: apigenin, vitaxin, isovitexin, glycoside, α -amyirin, stigmasterol, stigmasteins;

Seed: dulcitol, β -sitosterol, glucoside.

Aerial part: CNS depressant, diuretic

242. Botanical Name: *Jatropha gossypifolia* L.

Family: Euphorbiaceae

Local name(s): Bogdera, Bondri; *Ayurvedic (Sanskrit/Hindi) name*: Rakta Vyagherand

Habit and Habitat: A tall, erect, glandular hairy shrub. Flowers small red, in corymbose cymes. Capsules 3-lobed, smooth, glabrous. Wild. *Part(s) used*: Latex, stem twig.

Locality: Gorakhpur, Ranchi.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds, pyorrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- Latex is used as an antiseptic on cuts and wounds.
- Stem twigs are used as tooth brush which checks bleeding in pyorrhea.

Biodynamic note(s): *Root*: diterpene, jatropholones A & B, lignin; *Bark*: β -sitosterol; *Leaf*: saponin, resin, tannin, flavons, vitexin, isovitexin, apigenin; *Latex*: volatile oil.

Stem: antibiotic.

243. Botanical Name: *Juglans regia* L.

Family: Juglandaceae

English name(s): Common Walnut, Persian Walnut, European Walnut; *Local name(s)*:

Akhrot; *Unani name(s)*: Akhrot, Jaoz; *Ayurvedic (Sanskrit/Hindi) name*: Akshoda

Habit and Habitat: A large deciduous tree. Flowers green, in short terminal spikes. Drupes long, green, thick fleshy rind enclosing a woody, wrinkled, 2-valved nut. Wild. *Part(s) used*: Fruit, leaf, stem bark. *Locality*: Almora, Chakrata.

Medical efficacy claimed (name of the disease or condition): Alopecia, dhobie itch, pyorrhea.

Name of the tribe/caste, and other sources from whom information collected: Bhoxas, Khasas.

Folk medicinal use(s):

- Fruit paste prepared in hot water is applied on affected parts in cases of Dhobie itch.
- Fresh stem bark is chewed and retained for some time in the mouth every day, for 6-12 months to treat pyorrhea.
- The ash of unripe fruits and leaves mixed with mustard oil is applied on the head of patient to treat alopecia.

Biodynamic note(s): *Root bark*: Juglone, cyclotrijuglone, β -sitosterol;

Bark: β -sitosterol, betulin, berberine;

Leaf: hyperoside, juglanin, tannins;

Fruit: Oxalic acid, resin.

Bark: CVS active, hypothermic, antiviral.

244. Botanical Name: *Kaempferia rotunda* L.

Family: Zingiberaceae

English name(s): Indian Crocus; Local name(s): Bhui champa; Ayurvedic (Sanskrit/Hindi) name: Bhumichampak

Habit and Habitat: A herb with tuberous root-stock. Flowers fragrant, reddish lip. Capsules oblong. Wild. Part(s) used: Root. Locality: Ranchi.

Medical efficacy claimed (name of the disease or condition): Gastric ulcer, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Roots (100 g) are ground and mixed with little honey and given in the dose of 5 g thrice daily, for 15 days to treat typhoid fever.
- Roots (100 g) are ground and mixed with little honey. This preparation is given in the dose of 50 g twice daily, for 15 days to treat gastric ulcer.

Biodynamic note(s): Tuber: croteporide, β -sitosterol.

Tuber: antitumor.

245. Botanical Name: *Kalanchoe pinnata* (L.) Pers. (Syn. *Bryophyllum calycinum* Salisb.)

Family: Crassulaceae

Local name(s): Kopata; Unani name(s): Patharchata; Ayurvedic (Sanskrit/Hindi) name: Parnbeej, Pashanbhed

Habit and Habitat: A glabrous fleshy herb. Flowers purple. Follicles in the persistent perianth. Cultivated. Part(s) used: Leaf. Locality: Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Blood dysentery, calculi of kidney, difficult urination.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans.

Folk medicinal use(s):

- Leaf paste is applied externally over the abdomen of the patient in cases of difficult urination.
- Two leaves are ground and given to the patient every day early morning for 15-30 days to treat calculi of kidney.
- Leaf juice is given thrice a day, for 3-5 days to treat blood dysentery.

Biodynamic note(s): Plant: sitosterol, α - & β -amyrin, unsaponable matter; Leaf: glycosides-quercetin, kaempferol, fumaric acid, flavon, maleic, isocitric and citric acids.

Plant and Leaf; antifungal, antilithic.

246. Botanical Name: *Kirganelia reticulata* (Poir.) Baill. (Syn. *Phyllanthus reticulatus* Poir.)

Family: Euphorbiaceae

Local name(s): Jal hur; Ayurvedic (Sanskrit/Hindi) name: Kamboji

Habit and Habitat: A sarmentose shrub. Flowers green or purple, in racemes. Berries black, fleshy, 8-10 seeded. Wild. Part(s) used: Root. Locality: Ranchi.

Medical efficacy claimed (name of the disease or condition): Rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Equal quantities of the root of plant and 'baokanda' (*Ampelocissus latifolia* (Roxb.) Planch), 'kawath' (*Carissa spinarum* L.), 'jalkumbhi' (*Eichhornia crassipes* (Mart) Solm-laub.), 'tipokanda' (*Hedychium ellipticum* Rosc.) are ground and made into pills of 5 g each; two pills are given thrice daily, for six months to treat rheumatism.

Biodynamic note(s): Root: β -sitosterol; Stem: friedelin, betulinic acid, β -sitosterol; Leaf: friedelin, glochidonol, β -sitosterol.

Aerial part: antiprotozoal, antiviral, spasmolytic, hypotensive.

247. Botanical Name: *Lablab purpureus* (L.) Sweet (Syn. *Dolichos purpureus* L.)

Family: Fabaceae

English name(s): Beans, Indian Butter Bean;

Local name(s): Desi sem;

Unani name(s): Lab lab;

Ayurvedic (Sanskrit/Hindi) name: Nishpao

Habit and Habitat: A twining herb with 3-foliolate leaves. Flowers red, purple or white, in racemes. Pods white to purple, sub-lunate-oblong. Cultivated. Part(s) used: Seed. Locality: Mainpuri.

Medical efficacy claimed (name of the disease or condition): Infantile diarrhea.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Seeds are ground in the leaf juice of 'jamun' (*Syzygium cuminii* (L.) Skeels) and given in the dose of 10 g twice daily, for 3 days.

Biodynamic note(s): Stem & Leaf: coumesterol, psoralidin;

Seed: active glycosides, allantoinase lectins.

Seed: spasmolytic.

248. Botanical Name: *Lagenaria siceraria* (Molina) Standl. (Syn. *Cucurbita siceraria* Molina)

Family: Cucurbitaceae

English name(s): Bottle Gourd, Calbash Gourd; Local name(s): Lauki; Unani name(s): Kaddu Daraz; Ayurvedic (Sanskrit/Hindi) name: Tumbini

Habit and Habitat: A softly pubescent, scandent herb. Flowers white. Fruits bottle or bell shaped. Cultivated. Part(s) used: Fruit. Locality: Aligarh, Kheri.

Medical efficacy claimed (name of the disease or condition): Bronchial asthma, diarrhea and dysentery.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population

Folk medicinal use(s):

- 10 ml juice of unripe fruit is mixed with 10 ml leaf juice of 'bhangra' (*Eclipta prostrata* (L.) L.). To this 1 mg Asafoetida is added. This preparation is given twice daily, for 3-5 days to treat diarrhea and dysentery.
- Roasted fruit (10 g) is ground and taken with betel leaf once or twice daily, for 41 days to treat bronchial asthma.

Biodynamic note(s): Fruit: vitamins B, ascorbic acid; Seed: fatty acid, sugar, chondrillasterol.

249. Botanical Name: *Lagerstroemia parviflora* Roxb.

Family: Lythraceae

English name(s): Lendia; Local name(s): Asidh, Kahua, Sidha; Ayurvedic (Sanskrit/Hindi) name: Siddhak

Habit and Habitat: An erect tree or shrub. Flowers white, in 3-chotomous panicles. Capsules ellipsoid and polished, 3-4 valved. Wild. Part(s) used: Leaf, stem bark. Locality: Gorakhpur, Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Diarrhea with fever among women (after delivery), dysentery with vomiting, leucorrhea, swelling on the udder of cow.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Tharus. Folk medicinal use(s):

- Leaves are crushed and boiled in water. It is given in the dose of 100 ml twice daily, for 3 days in cases of fever amongst women (after delivery).
- Stem bark (250 g) is ground in fresh water and liquid strained. It is given in the dose of 50-100 ml once daily, for 3 days to treat dysentery with vomiting.
- Stem bark (250 g) is ground in cold water and filtered. It is given in the dose of 50-100 ml once daily, for 30 days to treat leucorrhea.
- Leaf paste mixed with common salt is applied on swelling on the udder of cow.

Biodynamic note(s): Leaf: antibacterial.

250. Botanical Name: *Lannea coromandelica* (Houtt.) Merrill

Family: Anacardiaceae

English name(s): Jhingan, Wodier; *Local name(s):* Gunj, Jhingna, Jinga; *Ayurvedic (Sanskrit/Hindi) name:* Jingani

Habit and Habitat: A medium-sized tree. Flowers small, yellowish-green. Drupes reniform, compressed, red. *Wild. Part(s) used:* Stem bark. *Locality:* Amarkantak, Bahraich, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Bone fracture, cuts and wounds, leg injuries and sprains in cattle.

Name of the tribe/caste, and other sources from whom information collected: Gond, Rural population, Tharus.

Folk medicinal use(s):

- In case of bone fracture, fine paste of fresh stem bark is applied locally after setting right the fractured bones and bandage done. Every week freshly prepared paste is used, treatment is given for 1-2 months.
- Stem bark juice is applied on cuts and wounds 3-4 times a day to check bleeding instantly and also healing the wounds.
- Stem bark paste is applied locally on leg injuries and sprains in cases of cattle.
- Stem bark paste is applied on the cuts and wounds.

Biodynamic note(s): *Root:* cluytlyl ferulate; *Heartwood:* lanosterol; *Bark:* β -sitosterol, catechin, leucocyanidin, physicion.

Leaf: ellagic acid, quercetin; *Flower:* quercetin, isoquercitrin, morin.

Plant: antibacterial; *Stem bark and Leaf:* anticancer, CNS & CVS active, hypothermic.

251. Botanical Name: *Lantana camara* L.

Family: Verbenaceae

English name(s): Lantana, Wild Sage; *Local name(s):* Kuri; *Ayurvedic (Sanskrit/Hindi) name:* Chaturangi

Habit and Habitat: A straggling or scandent shrub. Flowers orange, white-purple. Drupes greenish-blue. *Part(s) used:* Leaf. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Chicken pox, cuts and wounds.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Leaf juice (50 ml) are given in chicken pox twice daily.
- Leaf juice is applied on fresh cuts and wounds to stop bleeding instantly.

Biodynamic note(s): *Bark:* alkaloid-lantanine; *Leaf:* essential oil-citral, carvone, phellandrene, dipentene, terpinol, cineole, eugenol, furfural.

Shoot: antibacterial.

252. Botanical Name: *Lasia spinosa* (L.) Thw. (Syn. *L. heterophylla* (Roxb.) Schott.)

Family: Araceae.

Local name(s): Kanta sarai; Ayurvedic (Sanskrit/Hindi) name: Kantasaru.

Habit and Habitat: A prickly stout herb with thick rhizome. Spadix with densely packed flowers, pink in color. Seeds large in testa. Wild. Part(s) used: Rhizome. Locality: Ranchi.

Medical efficacy claimed (name of the disease or condition): Bodyache.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- In case of bodyache, rhizome paste is given orally in the dose of 100 g twice daily, for 3 days. Simultaneously, the paste is also applied on the body externally.

Biodynamic note(s): Spadix: hydrocyanic acid.

253. Botanical Name: *Launaea procumbens* (Roxb.) Ram. & Raj. (Syn. *L. fallax* (Jaub. & Spach) Ktze.)

Family: Asteraceae

Local name(s): Gobhi, Jangli Gobhi, Pathar chata

Habit and Habitat: A perennial, glabrous herb. Heads ligulate, yellow. Achenes long, ribbed, rugulose. Pappus white, soft, homomorphic. Wild. Part(s) used: Leaf, root, whole plant.

Locality: Aligarh, Bahraich, Gwalior, Kheri, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Abscesses, bronchitis, conjunctivitis, deficient lactation in cattle, leucorrhea, rickets.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Dried root powdered and mixed with 'khand' (Crude sugar). This is given in the dose of 2 g twice daily, for a week to treat leucorrhea.
- Root is to be dig out taking care that no shade of the person digging the root should fall on the plant. This root is ground and given thrice daily, for 7 days with mother's milk to the children suffering from rickets.
- Leaf paste (10 g) with equal quantity of soap is applied over the abscesses to drain off pus.
- Fresh leaf juice (2-3 drops) is applied in the affected eyes twice daily, for 3-5 days to treat conjunctivitis.
- Plant is ground with few grains of black pepper and made into pills of about 3 g each using honey, two pills are taken thrice a day, for 5 days to treat bronchitis.
- In case of deficient lactation in cattle, whole plant is given as fodder to enhance milk in buffaloes and cows.

Biodynamic note(s): Plant: β -sitosterol, taraxasterol, campesterol, stigmasterol, cholesterol, aesculetin, cichorin.

254. Botanical Name: *Lawsonia inermis* L.

Family: Lythraceae

English name(s): Henna, Egyptian Privet; *Local name(s):* Mendiya; *Unani name(s):* Hina;

Ayurvedic (Sanskrit/Hindi) name: Madayanti, Mehndi

Habit and Habitat: A small tree or large shrub. Flowers fragrant, cream colored. Fruits red when young. Cultivated. *Part(s) used:* Seed. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Leucorrhea, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Seed powder is given for spermatorrhea and leucorrhea.

Biodynamic note(s): Plant: coumarin-lacoumarin; *Bark:* n-triacontanol, β -sitosterol, lupeol,

Leaf: luteolin, β -sitosterol, glucoside, laxanthes, lawsone.

Plant: antifungal; *Leaf:* antibacterial, antiinflammatory.

255. Botanical Name: *Leea asiatica* (L.) Rid. (Syn. *L. crispa* L.)

Family: Leeaceae

Local name(s): Hasna-thal

Habit and Habitat: An erect sub-herbaceous plant. Flowers in corymbose cyme. Berries blue-black. Wild. *Part(s) used:* Whole plant. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Mosquito repellent.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- The juice of whole plant is applied on body before going to bed as mosquito repellent.

Biodynamic note(s): Root: hypoglycemic, anti-inflammatory; *Leaf:* antiviral, hypoglycemic.

256. Botanical Name: *Leea indica* (N. Burman) Merrill

Family: Leeaceae

Local name(s): Harjora; *Ayurvedic (Sanskrit/Hindi) name:* Chatri

Habit and habitat: A shrub or small tree. Flowers in corymbose cymes, whitish. Berries depressed, globose, purple-black. Wild. *Part(s) used:* Leaf, root. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Bone fracture.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Paste of leaf and root with goat's milk is applied as plaster over the fractured bones and bandaged.

Biodynamic note(s): Leaf: antiviral.

257. Botanical Name: *Leea macrophylla* Roxb. ex Hornem.

Family: Leeaceae

Local name(s): Hathikan; *Ayurvedic (Sanskrit/Hindi) name:* Hastikaran-plash

Habit and Habitat: A robust herb. Flowers white, in corymb. Fruits black, succulent. Wild.

Part(s) used: Stem, leaf. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Hysteria.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Decoction of stem and leaf is given in the dose of 100 ml twice daily, for 7-10 days.

258. Botanical Name: *Leonotis nepetiifolia* (L.) R.Br.

Family: Lamiaceae

Local name(s): Gulal; *Ayurvedic (Sanskrit/Hindi) name:* Granthiparni

Habit and Habitat: A handsome tall herb. Flowers scarlet with spinescent bracts and calyx teeth, in whorls. Wild. *Part(s) used:* Seed. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Crushed seeds (250 g) are boiled in 1 liter seed oil of 'karanj' (*Pongamia pinnata* (L.) Pierre) for 1 hour, and filtered. This oil is applied externally on cuts and wounds, 3-4 times a day.

Biodynamic note(s): *Plant:* diterpenoids-nepetaefolin, leonotinin; *Seed:* Oleic, linoleic, palmitic, stearic acid.

Plant: Spasmolytic, anticancer.

259. Botanical Name: *Lepidagathis cristata* Willd.

Family: Acanthaceae

Local name(s): Aungha

Habit and Habitat: A perennial herb. Flowers white, spotted with brown and purple. Capsules 2-seeded. Wild. *Part(s) used:* Whole plant. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Bruises and injuries.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- The juice of whole plant is poured over the injuries or bruises. This checks bleeding quickly.

Biodynamic note(s): Leaf: protein, fat, carbohydrate, iron, calcium, phosphorus, silica, glycosides.

Plant: antiseptic.

260. Botanical Name: *Lepidagathis hyalina* Nees

Family: Acanthaceae

Local name(s): Agiya

Habit and Habitat: A much branched herb. Flowers white 2-lipped. Capsules oblong with a short beak. Wild. *Part(s) used:* Whole plant. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds.

Name of the tribe/caste, and other sources from whom information collected: Asur

Folk medicinal use(s):

- The plant is crushed and ground with seed oil of 'karanj' (*Pongamia pinnata* (L.) Pierre) and applied on cuts and wounds externally 2-3 times a day, till cure.

261. Botanical Name: *Lepidagathis trinervis* Wall. ex Nees

Family: Acanthaceae

Local name(s): Brahma Dandi; *Ayurvedic (Sanskrit/Hindi) name:* Rasna

Habit and habitat: A herb with woody root stock. Flowers white. Capsules 2-seeded. Wild. *Part(s) used:* Whole plant. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Piles.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Decoction of whole plant is given once a day only for 10-15 days in the dose of 10 ml. Oil is restricted in the diet.

262. Botanical Name: *Leucas cephalotes* (Koen. ex Roth.) Spreng.

Family: Lamiaceae

Local name(s): Goma, Guma; *Unani name(s):* Gumma; *Ayurvedic (Sanskrit/Hindi) name:* Dronapushpi, Guma

Habit and Habitat: An erect herb. Flowers white, in whorls. Nutlets ovoid, 3-quetrous. Wild.

Part(s) used: Leaf, whole plant. *Locality:* Bahraich, Gorakhpur, Keonjhar, Kheri, Pauri Garhwal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Appetizer, bronchial asthma, migraine, pneumonia, snakebite, stomatitis.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhoxas, Bhuyans, Tharus.

Folk medicinal use(s):

- Plant paste (10 g) is given with water both in morning and evening, for 2 weeks as appetizer.
- Plant paste is given for bronchial asthma.
- Fresh root is chewed to treat stomatitis.
- Inflorescence (100 g) are crushed and boiled in mustard oil for about 30 minutes and filtered. This oil is applied on the forehead of the patient and claims to provide instant relief, in cases of headache.
- For the treatment of migraine, powdered leaves are mixed with powder of 1-2 grains of black pepper. It is snuffed by the patient and claims to provide instant relief.
- Leaf paste is applied on chest to relieve pneumonia.
- In case of snakebite, equal quantities of the leaves of 'neem' (*Azadirachta indica* A. Juss.) and 'madar' (*Calotropis procera* (Ait.) R.Br.) are crushed together and kept in a bottle with water. The mixture is given repeatedly as an antidote at the rate of 25 ml every 30 minutes until the mouth taste of the patient becomes sweet.

Biodynamic note(s): Plant - β -sitosterol glycoside, traces of alkaloid.

Plant: spasmolytic.

263. Botanical Name: *Limonia acidissima* L. (Syn. *Feronia limonia* (L.) Swingle)

Family: Rutaceae

English name(s): Elephant apple, Wood apple, Curd fruit, Monkey fruit; *Local name(s):*

Kaitha; *Ayurvedic (Sanskrit/Hindi) name:* Kapittha

Habit and habitat: A medium-sized thorny tree. Flowers green or dull red. Fruits many seeded, with a rough woody rind. Wild. *Part(s) used:* Fruit. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Vermifuge.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Ripe fruit pulp (50 g) is mixed in butter milk and taken once daily, for 3 days.

Biodynamic note(s): *Leaf:* stigmasterol, vitexin, bergapten, sponarin, α - & β - pinene, β - phellandrene; *Root:* geranyl umbelliferone, bergapten, marmesin, marmin.

Plant: antibacterial, antifungal.

264. Botanical Name: *Linum usitatissimum* L.

Family: Linaceae

English name(s): Linseed; Local name(s): Tisri; Unani name(s): Katan; Ayurvedic (Sanskrit/Hindi) name: Atasi

Habit and Habitat: An annual herb. Flowers blue. Capsules acuminate. Cultivated. Part(s) used: Oil cake. Locality: Gorakhpur.

Medical efficacy claimed (name of the disease or condition): To check secretion of excessive saliva in cattle due to stomatitis.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Oil cake mixed with 'gur' (solidified sugarcane juice) is given with fodder to check secretion of saliva in cattle due to stomatitis.

Biodynamic note(s): Plant: chlorogenic acid, palmitic, stearic, oleic, linoleic acids; Seed: linustain, neolinustatin, glycerides, β -hydroxy- β -methyl glutaric acid.

Seed: cyanogenetic glucoside responsible for death among livestock grazing on linseed plant.

265. Botanical Name: *Lipocarpa sphacelata* (Vahl) Kunth. (Syn. *Kyllinga triceps* Lam.)

Family: Cyperaceae

Local name(s): Narbasi; Ayurvedic (Sanskrit/Hindi) name: Mustak-bhed, Nirvish-behd

Habit and Habitat: An annual sedge, with brownish fibrous root. Clums tufted slender, obtusely trigonous. Spikelets long, straw colored. Wild. Part(s) used: Root. Locality: Bhopal.

Medical efficacy claimed (name of the disease or condition): Diabetes.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- Decoction of root prepared in water is taken with powdered gum of 'kikar' (*Acacia nilotica* (L.) Willd. ex Del.), in the dose of 200 ml twice daily, for 30-40 days.

Biodynamic note(s): Root: essential oil.

Leaf: antibacterial.

266. Botanical Name: *Litsea glutinosa* (Lour.) C.B. Robinson (Syn. *L. sebifera* Pers.)

Family: Lauraceae

Local name(s): Chandana, Kathmeda, Maed, Maeen, Pojo; Unani name(s): Maidalakri; Ayurvedic (Sanskrit/Hindi) name: Medasakah

Habit and Habitat: A medium-sized tree with mucilaginous stem bark. Flowers yellowish. Fruits globose, black. Wild. *Part(s) used:* Seed, stem bark. *Locality:* Gonda, Gorakhpur, Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Backache, bone fracture, bruise and injuries, scabies, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- To hastens the healing process fresh stem bark paste is used as plaster on fractured bones, with bandage done using splints.
- Stem bark paste is applied on back to treat backache.
- In cases of bruise and injuries, stem bark is ground and made into poultice with onion, turmeric and oil (all in equal quantity), and applied externally on the affected part, and tied with bandage. The treatment is continued for 3-4 days, and considered most effective.
- Stem bark (100 g) is crushed, boiled in one litre of water and allowed to cool, about 100 ml of this decoction are given to drink once daily, for 11 days to treat typhoid fever.
- Seeds of the plant with seeds of 'karanj' (*Pongamia pinnata* (L.) Pierre) are mixed, ground and boiled in water. This liquid is strained and cooled. Bath of this decoction is taken daily, for 15 days to treat scabies.

Biodynamic note(s): Plant: polysaccharide; *Stem & Leaf:* aporphine alkaloid-boldine, laurotetanine; *Trunk bark:* sebiferine, litseferine.

Bark: anthelmintic, antifungal; *Aerial part:* antispasmodic.

267. Botanical Name: *Litsea monopetala* (Roxb.) Pers.

Family: Lauraceae

Local name(s): Maida; *Ayurvedic (Sanskrit/Hindi) name:* Medalkadi-bhed

Habit and habitat: A moderate-sized evergreen tree. Flowers hairy, greenish yellow or white. Fruits ellipsoid, deep purple when ripe. Wild. *Part(s) used:* Stem bark. *Locality:* Bahraich, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Bone fractures.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Stem bark is ground and fried in mustard oil with turmeric powder and onion. The paste is applied on the fractured bones once daily, for 10-15 days and bandage done using a splint.

Biodynamic note(s): Bark: β -sitosterol, aporphine, alkaloid-actinodaphnine.

Stem bark: CVS & CNS active, spasmolytic.

268. Botanical Name: *Luffa echinata* Roxb.

Family: Cucurbitaceae

Local name(s): Chathel; *Unani name(s):* Bindal; *Ayurvedic (Sanskrit/Hindi) name:* Gemut, Devdali

Habit and Habitat: A procumbent or scandent herb. Flowers white. Capsules long, ellipsoid with rigid prickles. Wild. *Part(s) used:* Root. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Irregular menses, Piles, Spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Root paste (50 g) is given twice daily for 7-10 days to treat piles, spermatorrhea and irregular menses.

Biodynamic note(s): *Fruit:* cucurbitacin B & E, arabinose, rhamnose, echinatin, gypogenin, sapogenin.

Seed: anthelmintic activity.

269. Botanical Name: *Lygodium flexuosum* (L.) Sw.

Family: Lygodiaceae

Local name(s): Baalkes, Balkesh, Kalijari, Kari; *Ayurvedic (Sanskrit/Hindi) name:* Rudrajata

Habit and Habitat: A climbing fern. Sporangial spikes green. Sori brown. *Part(s) used:* Leaf, root, whole plant. *Locality:* Bahraich, Gonda, Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Abscesses and boils, common fever, difficult urination, gastric complaints, general debility, infantile diarrhea, malarial fever, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur, Dhimars, Tharus.

Folk medicinal use(s):

- Decoction of the plant is given to treat common fever.
- Whole plant of 'murgi-ankh' (*Ardisia solanacea* Roxb.) and 'kali-jari' are mixed in equal quantity and dried. This is powdered and kept as house hold remedy and used with warm water in the dose of 10 g twice daily after meals, for 3-4 days to treat gastric complaints.
- The root paste, in the dose of 10 g is given with milk once daily at bedtime, for 1 month to treat general debility.
- In cases of difficult urination, fresh roots (25 g) are ground and taken with water thrice daily, for 3-5 days.
- Root paste (20 g) is taken with milk once daily, for one month to treat spermatorrhea.
- Leaf paste is applied on abscesses and boils.
- 2-3 roots are ground with some common salt and 10 grains of black pepper and given in the dose of 10 g twice a day, for 3-5 days to treat malarial fever.

- Root is rubbed on stone and the paste is given with mother's milk to the infant to treat diarrhea.

Biodynamic note(s): Leaf: tryptophan, tryptamine, indole-3-acetic acid; Root: tectoquinone, kaempferol, β -sitosterol, stigmasterol.

270. Botanical Name: *Lyonia ovalifolia* (Wall.) Drude

Family: Ericaceae

Local name(s): Aiyar

Habit and Habitat: A deciduous shrub or small tree. Flowers in racemes, usually white, fragrant. Capsules globose. Seeds small. Wild. *Part(s) used:* Leaf. *Locality:* Chakrata.

Medical efficacy claimed (name of the disease or condition): Scabies.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- Fresh leaf juice is applied locally on the affected parts 3-4 times a day until the cure is obtained.

Biodynamic note(s): Leaf: β -sitosterol, glycoside, ursolic acid, oleanolic acid, maslinic acid, quercetin, eriodictyon, astilbin.

Aerial part: anticancer.

271. Botanical Name: *Macrotyloma uniflorum* (Lamk.) Verd. (Syn. *Dolichos biflorus* Baker)

Family: Fabaceae

English name(s): Horse gram; *Local name(s):* Kulthi; *Unani name(s):* Kulthi; *Ayurvedic (Sanskrit/Hindi) name:* Kultath, Kulthi

Habit and Habitat: A sub-erect, villous herb. Flowers pale yellow with a crimson spot. Pods curved, linear. Seeds reniform, grey. Wild. *Part(s) used:* Seed. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Stone in kidney.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Seeds (12 g) are powdered and made into decoction and sugar added to the taste. This preparation is given twice daily for 15 days to expel small sized stone from the kidney.

Biodynamic note(s): Seed: spasmolytic.

272. Botanical Name: *Madhuca indica* G.F. Gmelin

Family: Sapotaceae

English name(s): Mahua, Mowra, Illipe, Butter Tree; *Local name(s)*: Mahua; *Unani name(s)*:

Gul Chakan, Mahua; *Ayurvedic (Sanskrit/Hindi) name*: Madhuk, Mahuva

Habit and Habitat: A medium-sized tree. Flowers cream colored. Berries ovoid, long. Wild or cultivated. *Part(s) used*: Flower, seed. *Locality*: Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Rheumatic pain, to stop conception.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- The liquor prepared from the distillation of 'mahua' flowers and stem bark juice of 'gunjan' (*Lannea coromandelica* (Houtt.) Merr.) are mixed in equal quantity, and given in the dose of 25 ml twice daily, for 40 days to stop conception.
- Seed oil is applied locally on affected joints to treat rheumatic pains. Patient is advised to stay in sun light for sometime after application of oil.

Biodynamic note(s): *Leaf*: β -carotene, n-octacosanol, sitosterol, stigmasterol; *Fruit* α - & β -amyrin, erythrodiol; *Seed*: saponin.

Bark: hypotensive; *Seed*: spermicidal; *Aerial part*: antibacterial.

273. Botanical Name: *Mallotus philippensis* (Lam.) Muell.-Arg.

Family: Euphorbiaceae

English name(s): Kamala Tree; *Local name(s)*: Kamela, Kapita, Rohini, Rohin; *Unani name(s)*: Kamila; *Ayurvedic (Sanskrit/Hindi) name*: Kampilla, Kamila

Habit and Habitat: A medium-sized tree. Flowers clustered in racemes. Capsules smooth covered with red gland. Wild. *Part(s) used*: Flower, fruit, leaf, seed, stem bark. *Locality*: Bahraich, Chakrata, Gonda, Gorakhpur, Gwalior, Kheri, Pauri Garhwal, Udaipur.

Medical efficacy claimed (name of the disease or condition): Abscesses and burns, anthelmintic in cases of cattle, cuts and wounds, diarrhea in sheep, menorrhagia, scabies, stomachache, vermifuge.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Garasias, Khasas, Saharias, Tharus and other rural population.

Folk medicinal use(s):

- The ripe fruits are covered with red resinous grains which are separated, mixed with mustard oil to make an ointment, and applied on abscesses. In cases of burns, the ointment is prepared in coconut oil.
- Stem bark paste is applied on cuts and wounds 2-3 times a day using a bandage. In another recipe, leaf juice is applied externally over the wound 3-4 times daily.
- Glandular hairs of fruits are mixed with coconut oil to make a solution and applied on affected skin, with light massage done at least 3 times a day, for 1 month to treat scabies.

- Powdered seeds (10 g) mixed with little common salt, are given with water to provide immediate relief in stomachache.
- Red resinous grains of the fruits are used to treat menorrhagia.
- Powdered fruits with water are given for diarrhea in sheep.
- Fruits mixed with fodder is given as anthelmintic to cattle.
- Root decoction is used to clean chronic wounds.
- Flowers (25 g) pounded with sugar are made into 'Sharbat' (Sweet drink). It is given for three days on an empty stomach to expel intestinal worms. In another recipe, glandular powder of fruits (2-3 g) is given for 3-5 days as vermifuge.

Biodynamic note(s): Plant: phloroglucinol-rotterlin; *Heart wood:* betulin-3-acetate, lupeol, sitosterol, bergenin.

Fruit: antibacterial, hypoglycemic, spasmolytic, anticancer.

274. Botanical Name: *Mangifera indica* L.

Family: Anacardiaceae

English name(s): Mango; *Local name(s):* Aam; *Unani name(s):* Aam, Anba; *Ayurvedic (Sanskrit/Hindi) name:* Amra

Habit and Habitat: A medium-sized tree. Flowers white-greenish. Drupes large with fleshy and fibrous mesocarp. Cultivated. *Part(s) used:* Kernels, stem bark. *Locality:* Chakrata, Kheri, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Bronchitis, impotency.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Khasas, Tharus.

Folk medicinal use(s):

- Infusion of powdered stem bark is given to men with ginger and crude sugar in impotency.
- Dried kernels are roasted and powdered; 10 g of this powder are taken thrice a day, for one week to treat bronchitis.

Biodynamic note(s): Root: mangiferin, friedelin, β -sitosterol; *Flower:* essential oil; *Fruit:* vitamin A, B, C & D.

Stem bark & leaf: antibacterial.

275. Botanical Name: *Marsdenia hamiltonii* Wight

Family: Asclepiadaceae

Local name(s): Karal, Pad; *Ayurvedic (Sanskrit/Hindi) name:* Murva-bhed

Habit and Habitat: A scandent shrub. Flowers yellow. Follicles poniard-shaped. Wild.

Part(s) used: Fruit, root bark. *Locality:* Bahraich, Gwalior.

Medical efficacy claimed (name of the disease or condition): Deficient lactation in cattle, jaundice.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus.

Folk medicinal use(s):

- Root bark (5 g) is ground and sweetened with sugar. This is given with goat milk twice daily, for 7 days, for jaundice, as an effective treatment.
- In cases of deficient lactation in cattle, crushed green fruits are given with fodder to start reflow of milk when it completely stops.

276. Botanical Name: *Martynia annua* L.

Family: Martyniaceae

English name(s): Devil's Claw, Tiger Claw; *Local name(s):* Gay mukhi; *Unani name(s):* Kalabichhua; *Ayurvedic (Sanskrit/Hindi) name:* Kakanasika, Baghnakha

Habit and Habitat: A coarse, glandular herb. Flowers red, drooping. Fruits a capsule, with two sharp, curved spines. Wild. *Part(s) used:* Fruit, seed. *Locality:* Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Cuts and injuries, hydrocele, scabies, scorpion sting.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- Seed oil is applied externally on fresh cuts and injuries 2-3 times daily, till cure.
- In cases of hydrocele, seeds are ground to make a paste in seed oil of 'karanj' (*Pongamia pinnata* (L.) Pierre.). This preparation is gently applied externally on abdomen and testicles 3-4 times a day, for 15 days.
- For treating scabies, powdered fruits are mixed with mustard oil and paste applied externally on affected skin twice daily, till the cure is obtained.
- Fruit paste is applied locally 3-4 times a day to relieve scorpion sting.

Biodynamic note(s): Flower: Cyanidin, apigenin, luteolin, flavon glucoside.

Seed: CVS active.

277. Botanical Name: *Melia azedarach* L.

Family: Meliaceae

English name(s): Persian Lilac, Bead Tree; *Local name(s):* Bakain; *Unani name(s):* Bakayin; *Ayurvedic (Sanskrit/Hindi) name:* Mahanimba

Habit and Habitat: A medium-sized tree. Flowers lilac-purple. Drupes yellowish with very hard endocarp. Wild. *Part(s) used:* Fruit, leaf, seed. *Locality:* Gorakhpur, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Filariasis, impotency, sun stroke.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Tharus, Vangujars.

Folk medicinal use(s):

- Fruits of the plant with leaves of *Cannabis sativa* L. and *Vitex negundo* L. are boiled in water and the resulting vapours are used for fomentation of the affected parts in case of filariasis.
- The powdered seeds are used to treat impotency.
- Leaf decoction is given orally and the green leaves are spread on bed of the patient before sleep in cases of sun stroke.

Biodynamic note(s): Stem bark: bakayanin, bakalactone; Leaf: quercitrin, rutin, salannin, vilasinin.

Leaf: anthelmintic; *Seed:* antibacterial.

278. Botanical Name: *Mentha arvensis* L.

Family: Lamiaceae.

English name(s): Field Mint, Corn Mint; *Local name(s):* Podina; *Unani name(s):* Podina; *Ayurvedic (Sanskrit/Hindi) name:* Putiha, Podina.

Habit and Habitat: An erect, hairy or glabrous herb. Flowers lilac, in axillary, capitate whorls. Cultivated. *Part(s) used:* Whole plant. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): To prevent conception.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Plant juice (2 teaspoonful) is taken by women before intercourse to prevent conception.

Biodynamic note(s): Plant: menthol, menthone, β -pinene, furfural, β -phellandrene, camphene.

Plant: antibacterial, antifungal.

279. Botanical Name: *Mentha longifolia* (L.) Huds.

Family: Lamiaceae

English name(s): Horse Mint; *Local name(s):* Podina; *Ayurvedic (Sanskrit/Hindi) name:* Jangli Podina

Habit and Habitat: An erect or diffuse, aromatic herb. Flowers pink-white, in whorl spikes. Cultivated. *Part(s) used:* Leaf. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Cholera.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- Leaf juice (5 ml) is mixed with juice of onion and given in cases of cholera, 2-3 times a day.

Biodynamic note(s): Plant: α -& β -pinene, piperitenone, cincole, β -caryophyllene, carvacrol, quercetin, vitamin K.

Plant: hypoglycemic.

280. Botanical Name: *Mentha spicata* L.

Family: Lamiaceae

English name(s): Spear Mint, Garden Mint, Lamb Mint; *Local name(s):* Podina; *Ayurvedic (Sanskrit/Hindi) name:* Pudina

Habit and Habitat: An aromatic perennial herb. Flowers white, in whorl spikes. Cultivated.

Part(s) used: Whole plant. *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): To prevent recurrent abortions.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Plant paste (5 g) is mixed with crystalline sugar, and given for 4 consecutive days after menstruation. It is repeated every month.

Biodynamic note(s): Plant: carvone; *Leaf:* flavonoids, diosmin, luteolin.

281. Botanical Name: *Merremia emarginata* (Burm. F.) Hall.F. (Syn. *Ipomoea reniformis* (Roxb.) Choisy)

Family: Convolvulaceae

Local name(s): Chiripat; *Ayurvedic (Sanskrit/Hindi) name:* Akhuparni, Musakani

Habit and Habitat: A creeping herb. Stems cord like rooting at the nodes, glabrous or softly pubescent. Flowers yellow. Capsules subglobose, 2-celled. Wild. *Part(s) used:* Whole plant. *Locality:* Ranchi (Singh 2615).

Medical efficacy claimed (name of the disease or condition): Hysteria, loss of senses.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Whole plant (100 g) is boiled in water to make a decoction and given just once, to restore sense.
- Whole plant (100 g) is boiled in water to make a decoction and given for 10-15 days, in cases of hysteria.

Biodynamic note(s): Plant: resin, glycosides, starch.

Plant: depressant, hypotensive, spasmolytic.

282. Botanical Name: *Mesua ferrea* L.

Family: Clusiaceae

English name(s): Mesua; *Local name(s):* Nagesar; *Unani name(s):* Narmushk; *Ayurvedic (Sanskrit/Hindi) name:* Nagakesara

Habit and habitat: A large tree with straight trunk. Flowers white. Fruits ovoid with conical pointed apex. Wild. *Part(s) used:* Stem bark. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): To clear left over blood after menstruation or delivery.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Stem bark of the plant and seeds of 'methi' (*Trigonella foenum-graecum* L.) 25 g each mixed with wood of 'beeja' (*Pterocarpus marsupium* Roxb.) and leaves of 'tejpat' (*Cinnamomum tamala* Nees) in a quantity of 50 and 10 g respectively are made into powder. This preparation is given to women with rice water of cow milk in the dose of 20 g twice daily, for 5 days.

Biodynamic note(s): *Bark:* ferruols A & B, lupeol; *Heartwood:* euxanthone, mesuaxanthone A&B, ferrxanthone.

Flower: α - & β - amyrin, β -sitosterol; *Seed:* oleic, stearic, palmitic acid, linoleic, arachidic, linolenic acid.

Fruit: antifungal; *Aerial part:* CVS active, spasmolytic.

283. Botanical Name: *Milusa tomentosa* (Roxb.) J. Sinclair

Family: Annonaceae

Local name(s): Kari

Habit and Habitat: A large, deciduous tree. Flowers greenish-yellow. Fruits subglobose, succulent, tomentose, purple when ripe. Wild. *Part(s) used:* Leaf, stem bark. *Locality:* Bahraich.

Medical efficacy claimed (name of the disease or condition): Fever with colds and cough.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Decoction of leaves and stem bark in the dose of 100 ml, is given 2-3 times daily, for 3 days.

284. Botanical Name: *Mimosa pudica* L.

Family: Mimosaceae

English name(s): Sensitive Plant; *Local name(s):* Lajwanti, Natchukudi; *Unani name(s):* Lajjalu, Lajwanti; *Ayurvedic (Sanskrit/Hindi) name:* Lajjalu

Habit and Habitat: An undershrub. Flowering heads pink. Pods flat, breaking up into 1-seeded joints. Wild. *Part(s) used:* Leaf, root. *Locality:* Gwalior, Keonjhar.

Medical efficacy claimed (name of the disease or condition): Hydrocele, malarial fever, marasmus and rickets, to check conception.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Saharias.

Folk medicinal use(s):

- Powdered root is given in the dose of 6-12 g after menstruation with crystalline sugar for 3 consecutive days to check conception.
- A rosary of dried root-bits is prepared and worn in the neck of children for marasmus and rickets.
- Root paste (10 g) with water is given twice daily, for 3-5 days. Simultaneously, root piece is also tied on forearm of patient suffering from malarial fever.
- Leaves are crushed to make a paste and applied on testicles externally.

Biodynamic note(s): *Plant:* D-pinitol, β -sitosterol; *Leaf:* alkaloids.

Plant: antiviral, spasmolytic.

285. Botanical Name: *Momordica charantia* L.

Family: Cucurbitaceae

English name(s): Bitter Gourd, Carilla Fruit; *Local name(s):* Karela; *Unani name(s):* Karaila;

Ayurvedic (Sanskrit/Hindi) name: Karavallaka, Karela

Habit and Habitat: A slender climber. Flowers yellow. Fruits ovoid or fusiform, ribbed and covered with long tubercles. Seeds compressed with corrugate margins. Cultivated.

Part(s) used: Fruit. *Locality:* Bhopal, Kheri.

Medical efficacy claimed (name of the disease or condition): Diabetes, malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Gond, Tharus.

Folk medicinal use(s):

- Fruits (5 kg) are cut into small pieces and boiled in water till the quantity of water is reduced to half. The boiled pieces and seeds are taken out and the aqueous extract is again boiled till it become sufficiently viscous and cooled. Pills of 1 g are then made and dried in sunlight. These pills are prescribed to diabetic patients; one pill is taken in the morning and evening, for six months.
- Three teaspoonfuls of fresh fruit juice are taken thrice daily, for 5 days to treat malarial fever.

Biodynamic note(s): *Leaf:* momordicines; *Fruit:* charantine, diosgenin, cholesterol; *Seed:* triterpene glycoside.

Seed: insecticidal; *Fruit & Seed:* hypoglycemic, cytotoxic, antifeedant.

286. Botanical Name: *Moringa concanensis* Nimmo ex Dalz. & Gibs.

Family: Moringaceae

Local name(s): Sahjana, Sajna; Ayurvedic (Sanskrit/Hindi) name: Shigrurakta, Sehjan

Habit and Habitat: A tree with thick corky bark and white-soft wood. Fruits elongate. Seeds many, in the pits of the valve. Wild. Part(s) used: Leaf, stem bark. Locality: Aligarh, Gwalior.

Medical efficacy claimed (name of the disease or condition): Inflammation, rheumatic pains.

Name of the tribe/caste, and other sources from whom information collected: Saharias and other rural population.

Folk medicinal use(s):

- Fresh leaf paste is applied externally on the affected parts for 60 days to relieve rheumatic pain.
- Stem bark (25 g) is made into decoction in 250 ml water. It is given twice daily, for one month in cases of internal inflammation of body.

Biodynamic note(s): Flower: flavonoids – quercetin; Seed: palmitic, stearic, arachidic, behenic, lignoceric, linoleic, oleic acid.

287. Botanical Name: *Moringa oleifera* Lam.

Family: Moringaceae

English name(s): Drumstick Tree, Horse Radish Tree; Local name(s): Saijna, Shuthwa; Unani name(s): Sehajna; Ayurvedic (Sanskrit/Hindi) name: Shigrushwet, Sehjana

Habit and Habitat: A small tree. Flowers white. Capsules pendulous, long. Seeds 3-gonous, winged. Cultivated. Part(s) used: Gum, root, stem bark. Locality: Gorakhpur, Kheir, Ranchi.

Medical efficacy claimed (name of the disease or condition): Filariasis, piles, to ward off snakes.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- Stem bark paste is applied on affected parts in case of inflammation and swelling due to filariasis.
- It is believed that by keeping roots of this tree in homes, snakes do not enter and keep away.
- In cases of piles, 10-15 g dried gum is powdered is taken with seeds of 'urad' (*Phaseolus radiatus* L.) once daily, till the cure is obtained.

Biodynamic note(s): Root: benzoyl isothiocyanate; Gum: aldotriouronic acid; Stem: hydroxymellein, vanillin, β -sitosterone, β -sitosterol, octacosanoic acid; Leaf: aspartic acid, glutamic acid, serine, glycine, α -alanine, leucine, lysine, α - & β -carotene; Flower: kaempferol, rhamnetin.

Fruit & Root: spasmolytic; *Root bark*: antiviral, anti-inflammatory; *Aerial part*: anticancer; *Flower*: hypothermic.

288. Botanical Name: *Morus australis* Poir. (Syn. *M. indica* Thunb.)

Family: Moraceae

Local name(s): Shahtoot; *Unani name(s)*: Toot Siyah; *Ayurvedic (Sanskrit/Hindi) name*: Tutsiyah, Shahtoo

Habit and Habitat: A medium-sized tree. Flowers in spikes. Fruits ovoid or sub-globose, red. Cultivated. *Part(s) used*: Leaf. *Locality*: Bahraich.

Medical efficacy claimed (name of the disease or condition): Vermifuge

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Leaf juice is given orally once a day.

Biodynamic note(s): *Stem*: steroidal sapogenins, α -amyrin; *Wood*: tannin, morin; *Root bark*: mulberrofuran D; *Fruit*: riboflavin, ascorbic acid.

Root: hypotensive.

289. Botanical Name: *Mucuna pruriens* (L.) DC. (Syn. *M. prurita* Hk.F.)

Family: Fabaceae

English name(s): Common Cowitch, Cowhage; *Local name(s)*: Kanchan, Kewanch; *Unani name(s)*: Konch; *Ayurvedic (Sanskrit/Hindi) name*: Atmagupta, Kawanch

Habit and habitat: A twining herb. Flowers large purple. Pods slightly curved at both ends in opposite directions, densely bristly. Wild. *Part(s) used*: Pod, seed. *Locality*: Chakrata.

Medical efficacy claimed (name of the disease or condition): Aphrodisiac, mouse repellent, to stop conception.

Name of the tribe/caste, and other sources from whom information collected: Khasas and rural population.

Folk medicinal use(s):

- To stop conception, powder of 3-4 seeds is given to women after menstruation, for 3 days only.
- Mature pods are placed on the opening of mouse burrows to keep them away.
- Seeds (1/2 kg) are soaked in milk and its husk is removed. Seed kernels are powdered and made into 41 tablets with honey. 1 tablet is taken daily on empty stomach for 41 days only as an aphrodisiac in an year.

Biodynamic note(s): *Seed*: Lecithin, gallic acid, β -sitosterol, stearic palmitic, myristic, arachidic, oleic, linoleic acid, serotonin, mucunine, mucunadine.

Root: hypoglycemic, spasmolytic; *Pod*: anthelmintic.

290. Botanical Name: *Murraya koenigii* (L.) Spreng.

Family: Rutaceae

English name(s): Curry Leaf Tree; *Local name(s)*: Kath neem; *Ayurvedic (Sanskrit/Hindi) name*: Saurabhanimba, Meetha neem

Habit and Habitat: A shrub or small tree. Flowers white odors. Berries 1-2 seeded. Wild.

Part(s) used: Leaf. *Locality*: Gonda.

Medical efficacy claimed (name of the disease or condition): Mosquito repellent

Name of the tribe/caste, and other sources from whom information collected: Tharus

Folk medicinal use(s):

- The semi-dried leaves are burnt and the resulting smoke is used as mosquito repellent.

Biodynamic note(s): *Leaf*: carbazole alkaloid, murrayanine, mukoeic acid, mukonine, mukonidine, murrayazoline, murrayacinine coumarine glucoside, β -caryophyllene, β -phellandrene.

Aerial part: spasmolytic, antiprotozoal; *Root*: antiprotozoal, CVS active; *Leaf*: hypoglycemic.

291. Botanical Name: *Murraya paniculata* (L.) Jacq.

Family: Rutaceae

English name(s): Orange Jessamine; *Local name(s)*: Anil

Habit and Habitat: An every green tree or large shrub. Flowers white, fragrant. Fruits red.

Cultivated. *Part(s) used*: Stem bark. *Locality*: Ranchi.

Medical efficacy claimed (name of the disease or condition): Malarial fever

Name of the tribe/caste, and other sources from whom information collected: Asur

Folk medicinal use(s):

- Stem bark decoction is prepared in water and given in the dose of 200 ml twice daily, for 5 days.

Biodynamic note(s): *Plant*: Coumarins, carbazole alkaloids, flavonoids, scopolin mexolide, coumarin, murragatin, girinimbine, exoticin, octamethoxy flavone.

Stem bark: antibacterial.

292. Botanical Name: *Musa paradisiaca* L. (Syn. *M. sapientum* L.)

Family: Musaceae

English name(s): Edible Banana, Plantain; *Local name(s)*: Kela; *Unani name(s)*: Kela, Mouz; *Ayurvedic (Sanskrit/Hindi) name*: Kadali, Kela

Habit and Habitat: A large or gigantic rhizomatous herb. Flowers bright colored. Fruits baccate, elongate. Cultivated. *Part(s) used*: Flower, fruit, root. *Locality*: Gorakhpur, Kheri, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Boils, dysentery, hydrocele, male sterilization, tooth decay.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Bhoxas, Tharus.

Folk medicinal use(s):

- Flower paste is applied on testicles in case of hydrocele.
- The 50 ml sap of root is given for 15 days to induce sterility in men.
- The paste of root mixed with the paste of whole plant of 'karwi' (*Picrasma quassioides* (Don) Benth.) is applied on decayed teeth.
- One ripe fruit is taken with a pinch of alum twice daily to treat dysentery.
- Root paste is applied to boils to speed up suppuration and healing.

Biodynamic note(s): Leaf: $n\text{-C}_{29}\text{H}_{60}$

293. Botanical Name: *Myrica esculenta* Buch.-Ham.

Family: Nymphaeaceae

English name(s): Box Myrtle; *Local name(s):* Kaphal; *Unani name(s):* Kaiphal; *Ayurvedic (Sanskrit/Hindi) name:* Katphala, Kaphal

Habit and Habitat: A moderate-sized tree. Flowers minute. Fruits ellipsoid, reddish in color and acidic in taste. *Wild. Part(s) used:* Stem bark. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Anthelmintic, menstrual disorders.

Name of the tribe/caste, and other sources from whom information collected: Bhotias; Vangujars.

Folk medicinal use(s):

- 25 ml decoction prepared from 'kaphal' stem bark with stem bark of 'aam' (*Mangifera indica* L.) is given once daily for 7 days to treat menstrual disorders.
- Powdered stem bark is given orally to remove intestinal worms.

Biodynamic note(s): *Bark:* myricanol, proanthocyanidin, *Root bark:* β -sitosterol, taraxerol, myricadiol.

Stem bark: analgesic, antiprotozoal, antiviral, hypotensive, spasmolytic, antiarrhythmic.

294. Botanical Name: *Nelumbo nucifera* Gaertn. (Syn. *Nelumbium speciosum* Willd.)

Family: Nelumbonaceae

English name(s): Sacred Lotus, Indian Lotus, Chinese Water Lily; *Local name(s):* Panikanta; *Ayurvedic (Sanskrit/Hindi) name:* Kamal

Habit and Habitat: An aquatic herb with milky juice and stout creeping rhizome. Flowers white or rose colored. Fruiting torus, spongy. Wild. *Part(s) used:* Fruit. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Three dried fruits are powdered and taken with milk once daily, for 15 days.

Biodynamic note(s): *Leaf:* quercetin, isoquercitrin, leuco anthocyanidin, nuciferine, normuciferine, nelumboside; *Flower:* quercetin, luteolin, kaempferol, glycoside; *Seed:* linolenic acid, palmitic acid, oleic acid.

Rhizome: CNS depressant, diuretic.

295. Botanical Name: *Nerium odorum* Solander (Syn. *N. indicum* Mill)

Family: Apocynaceae

English name(s): Oleander, Rose Bay; *Local name(s):* Safed kaner; *Unani name(s):* Dafli, Kaner; *Ayurvedic (Sanskrit/Hindi) name:* Karavira, Kaner

Habit and habitat: An evergreen shrub. Flowers rose or white, in terminal cymes. Follicles long cylindric. Cultivated. *Part(s) used:* Root. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Otitis

Name of the tribe/caste, and other sources from whom information collected: Saharias

Folk medicinal use(s):

- Roots are ground, boiled in ghee and cooled. This preparation is used as eardrops in cases of otitis.

Biodynamic note(s): *Root:* plumericin, α -amyrin, β -sitosterol, kaempferol; *Leaf:* neriumoside, cardenolides.

Root: CNS active, spasmolytic; *Flower:* cardio tonic.

296. Botanical Name: *Nicotiana tabacum* L.

Family: Solanaceae

English name(s): Tobacco; *Local name(s):* Tambakoo; *Unani name(s):* Tambaku; *Ayurvedic (Sanskrit/Hindi) name:* Tamraparna

Habit and Habitat: An erect glandular-pubescent herb. Flowers long, in dense, cymose panicles. Capsules longer than calyx, accrescent. Cultivated. *Part(s) used:* Flower. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Asthma

Name of the tribe/caste, and other sources from whom information collected: Saharias

Folk medicinal use(s):

- Flowers (10-12 g) are kept in two airtight earthen pots and burnt till flowers get reduced to white ashes; 2 mg of this ash are given in 'pan' (leaf of *Piper betle* L.), once a day for 1 month.

Biodynamic note(s): Leaf: alkaloids-nicotine, anabasine, nicotyrine, anatabine, triterpenoids, carotenoids, sterols.

297. Botanical Name: *Nyctanthes arbor-tristis* L.

Family: Oleaceae

English name(s): Night Jasmine, Coral Jasmine; *Local name(s):* Gonth-khadika, Murgheti; *Unani name(s):* Gule-e-Jafari, Harsinghar; *Ayurvedic (Sanskrit/Hindi) name:* Harsingar, Shefalika, Parijatak

Habit and Habitat: A small tree. Flowers white-orange, fragrant. Capsules orbicular, thick, compressed, 2-celled. Cultivated. *Part(s) used:* Fruit, leaf, root. *Locality:* Mathura, Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Bronchitis, colds and cough, filarial fever, malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans and other rural population

Folk medicinal use(s):

- Decoction of leaves and young shoots of 'neem' (*Azadirachta indica* A. Juss.) is prepared and power of 8-10 black peppers added. This preparation is given in the dose of 25 ml twice daily, for 3 days only, in cases of malaria.
- Root decoction is given to treat filarial fever.
- Fruits (3-4) are ground and whole of this quantity is given with lukewarm water twice daily, for 5 days to treat colds and cough.
- In cases of bronchitis, three to four fruits are ground and given with warm water twice daily, as full dose for 40 days.

Biodynamic note(s): Leaf: β -amyrin, β -sitosterol, hentriacontane, benzoic acid, mannitol, nyctanthoside; *Seed:* arbortristosides A & B, nyctanthic acid, nyctanthoside.

Leaf: anti-inflammatory.

298. Botanical Name: *Ocimum basilicum* L.

Family: Lamiaceae

English name(s): Sweet Basil, Common Basil; *Local name(s):* Van tulsi; *Unani name(s):* Badrooj, Sosambar; *Ayurvedic (Sanskrit/Hindi) name:* Barbari, Tulsi

Habit and Habitat: An aromatic, annual herb. Flowers white. Nutlets oblong-ellipsoid, mucilaginous when wetted. Wild. *Part(s) used:* Leaf. *Locality:* Aligarh, Bharatpur.

Medical efficacy claimed (name of the disease or condition): Toothache, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Decoction of leaves are mixed with powder of black pepper and crystalline sugar and given for typhoid fever.
- For the treatment of toothache, 3-4 drops of the leaf juice are dropped in opposite side ear of the patient.

Biodynamic note(s): Plant: eugenol, limonene, ocimene, geranial, citronellol, α -terpineol, camphor, methyl cinnamate.

Plant: antibacterial, antifungal.

299. Botanical Name: *Ocimum canum* Sims. (Syn. *O. americanum* L.)

Family: Lamiaceae

English name(s): Hoary Basil; *Local name(s):* Tulsa; *Ayurvedic (Sanskrit/Hindi) name:* Van Tulsi

Habit and Habitat: An annual herb; branches subquadrangular, grooved on opposite sides. Flowers white. Nutlets oblong-ellipsoid. Wild. *Part(s) used:* Leaf, seed, whole plant.

Locality: Aligarh, Gorakhpur, Gwalior, Mathura.

Medical efficacy claimed (name of the disease or condition): Leucorrhoea, malarial fever, migraine.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Decoction of the leaves with black pepper is given to treat malaria during pregnancy.
- Leaf juice (50 ml) along with leaf juice of 'arni' (*Clerodendrum multiflorum* Baker.) is mixed in equal quantities with 50 g kapoor. This is applied on the nostrils and inhaled during the migraine attacks. In another recipe, fresh paste of whole plant is also applied externally on forehead of the patient for the same purpose.
- Seed powder is given with water to treat leucorrhea.

Biodynamic note(s): Plant: camphor, farnesene, terpineol, geraniol; *Leaf:* β -sitosterol, betulinic acid, ursolic acid. Flavonoids, nevadensin; *Flower:* citral.

Plant: CNS depressant; *Leaf:* antibacterial.

300. Botanical Name: *Ocimum tenuiflorum* L. (Syn. *O. sanctum* L.)

Family: Lamiaceae

English name(s): Sacred Basil, Holy Basil; *Unani name(s):* Tulsi, Raihan; *Ayurvedic (Sanskrit/Hindi) name:* Tulsi, Sursa

Habit and Habitat: An undrshrub. Flowers reddish-pink. Nutlets ellipsoid, minutely warty, dark brown. Mostly cultivated. *Part(s) used:* Leaf. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Malarial fever

Name of the tribe/caste, and other sources from whom information collected: Boxas

Folk medicinal use(s):

- Equal quantities of crushed leaves of the plant, powder of black peppers and dried ginger are mixed together and given in the dose of 5 g twice daily, for 7 days to treat malaria.

Biodynamic note(s): Plant: eugenol, carvacrol, nerol, eugenolmethyl ether, α -& β -pinene, camphor; *Leaf:* ursolic acid, apigenin, orientin, molludistin.

Plant: adaptogenic; *Leaf:* hypoglycaemic, spasmolytic.

301. Botanical Name: *Oroxylum indicum* (L.) Vent.

Family: Bignoniaceae

English name(s): Indian Trumpet Tree; *Local name(s):* Arlu, Jhortanti, Senia, Senwatata, Ullu; *Ayurvedic (Sanskrit/Hindi) name:* Shyonaka, Sonapatha

Habit and habitat: A small tree. Leaves long, ternately bipinnate; rachis stout, ribbed. Flowers large fleshy purple. Capsules very large. Seeds discoid, winged. Wild. *Part(s) used:* Fruit, seed, stem bark. *Locality:* Gonda, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Boils, cholera, stomachache, swellings of body.

Name of the tribe/caste, and other sources from whom information collected: Bhoxas, Tharus.

Folk medicinal use(s):

- The decoction (100 ml) of crushed fruits is given thrice daily, for 3-5 days in cases of cholera.
- Stem bark paste is used locally on boils.
- Stem bark decoction is given for swellings of body.
- Seed mixed with equal quantity of Ajwain are pounded and boiled in water. The resulting decoction is given for stomach complaints.

Biodynamic note(s): Root bark: chryin, baicalein, oroxylin; *Bark:* flavonoids-oroxylin A, scutellarein, chrysin; *Leaf:* flavones, glycosides.

Fruit: spasmolytic.

302. Botanical Name: *Oryza sativa* L.

Family: Poaceae

English name(s): Rice, Paddy; *Local name(s):* Dhan, Laiya, Sathi chawal, Sathe ke chawal;

Unani name(s): Biranj Sathi; *Ayurvedic (Sanskrit/Hindi) name:* Shali, Dhan

Habit and Habitat: An annual grass. Spikelets awned in drooping panicles. Grains narrow, free or adnate to the glume. Cultivated. *Part(s) used:* Grains. *Locality:* Udaipur, Ranchi.

Medical efficacy claimed (name of the disease or condition): Pneumonia, to stop vomiting, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Asur, Garasias.

Folk medicinal use(s):

- In cases of typhoid fever, uncooked rice (100 g) with 50 individuals of 'birbahuti' (Cochineal insect) are kept in an airtight bottle to age. After one month, whole contents are taken out and powdered; 10 g of this powder are taken by the patient twice a day with tea, for 3-5 days. This preparation is often kept as house hold remedy and used as and when needed.
- Grains are ground and put in water to prepare 'laiya water.' This is given 3-4 times, within half an hour, to stop vomiting.
- A paste of roasted grains is cooled and applied on the chest of the patient 2-3 times a day to treat pneumonia.

Biodynamic note(s): *Leaf:* flavonoids pigment; *Kernal:* phytoalexin diterpenes-momilactones A & B, oryzalexins A,B, C.

Bran: sucrose, thiamine, nicotinic acid.

303. Botanical Name: *Ougeinia oojeinensis* (Roxb.) Hochr. (Syn. *Dalbergia oojeinensis* Roxb.)

Family: Fabaceae

English name(s): Sandan; *Local name(s):* Tinsa; *Ayurvedic (Sanskrit/Hindi) name:* Tinish, Tinsa, Sanan

Habit and Habitat: A small tree with grey bark. Flowers white-pink. Pods flat; joints reticulately veined. Wild. *Part(s) used:* Stem bark. *Locality:* Amarkantak, Kheri, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds, eczema, low blood pressure.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population

Folk medicinal use(s):

- Fresh stem bark paste is applied on cuts and wounds once daily and bandaged done.
- In cases of eczema, paste of stem bark is applied externally on affected skin thrice daily, until the cure is obtained.
- The juice of stem bark is given to treat low blood pressure.

Biodynamic note(s): *Stem bark:* triterpenes-lupeol, betulin; *Leaf:* flavonoids, quercetin, kaempferol, leucopelargonidin; *Heartwood:* isoflavonoids-dalbergiodin, ougenin.

Stem bark: antiviral, CVS & CNS active, spasmolytic.

304. Botanical Name: *Oxalis corniculata* L.

Family: Oxalidaceae

English name(s): Indian Sorrel; *Local name(s):* Chuka; *Ayurvedic (Sanskrit/Hindi) name:* Changeri

Habit and Habitat: A perennial herb with bulbous or tuberous roots. Flowers yellow.

Capsules narrowly oblong. Wild. *Part(s) used:* Leaf. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Burning micturation, dysentery.

Name of the tribe/caste, and other sources from whom information collected: Dhimars, Tharus.

Folk medicinal use(s):

- Three to four drops of the leaf juice are taken orally thrice a day, for 5 days in cases of dysentery.
- Leaf paste mixed with “Khand” (crude sugar) is given to treat burning micturation.

Biodynamic note(s): *Stem:* mallic acid; *Leaf:* tartaric, citric acids, potassium oxalate.

Plant: hypoglycemic, antiseptic, *Leaf:* antibacterial.

305. Botanical Name: *Oxyceros fasciculata* (Roxb.) Yamazaki (Syn. *Randia fasciculata* (Roxb.) DC.)

Family: Rubiaceae

Local name(s): Kanta

Habit and Habitat: An erect, rigid shrub; branches glabrous; spikes axillary. Flowers white.

Berries globose. Wild. *Part(s) used:* Fruit. *Locality:* Gonda.

Medical efficacy claimed (name of the disease or condition): Sun strokes.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Fruits are crushed, mixed in water and stirred. The resulting foam is applied on the forehead of the patient to obtain instant relief in cases of sun strokes.

306. Botanical Name: *Paederia scandens* (Lour.) Merrill (Syn. *P. foetida* L.)

Family: Rubiaceae

Local name(s): Gandhali, Ganpasar, Gandh parsarni; *Ayurvedic (Sanskrit/Hindi) name:* Prasarini

Habit and Habitat: A slender, climbing, fetid shrub. Flowers purple, tubular-funnel shaped.

Fruits ellipsoid-ovate or oblong, compressed. Wild. *Part(s) used:* Leaf, stem, whole plant.

Locality: Gonda, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Appetizer in animals, bodyaches, general vitalizer, general weakness, rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population

Folk medicinal use(s):

- Whole plant is ground to make a paste and applied externally on the affected parts twice daily, for 1 month to treat rheumatism.
- Stem and leaf decoction is given to treat bodyaches.
- Stem and leaf decoction is given as tonic to treat general weakness.
- Leaf juice (100 ml) is given daily for general vitality.
- Leaves are given to animals to enhance their appetite.

Biodynamic note(s): Plant: friedelan, β -sitosterol, epifriedelinol; *Stem & Leaf:* iridoid glycosides-asperuloside, paederoside, scandoside, sitosterol, stigmasterol, campesterol, ursolic acid, hentriacontane, ceryl alcohol, methy mercaptan.

Plant: anti-inflammatory; *Leaf:* spasmolytic, CNS active, anticancer, anthelmintic.

307. Botanical Name: *Pandanus fascicularis* Lam. (Syn. *P. odoratissimus* L.F.)

Family: Pandanaceae

English name(s): Screw Pine, Umbrella Tree; *Local name(s):* Keora; *Ayurvedic (Sanskrit/Hindi) name:* Ketaki, Kewra

Habit and Habitat: A much branched, thick bush or small tree. Spathes very sweet scented, dioecious, white. Drupes pyramidal, woody, yellowish brown. Cultivated. *Part(s) used:* Root. *Locality:* Bharatpur.

Medical efficacy claimed (name of the disease or condition): Leucorrhea.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Root juice of 200 g fresh root is given once daily, for 7 days to treat leucorrhea.

Biodynamic note(s): Flower: β -phenylethyl alcohol, benzyl acetate, geraniol, caproic acid, santalol, citral.

308. Botanical Name: *Papaver somniferum* L.

Family: Papaveraceae

English name(s): Opium Poppy, White Poppy;

Local name(s): Afim; *Unani name(s):* Afiyun;

Ayurvedic (Sanskrit/Hindi) name: Ahiphen, Afim

Habit and Habitat: An annual herb. Flowers large white. Capsules stalked, globose. Seeds usually white or black. Cultivated. *Part(s) used:* Seed. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Seeds paste is mixed with almonds and applied on affected parts to treat rheumatic pain.

Biodynamic note(s): *Root:* morphine; *Capsule (opium):* thebaine, codeine, morphine, narcotine, narceine, papaverine, codamine, coptisine, protopine, somniferine.

Latex: narcotic, analgesic; *Capsule:* CVS active; *Seed:* antiprotozoal, spasmolytic, anticancer.

309. Botanical Name: *Pedaliium Murex* L.

Family: Pedaliaceae

Local name(s): Bada Gokhru; *Unani name(s):* Gokhru Kalan; *Ayurvedic (Sanskrit/Hindi) name:* Vrhad gokshru, Bada gokhru

Habit and habitat: A subfleshy herb. Flowers primrose-yellow. Fruits pyramid-conical. Seeds 2 in each cell. Wild. *Part(s) used:* Fruit, whole plant.

Locality: Gorakhpur, Keonjhar, Mainpuri, Mathura.

Medical efficacy claimed (name of the disease or condition): Leucorrhea, rheumatism, skin diseases, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Tharus and other rural population

Folk medicinal use(s):

- Mucilage of the plant (5 tablespoons) is taken with water early in the morning on empty stomach, for 10 days to treat spermatorrhea.
- Dried fruits (5 g) are powdered and mixed with 25 g leaves of 'babool' (*Acacia nilotica* (L.) Willd. ex Del.) and little amount of sugar. This preparation is ground and given as a single dose twice daily, for 10-15 days to treat rheumatism.
- About 60 g fruits are mixed with 25 g of calcium, 12 g 'bari ellaichi' (*Elettaria cardamomum* L.) and 60 g nuts of 'singhara' (*Trapa natans* L.) and ground to make a powder. This preparation is divided into 15 equal doses. One dose is given at bedtime with milk for 15 days to treat leucorrhea.
- In case of skin diseases, fruits are ground to make a fine paste and applied externally on the affected skin 3-4 times a day.

Biodynamic note(s): *Leaf:* flavonoids-pedalitin, diosmetin, dinatin, phenolic acid; *Flower:* dinatin, quercetin; *Fruit:* pentaricantane, sitosterol, hexatricontanoic acid, ursolic acid, vanillin.

Plant: larvicidal, synergistic.

310. *Botanical Name: Pennisetum americanum* (L.) Leeke (Syn. *P. typhoides* (Burm. F.) Staf & C.E. Hubb.)

Family: Poaceae

English name(s): Pearl Millet, Bulrush Millet, Spiked Millet; *Local name(s):* Bajra; *Ayurvedic (Sanskrit/Hindi) name:* Vajranna, Bajra

Habit and Habitat: A tall erect, stout annual. Spikelets long crowded. Grains oblong, obovoid or pyriform. Cultivated. *Part(s) used:* Seed. *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): Asthma.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Seeds mixed with latex of *Calotropis procera* (Ait.) R.Br. in the ratio of 2:1 are kept in earthen pot and heated with sufficient juice of whole plant of *Solanum virginianum* L. Of this pills of 1 g are prepared and given with water twice daily, till cure is obtained.

Biodynamic note(s): Seed: amylopectin, riboflavin, myristic, palmitic, stearic, linoleic acids.

311. *Botanical Name: Pentanema I\indicum* (L.) Ling (Syn. *Vicoa indica* (L.) DC.)

Family: Asteraceae

Local name(s): Bhut-bharon; *Ayurvedic (Sanskrit/Hindi) name:* Vandhyavari, Vajrangi

Habit and Habitat: A much branched, annual or perennial rigid erect herb. Heads solitary, yellow, in corymbose panicles. Wild. *Part(s) used:* Root. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): To keep off fear and bad dreams.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s): An amulet of root piece is worn against evil and bad dreams.

Biodynamic note(s): Plant: new germacranolide-vicolide D.

312. *Botanical Name: Pergularia daemia* (Forsk.) Chiov. (Syn. *Daemia extensa* (Jacq.) R.Br.)

Family: Asclepidaceae

Local name(s): Dudhi Bel; *Ayurvedic (Sanskrit/Hindi) name:* Uttmarni, Vishanika

Habit and habitat: A twining undershrub. Flowers greenish, white-yellowish. Follicles lanceolar with long soft spines. Wild. *Part(s) used:* Fruit, leaf. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Scabies.

Name of the tribe/caste, and other sources from whom information collected: Saharias

Folk medicinal use(s):

- Fruits and leaves are ground and made into paste. This is applied externally mixed with mustard oil on the affected parts thrice daily, for 3-4 days.

Biodynamic note(s): Plant: betaine, hentriacontane, lupeol, α -& β -amyrin, β -sitosterol; *Stem & Seed:* cardenolides-calactin, calotropin, coroglaucigenin.

Plant: CVS & CNS active, spasmolytic, hypothermic, antibacterial.

313. Botanical Name: *Peristorphe paniculata* (Forsk.) Burmm.

Family: Acanthaceae

Local name(s): Chikna ongha; *Ayurvedic (Sanskrit/Hindi) name:* Kakajangha

Habit and Habitat: A branched herb. Flowers purple or bright rose colored. Capsules oblong, compressed with short solid stripes. Wild. *Part(s) used:* Leaf, whole plant. *Locality:* Aligarh, Gwalior, Kheri.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis, deficient lactation in cattle, malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Sahrias, Tharus and other rural population

Folk medicinal use(s):

- Two drops of leaf juice are applied in the eyes affected with conjunctivitis, twice daily, for 3-5 days.
- Whole plant (500 g) with 10 grains of black pepper is ground and boiled in 250 ml of water, and cooled. This decoction is drunk twice daily, for 5 days to treat malarial fever.
- Whole plant (500 g) is mixed with fodder and fed to buffaloes and cows to increase lactation.

314. Botanical Name: *Phlogacanthus thyrsiflorus* Nees.

Family: Acanthaceae

Local name(s): Chuha

Habit and habitat: A handsome shrub. Flowers dark orange. Capsules elongate. Seeds ovate. Wild. *Part(s) used:* Root. *Locality:* Gonda.

Medical efficacy claimed (name of the disease or condition): Carbuncle.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Root paste is applied externally on carbuncle once daily, till the cure is obtained.

Biodynamic note(s): Plant: phlogantholide A; *Leaf:* β -sitosterol, lupeol, betulin.

Plant: diuretic; *Aerial part:* antiimplantation.

315. Botanical Name: *Phoenix sylvestris* (L.) Roxb.

Family: Arecaceae

English name(s): Wild Date Palm, Date Sugar Palm; *Local name(s):* Khajoor; *Unani name(s):* Khajoor; *Ayurvedic (Sanskrit/Hindi) name:* Kharjoor

Habit and habitat: A tall unbranched, monoecious, graceful palm. Spathe thick, almost woody. Fruits an oblong drupe with fleshy pericarp. Seeds with very hard testa. Wild.

Part(s) used: Pith of stem or root. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Aphrodisiac.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Stem pith or root (200 g) is mixed with rice and eaten by males once a week as an aphrodisiac.

Biodynamic note(s): *Fruit:* vitamin C, thiamine, riboflavin, nicotinic acid, amino acids – lysine, leucine, threonine, isoleucin, tryptophan, tyrosine, cysteine.

Leaf: CVS & CNS active, hypothermic.

316. Botanical Name: *Phyla nodiflora* (L.) E. E. Greene (Syn. *Lippia nodiflora* (L.) A. Rich.)

Family: Verbenaceae

English name(s): Purple lippie; *Local name(s):* Jaljamni; *Unani name(s):* Bukunbuti; *Ayurvedic (Sanskrit/Hindi) name:* Jalapippali

Habit and habitat: A creeping, perennial herb. Flowers pale pink, sessile, in globose heads. Fruits hard, dry, 1-seeded. Wild. *Part(s) used:* Leaf, root, whole plant. *Locality:* Bahraich, Mathura, Kheri.

Medical efficacy claimed (name of the disease or condition): Bleeding piles, common fever, cuts and wounds.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population

Folk medicinal use(s):

- Root paste (20 g) is given with water twice daily, for 7 days to treat common fever.
- Whole plant is made into paste and applied externally on cuts and wounds.
- Leaf paste (15 g) is given twice a day, for 2 weeks to treat bleeding piles.

Biodynamic note(s): *Plant:* flavones glycoside-nodiflorins A & B, lippiflorins, β -sitosterol, stigmasterol, glucosides.

Plant: spasmolytic.

317. Botanical Name: *Phyllanthus emblica* L.

Family: Euphorbiaceae

English name(s): Emblic Myrobalan, Indian Gooseberry; *Local name(s):* Amla; *Unani name(s):* Aamla; *Ayurvedic (Sanskrit/Hindi) name:* Amalki, Aanwla

Habit and Habitat: A small or moderate-sized tree. Flowers densely fascicled, yellowish. Fruits globose, succulent. Wild. *Part(s) used:* Fruit, leaf, seed. *Locality:* Aligarh, Bhopal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Constipation, diabetes, diarrhea in cattle, dysentery.

Name of the tribe/caste, and other sources from whom information collected: Asur, Gond, and other rural population.

Folk medicinal use(s):

- Decoction of crushed seeds prepared in water is given in the dose of 250 ml twice daily, for 30 days to control diabetes.
- Leaf with fruit pulp of *Cassia fistula* L. and leaves of *Coriandrum sativum* L. are taken in equal quantity, and ground to make a paste. It is given in the dose of 20 g twice a day, for 7 days to treat constipation.
- Leaf paste is mixed in cow's milk and given thrice daily to treat diarrhea in cattle.
- Fruits pounded with Khand (crude sugar) and lemon juice, and given to patients to check dysentery.

Biodynamic note(s): *Plant:* tannins-glucogallin, corilagin; *Root:* ellagic acid, quercetin, β -sitosterol; *Fruit:* Vitamin C, zeatin, phyllembelin.

Fruit: antiviral, CVS active, spasmolytic, antibacterial.

318. Botanical Name: *Phyllanthus fraternus* Webster (Syn. *P. Niruri auct.* Pl. Non L.)

Family: Euphorbiaceae

Local name(s): Bhui-amla; *Unani name(s):* Bhui-amla; *Ayurvedic (Sanskrit/Hindi) name:* Tamalaki, Bhui Aanwla

Habit and Habitat: An erect glabrous herb. Flowers axillary, yellowish-greenish. Capsules depressed globose, smooth. Wild. *Part(s) used:* Whole plant. *Locality:* Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds, sciatica

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- Plant paste is applied locally on cuts and wounds.
- The paste of whole plant is applied locally and bandaged. Simultaneously, paste (50 g) is also given orally once daily, for 21 days in cases of sciatica.

Biodynamic note(s): *Plant:* flavonoids-quercetin, astragalin, rutin, nirurine; *Leaf:* lignans-phyllanthin, niranthin, nirtetralin, phyltetralin.

Root: antibacterial, antiviral, antiulcer; *Leaf:* hypoglycemic.

319. Botanical Name: *Physalis minima* L. (Syn. *P. indica* Lam.)

Family: Solanaceae

English name(s): Cape Gooseberry; *Local name(s):* Chana phata; *Unani name(s):* kaknaj;

Ayurvedic (Sanskrit/Hindi) name: Tankari

Habit and Habitat: An erect, branched herb. Flowers axillary, solitary, yellow. Berries globose, yellow when ripe. Wild. *Part(s) used:* Leaf. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- In case of snake bite, crushed leaf paste (100 g) is mixed with the powder of 30-35 grains of black pepper and given repeatedly orally at half an hour interval to the patient.

Biodynamic note(s): *Aerial part:* physalins A, D & X, withaphysalins A, B & C.

Aerial part: abortifacient.

320. Botanical Name: *Picrasma quassioides* (D. Don) Benn.

Family: Simaroubaceae

Local name(s): Karwi; *Ayurvedic (Sanskrit/Hindi) name:* Bharangi

Habit and habitat: A small tree. Flowers green in axillary corymbose. Drupes obovoid or globose, black when ripe, coriaceous. Wild. *Part(s) used:* Leaf. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Vomiting.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Leaf juice is given orally to treat vomiting.

Biodynamic note(s): *Wood:* alkaloids-kumujancine, peonidin, malvidin, paeonin, keracyanin; *Leaf:* chrysanthemin.

Plant: hypotensive.

321. Botanical Name: *Picrorhiza scrophulariiflora* Pennell (Syn. *P. kurroo* auct. non Royle)

Family: Scrophulariaceae

Local name(s): Kutki; *Unani name(s):* Kutki; *Ayurvedic (Sanskrit/Hindi) name:* Katuka-bhed

Habit and Habitat: A small, hairy herb with woody root stock. Flowers white-bluish. Wild.

Part(s) used: Root. *Locality:* Pauri.

Medical efficacy claimed (name of the disease or condition): Eczema, rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- The decoction of root is applied externally for eczema.
- The paste of root is fried in ghee and applied externally on joints twice a day to treat rheumatism.

Biodynamic note(s): Root: Kutkin, pleroside, D-mannitol, kutkiol, kutkisterol, ketone.

Rhizome: diuretic; *Root:* antibacterial, hepatoprotective.

322. Botanical Name: *Pimpinella Bbacteata* Haines

Family: Apiaceae

Local name(s): Tejraj

Habit and Habitat: A stout, biennial herb. Flowers in umbels. Fruits papillose. Wild. *Part(s) used:* Root. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Anemia.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Roots are ground and given with ghee in the dose of 50 g for 1 month, in cases of anemia.

323. Botanical Name: *Pinus roxburghii* Sarg. (Syn. *P. longifolia* Lam.)

Family: Pinaceae

English name(s): Chir Pine, Himalayan Long Leaved Pine; *Local name(s):* Chir; *Unani name(s):* Behroza, Sanobar; *Ayurvedic (Sanskrit/Hindi) name:* Sarala, Kilim, Chir

Habit and Habitat: A richly monopodially branched tree. Flowers monoecious or dioecious. Fruits a woody cone. Seeds usually winged, cotyledons 3-18. Wild. *Part(s) used:* Whole plant. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Bronchial asthma.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- In case of bronchial asthma, the patient is advised to stay in 'chir' forest for 3-4 hours daily and take 'lisa water,' for 6 months.

Biodynamic note(s): Plant: oleoresin – α - & β -pinene, longifoline.

Stem: antiprotozoal, spasmolytic, anticancer.

324. Botanical Name: *Piper longum* L.

Family: Piperaceae

English name(s): Indian Long Pepper; *Local name(s):* Hari Piper, Piplamul, Pipli, Pipramool, Peepar; *Unani name(s):* Filfil Daraz; *Ayurvedic (Sanskrit/Hindi) name:* Pippali, Pippalimula

Habit and Habitat: A rambling, aromatic herb. Spikes yellow. Berries distinct. Wild. *Part(s) used:* Fruit, leaf, root, stem. *Locality:* Gonda, Gorakhpur, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Bronchitis in children, cold and cough, dysentery, jaundice, to check conception, to increase lactation in nursing mothers.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Rural population, Tharus.

Folk medicinal use(s):

- A root and stem paste (5 g), prepared by grinding in little water, is given thrice a day, for 10-15 days to treat bronchitis in children.
- Root decoction is given to treat jaundice.
- Fruit paste with milk is given to increase lactation in nursing mothers.
- Equal quantities of dried fruits and whole plant of 'baibiranj' (*Embelia ribes* Burm. f.) and borax are ground. A dose of 3 g of this powder is taken by women twice daily, for 5 days after menstruation to check conception.
- Leaf decoction (5-7) ml is given twice daily to treat dysentery.
- Powdered fruit (25 mg) mixed with honey is given twice daily to treat cold and cough in cases of children.

Biodynamic note(s): *Root:* alkaloids-piperine, piper longumine, sesamin; *Stem:* triacontane; *Fruit:* n-hexadecane, α -thujene, terpinolene, caryophyllene, β -sitosterol; *Seed:* sylvatin, sesamin, dieudesmin.

Plant: hypoglycemic, spasmogenic; *Root:* antifertility activity.

325. Botanical Name: *Plectranthus mollis* (Ait.) Spreng.

Family: Lamiaceae

Local name(s): Dambra

Habit and Habitat: An erect annual herb. Flowers white with bluish tinge in cymose racemes. Wild. *Part(s) used:* Seeds. *Locality:* Udaipur.

Medical efficacy claimed (name of the disease or condition): Mental retardation.

Name of the tribe/caste, and other sources from whom information collected: Garasias.

Folk medicinal use(s):

- 5-6 g seeds are soaked in water overnight and made into paste which is given continuously for 6 months once a day, in cases of mental retardation.

Biodynamic note(s): *Plant:* sitosterol; *Leaf:* resin, tannin.

Plant: antimicrobial; *Leaf:* antibacterial.

326. Botanical Name: *Plumbago zeylanica* L.

Family: Plumbaginaceae

English name(s): Ceylon Leadwort, White Leadwort; *Local name(s):* Chit, Chitamule, Chitawar, Chitrak; *Unani name(s):* Sheetraj Hindi; *Ayurvedic (Sanskrit/Hindi) name:* Chitraka

Habit and Habitat: A rambling undershrub. Flowers white. Capsules membranous, circumsciss near the base. Wild. *Part(s) used:* Leaf, root. *Locality:* Amarkantak, Bahraich, Chakrata, Keonjhar.

Medical efficacy claimed (name of the disease or condition): Boils, chest pain due to injuries, ear bleeding, leucoderma, rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Gond, Khasas, Tharus and other rural population.

Folk medicinal use(s):

- In cases of rheumatism, roots are ground and fried in mustard oil to make a poultice. This is applied on affected joints and bandaged. The treatment is given for 3 months, using fresh poultice every alternate day. In another recipe, fresh roots are ground to make a paste and applied on the affected joints. A cotton cloth is placed between paste and skin to avoid any irritation. The treatment is repeated every alternate day till the cure is obtained.
- Roots are ground and make a fine paste and applied as poultice on boils twice daily, for 3 days.
- Roots are crushed and boiled in mustard oil in 1:2 ratio. The oil is filtered and kept in a bottle. It is dropped (3-4 drops) in the ear for pain, bleeding and itching, twice a day.
- Roots (100 g) are ground and mixed in 1 litre cow's milk. This is boiled with enough rice. Pudding thus made is given to patient as food for 3-4 days in cases of chest pain due to injuries.
- Root and leaves are ground in vinegar with equal quantity of 'ghungchi sufaid' (*Abrus precatorius* L.), and seeds of 'babchi' (*Psoralea corylifolia* L.). The paste is then applied over the affected part (leucoderma patches) till the color of the skin is restored. Short exposure to sunlight and restricted use of salt and sour foods are suggested.

Biodynamic note(s): Root: naphthaquinone, plumbagin, elliptinone, chitranone, droserone, plumba zeylanone.

Root: abortifacient, antibacterial, antifungal.

327. Botanical Name: *Plumeria rubra* L.

Family: Apocynaceae

English name(s): Pododo Tree; *Local name(s):* Gul-e-Chini; *Ayurvedic (Sanskrit/Hindi) name:* Cheer Chanmpak (Rakt), Gulecheen (Lal)

Habit and Habitat: A small tree with very thick branchlets scarred with bases of the fallen petioles. Flowers white with a yellow center, very fragrant, in umbellate cymes.

Cultivated. *Part(s) used:* Stem bark. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Gastric complaints.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Stem bark is crushed and given 50 g with fresh water twice daily, for a week.

Biodynamic note(s): *Root bark:* iridoids-plumericin, plumieride; *Stem bark:* lupeol, β -sitosterol, plumieride; *Leaf:* α -amyrin, oleanolic acid, β -sitosterol.

Plant: anesthetic, *Root & Stem bark:* antibacterial; *Leaf:* antiviral.

328. Botanical Name: *Pogostemon benghalense* (Burm.f.) O. Ktze. (Syn. *P. plectranthoides* Desf.)

Family: Lamiaceae

Local name(s): Kohbar, Mahadev

Habit and Habitat: An aromatic pubescent shrub. Flowers white or pale-pinkish, in dense paniced spikes. Nutlets minute, dark brown. Wild. *Part(s) used:* Leaf, root. *Locality:* Gonda, Ranchi.

Medical efficacy claimed (name of the disease or condition): Common fever, diarrhea in cattle.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- 100 ml root decoction is given twice daily in cases of common fever, for 3 days.
- Fresh leaves (500 g) are given with fodder once daily, for 3 days to treat diarrhea in cattle.

Biodynamic note(s): *Plant:* geraniol, geranyl acetate, linalool, citronellol, α -pinene, stigmasterol, campesterol, β -sitosterol.

Plant: CNS active; *Leaf:* antifungal.

329. Botanical Name: *Pogostemon pubescens* Benth. (Syn. *P. parviflorus* Benth.)

Family: Lamiaceae

Local name(s): Vanjira

Habit and Habitat: A stout, erect glabrous herb. Flowers white-purple. Fruits ovoid or ellipsoid. Wild. *Part(s) used:* Leaf. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Whooping cough.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- Ashes of leaves are given with honey in whooping cough.

Biodynamic note(s): Plant: Sesquiterpene.

Aerial part: antifungal; *Leaf:* antibacterial.

330. Botanical Name: *Polyalthea longifolia* (Sonnerat) Thw.

Family: Annonaceae

English name(s): Mast Tree, Cemetery Tree; *Local name(s):* Ashok; *Ayurvedic (Sanskrit/Hindi) name:* Ashok (False)

Habit and Habitat: A straight tree. Flowers on lateral branches. Fruits ovoid. Seeds usually one. Cultivated. *Part(s) used:* Stem bark. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Leucorrhea, menstrual disorders.

Name of the tribe/caste, and other sources from whom information collected: Bhoxas, Saharias.

Folk medicinal use(s):

- Stem bark (25 g) is ground and boiled in 250 ml of milk. This is filtered and taken for 1 month at least, to treat leucorrhea.
- Powdered stem bark mixed with butter is given with rice water for leucorrhea.
- Stem bark is crushed, boiled in milk and allowed to cool. This is given in cases of irregular menstrual cycle.

Biodynamic note(s): *Bark:* leucocyanidin, proanthocyanidin, β -sitosterol.

Leaf: fungitoxic.

331. Botanical Name: *Pongamia pinnata* (L.) Pierre

Family: Fabaceae

English name(s): Pongam Oil Tree, Karanj, Indian Beech; *Local name(s):* Karanj; *Unani name(s):* Karanj; *Ayurvedic (Sanskrit/Hindi) name:* Karanja, Karanjwa

Habit and Habitat: A medium size tree. Flowers white with a pink or light purple tinge in axillary racemes. Pods thick, compressed, woody, pale brown when dry. Wild. *Part(s) used:* Seed. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Scabies.

Name of the tribe/caste, and other sources from whom information collected: Juang.

Folk medicinal use(s):

- Seed oil locally known as 'karanj tel' is applied externally over the affected skin 2-3 times daily, till cure.

Biodynamic note(s): *Plant:* flavones, furaoflavonoids, chromenoflavones, coumarones, sterols, triterpenes; *Root:* pongachromene; *Stem bark:* furanoflavones-karanjin, pongapin,

kanugin; *Leaf*: glabrachromenes I & II, karanjin, kanjone; *Flower*: friedelin, β -sitosterol glucoside.

Leaf: antibacterial, antifungal, nematicide.

332. Botanical Name: *Portulaca oleracea* L.

Family: Portulacaceae

English name(s): Common Purslane

Local name(s): Kulfa; *Unani name(s)*: Khurfa; *Ayurvedic (Sanskrit/Hindi) name*: Vrhata Lodika, Kozuppa.

Habit and Habitat: A prostrate diffuse herb. Flowers yellow. Capsules obovoid-ovoid. Wild.

Part(s) used: Leaf. *Locality*: Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Injuries.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- Leaf juice is used externally against minor injuries.

Biodynamic note(s): *Stem*: oleracins, ferulic acid;

Aerial part: nicotinic acid, tocopherol.

Plant: antibacterial; *Seed*: antifertility

333. Botanical Name: *Portulaca pilosa* L. ssp. *grandiflora* (Hook.) Greesink (Syn. *P. grandiflora* Hook.)

Family: Portulacaceae

Local name(s): Launi

Habit and Habitat: A fleshy herb with pink-red, orange or yellow flowers. Capsules globose. Cultivated. *Part(s) used*: Leaf.

Locality: Mathura.

Medical efficacy claimed (name of the disease or condition): Blood dysentery, scorpion sting.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Leaf paste mixed with sugar and powder of 3-4 grains of black peppers is given only once and claimed as an effective medicine against blood dysentery.
- Leaf paste is also applied externally in case of scorpion sting.

Biodynamic note(s): *Plant*: portulide, portulal, portulol, portulic acid, new diterpene-portulenone, portulenol, portulene.

Plant: antiseptic.

334. Botanical Name: *Prosopis cineraria* (L.) Druce

Family: Mimosaceae

Local name(s): Chhonkra; Ayurvedic (Sanskrit/Hindi) name: Shami

Habit and Habitat: A medium-sized tree. Flowers yellow. Pods pendulous, slender, pale yellow. Seeds suborbicular, dull-brown. Wild. Part(s) used: Leaf. Locality: Bharatpur.

Medical efficacy claimed (name of the disease or condition): To quench thirst.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Fresh leaves are chewed to quench thirst.

Biodynamic note(s): Heartwood: n-decanol, β -sitosterol, lauric, myristic, palmitic, stearic acids, flavanones; Flower: flavones-prosogerin A & chalcone-prosogerin B; Seed: flavones-prosogerin C, D, E, gallic acid.

Bark: anti-inflammatory; Leaf: myocardial depression activity.

335. Botanical Name: *Prunus cerasoides* D. Don (Syn. *P. puddum* (Wall.) Roxb. ex Brandis)

Family: Rosaceae

English name(s): Himalayan Wild Cherry; Local name(s): Padam; Ayurvedic (Sanskrit/Hindi) name: Padmaka

Habit and Habitat: A moderate-sized tree. Flowers pink. Fruits red or yellow, ovoid. Wild. Part(s) used: Whole plant. Locality: Mathura.

Medical efficacy claimed (name of the disease or condition): Piles (hemorrhoids).

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- The whole plant with 'gadkeshar' (*Mesua ferrea* L.) and crystalline sugar is mixed and powdered. This powder in the dose of 6 g is given twice a day, for 5-7 days. 'Gur', oil and sour items of food are restricted in diet.

Biodynamic note(s): Stem bark: flavones, iso-flavones, prunetin, glycosides-sakuranin, padmakastin; Seed: flavonoid glycosides-naringenin.

Stem: spasmolytic.

336. Botanical Name: *Prunus persica* (L.) Stokes

Family: Rosaceae

English name(s): Peach, Nectarine; Local name(s): Aadu; Ayurvedic (Sanskrit/Hindi) name: Aaruk, Pichuki, Aadu

Habit and Habitat: A small tree. Flowers sessile on the branchlets, pink. Fruits velvety. Cultivated. *Part(s) used:* Leaf, shoot. *Locality:* Pauri Garhwal.
Medical efficacy claimed (name of the disease or condition): Vermifuge, wounds.
Name of the tribe/caste, and other sources from whom information collected: Tharus.
Folk medicinal use(s):

- Leaf juice mixed with powder of 3-4 grains of black peppers is given as vermifuge.
- The paste of tender shoots is applied externally on cuts and wounds.

Biodynamic note(s): *Bark:* β -sitosterol, triacontanic acid; *Leaf:* kaempferol, quercetin, tannin; *Flower:* trifolin.

337. Botanical Name: *Psidium guajava* L.

Family: Myrtaceae

English name(s): Common Guava, Guava Tree; *Local name(s):* Bihi; *Unani name(s):* Amrudh; *Ayurvedic (Sanskrit/Hindi) name:* Peruk, Amrood

Habit and Habitat: A large shrub or small tree. Flowers white, axillary. Fruits with very hard seeds. Cultivated. *Part(s) used:* Leaf. *Locality:* Bhopal.

Medical efficacy claimed (name of the disease or condition): Diabetes.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- The decoction of leaf prepared in water is taken twice a day, for 3-4 months.

Biodynamic note(s): *Leaf:* sitosterol, maslinic acid, guajavolic acid; *Bark:* ellagic acid; *Fruit:* pectin.

338. Botanical Name: *Psoralea corylifolia* L.

Family: Fabaceae

English name(s): Babchi; *Local name(s):* Bawchi; *Unani name(s):* Babchi; *Ayurvedic (Sanskrit/Hindi) name:* Bakuchi

Habit and habitat: A coarse herb. Flowers small purple. Pods ovate, indehiscent. Wild. *Part(s) used:* Seed. *Locality:* Gwalior, Mathura.

Medical efficacy claimed (name of the disease or condition): Blood purifier, scabies.

Name of the tribe/caste, and other sources from whom information collected: Saharias and other rural population.

Folk medicinal use(s):

- In cases of scabies, the seeds of 'babchi' and 'panwar' (*Cleome brachycarpa* Vahl ex DC.) are mixed and ground to make a fine powder. A little sulphur is added to this, and applied externally on the affected parts of body with mustard oil. After 1 hour of the application of the drug, bath is taken with lukewarm water.

- Seeds (3 g) are ground and taken with honey twice daily, for a month to purify blood. This is given in cases of skin diseases particularly itching and scabies.

Biodynamic note(s): Root: chalcones, flavones, isoflavones, furanocoumarins; *Seed:* β -caryophyllene, linalool.

Seed: antibacterial, anti-inflammatory.

339. Botanical Name: *Pterocarpus marsupium* Roxb.

Family: Fabaceae

English name(s): Indian Kino Tree, Malabar Kino Tree; *Local name(s):* Bijasal, Bijasar;

Unani name(s): Bijsar; *Ayurvedic (Sanskrit/Hindi) name:* Asana, Beejak

Habit and Habitat: A handsome tree. Flowers in dense racemes. Pods orbicular with a broad wing. Wild. *Part(s) used:* Heartwood, stem bark. *Locality:* Bahraich, Bhopal, Gonda, Kheri.

Medical efficacy claimed (name of the disease or condition): Backaches, cardiac tonic, conjunctivitis, diabetes, sprain.

Name of the tribe/caste, and other sources from whom information collected: Gond, Rural population, Tharus.

Folk medicinal use(s):

- Powder of heartwood (50 g) is kept in 200 ml water over night and the following day it is filtered and the entire filtrate taken on empty stomach after adding 1 mg ground pepper, for 30 days to control diabetes. The treatment is repeated every alternate month, until cure is obtained.
- A small piece of the wood is kept in water overnight: 100 ml of this aqueous infusion are drunk once in the morning, for 5 consecutive days. Along with this, the same piece of wood is gently touched over the back bone and rubbed downwards once daily to treat backaches.
- A small piece of heartwood is kept in a glass of water overnight and sugar added to the taste. This is drunk on empty stomach in the early morning, for 30-40 days as cardiac tonic.
- Two to three drops of the stem bark juice are filtered in a fine cloth and applied to the affected eye twice a day, for 5 days to treat conjunctivitis.

Biodynamic note(s): Root: isoflavonoids, terpenoids, tannins, liquiritigenin, garbanzol.

Bark: CVS active.

340. Botanical Name: *Pueraria tuberosa* (Roxb. ex Willd.) DC.

Family: Fabaceae

English name(s): Indian Kaudzu; *Local name(s):* Belrakand, Dokar kand, Hadjurwa;

Ayurvedic (Sanskrit/Hindi) name: Vidarikanda

Habit and Habitat: A twining shrub with very large tuberous root. Flowers blue-purple. Pods long, linear, hairy. Wild. *Part(s) used:* Root, stem bark. *Locality:* Amarkantak, Gonda, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Bone fracture, general weakness, vigor and vitality.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Equal quantities of the roots of the plant, 'santawar' (*Asparagus racemosus* Willd.) and 'kamraj' (*Helminthostachys zeylanica* (L.) Hook.) are mixed together, ground, fried in ghee and cooled; 50 g of this preparation are given with milk once daily in the early morning for 1 month to treat general weakness, particularly in men.
- Root and stem bark paste is plastered around fractured bones.
- Tuberous roots are washed with water and cut into slices. These are dried in shade and stored in a container; 100 g such slices are boiled in 500 ml of cow milk and taken every day at bed time, for 3-4 months to regain vigor and vitality.

Biodynamic note(s): Root: β -sitosterol, stigmasterol, daidzin, puerarin.

Tuber: antiimplantational, hypoglycemic.

341. Botanical Name: *Punica granatum* L.

Family: Punicaceae

English name(s): Pomegranate; *Local name(s):* Anar, Dagdarimb; *Unani name(s):* Anar, Rumman; *Ayurvedic (Sanskrit/Hindi) name:* Dadima, Anar

Habit and Habitat: A large shrub or small tree. Flowers large, red colored. Fruits a globose berry with coriaceous epicarp and crowned by the calyx. Seeds angular. Cultivated.

Part(s) used: Fruit, leaf, seed, stem bark. *Locality:* Aligarh, Bahraich, Chakrata.

Medical efficacy claimed (name of the disease or condition): High fever with loss of senses, menstrual disorders, vermifuge, whooping cough.

Name of the tribe/caste, and other sources from whom information collected: Khasas, Tharus and other rural population.

Folk medicinal use(s):

- Fruit juice is given for high fever with loss of senses.
- For the treatment of menstrual disorders, leaf paste (20g) is taken with 'misri' (crystalline sugar) once daily, for 3 weeks.
- Stem bark (25g) paste mixed with a pinch of common salt is given with water two times daily, for 3 days as vermifuge.
- In cases of whooping cough, seeds (20g) are mixed in 10 g young leaves and inflorescence of *Achyranthes aspera* L. and 20 g leaves and young shoots of 'piyabansa' (*Barleria prionitis* L.) and paste obtained in water. To this 2 g opium is mixed and pills are prepared. One pill is given thrice daily for 10-15 days. The dose is reduced to half in cases of children.

Biodynamic note(s): Bark: alkaloids-methypelletierine, isoquercetin, friedelin, D-mannitol, esterone; *Leaf:* elligatannins-granatins A & B, punicafolin; *Flower:* sitosterol, ursolic acid, maslinic acid, gallic acid; *Fruit:* granatin B, punicalin, ellagic acid.
Stem bark ; antibacterial; *Leaf:* antifungal.

342. Botanical Name: *Pyrus pashia* Buch.-Ham. ex D. Don

Family: Rosaceae

Local name(s): Mehal

Habit and Habitat: A small tree. Flowers long, white in corymbs or umbel. Fruits long, globose, depressed at the top, brown, rough with raised small white spots. Wild. *Part(s) used:* Fruit. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Acidity.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Ripe fruits are eaten to treat acidity.

Biodynamic note(s): Bark: friedelin, β -sitosterol; *Leaf:* n-triacontane, myricyl alcohol, sitosterol; *Fruit:* ascorbic acid.

343. Botanical Name: *Quercus leucotrichophora* A. Camus. (Syn. *Q. incana* Roxb.)

Family: Fagaceae

English name(s): Ban Oak, Grey Oak; *Local name(s):* Banj; *Unani name(s):* Mazoo, Baloot; *Ayurvedic (Sanskrit/Hindi) name:* Barij

Habit and Habitat: A tree with dark-grey bark and tomentose young shoots. Scales of acorn imbricate. *Part(s) used:* Stem bark, trunk. *Locality:* Chakrata, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Asthma, gastralgia.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Khasas.

Folk medicinal use(s):

- Rain water which is filled in the hollow spaces of the trunk is kept in a bottle for few days. Of this 250 ml are given to patients twice daily. This is done for one full year to treat asthma.
- Fresh stem bark is chewed against gastralgia.

Biodynamic note(s): Bark: friedelin, β -sitosterol, leucopelargonidin; *Leaf:* flavonoids-quercetin; *Kernel:* fatty acids, palmitic, lignoceric, oleic acid.

Plant: CNS active.

344. Botanical Name: *Radermachera xylocarpa* (Roxb.) K. Schum.

Family: Bignoniaceae.

English name(s): Padri Tree; *Local name(s):* Katori; *Ayurvedic (Sanskrit/Hindi) name:* Patla (Shwet)

Habit and Habitat: A large tree. Flowers long, white with yellow or pinkish, sweet scented. Pods long, woody, tubercled. Seeds long with wings. Wild. *Part(s) used:* Fruit, stem bark. *Locality:* Amarkantak.

Medical efficacy claimed (name of the disease or condition): Marasmus, rickets, snakebite.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- It is often claimed that by keeping the fruits in houses, (which looks like snakes in the appearance), the snakes keep away from entering such places. Decoction of the stem bark is prepared and given to the patient as frequently as possible, till he develops sign of relief in cases of snakebite.
- In cases of rickets and marasmus, decoction of the stem bark is prepared and given in the dose of 100 ml twice daily, for 7 days. Treatment is repeated after a period of 15 days.

Biodynamic note(s): *Root:* stigmasterol, radermachol; *Leaf:* flavonoids-dinatin.

345. Botanical Name: *Raphanus sativus* L.

Family: Brassicaceae.

English name(s): Radish; *Local name(s):* Muli; *Unani name(s):* Turb; *Ayurvedic (Sanskrit/Hindi) name:* Mulaka

Habit and Habitat: A herb with the redical and lower cauline leaves. Flowers white. Pods sub-erect, elongate, with a long acuminate beak. Seeds globose or ovoid. Cultivated. *Part(s) used:* Seed. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Abortifacient, piles.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- 5 g seeds are ground and taken orally twice daily, for 15 days to treat piles.
- Equal quantities of seeds of 'mul,' 'gajar' (*Daucus carota* L.) and 'soya' (*Anethum sowa* Kurz) are mixed and ground to make a fine powder. Two teaspoonfuls of this powder are taken by women thrice daily, for 3-5 days as abortifacient.

Biodynamic note(s): *Root:* ascorbic acid, pectin; *Leaf:* ferulic acid, caffeic acid, oxalic acid;

Seed: (-) sulforaphene, stearic acid, β -sitosterol.

Seed: antibacterial.

346. Botanical Name: *Rauwolfia serpentina* (L.) Benth. ex Kurz

Family: Apocynaceae

English name(s): Rauwolfia Root, Serpentine or Serpentina Root; *Local name(s):* Dhanbarua, Dhaval barua; *Unani name(s):* Asrol; *Ayurvedic (Sanskrit/Hindi) name:* Sarpagandha

Habit and Habitat: A pretty, glabrous undershrub. Flowers white or pink. Drupes polished green. Wild. *Part(s) used:* Root. *Locality:* Bahraich, Gonda, Gorakhpur, Keonjhar, Kheri.

Medical efficacy claimed (name of the disease or condition): Common fever, fits, general debility, mental depression (insomnia), rheumatism, snakebite.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Fresh root (2 g) is ground, kept overnight in water and given once daily, for one month to treat general debility.
- Powdered root (10 g) is mixed with powder of 5 grains of black pepper. This material is touched for a few second with a red hot iron rod. Whole of this preparation is allowed to cool and given with water twice daily, for 3 days to treat common fever.
- Powdered root (5 g) is given with water twice daily, for 3 weeks to control fits.
- In cases of rheumatism, equal quantities of crushed fresh roots, turpentine oil, kerosene oil, mustard oil, common salt and local liquor obtained from distilled 'mahua' flowers (*Madhuca indica* Gmel.) are kept in a bottle to age. After 15 days, this material is filtered and the filtrate applied on affected joints 2-3 times a day, with light massage done, till the cure is obtained.
- Root decoction (3-5 ml) with a pinch of black pepper is given twice daily to treat common fever.
- In case of snakebite, fresh root is pounded and given with water at short intervals, until the patient develops signs of relief.
- Root powder (15 g) is given twice daily, for 2 days to treat insomnia due to depression.

Biodynamic note(s): Plant: aminoacids – arginine, lysine, serine, aspartic acid, glutamic acid, alanine, proline, valine, tyrosine, cystine, glutamine, tryptophan; *Root:* reserpine, ajmaline, ajmalinine, reserpinine, serpentine.

Root: hypotensive, tranquillizer.

347. Botanical Name: *Rheum webbianum* Royle

Family: Polygonaceae

Local name(s): Archu; *Ayurvedic (Sanskrit/Hindi) name:* Revandcluni-bhed

Habit and Habitat: A tall leafy herb. Flowers pale-yellowish. Wild. *Part(s) used:* Root.

Locality: Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Abscesses.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- The paste of root is applied locally on abscesses.

Biodynamic note(s): Root: anthraquinones.

348. Botanical Name: *Rhododendron arboreum* Sm. (Syn. *R. puniceum* Roxb.)

Family: Ericaceae.

English name(s): Tree Rhododendron, Rose Tree; *Local name(s):* Burans; *Ayurvedic (Sanskrit/Hindi) name:* Kurbak, Pullas

Habit and Habitat: A tall tree. Flowers in compact clusters, densely silky. Capsules long, cylindric, curved, longitudinally ribbed. Wild. *Part(s) used:* Flower. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Mental retardation.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- Squash is made from flowers and given to treat mental retardation.

Biodynamic note(s): Bark: taraxerol, β -sitosterol, betulinic acid, quercetin; *Leaf:* triterpenoids, flavonoids-3, 10, epoxyglutinane, ursolic acid, α - & β - amyryn, friedelin, epifriedanol, quercetin.

Stem bark: spasmolytic; *Leaf:* CVS & CNS active; *Flower:* anticancer.

349. Botanical Name: *Rhus succedanea* L.

Family: Anacardiaceae.

English name(s): Wild Varnish Tree, Wax Tree; *Local name(s):* Kakarkash.

Habit and Habitat: A medium-sized tree. Flowers greenish-yellow. Drupes orbicular-compressed, rugose, glabrous, shining yellow. Wild. *Part(s) used:* Galls. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Bronchial asthma.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Dried galls are obtained from branches of the plant and burnt to ashes and given with honey against bronchial asthma.

Biodynamic note(s): Sapwood & Heartwood: polyphenols, fustin, gallic acid, ellagic acid;

Drupe: biflavones; *Seed:* binaringenin.

Leaf: antiviral, anticancer, spasmolytic.

350. Botanical Name: *Ricinus communis* L.

Family: Euphorbiaceae

English name(s): Castor, Castor seed; *Local name(s):* Andi, Arandi; *Unani name(s):* Arand, Bed Anjeer; *Ayurvedic (Sanskrit/Hindi) name:* Eranda, Andi

Habit and Habitat: A large, erect shrub or small tree with fistular stem. Flowers in pyramidal, leaf-opposed and pseudo-terminal, erect panicles. Capsules 3-2 valved cocci. Wild.

Part(s) used: Fruit, leaf, seed. *Locality:* Bharatpur, Gorakhpur, Keonjhar, Mainpuri, Mathura.

Medical efficacy claimed (name of the disease or condition): Abscesses as a result of hair plucking, cuts and wounds, malarial fever, otorrhoea and earache, piles, rheumatism, to prevent conception.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Tharus and other rural population

Folk medicinal use(s):

- Leaf is tied over the injured part and expressed leaf juice is applied externally on cuts and wounds.
- Three drops of leaf juice are dropped in the affected ear twice daily, for 4-7 days, in cases of otorrhea and earache.
- Seed oil is applied on the leaf. It is lukewarmed and put on the head of the patient before shivering starts in case of malaria.
- Seed pulp with honey is given for rheumatism.
- Seed pulp is given to women to prevent conception.
- Seed oil is applied over the dorsal surface of leaf and tied on the anus at bedtime for 7-8 days to treat piles.
- Fruits are made into paste and applied externally over the affected part in cases of abscesses as a result of hair plucking.

Biodynamic note(s): *Root:* aminoacids; *Flower:* apigenin, chlorogenin, rutin, coumarin, hyperoside.

Root stem and stem: antiprotozoal, anticancer; *Leaf:* antiviral.

351. Botanical Name: *Rivea hypocrateriformis* (Desr.) Choisy

Family: Convolvulaceae

English name(s): Midnapore Creeper; *Local name(s):* Jamru chalon; *Ayurvedic (Sanskrit/Hindi) name:* Phanji

Habit and Habitat: A large, woody climbing shrub. Flowers white. Fruits globose. Wild.

Part(s) used: Root. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Stomachache.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Root is ground and given with water thrice daily, for 3 days to treat stomachache.

352. Botanical Name: *Rivea ornata* Choisy

Family: Convolvulaceae

Local name(s): Jamruchalan; *Ayurvedic (Sanskrit/Hindi) name:* Phanji-bhed.

Habit and Habitat: A trailing shrub, clothed with white appressed hair. Flowers white.

Capsules globose, yellow-brown. *Wild. Part(s) used:* Root. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Gastric disorders.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- The paste of root is given in gastric disorders.

353. Botanical Name: *Rorippa indica* (L.) Hiern. (Syn. *Sisymbrium indicum* L.)

Family: Brassicaceae

Local name(s): Khubkalan.

Habit and Habitat: A trailing or suberect, annual herb. Flowers small yellow. Siliqua linear-oblong. *Wild. Part(s) used:* Leaf, seed. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Decoction of leaf and seed is taken for typhoid fever twice daily, for 10 days.

Biodynamic note(s): *Plant:* glucoside, essential oil.

354. Botanical Name: *Rosa damascena* Mill.

Family: Rosaceae

English name(s): Damask Rose, Summer Damask Rose; *Local name(s):* Gulab; *Unani name(s):* Gul-e-Surkh; *Ayurvedic (Sanskrit/Hindi) name:* Taruni

Habit and Habitat: A prostrate, much branched, leafy herb. Flowers yellow, solitary. Achenes many, minute. Cultivated. *Part(s) used:* Flower. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Gonorrhea, rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- In cases of rheumatism, flowers (12 g) mixed with 12 g fruits of 'dhaniya' (*Coriandrum sativum* L.) and 18 g 'misri' (crystalline sugar) are ground. This preparation is taken with water once daily in the morning till the cure is obtained.
- Flowers (12 g) mixed with 12 g fruits of 'dhaniya' (*Coriandrum sativum* L.) and 18 g crystalline sugar are ground and taken once only for 5 days to treat gonorrhea.

Biodynamic note(s): Plant: quercetin kaempferol, cyanidin; *Rose Oil:* methanol, hexanol, octanol, citronellol, linalool, diascenone.

355. Botanical Name: *Rubia manjiith* Roxb. ex Fleming (Syn. *R. cordifolia* L.)

Family: Rubiaceae

English name(s): Indian Madder; *Local name(s):* Manjeeth; *Unani name(s):* Fuwah, Majeeth;

Ayurvedic (Sanskrit/Hindi) name: Manjishtha.

Habit and Habitat: A scrambling herb. Flowers yellowish-white. Fruits globose fleshy. Wild.

Part(s) used: Root. *Locality:* Amarkantak, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Edema, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Boxas, Gond.

Folk medicinal use(s):

- The root paste mixed with the root paste of 'chitrak' (*Plumbago zeylanica* L.) and powder of whole plant of 'nagkesar' (*Mesua ferrea* L.) is given in typhoid fever.
- 1-2 cm long piece of root is ground and powder of 4-5 black pepper grains is mixed. It is given as full dose with water twice daily, for 7 days to treat edema.

Biodynamic note(s): Plant: pentacyclic triperpenic acids-rubricoumaric acid, rubifolic acid;

Root: purpurin, xanthopurpurin, munjistin.

356. Botanical Name: *Rubus ellipticus* Sm.

Family: Rosaceae

Local name(s): Hinsalu, Hinsar; *Ayurvedic (Sanskrit/Hindi) name:* Hinsalu

Habit and Habitat: A large, sarmentose shrub. Flowers with obovate petals exceeding the calyx. Fruits yellow. Wild. *Part(s) used:* Fruit. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Vomiting.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Crushed fruits are fried in ghee and given with mint in vomiting.

Biodynamic note(s): Root: octacosanol, β -sitosterol, glucoside, octacosanoic, ursolic, rubitic acid.

357. Botanical Name: *Ruellia tuberosa* L.

Family: Acanthaceae.

Local name(s): Debori, Reji-buti.

Habit and Habitat: A tall herb with several tuberous roots. Flowers blue, in axillary, terminal cymes. Capsules linear-fusiform, grooved dorsiventrally. Wild. *Part(s) used:* Root.

Locality: Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): To facilitate delivery, to induce abortion, to stop conception.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans.

Folk medicinal use(s):

- Roots (2-3) are washed with water and crushed. This fine paste is gently put into the vagina with the help of the finger and left over night to induce abortion.
- To facilitate delivery, root paste inserted into the vagina at the time of delivery.
- Roots (10-15 g) are mixed with powder of 21 grains of black pepper and 5 g 'heeng' (asafoetida), and made into pills of 1 g. One pill is given once early morning for 3 days after menstruation to stop conception.

Biodynamic note(s): Plant: lucine, tyrosine, valine, glycine; *Tuber:* nonacosane, hentricontane, lupeol, sitosterol, stigmasterol, campesterol.

358. Botanical Name: *Rumex hastatus* D. Don

Family: Polygonaceae.

Local name(s): Almoru.

Habit and Habitat: An erect slender, much branched herb. Flowers very small, polygamous.

Wild. *Part(s) used:* Leaf. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Gastralgia.

Name of the tribe/caste, and other sources from whom information collected: Boxas.

Folk medicinal use(s):

- The juice of leaves is given in gastralgia.

Biodynamic note(s): Plant: β -sitosterol, stearyl alcohol, leucocyanidin, chrysophanol, emodin, physcion; *Root:* tannin.

359. Botanical Name: *Santalum album* L.

Family: Santalaceae

English name(s): Sandal Tree; *Local name(s):* Chandan; *Unani name(s):* Sandal Safaid;

Ayurvedic (Sanskrit/Hindi) name: Svetachandana

Habit and Habitat: A small, glabrous ever green tree. Flowers small, pale, crimson. Fruits fleshy globose. Cultivated. *Part(s) used:* Wood. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Hypertension.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- For instant relief in hypertension, 4 drops of the wood-oil is taken orally with water.

Biodynamic note(s): Bark: triterpene; *Heart wood:* α - & β -santalol, β -farnesene; *Leaf:* glycoprotein.

Stem: CVS active; Essential oil, antifungal, antibacterial.

360. Botanical Name: *Sapindus emarginatus* Vahl (Syn. *S. trifolius* L.)

Family: Sapindaceae.

English name(s): The Soap-Nut Tree of South India; *Local name(s):* Reetha; *Ayurvedic (Sanskrit/Hindi) name:* Arishtak, Reetha

Habit and Habitat: A dense dark-foliaged tree. Flowers white, in terminal panicles. Fruits yellow-brown, glabrescent, wrinkled when ripe. Cultivated. *Part(s) used:* Seed. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Night blindness.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- One seed is rubbed on clean slate and the paste thus obtained is applied gently in eye, twice daily in the morning and evening, for 4-6 months to treat night blindness.

Biodynamic note(s): Fruit: saponin, sapindic acid, methyl oleanolate.

Fruit: androgenic, antifertility activity.

361. Botanical Name: *Sapindus mukorossi* Gaertn.

Family: Sapindaceae

English name(s): Soapnut tree of North India; *Local name(s):* Ritha; *Unani name(s):* Reetha; *Ayurvedic (Sanskrit/Hindi) name:* Arishtak, Reetha

Habit and Habitat: A dense dark-foliaged tree. Flowers white in terminal panicles. Fruits of 2-3 drupes, yellow. Cultivated. *Part(s) used:* Fruit, seed. *Locality:* Bhopal, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Diabetes, snakebite.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Gond.

Folk medicinal use(s):

- Seeds are crushed to get a light yellow pulp which is taken with milk in the dose of 5-10 g once a day early morning on empty stomach, to control diabetes.
- The powder of dried fruits is used to treat snakebite.

Biodynamic note(s): Plant: sapindosides A,B,C,D & E, flavonoids, quercetin, kaempferol, apigenin, rutin.

Aerial part: spermicidal.

362. Botanical Name: *Schleichera oleosa* (Lour.) Oken. (Syn. *S. trijuga* Willd.)

Family: Sapindaceae

English name(s): Lac Tree, Macassar Oil Tree, Ceylon Tree; Local name(s): Kosum;

Ayurvedic (Sanskrit/Hindi) name: Koshamr, Kusum

Habit and Habitat: A tall, deciduous tree. Flowers greenish-yellow. Fruits ovoid, glabrous, dark brown. Wild. Part(s) used: Seed, stem bark. Locality: Ranchi, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Arthritis, wounds of cattle.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus

Folk medicinal use(s):

- Stem bark and root of 'mahakal' (*Mukia maderaspatana* (L.) Cogn.) are mixed with bulb of 'hathikanda' (*Crinum asiaticum* L.) in equal quantities and crushed. Of this mixture 100g are boiled in 1 liter of oil prepared from karanj oil, mustard oil, and mahua oil (all mixed in equal quantities) for one hour and filtered. This oil is applied externally on affected joints 3-4 times a day. Simultaneously, root paste of 'mahakal' (*Mukia maderaspatana* (L.) Cogn.) are given orally in the dose of 25 g thrice daily for 45 days to treat arthritis.
- Seed paste is applied on wounds (infested with worms) in cases of cattle.

Biodynamic note(s): Seed: fattyacid-oleic, stearic, arachidic, behenic, palmitoleic & palmitic acids.

Aerial part: CNS active.

363. Botanical Name: *Scoparia dulcis* L.

Family: Scrophulariaceae

English name(s): Sweet Broomweed; Local name(s): Jethimadh; Ayurvedic (Sanskrit/Hindi) name: Meethi patti

Habit and Habitat: A herb or undershrub with angled branches. Flowers small, white. Capsules very small, subglobose. Wild. Part(s) used: Leaf, whole plant. Locality: Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Piles, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Leaf juice mixed with powder of 3-4 grains of black pepper is given to treat piles for 10 days.
- Plant paste (50 g) is given for spermatorrhea, for 15 days.

Biodynamic note(s): Plant: benzoxazolinone, β -sitosterol, D-mannitol, hexacosanol, tritriacontane; Leaf: flavonoids-scutellarein, glutinol, friedelin, scoparol (α -amyrin), betulinic acid, dulciolone acid.

Plant: spasmolytic; Stem & Leaf: antimellitus.

364. Botanical Name: *Semecarpus anacardium* L.f.

Family: Anacardiaceae

English name(s): Marking Nut Tree, Oriental Cashew; Local name(s): Bhilva; Unani name(s): Baladur; Ayurvedic (Sanskrit/Hindi) name: Bhallataka, Bhilva.

Habit and Habitat: A deciduous tree. Flowers greenish-white. Fruit an oblong or obliquely ovoid drupe. Wild. Part(s) used: Fruit, seed. Locality: Amarkantak, Gonda, Keonjhar.

Medical efficacy claimed (name of the disease or condition): Anthelmintic for elephants, cuts and wounds, snakebite.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Tharus and other rural population

Folk medicinal use(s):

- In cases of snakebite, 8-10 mature fruits are soaked in 2 liter water overnight and later boiled for an hour. The liquid thus obtained is stored in a dark colored glass bottle and kept as a house hold remedy against snake bite. At the time of need, 5-10 drops of this medicine are mixed in 100 ml fresh water, and given to the patient frequently until sign of consciousness / relief develops.
- Oil obtained from the mature / ripe fruits by heating is applied externally over the cuts or old wounds 2-3 times daily, till cure.
- About 50 seeds with 3 ripe fruits of 'dhatoora' (*Datura fastousa* L.) and common salt are ground together and given as full dose once only with fodder to the elephant suffering from diarrhea, indigestion and consuming soil (these symptoms indicate worms).

Biodynamic note(s): Leaf: amentoflavone; Nut shell: biflavonoid-biflavones A, C, A₁, A₂.

Fruit: anticancer, hypoglycemic, CVS active

365. Botanical Name: *Sensevieria cylindrica* Boj.

Family: Haemodoraceae

Local name(s): Bhojraj chunchi

Habit and habitat: A stout often fleshy herb with a short stoloniferous rootstock or creeping rhizome. Wild. Part(s) used: Root. Locality: Keonjhar.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Roots are ground with water and given to snake bite patient at frequent intervals, till recovery.

366. Botanical Name: *Sensevieria zeylancia* Willd.

Family: Haemodoraceae

Local name(s): Gokhas

Habit and Habitat: A stout herb with rhizome. Flowers greenish-white, in racemes. Wild.

Part(s) used: Root. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Roots are ground with water and given to patient at frequent intervals, till recovery. Patient should not be allowed to sleep.

Biodynamic note(s): Root: alkaloids-sansevierine; Leaf: aconitic acid.

367. Botanical Name: *Sesamum indicum* L. (Syn. *S. orientale* L.)

Family: Pedaliaceae

English name(s): Sesame, Gingelly;

Local name(s): Til; *Unani name(s):* Kunjad Siyah;

Ayurvedic (Sanskrit/Hindi) name: Tila

Habit and Habitat: An erect, glandular herb. Flowers purple or whitish with purple or yellow marks. Capsules oblong, bluntly 4-gonous. Cultivated.

Part(s) used: Leaf, seed.

Locality: Aligarh, Gwalior, Mathura, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Amenorrhea, bruises, diabetes, migraine.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Saharias and other rural population.

Folk medicinal use(s):

- The decoction of seed mixed with powdered ginger, aerial parts of 'bharangi' (*Clerodendrum serratum* (L.) Moon) and fruits of 'pipli' (*Piper longum* L.) is used to treat amenorrhea.
- 'Til oil' is applied over minor cuts and bruises and later powder of dry ginger mixed with ash of young leaves of 'madar' (*Calotropis procera* (Ait) R.Br.) is also applied. If necessary, bandage may also be done.
- Seeds (4 g) are ground with 12 g of 'baibidang' (*Embelia ribes* Burm. f.) in cold water to make a paste and applied twice daily for 7 days in morning and evening externally on the forehead, in cases of migraine.
- Decoction of 25-30 leaves is given every day, to keep the diabetes under control.

Biodynamic note(s): Leaf: pedalin;

Seed: lignin-sesamin, sesamolin, sesamol, α -& β -tocopherol.

Oil cake: nematocidal.

368. Botanical Name: *Shorea robusta* Gaertn.f.

Family: Dipterocarpaceae

English name(s): Sal; Local name(s): Sakhu; Unani name(s): Sal; Ayurvedic (Sanskrit/Hindi) name: Shal

Habit and habitat: A tall tree. Flowers cream-coloured. Fruits ovoid, winged, linear-oblong.

Wild. Part(s) used: Gum, resin.

Locality: Bahraich, Ranchi.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds, diarrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur Tharus.

Folk medicinal use(s):

- Dried gum (5 g) is mixed with the powder of 5 black peppers (grains) and given twice daily, for 5 days in case of diarrhea.
- Resin of plant is mixed in equal quantity with seed oil of 'karanj' (*Pongamia pinnata* (L.) Pierre) and applied on cuts and wounds 3-4 times daily.

Biodynamic note(s): Heartwood: chalcone glycosides, leucoanthocyanidin.

Aerial part: antiviral.

369. Botanical Name: *Sida cordata* (Burm.f.) Borss.

Family: Malvaceae

Local name(s): Phirajbuti; Ayurvedic (Sanskrit/Hindi) name: Bala

Habit and Habitat: A prostrate or trailing herb. Flowers axillary, solitary, yellow. Wild.

Part(s) used: Flower, leaf, root, whole plant.

Locality: Bahraich, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Insanity, spermatorrhea, to expel kidney stone, wart in skin.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Leaf paste is given with milk in the dose of 25 g once a day, for 30 days. In another recipe, root paste with 5-6 grains of black pepper is given for spermatorrhea.
- Leaf paste is applied on forehead in case of insanity.
- Plant powder is given to remove wart in skin.
- Leaves and flowers paste (25 g) each is added with sugar and given with plenty of water thrice daily on empty stomach to crush and expel kidney stones.

Biodynamic note(s): Plant: cholesterol, stigmasterol, malvalic acid, gossypol.

Plant: immune-enhancing.

370. Botanical Name: *Sida cordifolia* L.

Family: Malvaceae

English name(s): Country Mallow; *Local name(s):* Khariti; *Ayurvedic (Sanskrit/Hindi) name:* Bala

Habit and Habitat: An erect, tomentose undershrub. Flowers yellow. Carpels 10, with 2 long hispid awns. Seeds trigonous, glabrous. Wild. *Part(s) used:* Leaf, root. *Locality:* Kheri, Mainpuri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Constipation, dysentery, gastric complaints, leucorrhea, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus and other rural population.

Folk medicinal use(s):

- Crushed leaves (10 g) with 'khand' (Crude sugar) are given in the morning, for 15 days to treat leucorrhea.
- Leaves (10-15) mixed with 3 grains of black pepper are crushed and taken orally twice a day, for 3 weeks to treat spermatorrhea.
- Fresh leaf juice (10-15) mixed with water and little sugar is drunk 3-4 times a day, for 3 days to treat dysentery.
- Roots with seeds of 'chakod' (*Cassia tora* L.) and roots of 'chirchiri' (*Achyranthes aspera* L.), are pounded in equal quantities. A dose of 5 g of this preparation is given with warm water, thrice daily, for 15 days in cases of gastric complaints.
- Roots (25 g) are ground in water and given as a full dose once daily for 3 days to treat constipation. The treatment is repeated twice at an interval of one week.

Biodynamic note(s): Root: alkaloids-ephedrine, β -phenethylamine.

Plant: antifertility activity, spasmolytic, antiprotozoal, CVS active.

371. Botanical Name: *Sisymbrium irio* L.

Family: Brassicaceae

English name(s): London Rocket; *Local name(s):* Khubkalan; *Unani name(s):* Khaksi; *Ayurvedic (Sanskrit/Hindi) name:* Khubkalun

Habit and Habitat: An erect herb. Flowers yellow. Silique long, slender. Seeds oblong, minutely granulate, light brown. Wild. *Part(s) used:* Whole plant. *Locality:* Mathura.

Medical efficacy claimed (name of the disease or condition): Malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Rural population.

Folk medicinal use(s):

- Whole plant (12-15 g) is boiled with crystalline sugar in 1 liter of water till it is left to ¼ part. This is divided in two doses and given in the morning and evening in cases of malaria. The treatment is given for 5 days.

Biodynamic note(s): Seed: flavonoid-isorhamnetin, linolenic, oleic acid, arachidic acid.
Seed: analgesic, antibacterial.

372. Botanical Name: *Smilax perfoliata* Lour. (Syn. *S. prolifera* Wall. ex Roxb.)

Family: Smilacaceae

Local name(s): Ram datum

Habit and Habitat: A stout, prickly climber. Umbels in axillary and terminal panicles. Berries small. Wild. *Part(s) used:* Root.

Locality: Pauri Garhwal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Blood dysentery, blood purifier, impotency.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhotias.

Folk medicinal use(s):

- The powder of root is used as blood purifier.
- Roots (50g) are powdered and given once early morning with cow milk for 3-4 months to treat impotency among men.
- Roots (25 g) are ground with water and given thrice daily, for 3 days only in cases of blood dysentery.

373. Botanical Name: *Solanum anguivi* Lam. (Syn. *S. indicum* L.)

Family: Solanaceae

English name(s): Poison Berry; *Local name(s):* Bhat kateri, Kantkari; *Unani name(s):* Oshturghar; *Ayurvedic (Sanskrit/Hindi) name:* Brhati

Habit and Habitat: An erect, thorny undershrub. Flowers violet. Berries globose, yellow turning to black. Wild. *Part(s) used:* Fruit.

Locality: Gwalior.

Medical efficacy claimed (name of the disease or condition): Pyorrhea.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Ripe berries with little water are boiled in an iron pot and vapors inhaled 2-3 times daily for a fortnight.

Biodynamic note(s): Plant: solasonine, diosegin, sitosterol, lanosterol, solamargin, solasodine, tomatidenol.

Plant: CVS active, anticancer.

374. Botanical Name: *Solanum ferox* L.

Family: Solanaceae

English name(s): Poison Berry; *Local name(s):* Arak bengan, Bankateri, Kantkari; *Ayurvedic (Sanskrit/Hindi) name:* Kantkari-bhed

Habit and Habitat: A prickly undershrub. Flowers in very short lateral racemes. Fruits globose, yellow. Wild. *Part(s) used:* Fruit, root, seed, whole plant. *Locality:* Gorakhpur, Kheri, Udaipur.

Medical efficacy claimed (name of the disease or condition): Fever of long duration, post natal fever, rheumatic pain, toothache, vomiting.

Name of the tribe/caste, and other sources from whom information collected: Bhoxas, Garasias, Tharus.

Folk medicinal use(s):

- Root paste (3-4 g) is taken thrice daily, to check vomiting.
- In cases of rheumatic pain, root paste is applied externally over the affected joints thrice daily, until the cure is obtained.
- Fresh fruit juice is gargled with water against toothache.
- Fruits with root of *Azadirachta indica* A. Juss., fruits of *Caesalpinia bonduc* (L.) Roxb., stem bits of *Tinospora cordifolia* (Willd.) Miers and black peppers are made into a decoction and given for common fever of long duration.
- Whole plant is crushed, boiled in water and cooled; 100 ml of this decoction are given to drink once daily, for 12-15 days to treat post natal fever.
- Smoke produced by burning the semidried seeds is sucked and retained in the mouth for a while to alleviate toothaches.

Biodynamic note(s): *Plant:* vitamin C, carotene, palmitic, linoleic acids; *Berry:* solanine; *Seed:* solanocarpone, carpesterol.

375. Botanical Name: *Solanum erianthum* D. Don (Syn. *S. verbascifolium* L.)

Family: Solanaceae

English name(s): Potato Tree; *Local name(s):* Kukkakat

Habit and Habitat: A large, tomentose shrub. Flowers blue, in dense corymbose panicles. Berries scarlet glabrous. Wild. *Part(s) used:* Fruit, leaf. *Locality:* Chakrata, Gonda.

Medical efficacy claimed (name of the disease or condition): Bodyache, vermifuge.

Name of the tribe/caste, and other sources from whom information collected: Khasas, Tharus.

Folk medicinal use(s):

- The fresh leaves are ground to make a fine paste and applied externally in cases of bodyaches.
- Two or three drops of the fruit juice are dropped in the nose of the children twice daily for 2 days as vermifuge.

Biodynamic note(s): *Stem:* alkaloids-steroidal sapogenins; *Leaf:* tomatidenol, α -solasonine, β -solamargine, diosgenin, solasodine; *Fruit:* solasodine, solafloiridine.

Aerial part: CVS depressant.

376. Botanical Name: *Solanum nigrum* L.

Family: Solanaceae

English name(s): Black Night shade; *Local name(s):* Makoya; *Unani name(s):* Inab-us-Salab, Mako; *Ayurvedic (Sanskrit/Hindi) name:* Kakmachi

Habit and Habitat: An erect, branched herb. Flowers small, white. Berries globose black.

Wild. Part(s) used: Leaf, whole plant. *Locality:* Gorakhpur, Gwalior.

Medical efficacy claimed (name of the disease or condition): Liver disorders, rickets, swellings of body (oedema).

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus.

Folk medicinal use(s):

- In cases of edema, 250 g of whole plant (except root) are eaten as vegetable once daily for 5 days. The juice of plant is also applied externally on the affected parts, twice daily.
- The juice of whole plant is given in the dose of 6 ml twice a day for 1-2 month in cases of liver disorders.
- The fresh juice of whole plant is rubbed over the backbone of children suffering from rickets thrice daily, for one week.

Biodynamic note(s): *Plant:* solanine; *Root & Stem:* spirostanol glycoside-utrosides A & B; *Berries:* α - & β - solamargine, steroidal sapogenins-diosgenin & tigogenin.

Plant: CVS active, spasmolytic, hypothermic.

377. Botanical Name: *Solanum torvum* Swartz

Family: Solanaceae

Local name(s): Hanger; *Ayurvedic (Sanskrit/Hindi) name:* Vrhadi-bhed

Habit and Habitat: A tomentose, prickly shrub. Flowers white. Fruits seated on the calyx with lanceolate lobes. *Wild. Part(s) used:* Fruit. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Digestive disorders.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Fruits (2-3) are ground and given with warm water once daily for 3 days.

Biodynamic note(s): *Leaf:* solasonine, tetratiracontanoic acid, sitosterol, stigmasterol, campesterol; *Fruit:* solasonine, jurubine, solasodine, torvonine.

Aerial part: spasmolytic, CVS active.

378. Botanical Name: *Solanum viarum* Dunal (Syn. *S. khasianum* C.B. Clark var. *chatterjeeanum* G.S. Gupta)

Family: Solanaceae

Local name(s): Kantakari, Ban Bhatia.

Habit and Habitat: An erect, much branched undershrub or shrub. Flowers white or pale yellow. Wild. *Part(s) used:* Fruit, Root. *Locality:* Tehri Garhwal.

Medical efficacy claimed (name of the disease or condition): Common fever, tooth decay.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- In cases of tooth decay, fruits are burnt in an earthen pot to produce smoke. This smoke is kept in the mouth for some time by the patient and is repeated 2-3 times a day until the cure is obtained.
- Root decoction (5 ml) is given once daily for three days to treat common fever.

Biodynamic note(s): *Root:* nautigenin; *Berries:* alkaloid saponin-solakhasianin, solasonine, solamargine, khasianine.

Plant: spasmolytic, CVS active.

379. Botanical Name: *Solanum virginianum* L. (Syn. *S. surattense* Burm f.)

Family: Solanaceae

English name(s): Yellow Berried Night shade; *Local name(s):* Bhatkataiya, Kachrehta; *Unani name(s):* Katai khurd; *Ayurvedic (Sanskrit/Hindi) name:* Kantkari

Habit and Habitat: A diffuse, pretty herb. Flowers deep blue. Fruits globose, yellow, or sometimes white under shade, glabrous. Wild. *Part(s) used:* Fruit, root. *Locality:* Aligarh, Bahraich, Gonda, Gwalior, Mainpuri, Mathura.

Medical efficacy claimed (name of the disease or condition): Asthma, cataract, cough and cold in cattle, loss of appetite in cattle, malarial fever, menorrhagia, to prevent recurrent abortion, toothache, whooping cough.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Fresh root extract is mixed with equal quantity of lemon juice obtained from the fruits of *Citrus limon* (L.) Burm. f. This is applied in the eyes for one month as a preventive measures against cataract.
- Crushed roots are mixed with 21 rachis of leaves of 'neem' (*Azadirachta indica* A. Juss.) and 100 g 'gur' (solidified sugarcane juice) and boiled in 500 ml water to make a decoction in an earthen pot and given as full dose twice daily, for 5 days to treat malarial fever.

- Root (5 g) is ground and given once a day for 3-4 days to women after menstruation. It is repeated upto next 4 months to prevent recurrent abortion.
- Root of the plant, bark of 'ajrokh' (*Ailanthus excelsa* Roxb.) and bark of 'bahera' (*Terminalia bellirica* (Gaertn.) Roxb.) in equal quantities are dried, ground and made into powder. This powder is given in the dose of 2 g once daily for 7 days with lukewarm water to treat whooping cough.
- Fruits (25 g) along with roots of *Barleria prionitis* L., fruits of *Pistacia chinensis* Bunge, leaf of *Piper betle* are pounded together in equal quantity. To this, 4 liter water is added and boiled to make it ½ litre. A dose of 10 ml of this preparation is given once a day to treat asthma for two months.
- Smoke from the semidried fruits is inhaled and retained for some time in the mouth to treat toothache.
- Fruits (1 kg) with 2.5 kg common salt are kept to age in an earthen pot and closed with a lid. After one week it is made into paste, and given to the cattle in the dose of 100 g once a day for 10 days to treat loss of appetite.
- Root alongwith roots of kasni (Chicory) and rasaut (Indian barberry) in equal quantities are powdered. 3 g powder is consumed twice daily with milk for 7 days to check excessive bleeding (menorrhagia) in women.
- Root (100 g) is ground and given for 3 days to cattle to treat cough and cold.

Biodynamic note(s): Fruit: solasonine, solamargine, carpesteral, β-solamargine, solasodine.

Plant: antiviral, spermicidal; *Fruit:* anticancer.

380. Botanical Name: *Soymida febrifuga* (Roxb.) A. Juss.

Family: Meliaceae

English name(s): Indian Redwood; *Local name(s):* Ran, Rohan; *Ayurvedic(Sanskrit/ Hindi) name:* Mansrohini

Habit and Habitat: A tree with thick wrinkled branchlets. Flowers white, in axillary and terminal panicles. Fruit a capsule, woody. Wild. *Part(s) used:* Stem bark. *Locality:* Keonjhar, Ranchi, Ranchi, Udaipur.

Medical efficacy claimed (name of the disease or condition): Bruises, constipation, gonorrhea, to induce abortion, to take out dirty blood after delivery.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Garasias.

Folk medicinal use(s):

- In cases of gonorrhea, first the affected part is washed with neem water prepared by boiling leaves of *Azadirachta indica* A. Juss. in water in 1:4 ratio for about one hour and later powder of dried leaves of neem is sprinkled thoroughly. Simultaneously, 500 g fresh bark of the plant are crushed and boiled in 4 litre of water overnight. Decoction thus prepared is given once daily as full dose for 10 days continuously. If the disease is not cured, treatment is repeated after one week.
- In cases of bruises, the decoction of 10 g stem bark, prepared in water is taken twice daily, till the cure is obtained.

- Water decoction is prepared from the 500 g stem bark and given to women with 1 g mixture of sulphur and coal in the ratio 1:1, for 3 days continuously to induce abortion.
- Stem bark (500 g) is crushed and boiled in 1 liter water for half an hour. It is filtered and given to women for a week after child birth for contraction of uterus and take out dirty blood after the delivery.
- Stem bark (200 g) is ground and decoction is prepared in water. It is given once at bedtime for 2 days only to treat constipation.

Biodynamic note(s): Plant: tetranortriterpenoids, flavonids; *Heartwood:* febrifugins A & B, febrinins A & B, flavonoids – naringenin, quercetin, myricetin.

Bark: CVS active; *Fruit:* febrinolide.

381. Botanical Name: *Sphaeranthus indicus* L.

Family: Asteraceae

English name(s): East Indian Globe Tree; *Local name(s):* Mundi; *Unani name(s):* Mundi; *Ayurvedic (Sanskrit/Hindi) name:* Munditika

Habit and Habitat: A pubescent, scented herb. Flowers Magenta colored in heads. Wild.

Part(s) used: Flower heads. *Locality:* Bahraich, Ranchi.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis, rheumatism, skin diseases.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus and other rural population.

Folk medicinal use(s):

- Flowers are ground and juice extracted. It is filtered and applied twice daily, in the affected eye for a week to treat conjunctivitis.
- Flowers with whole plant of 'chirchita' (*Achyranthes aspera* L.) and root of 'kateli' (*Solanum virginianum* L.) in the ratio of 1:4:1 are crushed and boiled in water. The preparation is allowed to cool and then poured over the affected joints 3-4 times a day, to obtain relief from rheumatic pain.
- Decoction is prepared using 5 g flowers and taken daily for 10-15 days to treat skin diseases. In another recipe, an oil is prepared by boiling 1 kg flowers in 1 liter of mustard oil. This oil is applied locally to treat skin diseases.

Biodynamic note(s): Plant: methylchavicol, ocimene, α -terpinene, geranyl acetate, alkaloid-sphaeranthine, β -sitosterol, stigmaterol, hentriacontane.

Plant: hypoglycemic, antifungal, antibacterial.

382. Botanical Name: *Stephania glabra* (Roxb.) Miers

Family: Menispermaceae

Local name(s): Ganjaru, Gindaru; *Ayurvedic (Sanskrit/Hindi) name:* Substitute of Patha

Habit and Habitat: A twining shrub. Flowers small whitish, in cymose umbels. Drupes glabrous, compressed. Wild. *Part(s) used:* Leaf, root. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Colic pain, common fever of cattle.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Boxas.

Folk medicinal use(s):

- The juice of leaves is used to treat colic pain.
- Paste of root is given to cattle to cure common fever.

Biodynamic note(s): Plant: benzyltetrahydroisoquinoline, corynoxidine, tetrahydropalmatine, jatrorrhizine, stepharine.

Root: hypoglycemic, spasmolytic, CNS active, antimicrobiol.

383. Botanical Name: *Sterculia villosa* Roxb. ex DC.

Family: Sterculiaceae

English name(s): Udal Wood; *Local name(s):* Gombhar, Udara; *Ayurvedic (Sanskrit/Hindi) name:* Uddalak

Habit and Habitat: A large tree with grey or brown bark. Flowers yellowish with pink center. Ripe follicles tomentose, scarlet inside. Wild. *Part(s) used:* Leaf, twig. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Spermatorrhea, to safeguard cattle from the effect of evil eyes.

Name of the tribe/caste, and other sources from whom information collected: Tharus, Vangujars.

Folk medicinal use(s):

- Dried twigs are worn on the neck of cattle to avoid the affect of evil eyes.
- Decoction of leaf is given to men to treat spermatorrhea, for 10-15 days.

Biodynamic note(s): Seed: sterculic, malvalic acids.

384. Botanical Name: *Stereospermum colais* (Dillw.) Mabberley (Syn. *S. chelonoides sensu* Cl.)

Family: Bignoniaceae

English name(s): Trumpet Flower Tree, Yellow Snake Tree; *Local name(s):* Adoki; Padar

Habit and habitat: A large tree. Flowers dull crimson, fragrant (yellow streaked within).

Capsules long upto 40 cm, terete, usually purple-spotted. Wild. *Part(s) used:* Root, seed.

Locality: Bahraich, Ranchi.

Medical efficacy claimed (name of the disease or condition): Migraine, snakebite, vertigo

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- A rosary of seeds is worn by the patient on the neck to treat migraine.
- Powdered root is given in the dose of 50 g with water to treat snakebite. Paste of the root is also applied on the bite point.
- A rosary of dried seeds is tied around head to treat vertigo.

Biodynamic note(s): Plant: lapachol; Leaf; flavones-stereolensin.

Root: antiviral, hypoglycemic, anticancer.

385. Botanical Name: *Streblus asper* Lour.

Family: Moraceae

English name(s): Silamese Rough-Bush; *Local name(s):* Sihora, Sishor; *Unani name(s):* Sihor; *Ayurvedic (Sanskrit/Hindi) name:* Shakhotaka, Sihor

Habit and Habitat: A rigid much branched shrub or small tree. Flowers axillary. Fruits yellow succulent. Wild. *Part(s) used:* Leaf twig, stem bark. *Locality:* Gonda, Gorakhpur, Keonjhar.

Medical efficacy claimed (name of the disease or condition): Filarial fever, finger decay, rickets, to strengthen gums.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Tharus.

Folk medicinal use(s):

- Stem bark(100 g) is ground and powdered. It is boiled in water in 1;4 ratio till the contents are reduced to ¼ and left overnight. This decoction is given once a day as full dose for two months to treat filarial fever. Medicine is not taken on empty stomach.
- In case of rickets, a long piece of dried stem bark is twisted and worn in the neck of suffering child.
- Leaf juice is applied externally thrice a day, for 15 days during rainy season in case of finger decay.
- Tender twig of stem is used as tooth brush to strengthen gums.

Biodynamic note(s): *Root bark:* cardenolideglycosides-kamaloside, asperoside, strebloside, luemnoside, cannondimethoside; *Stem bark:* α -amyrin acetate, lupeol acetate, lupeol, β -sitosterol.

Aerial part: anticancer, insecticidal, antiviral

386. Botanical Name: *Strychnos nux-vomica* L.

Family: Loganiaceae

English name(s): Snakewood, Nux-Vomica, Strychnine Tree; *Local name(s):* Kuchla; *Unani name(s):* Azaraqui, Kuchla; *Ayurvedic (Sanskrit/Hindi) name:* Visamusti.

Habit and Habitat: A large tree. Flowers white or greenish-white. Fruits orange, globose. Seeds discoid. Wild. *Part(s) used:* Seed. *Locality:* Gorakhpur, Keonjhar.

Medical efficacy claimed (name of the disease or condition): Dogbite, filariasis; pyorrhea.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Tharus.

Folk medicinal use(s):

- Seed paste is applied on swelling and inflammation due to filariasis.
- Seed paste is applied externally on dog bite.
- One seed is rubbed with water and 1-2 clove are mixed into it. This is applied over the gums twice daily, for 6 months, with gentle massage to treat pyorrhea.

Biodynamic note(s): Plant: alkaloids, prestrychnine; *Root bark:* hydroxyl strychnine; *Stem bark:* brucine, strychnine; *Leaf:* iso strychnine.

Leaf & Fruit: spasmolytic.

387. Botanical Name: *Strychnos potatorum* L.f.

Family: Loganiaceae

English name(s): Clearing Nut Tree; *Local name(s):* Kottak; *Ayurvedic (Sanskrit/Hindi) name:* Kataka

Habit and Habitat: A small tree. Flowers white, in cymes. Fruits globose. Wild. *Part(s) used:* Fruit. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis and cataract.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans.

Folk medicinal use(s):

- Fruits are soaked in water for 10 days and later seeds are removed. These are rubbed on a slate to obtain a paste. This paste is applied in affected eyes twice daily to treat conjunctivitis. In cases of cataract, this paste is mixed with honey and applied in eyes once daily.

Biodynamic note(s): Bark & Leaf: isomotioli, stigmasterol, campesterol, sitosterol; *Seed:* diaboline, brucin, strychnine, novacine, oleanolic acid.

Aerial part: CNS depressant.

388. Botanical Name: *Swertia chirayita* (Roxb. ex Flem.) Karsten.

Family: Gentianaceae

English name(s): Chiretta; *Local name(s):* Chirata; *Unani name(s):* Chairaita; *Ayurvedic (Sanskrit/Hindi) name:* Kiratatikta

Habit and Habitat: A robust branched undershrub. Flowers greenish-yellow with purplish tinge. Wild. *Part(s) used:* Leaf, whole plant. *Locality:* Almora, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Boxas.

Folk medicinal use(s):

- 50 ml leaf decoction with 'gur' (solidified sugarcane juice) is given thrice daily for 7-10 days. In another recipe, plant mixed with 'neelkanth' (*Ajuga parviflora* Benth.) and 'guma' (*Leucas cephalotes* (Koen. ex Roth) Spreng.) is boiled in water to make a decoction; 100 ml of this decoction are drunk thrice daily, for 7 days to treat malarial fever.

Biodynamic note(s): Plant: alkaloids-gentianine, gentiocrucine, enicoflavine, ophelic acid, glucosides-chiratin & amarogentin, gentiopicrin, swerchirin; *Root:* xanthones.

Plant: anti-inflammatory, antimalarial, hypoglycemic.

389. Botanical Name: *Symplocos racemosa* Roxb.

Family: Symplocaceae

English name(s): The Lode or Lodh Tree; *Local name(s):* Lodh; *Unani name(s):* Lodh Pathani; *Ayurvedic (Sanskrit/Hindi) name:* Lodhra.

Habit and Habitat: A small tree. Flowers white, in axillary spikes. Drupes globose-ovoid, crowned by the small calyx, 1-3 seeded. Wild. *Part(s) used:* Stem bark. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Stem bark juice is applied in affected eyes thrice daily, for 5 days.

Biodynamic note(s): Plant: betulinic acid, oleanolic acid, acetyl oleanolic acid, ellagic acid; *Stem bark:* proanthocyanidin.

Aerial part: CNS active, spasmolytic; *Stem bark:* anti-inflammatory.

390. Botanical Name: *Syzygium cuminii* (L.) Skeels

Family: Myrtaceae

English name(s): Jaman, Jambolan, Black Plum, Java Plum; *Local name(s):* Jamun; *Unani name(s):* Jamun; *Ayurvedic (Sanskrit/Hindi) name:* Jambu

Habit and Habitat: A large tree. Flowers white sessile. Berries ellipsoid or oblong, often curved. Wild. *Part(s) used:* Seed kernels, stem bark. *Locality:* Bahraich, Gorakhpur, Tehri Garhwal.

Medical efficacy claimed (name of the disease or condition): Blood dysentery, diabetes, stomachache.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Tharus.

Folk medicinal use(s):

- Seed kernels (10 g) are powdered and given with water once daily on empty stomach early in the morning to control diabetes.

- Seed powder with common salt is given to treat stomachache.
- Stem bark (5-10 g) is ground with water and given with sugar 2-3 times a day, in cases of dysentery with blood.

Biodynamic note(s): Stem: α - & β -pinene; Stem bark: kaempferol, quercetin, β -sitosterol; Leaf: sitosterol, betulinic acid, cartegolic acid; Flower: oleanolic acid, crategolic acid; Fruit: citric, mallic & gallic acid; Seed: β -sitosterol.
Aerial part: CVS active; Leaf: antibacterial; Seed Kernel: hypoglycemic.

391. Botanical Name: *Tagetes erecta* L.

Family: Asteraceae

English name(s): Aztec or African Marigold; *Local name(s):* Genda; *Ayurvedic (Sanskrit/Hindi) name:* Zhandu

Habit and Habitat: An erect annual herb. Heads yellow, campanulate. Cultivated. *Part(s) used:* Leaf. *Locality:* Kheri.

Medical efficacy claimed (name of the disease or condition): Earache.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Lukewarm leaf sap (2-3 drops) is poured in the affected ear twice daily, for 2 days.

Biodynamic note(s): Plant: essential oil; Flower: lutein, dipalmitate, monomyristate, hydroxyflavonols-quercetagenin & tagetiin.

392. Botanical Name: *Tagetes patula* L.

Family: Asteraceae

English name(s): French Marigold; *Local name(s):* Genda

Habit and habitat: An erect herb. Heads solitary, glabrous, golden to tawny. Wild. *Part(s) used:* Flower. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Blood purifier, hairline fracture.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Two or three flowers are crushed and given with water once daily, for 15 days to purify blood.
- Juice of 8-10 flowers is mixed with 'gur' (solidified sugarcane juice), and given orally for 30-40 days in cases of bone fracture.

Biodynamic note(s): Leaf: tagetone, linalool, ocimene; Flower: patuletin, allopatuletin.

393. Botanical Name: *Tamarindus indica* L.

Family: Caesalpinaceae

English name(s): Tamarind Tree; *Local name(s):* Imli; *Unani name(s):* Tamar Hindi; *Ayurvedic (Sanskrit/Hindi) name:* Cinca, Amalika

Habit and habitat: A large tree. Flowers small, red-yellow. Pods curved linear somewhat compressed. Wild. *Part(s) used:* Seed, wood. *Locality:* Bahraich, Gwalior.

Medical efficacy claimed (name of the disease or condition): Anal fistula, leucoderma.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus.

Folk medicinal use(s):

- Seeds are soaked in water and testa removed. 12 g of these seeds mixed with 6 g of crystalline sugar are made into three divided dose, and given daily, for 3 days to treat anal fistula.
- Wood coke is kept in dew overnight and ground with 'kalmi shora' (Potassium nitrate). This powder is mixed with little water and applied on white spots of affected skin thrice daily, for 45 days to treat leucoderma.

Biodynamic note(s): *Leaf:* flavones C-glycosides-orientin, vitexin; *Fruit:* tartaric acid, malic acid, β -alanine, leucine; *Seed:* lauric, palmitic, myristic, stearic, behenic, linoleic acids.

Flower: antiviral.

394. Botanical Name: *Tamarix dioica* Roxb. ex Roth

Family: Tamaricaceae

Local name(s): Jhau; *Ayurvedic (Sanskrit/Hindi) name:* Machika-bhed

Habit and habitat: A small tree. Flower pink, in drooping paniced spikes. Capsules 3-valved. Wild. *Part(s) used:* Leaf. *Locality:* Bahraich, Gwalior, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Blood dysentery, leprosy, menstrual disorders.

Name of the tribe/caste, and other sources from whom information collected: Saharias, Tharus.

Folk medicinal use(s):

- Leaves (50 g) are boiled in 200 ml water to make a decoction and allowed to cool. This is given as single dose twice daily, for 1 month to treat menstrual disorders.
- Leaves (10 g) are ground and mixed with 'gur' (solidified sugarcane juice) and given 3-4 times a day for atleast 3 days to treat blood dysentery.
- Leaves (12 g) are mixed with leaves of 'mehdi' (*Lawsonia inermis* L.) in equal quantity and boiled in 250 ml water. When it is left to one fourth, it is taken for 40-50 days continuously in cases of leprosy.

Biodynamic note(s): *Leaf:* hydroxyl-4-methoxycinnamic acid isorhamnetin.

Root: antiviral, CVS & CNS active.

395. Botanical Name: *Taxillus vestitus* (Wall.) Danser*Family:* Loranthaceae*Local name(s):* Pad*Habit and Habitat:* A robust, glabrous shrubby parasite. Flowers brown-tomentose outside, smooth and purple within. Wild. *Part(s) used:* Root. *Locality:* Pauri Garhwal.*Medical efficacy claimed (name of the disease or condition):* Colds, cough, and bronchitis.*Name of the tribe/caste, and other sources from whom information collected:* Tharus.*Folk medicinal use(s):*

- Root (5-10 g) is ground in water and given with 'gur' (solidified sugarcane juice) for 2-3 times a day to treat colds, cough and bronchitis.

396. Botanical Name: *Teliosma dillenifolia* Wall.*Family:* Sabiaceae*Local name(s):* Gol*Habit and Habitat:* A small tree covered with rusty pubescence. Fruit a drupe, globose. Wild. *Part(s) used:* Leaf. *Locality:* Pauri Garhwal.*Medical efficacy claimed (name of the disease or condition):* To extract spines.*Name of the tribe/caste, and other sources from whom information collected:* Rajis.*Folk medicinal use(s):*

- Leaf is warmed and tied at the spot of body where spine is pierced.

397. Botanical Name: *Telosma pallida* (Roxb.) Craib*Family:* Asclepiadaceae*Local name(s):* Lakhan*Habit and Habitat:* A twinning shrub. Flowers greenish or yellowish-white. Follicles solitary long. Wild. *Part(s) used:* Leaf.*Locality:* Gorakhpur.*Medical efficacy claimed (name of the disease or condition):* Swellings of body.*Name of the tribe/caste, and other sources from whom information collected:* Tharus.*Folk medicinal use(s):*

- Leaf decoction is given against general swellings of body.

Biodynamic note(s): Twig: pallidine, pallidine, sarcogenin;

Root: phenanthroindolizidine alkaloids-tylophorine, tylophorindine, pergularinine, tylophorinicine.

398. Botanical Name: *Tephrosia purpurea* (L.) Pers.

Family: Fabaceae

English name(s): Wild Indigo;

Local name(s): Sarphoka;

Unani name(s): Sarphuka; *Ayurvedic (Sanskrit/Hindi) name:* Sharpunkha

Habit and Habitat: An undershrub. Flowers purple. Pods nearly straight, 6-10 seeded. Wild.

Part(s) used: Flower, leaf, root, whole plant.

Locality: Bhopal, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Blood purifier, diabetes, pimples.

Name of the tribe/caste, and other sources from whom information collected: Gond, Rural population, Tharus.

Folk medicinal use(s):

- A decoction of root prepared in water is taken in the dose of 250 ml twice daily, on empty stomach, for 3-4 months. Simultaneously use of root powder, at the rate of 10 g per day, is also recommended, in controlling diabetes.
- Plant decoction 200 ml is given to treat pimples for 15-20 days.
- Leaves and flowers are pounded and taken (5 g) for 5-6 days to purify blood.

Biodynamic note(s): Root: flavonoids-apollinine, semiglabin, tephroglabin, pepurindiol;

Flower: flavonoid-rutin, β -sitosterol; *Seed:* diketone-pongamol.

Plant: CNS active, antiprotozoal, antihepatotoxic.

399. Botanical Name: *Teramnus labialis* (L.f.) Spreng.

Family: Fabaceae

Local name(s): Tipati; *Ayurvedic (Sanskrit/Hindi) name:* Mashaparni

Habit and Habitat: A slender twinner. Flowers solitary or clustered in few flowered axillary racemes, red. Pods narrow linear. Seeds red, black when dry. Wild. *Part(s) used:* Leaf.

Locality: Gwalior.

Medical efficacy claimed (name of the disease or condition): Vertigo.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Leaf juice is mixed with little water and rubbed over the head to treat vertigo.

Biodynamic note(s): Seed: C₁₈ unsaturated acids.

Seed: hypoglycemic, anticancer.

400. Botanical Name: *Terminalia alata* Heyne ex Roth (Syn. *T. tomentosa* (DC.) Wt. & Arn.)

Family: Combretaceae

English name(s): Laurel; Local name(s): Asna; Ayurvedic (Sanskrit/Hindi) name: Ashwakarna, Asan

Habit and Habitat: A tall tree. Flowers in lax spikes, dull yellow. Fruits 5-winged. Wild.

Part(s) used: Stem bark. Locality: Gonda.

Medical efficacy claimed (name of the disease or condition): Blood dysentery.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Stem bark (250 g) is crushed, boiled in one litre of water and allowed to cool. This decoction (100 ml) is given twice daily, for 3-5 days.

Biodynamic note(s): Leaf: β -sitosterol; Gum: oligosaccharides, disaccharides & monosaccharides; Fruit: β -sitosterol.

Stem bark: semen coagulant.

401. Botanical Name: *Terminalia arjuna* (Roxb. ex DC.) Wt. & Arn.

Family: Combretaceae

English name(s): Arjun; Local name(s): Arjun; Unani name(s): Arjun; Ayurvedic (Sanskrit/Hindi) name: Arjuna

Habit and Habitat: A large tree. Flowers white, in paniced spikes. Fruits woody, dark brown with entire or serrate wings, Wild. Part(s) used: Stem bark. Locality: Gwalior.

Medical efficacy claimed (name of the disease or condition): Palpitation (Tachycardia).

Name of the tribe/caste, and other sources from whom information collected: Saharias and other rural population.

Folk medicinal use(s):

- To treat palpitation and strengthening of heart, stem bark (12 g) is ground with milk, and given once daily, for 40 days.
- Stem bark (10 g) is boiled in 500 ml of water, until the water remains $\frac{1}{4}$ th; whole of this decoction is taken orally once a day for ten days for same ailment.

Biodynamic note(s): Bark: β -sitosterol, gallic, ellagic acids, ethyl gallate, chebulagic acid.

Flower: spermicidal; Fruit: anticancer.

402. Botanical Name: *Terminalia chebula* (Gaertn.) Retz.

Family: Combretaceae

English name(s): Chebulic Myrobalan; Local name(s): Harida; Unani name(s): Halela; Ayurvedic (Sanskrit/Hindi) name: Haritaki

Habit and Habitat: A medium-sized tree. Flowers white. Fruit ovoid or ellipsoid-obovate. Wild. *Part(s) used:* Stem bark. *Locality:* Ranchi, Kheri.

Medical efficacy claimed (name of the disease or condition): Refrigerant, to check premature graying of hair, Urinary tract infection.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- Equal quantities of the stem bark of the plant, 'amdi' (*Spondias pinnata* (L.f.) Kurz), 'aam' (*Mangifera indica* L.), 'gur' (solidified sugarcane juice) are mixed, ground and boiled in water. This preparation is given in the dose of 100 ml twice daily, for 8 days to treat urinary tract infection.
- Fruit decoction (50 ml) is given thrice daily, for 5 days as refrigerant.
- Powder of fruits, obtained by grinding is taken orally in the dose of 10 g once daily in the early morning for one month to check pre-mature graying of hair.

Biodynamic note(s): *Bark:* β -sitosterol; *Fruit:* chebulinic acid, tannic acid; *Kernel:* palmitic, stearic, oleic, linoleic, arachidic behenic acid.

Stem bark: CNS active; *Leaf:* antiviral; *Flower:* antiviral, hypoglycemic.

403. Botanical Name: *Thalictrum foliolosum* DC.

Family: Ranunculaceae

English name(s): Gold Thread; *Local name(s):* Mamiri; *Unani name(s):* Mamiran; *Ayurvedic (Sanskrit/Hindi) name:* Peetmulika, Mamiri

Habit and Habitat: An erect rigid, perennial herb. Flowers pale green or dingy purple. Achenes long, sharply ribbed. Wild. *Part(s) used:* Root. *Locality:* Chakrata.

Medical efficacy claimed (name of the disease or condition): Piles (hemorrhoids).

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Roots (5 g) are ground and given orally thrice daily to treat piles, for 21 days.

Biodynamic note(s): *Root:* alkaloids-berberine, magnoflorine, palmitine, jatrorrhizine.

Plant: spasmolytic.

404. Botanical Name: *Thespesia lampas* (Cav.) Dalz. & Gibs.

Family: Malvaceae

Local name(s): Ban Kapas, Kapas; *Ayurvedic (Sanskrit/Hindi) name:* Tundiker, Vankapas

Habit and Habitat: A deciduous shrub. Flowers large, yellow. Capsules ovoid, pointed, 3-5 valved, pilose. Seeds glabrous. Wild. *Part(s) used:* Fruit, root. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Colds and cough, cuts and wounds, depression, indigestion.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Roots (25-30 g) are ground with water and mixed with powder of 10-12 black pepper. This is taken as full dose once daily for 15-30 days. The sign of improvement begins from 5th day of treatment in cases of depression.
- Roots are mixed with common salt to the taste and given in the dose of 5 g once daily after meals to treat indigestion.
- Root is ground with water and applied externally on fresh cuts and wounds.
- In cases of colds and cough, ripe fruits are fried in ghee and ground; it is licked 3-4 times a day till cure.

Biodynamic note(s): Flower: quercetin, protocatechuic acid.

405. Botanical Name: *Thunbergia grandiflora* (Roxb. ex Rottl.) Roxb.

Family: Acanthaceae

Local name(s): Rasar

Habit and Habitat: A large climber. Flowers light-blue. Capsules glabrous, brown. *Part(s) used:* Root. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Root paste is given for rheumatic pain.

Biodynamic note(s): Leaf: potassium; Flower: glucose, fructose, aspartic acid, serine, glycine, alanine, anthocyanine.

406. Botanical Name: *Tiliacora acuminata* (Lam.) Miers

Family: Menispermaceae

Local name(s): Karwat; *Ayurvedic (Sanskrit/Hindi) name:* Krishnavetra, Karvet

Habit and Habitat: A large woody, climbing shrub. Flowers yellowish. Drupes smooth, red or yellow when ripe. Wild. *Part(s) used:* Leaf, root. *Locality:* Bahraich, Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Bronchial asthma, otitis, snakebite, wounds of cattle.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Leaf juice is used as eardrop 2-3 times a day to treat earache.
- Leaf decoction is taken for bronchial asthma.
- Root decoction is given for snakebite.
- Leaf juice is applied on cattle wounds.

Biodynamic note(s): Root bark: alkaloids-tiliacorine, tiliarine, tiliacorinine, corine, tiliacine, mohinine; Leaf: tiliacridine. Plant: CVS & CNS active, spasmolytic, hypothermic.

407. Botanical Name: *Tinospora cordifolia* (Willd.) Miers

Family: Menispermaceae

English name(s): Gulancha *Tinospora*; *Local name(s):* Burhbohni, Giloe, Gurbal, Guruch, Guruj, Neem Giloy; *Unani name(s):* Gilo; *Ayurvedic (Sanskrit/Hindi) name:* Guduchi, Giloy.

Habit and Habitat: A succulent glabrous deciduous climber with corky grooved bark and lenticelled stems. Flowers in lax racemes green-scarlet. Drupes globose, red. Wild.

Part(s) used: Root, stem, stem bark. *Locality:* Bhopal, Gonda, Gorakhpur, Kheri, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Bronchitis with fever, common fever, cuts and wounds, diabetes, Galactagogue in cattle, leucorrhea, malarial fever, spermatorrhoea, swelling of body.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Gond, Lunias, Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Decoction of stem bark is given to treat malarial fever.
- A decoction of fresh root prepared in water is taken in the dose of 250 ml twice daily, on empty stomach, for 3-4 months to control diabetes. Use of root powder at the rate of 10 g per day, is also recommended simultaneously, for quick relief.
- In cases of cuts and wounds, the stem bits are crushed, put in a thin cloth and squeezed to get the juice and applied externally, 2-3 times a day till the cure is obtained.
- Stem decoction (25 ml) is given for 7-15 days to treat common fever, spermatorrhoea and general swellings of body.
- The paste of fresh stem with seeds of 'kheera' (*Cucumis sativa* L.) is used for treating leucorrhoea.
- The stem bits are ground in little water and made into pills of about 3 g each with crystalline sugar. Two or three pills are given thrice a day, for five consecutive days to treat bronchitis with fever.
- Stem pieces mixed with fodder are given to cows and buffaloes as galactagogue.

Biodynamic note(s): *Stem:* cordifol, tinosporidine, heptacosanol, β -sitosterol; *Leaf:* cordifolone, heptacosanol.

Plant: spasmolytic; *Stem:* antiviral, hypoglycemic, anticancer.

408. *Toona ciliata* Roem.

Family: Meliaceae

Local name(s): Tun; *Unani name(s):* Tun; *Ayurvedic / Hindi name:* Tuni

Habit and Habitat: A tall, deciduous tree. Flowers white, scented. Capsules oblong, 5-valved. seeds winged at both ends. Wild. *Part(s) used:* Root. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): To avoid effect of evil eye.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Root piece is worn in the neck of children to avoid the effect of evil eyes.

Biodynamic note(s): Bark: toonacilin; *Heartwood:* β -sitosterol, coumarin-siderin, geranylgeraniol, fatty esters, hydrocarbons.

Stem bark: anticancer; *Leaf:* CNS active, hypoglycemic, antiprotozoal.

409. Botanical Name: *Trianthema portulacastrum* L.

Family: Aizoaceae

Local name(s): Biskhapra, Santh; *Ayurvedic (Sanskrit/Hindi) name:* Varsabhu

Habit and Habitat: A succulent herb. Flowers solitary, white or pinkish. Capsules circumsciss. Seeds black with concentric lines. Wild. *Part(s) used:* Leaf, root, whole plant. *Locality:* Kheri, Mathura, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Jaundice, typhoid fever.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Tharus and other rural population.

Folk medicinal use(s):

- Decoction of leaf is used to treat typhoid fever. In another recipe, whole plant is crushed in fresh water and filtered. The filtrate is given in the dose of 5 ml twice daily for 15 days.
- Root (5-6 g) is ground with 4-5 grains of black pepper and given twice daily, for 8 days to treat jaundice.

Biodynamic note(s): Plant: ecdysterone, nicotinic acid, ascorbic acid; *Root:* trianthemine.

Plant: CVS active, spasmolytic.

410. Botanical Name: *Tribulus terrestris* L.

Family: Zygophyllaceae

English name(s): Land Catrops, Puncture Vine; *Local name(s):* Gokhru; *Unani name(s):* Khar-e-Khasak Khurd; *Ayurvedic (Sanskrit/Hindi) name:* Goksura

Habit and Habitat: A prostrate herb. Flowers pale yellowish. Fruits usually hairy, cocci each with 2 very sharp rigid spines and 2 shorter ones. Wild. *Part(s) used:* Fruit. *Locality:* Bhopal, Mathura.

Medical efficacy claimed (name of the disease or condition): Diabetes, renal calculus, spermatorrhoea.

Name of the tribe/caste, and other sources from whom information collected: Gond and other rural population.

Folk medicinal use(s):

- The fruits are ground and mixed with the sawdust of Sandalwood. From this mixture, decoction is prepared in water and given in the dose of 250 ml once a day, for 10 days to control diabetes.
- Fruits are boiled in water and later crushed. This is given in the dose of 5 g twice daily, for a week in cases of spermatorrhea.
- Fruits (6-8 g) along with equal quantities of 'apkhanbed' (*Saxifraga*) and 'jawasa' (camel-thorn) are powdered and kept in pouches, decoction of single pouch is consumed once a day for 15-20 days to get rid of renal calculus.

Biodynamic note(s): Plant: carboline alkaloids, steroidal, sapogenins, saponins, flavonoids, diosgenin; *Root:* phytosterols, campesterol, β -sitosterol, stigmasterol, aminoacids; *Fruit:* quercetin, kaempferol; *Seed:* carboline alkaloids-harmine & harmine.
Plant: CVS active, spasmolytic, cardiogenic.

411. Botanical Name: *Trichodesma indica* (L.) R. Br.

Family: Boraginaceae

Local name(s): Harua, Itarua, Khaddhar, Andaoli, Aundhi Ghas; *Ayurvedic (Sanskrit/ Hindi) name:* Adhpushpi

Habit and Habitat: A much branched, diffuse, hispid herb. Flowers blue or violet. Nutlets white, smooth. Wild. *Part(s) used:* Leaf, root, whole plant. *Locality:* Pauri Garhwal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Abscesses of backbone, diarrhea in cattle, piles, swellings of body.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhotias, Dhimars and other rural population.

Folk medicinal use(s):

- The root paste is applied as poultice for treating abscesses of backbone.
- In cases of swelling of body, fresh root paste is applied externally over the affected part of the body twice daily, till cure.
- Patients of piles are made to sit over an opening of a desk with pile exposed to the opening. This part is fumigated with the plants burnt daily until the piles are cured.
- Leaf paste is given to cattle in cases of diarrhea.

Biodynamic note(s): *Leaf:* hexacosane, ethyl hexacosanoate.

412. Botanical Name: *Trichosanthes tricuspidata* Lour. (Syn. *T. bracteata* (Lam.) Voigt)

Family: Cucurbitaceae

Local name(s): Illaru, Panchangra; *Ayurvedic (Sanskrit/Hindi) name:* Visala

Habit and Habitat: A climbing herb. Flowers white. Fruits bright red with 10 longitudinal streaks. Wild. *Part(s) used:* Root, seed. *Locality:* Bharatpur, Tehri.

Medical efficacy claimed (name of the disease or condition): Rheumatic pain, to check conception.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population

Folk medicinal use(s):

- To check conception, powdered seeds (10g) are taken by women for 5 days after menstruation.
- Root paste is applied externally on affected joints for the treatment of rheumatic pain.

Biodynamic note(s): Root: tetrahydroxypentacyclic triterpenoid-trichotetrol.

413. Botanical Name: *Tridax procumbens* L.

Family: Asteraceae

English name(s): Mexican Daisy, Coat buttons; *Local name(s):* Ghamra, Ghao-patta, Goma; *Ayurvedic (Sanskrit/Hindi) name:* Jayanti

Habit and Habitat: A procumbent herb. Flowers yellow. Achenes black, densely hairy. Wild.

Part(s) used: Leaf, whole plant. *Locality:* Gwalior, Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Cuts, decaying of fingers, worms in children.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Saharias.

Folk medicinal use(s):

- Fresh paste of whole plant especially leaf is applied over the affected part twice daily, till cure in cases of decaying of fingers.
- Juice of whole plant is applied externally over the cuts, thrice a day.
- Mature leaves of the plant and young leaves of 'amrod' (*Psidium guajava* L.) are mixed in equal quantity and crushed to obtain juice. It is given in the dose of 100 ml twice daily for 3-4 days, to expel worms in children.

Biodynamic note(s): Plant: β -sitosterol, tannin; *Leaf:* β -amyrin, β -amyrone, sitosterol, myristic, stearic acids; *Flower:* luteolin, glucoluteolin, quercetin, isoquercetin.

414. Botanical Name: *Trigonella foenum-graecum* L.

Family: Fabaceae

English name(s): Fenugreek; *Local name(s):* Maithi; *Unani name(s):* Hulba, Methi; *Ayurvedic (Sanskrit/Hindi) name:* Methi, Kasoori Methi.

Habit and habitat: An erect strong-smelling herb. Flowers pale-yellow. Pods straight, often falcate with a long beak. Cultivated. *Part(s) used:* Leaf, seed. *Locality:* Bhopal.

Medical efficacy claimed (name of the disease or condition): Diabetes.

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- The seeds and dry leaves are mixed with the seeds of 'kulfa' (*Portulaca oleracea* L.) and ground to make a powder which is given at the rate of 25 g per day early morning on empty stomach, for 15 days initially. The treatment is repeated after a month, but dose is reduce to half.

Biodynamic note(s): Plant: scopoletin; *Stem:* diosgenin, coumarin-scopoletin; *Leaf:* saponins-gracunins, flavonoids-kaempferol, quercetin; *Seed:* sapogenins-diosgenin, tigogenin. *Seed:* diuretic, CNS depressant, hypotensive, cardi tonic.

415. Botanical Name: *Triticum aestivum* L.

Family: Poaceae

English name(s): Common Wheat, Bread Wheat; *Local name(s):* Gehun; *Unani name(s):* Nishasta-e-Gandum; *Ayurvedic (Sanskrit/Hindi) name:* Godhum, Gehu.

Habit and Habitat: An annual grass, with flat leaves. Spikelets solitary, awned. Grains grooved ventrally, often hairy, free or adhering to the palea. Cultivated. *Part(s) used:* Grain. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- The paste of soaked grains (100 g) is given with curd to treat spermatorrhea, for 10 days.

Biodynamic note(s): Leaf: isoorientin, luto-narin, tricin; *Kernel:* hexacosane, β -sitosterol, nicotinic acid, tocopherols, α -amylase.

416. Botanical Name: *Urena lobata* L.

Family: Malvaceae

Local name(s): Parsolita, Parsoti; *Ayurvedic (Sanskrit/Hindi) name:* Nagbala.

Habit and Habitat: A herb or undershrub with stellate hairs. Flowers pink. Carpels glochidiate. Wild. *Part(s) used:* Root. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Common fever, leucorrhea, malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Tahrus.

Folk medicinal use(s):

- Root is crushed and given with water especially in cases of malaria after delivery.
- Root paste with black pepper is given for leucorrhea.
- Root paste with black pepper is given for treating common fever, particularly during pregnancy.

Biodynamic note(s): Plant: alkanes, stigmasterol, β -sitosterol, quercetin; *Seed:* protein, pentosan, mangiferin, urease.

417. Botanical Name: *Urtica dioica* L.

Family: Urticaceae

English name(s): Stinging Nettle ; *Local name(s):* Kandali, Bichhughas; *Ayurvedic (Sanskrit/Hindi) name:* Vrashchayashak-bhed

Habit and Habitat: A deciduous, perennial herb. Flowers pale-greenish to whitish. Achenes ovoid-ellipsoid, pale-green or brownish. Wild. *Part(s) used:* Flowering twig, leaf. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Night blindness, to increase lactation in cattle.

Name of the tribe/caste, and other sources from whom information collected: Bhojas, Tharus. *Folk medicinal use(s):*

- Leaves are used as vegetable in cooked form to treat night blindness.
- Flowering twigs are mixed with fodder and fed to cattle to increase lactation.

Biodynamic note(s): Plant: vitamins, carotenes; *Leaf:* betaine, choline, essential amino acids; *Seed:* fatty oil, linoleic acid. *Leaf:* antidiabetic, anticancerous, antianemic.

418. Botanical Name: *Vallisneria spiralis* (L.) Kuntze

Family: Apocynaceae

Local name(s): Jatadhari Kapoori; *Ayurvedic (Sanskrit/Hindi) name:* Asphota

Habit and Habitat: A large twining or straggling shrub. Flowers white. Follicles long. Seeds hollowed on the face. Wild. *Part(s) used:* Root. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Impotency.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Root powder (10 g) is used for 3-4 months to treat impotency.

Biodynamic note(s): Leaf: β -sitosterol, β -amyrin, ursolic acid; *Seed:* palmitic acid, vallaroside, vallarosolanoside.

419. Botanical Name: *Vanda tessellata* (Roxb.) Hk. f. ex G. Don (Syn. *V. roxburghii* R.Br.)

Family: Orchidaceae

Local name(s): Had judia, Hadjurma, Harjora, Kanchapra; *Ayurvedic (Sanskrit/Hindi) name:* Rasna

Habit and Habitat: An epiphyte with narrow complicate premorse leaves. Flowers yellowish-green or bluish with brown nerves. Wild. *Part(s) used:* Leaf, whole plant. *Locality:* Bahriach, Kheri, Ranchi.

Medical efficacy claimed (name of the disease or condition): Backache, bone fracture.

Name of the tribe/caste, and other sources from whom information collected: Asur, Tharus.

Folk medicinal use(s):

- Fresh leaves are ground to make a paste and turmeric powder is mixed. This is fried in mustard oil and externally applied on the broken bone and bandage done using splint. The treatment is continued for 30 days, using fresh paste every alternate day.
- Whole plant is boiled in seed oil of 'karanj' (*Pongamia pinnata*(L.) Pierre) in 1:2 ratio, and filtered. It is applied externally and light massage done on back of patient twice daily for 15 days to treat backache.

Biodynamic note(s): Plant: β -& γ -sitosterol, fatty acid compounds.

Root: glycoside from roots against arthritis.

420. *Botanical Name:* *Vanda testacea* (Lindl.) Reichb.f. (Syn. *V. parviflora* Lindl.)

Family: Orchidaceae

Local name(s): Banda

Habit and Habitat: A small epiphyte. Flowers yellow with fleshy blue ridges. Wild. *Part(s) used:* Leaf. *Locality:* Amarkantak.

Medical efficacy claimed (name of the disease or condition): Otitis (Earache).

Name of the tribe/caste, and other sources from whom information collected: Gond.

Folk medicinal use(s):

- Leaf juice (1-2 drops) is poured in the affected ear 2-3 times a day.

421. *Botanical Name:* *Verbascum thapsus* L.

Family: Scrophulariaceae

English name(s): Cow's Lungwort, Common Mullein; *Local name(s):* Gidar tamaku; *Ayurvedic (Sanskrit/Hindi) name:* Gidar tambaku

Habit and Habitat: An erect, tomentose herb. Flowers yellow in terminal spikes. Capsules ovoid, tomentose. Wild. *Part(s) used:* Flower. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- The extract of flowers is applied in eyes to treat conjunctivitis.

Biodynamic note(s): *Leaf*: rotenone; *Capsule*: saponins-thapsuines A & B, α -spinasterol; *Seed*: palmitic, stearic, oleic, linoleic, linolenic, arachidic, behenic acid, β -sitosterols.

422. Botanical Name: *Vernonia cinerea* (L.) Less

Family: Asteraceae

English name(s): Ash colored Fleabane, Purple Fleabane; *Local name(s)*: Sahdei; *Ayurvedic (Sanskrit/Hindi) name*: Sahadevi

Habit and Habitat: an erect, decumbent branched herb. Heads with light purple flowers. Achenes appressed hairy. Wild. *Part(s) used*: Leaf, root, whole plant. *Locality*: Aligarh, Gorakhpur, Mainpuri.

Medical efficacy claimed (name of the disease or condition): Conjunctivitis, leucorrhea, malarial fever.

Name of the tribe/caste, and other sources from whom information collected: Tharus and other rural population.

Folk medicinal use(s):

- Leaf juice is applied in eye 2-3 times a day and also washed with cold water to treat conjunctivitis.
- Leaf juice and root paste is given to treat leucorrhea.
- Whole plant is pounded and mixed with little honey; of this pills of 5 g are prepared and taken with fresh water thrice daily, for 4-5 days to treat malaria.

Biodynamic note(s): *Plant*: triterpene compounds- β -amyrin acetate, lupeol, β -sitosterol, stigmasterol, α -spinesterol.

Plant: antiviral, spasmolytic, anticancer.

423. Botanical Name: *Vetiveria zizanioides* (L.) Nash

Family: Poaceae

English name(s): Vetiver, Khas-Khas, Khus-Khus;

Local name(s): Khas;

Unani name(s): Khas; *Ayurvedic (Sanskrit/Hindi) name*: Usira, Khas.

Habit and Habitat: A stout, tufted, rigid grass. Spikelets muricate and muriculate, linear. Wild. *Part(s) used*: Inflorescence. *Locality*: Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Blood dysentery.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- The paste of inflorescence along with crystalline sugar is given to treat blood dysentery.

Biodynamic note(s): *Plant:* vestiselinol, khusimol, khusilal, elemol, β -eudesmol, vetiverol, cyclocopacamphenol, α -& β -vetivone, laevojuenol, sesquiterpenoids, vetidol. *Root:* CNS active.

424. Botanical Name: *Viburnum cylindricum* Buch.-Ham. ex D.Don (Syn. *V. coriaceum* Bl.)

Family: Caprifoliaceae

Local name(s): Malya, Rashnia; *Ayurvedic (Sanskrit/Hindi) name:* Tilwak-bhed

Habit and Habitat: A shrub or small tree. Flowers whitish, in terminal umbellate corymb.

Drupes orange when ripe. Wild. *Part(s) used:* Stem bark. *Locality:* Chakrata.

Medical efficacy claimed (name of the disease or condition): Intestinal worms.

Name of the tribe/caste, and other sources from whom information collected: Khasas.

Folk medicinal use(s):

- Stem bark juice (10 ml) is given to children once in a day for 3-4 days. This helps in expelling the intestinal worms.

425. Botanical Name: *Vigna radiata* (L.) Wilczek (Syn. *Phaseolus radiatus* L.)

Family: Fabaceae

English name(s): Green Gram, Golden Gram; *Local name(s):* Moong; *Ayurvedic (Sanskrit/Hindi) name:* Mudga, Moong

Habit and Habitat: A trailing, hispid herb. Flowers yellow. Pods hairy. Seeds blackish-green.

Cultivated. *Part(s) used:* Leaf. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Cuts and wounds.

Name of the tribe/caste, and other sources from whom information collected: Saharias.

Folk medicinal use(s):

- Leaf paste is applied locally.

Biodynamic note(s): *Leaf:* saponin; *Seed:* riboflavin, folic acid, palmitic acid, linoleic acids, linoleic acids, methionine, tryptophan, tyrosin, abrabinalactan.

426. Botanical Name: *Viola canescens* Wall.

Family: Violaceae

Local name(s): Gulvansha

Habit and Habitat: A stoloniferous perennial herb. Flowers white. Capsules cylindric. Wild.

Part(s) used: Flower. *Locality:* Chakrata.

Medical efficacy claimed (name of the disease or condition): Cold and cough, menorrhagia.

Name of the tribe/caste, and other sources from whom information collected: Khasas.

Folk medicinal use(s):

- Equal quantities of flowers of 'golvansha' (*Viola canescens* Wall), 'mulethi' (root of *Glycyrrhiza glabra* L.), 'munaka' (fruit of *Vitis* sp.), 'amla' (fruits of *Phyllanthus emblica* L.) and leaves of 'tulsi' (*Ocimum sanctum* L.) are boiled in water to make a concentrated decoction which is cooled and drunk twice daily, for 7 days to treat cold and cough.
- In cases of menorrhagia, whole plant (50 g) is mixed with 25 g seeds of 'kapas' (*Gossypium herbaceum* L.), 30 g pulp of 'amaltas' fruits (*Cassia fistula* L.), 12 g seeds of 'gajar' (*Daucus carota* L.) and 50 g 'gur' (solidified sugarcane juice) and boiled in 2 liter of water till it is reduced to one fourth. This preparation is divided into six equal doses and given to women twice daily, for 3 days in cases of menorrhagia. The treatment is repeated for three consecutive menstrual cycles.

427. Botanical Name: *Viola pilosa* Bl. (Syn. *V. serpens* Wall. ex Ging.)*Family:* Violaceae*Local name(s):* Banafsa; *Unani name(s):* Banafsha*Habit and Habitat:* A glabrous or pubescent perennial herb. Flowers white or blue in long axillary stalk. Capsules ovoid. Wild. *Part(s) used:* Flower, leaf, whole plant. *Locality:* Pauri Garhwal.*Medical efficacy claimed (name of the disease or condition):* Burning sensation, fever due to colds, menorrhagia.*Name of the tribe/caste, and other sources from whom information collected:* Bhotias.*Folk medicinal use(s):*

- Decoction of flowers is given in fever due to colds.
- Whole plant in the form of paste is used against menorrhagia; a dose of 50 g is given once a day for a month.
- The paste of leaves is applied on head and palm of the patient to treat burning sensation.

Biodynamic note(s): Root: glucoside methyl salicylate, alkaloids, violin, viola quercitrin, rutin & saponin.428. Botanical Name: *Viscum articulatum* Burm. f.*Family:* Loranthaceae*Local name(s):* Banda; *Ayurvedic (Sanskrit/Hindi) name:* Panpudu*Habit and Habitat:* A dichotomously much-branched, leafless, stem-parasitic shrub, with jointed, flattened, dark green branches. Flowers minute, greenish yellow. Fruits subglobose, yellow, smooth. *Part(s) used:* Whole plant. *Locality:* Gorakhpur.*Medical efficacy claimed (name of the disease or condition):* Filial fever.*Name of the tribe/caste, and other sources from whom information collected:* Tharus.*Folk medicinal use(s):*

- Paste of whole plant is given with water to treat filarial fever.

Biodynamic note(s): Plant: oleanolic acid, ceryl oleanolate, mesoinositol.

429. Botanical Name: *Vitex leucoxylon* L.f.

Family: Verbenaceae

Local name(s): Gari-Guda; *Ayurvedic (Sanskrit/Hindi) name:* Paravat padi

Habit and Habitat: A large shrub. Flowers white. Drupe ellipsoid. Wild. *Part(s) used:* Stem bark. *Locality:* Ranchi.

Medical efficacy claimed (name of the disease or condition): Snakebite.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Stem bark (10-20 g) is powdered and repeatedly given with water to snake bite patient 5-6 times at an interval of 30-40 minutes until cure.

430. Botanical Name: *Vitex negundo* L.

Family: Verbenaceae

English name(s): Five-leaved Chaste Tree;

Local name(s): Bigunia, Sendwar, Sambhalu;

Unani name(s): Sambhalu; *Ayurvedic (Sanskrit/Hindi) name:* Renuka-Bhed, Nirgundi

Habit and Habitat: An evergreen shrub. Flowers violet or blue to pale violet, in terminal long panicles. Fruits globose. Wild. *Part(s) used:* Flower, fruit, leaf, stem.

Locality: Keonjhar, Ranchi.

Medical efficacy claimed (name of the disease or condition): Joints pain, migraine, prolonged fever, rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Vangujars

Folk medicinal use(s):

- Fresh juice of leaves and stem is given in the dose of 20 ml twice daily, for 2 months to treat rheumatism.
- Leaf, flowers, fruits and stems (1 kg each are crushed and boiled in 4 liter water till it is left to 200 ml. This decoction is given twice daily for 5-7 days in cases of prolonged fever.
- In cases of migraine, leaf extract is inhaled by the patient. It gives severe irritation for 10-15 minutes which later subsides alongwith pain.
- Crushed leaves are boiled in water and the decoction is poured on affected joints to relieve pain.

Biodynamic note(s): Bark: leucoanthocyanidins, fatty acid, β -sitosterol, vanilic acid, luteolin;
Leaf: casticin, aucubin;

Seed: hydrocarbons-n-triacontane, n-pentatriacontane, β -sitosterol.

Leaf: anti-inflammatory, analgesic, CNS depressant.

431. Botanical Name: *Wendlandia tinctoria* (Roxb.) DC.

Family: Rubiaceae

Local name(s): Barka arjun; *Ayurvedic (Sanskrit/Hindi) name:* Tilak-bhed

Habit and Habitat: A small tree or large shrub. Flowers small, white. Capsules pubescent, reddish. Wild. *Part(s) used:* Stem bark. *Locality:* Gonda.

Medical efficacy claimed (name of the disease or condition): General Tonic.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Stem bark is mixed with fruits of *Cordia dichotoma* Forst. f. in equal quantities, ground and taken in the dose of 20 g twice daily, for 1 month, with milk.

432. Botanical Name: *Withania somnifera* (L.) Dunal

Family: Solanaceae

English name(s): Aswagandha;

Local name(s): Asgandh;

Unani name(s): Asgand; *Ayurvedic (Sanskrit/Hindi) name:* Ashwagandha

Habit and Habitat: An erect, much branched undershrub. Flowers greenish or yellowish. Berries orange-red enclosed in the inflated membranous calyx. Wild. *Part(s) used:* Leaf, root. *Locality:* Bahraich, Gorakhpur, Keonjhar, Mainpuri, Mathura, Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Abscesses, arthritis, boils, bronchial asthma, leucorrhea, menorrhagia.

Name of the tribe/caste, and other sources from whom information collected: Bhotias, Bhuyans, Tharus and other rural population.

Folk medicinal use(s):

- Root paste (10 g) is given with milk once daily, for one month to treat leucorrhea.
- Root powder mixed with black peppers and seeds of *Linum usitatissimum* L. is given for bronchial asthma.
- Root powder (6 g) is taken with goat milk for about 2 months in cases of arthritis. During treatment use of rice is avoided.
- Root (25 g) is ground and mixed with 'misri' (crystalline sugar). It is given to women, especially after delivery to check excess bleeding, once daily for 5 days.
- Ghee is applied over the dorsal surface of the leaf which is lukewarmed and then tied on abscess for 3 days.
- Warm leaf is applied with latex of 'madar' (*Calotropis procera* (Ait.) R.Br.) and tied over to boils for 5-6 hours.

Biodynamic note(s): Leaf: withaferin A, withanolides;

Root: alkaloids-nitcotine, somnine, somniferine, somniferinine, withanine, tropine.

Plant: galactogogue, antitumor; *Leaf:* CNS active.

433. Botanical Name: *Woodfordia fruticosa* (L.) Kuntz

Family: Lythraceae

English name(s): Fire Flame Bush, Shiranji tea; *Local name(s):* Dhawai ke Phool, Dhawi, Dhota, Duthi; *Unani name(s):* Dhawa; *Ayurvedic (Sanskrit/Hindi) name:* Dhataki

Habit and Habitat: A much branched shrub. Flowers scarlet. Fruits dry with thin walls. Seeds obovate, smooth. Wild. *Part(s) used:* Flower, stem bark. *Locality:* Gorakhpur, Gwalior, Ranchi.

Medical efficacy claimed (name of the disease or condition): Abdominal pain, colds during delivery, infantile diarrhea, menorrhagia, nose bleeding, refrigerant.

Name of the tribe/caste, and other sources from whom information collected: Asur, Saharias, Tharus and other rural population.

Folk medicinal use(s):

- Mashed flowers are given to women to treat menorrhagia.
- During exceedingly hot summers, the flowers are made into squash and given twice daily in the dose of 10 ml as refrigerant.
- Fresh juice of flowers is poured into the nostrils of patient, which is stated to check nose bleeding immediately.
- In cases of colds during delivery, stem bark decoction is given in the dose of 10 ml thrice daily. This dose is used as preventive drug against cold by the local inhabitants.
- Fresh flowers are macerated in water and given (1-3 ml) orally for 3 days according to age of child to treat diarrhea.

Biodynamic note(s): Stem: octacosanol, β -sitosterol, bergenin, gallic acid; *Leaf:* polyphenols, ellagic acid, polystachoside; *Flower:* anthocyanins, octacosanol, β -sitosterol.

Shoot: antibiotic; *Flower:* abortifacient.

434. Botanical Name: *Wrightia tinctoria* (Roxb.) R.Br.

Family: Apocynaceae

English name(s): Pala Indigo Plant; *Local name(s):* Inderjo; *Unani name(s):* Inderjo shirin; *Ayurvedic (Sanskrit/Hindi) name:* Kutaj, Inderjo

Habit and Habitat: A small tree with white milky juice. Flowers white. Follicles long, curved and cohering at the tip, slender. Wild. *Part(s) used:* Stem bark. *Locality:* Bahraich.

Medical efficacy claimed (name of the disease or condition): To check conception.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Stem bark paste (15 g) is given with water twice daily, for 7 days after menses.

Biodynamic note(s): Bark: β -amyirin, β -sitosterol, lupeol; *Leaf:* α -amyirin; *Pod:* α -amyirin, β -sitosterol, ursolic acid, oleanolic acids.

435. Botanical Name: *Xeromphis spinosa* (Thunb.) Keay (Syn. *Randia dumetorum* (Retz.) Lamk.)

Family: Rubiaceae

English name(s): Emetic nut tree; *Local name(s):* Manwha; *Ayurvedic (Sanskrit/Hindi) name:* Madana, Mainphal

Habit and Habitat: A small armed tree or large shrub. Flowers white, turning yellow. Berries globose or ovoid, yellow when ripe. Wild. *Part(s) used:* Fruit, root, seed. *Locality:* Amarkantak, Keonjhar, Pauri Garhwal, Ranchi.

Medical efficacy claimed (name of the disease or condition): Boils, pneumonia fever, small pox.

Name of the tribe/caste, and other sources from whom information collected: Asur, Bhuyans, Boxas, Gond.

Folk medicinal use(s):

- Fruit is ground to make a fine paste and applied externally on the boils, 3-4 times a day.
- In cases of pneumonia fever, crushed fruits (10-15) are boiled in 500 ml seed oil of 'karanj' (*Pongamia pinnata* (L.) Pierre) for 1 hour and the oil is applied externally on the chest and back of patient 3-4 times a day and light massage done. The chest is covered by thick cotton pad and tied with cloth to prevent from cold.
- Decoction of root is given in the dose of 25 ml twice daily, for 21 days to treat small pox.

Biodynamic note(s): Fruit: acid saponin, essential oil, acid resin, micro-crystalline, saponin-ursosaponin, β -sitosterol; *Seed:* lead.

Root bark: insecticidal.

436. Botanical Name: *Xeromphis uliginosa* (Retz.) Mahesh. (Syn. *Catunaregam uliginosa* (Retz.) Siva)

Family: Rubiaceae

Local name(s): Gan, Pidar; *Ayurvedic (Sanskrit/Hindi) name:* Pinditak

Habit and Habitat: A small tree or shrub. Flowers white. Berries large ellipsoid long. Wild. *Part(s) used:* Fruit, leaf. *Locality:* Gorakhpur, Udaipur.

Medical efficacy claimed (name of the disease or condition): Dysentery, tonsillitis.

Name of the tribe/caste, and other sources from whom information collected: Garasias, Paharias.

Folk medicinal use(s):

- A lukewarm paste of the fruit is applied on the neck at the affected point twice a day, for 15 days in cases of tonsillitis.
- Leaf juice with powder of black pepper grains is given for dysentery.

Biodynamic note(s): Wood: pyroligneous acid, methanol; Fruit: mannitol, leucoanthocyanidin, saponins.

437. *Zanthoxylum armatum* DC. (Syn. *Z. alatum* Roxb.)

Family: Rutaceae

Local name(s): Timbru; *Unani name(s):* Kabab-e-Khandan; *Ayurvedic (Sanskrit/Hindi) name:* Tumburu

Habit and Habitat: A shrub or small tree with strong prickles. Flowers yellow in lateral panicles. Fruits red, globose tubercled. Wild. *Part(s) used:* Stem bark. *Locality:* Pauri Garhwal.

Medical efficacy claimed (name of the disease or condition): Local anesthesia, pyorrhea.

Name of the tribe/caste, and other sources from whom information collected: Bhotias.

Folk medicinal use(s):

- Stem bark is applied as local anesthesia.
- The powder of seeds mixed with powder of nut shells of 'akhrot' (*Juglans regia* L.) is used as dentifrice in pyorrhea.

Biodynamic note(s): Bark: lignans-sesamin, fargesin, eudesmin; Leaf: methyl-n-nonylketone, linalylacetate; Fruit: linalool, linalylacetate, limonene, citral, geraniol; Seed: flavonoids-tambulin & tambulol.

Fruit: antibacterial, anthelmintic.

438. Botanical Name: *Zingiber capitatum* Roxb.

Family: Zingiberaceae

Local name(s): Koriyari

Habit and Habitat: A very aromatic plant with leafy stems. Flowers pale yellow. Wild.

Part(s) used: Root stock, seed. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Bodyaches, fever, palpitation, rheumatism.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Seed paste is given for common fever.
- Root-stock paste is applied on affected joints in rheumatism.
- Root-stock paste is given orally for palpitation and bodyaches.

439. Botanical Name: *Zingiber officinale* Rosc.

Family: Zingiberaceae

English name(s): Ginger

Local name(s): Adrak; Unani name(s): Zanjabeel, Adrak; Ayurvedic (Sanskrit/Hindi) name: Ardraka, Sunthi

Habit and Habitat: An erect perennial herb; rhizome stout tuberous with erect leafy stems. Flowers greenish with a small dark purple or purplish-black lip, in radical spikes. Cultivated. Part(s) used: Rhizome. Locality: Aligarh, Chakrata, Mathura.

Medical efficacy claimed (name of the disease or condition): Bronchitis, headache, malarial fever, migraine.

Name of the tribe/caste, and other sources from whom information collected: Khasas and other rural population.

Folk medicinal use(s):

- Rhizome paste is given with goat's milk especially in cases of malaria during pregnancy.
- Rhizome (5-10 g) is cut into pieces and is supplemented with common salt. This mixture is fried and eaten as such in cases of bronchitis. The treatment is given for 2-3 days, twice daily, during cold season.
- The paste of rhizome is fried in ghee and mixed with some common salt and given orally in headache and body pain.
- Root of the plant with root of 'asgandh' (*Withania somnifera* (L.) Dunal) in equal quantities are ground and given in the dose of 6 g twice daily for 15-20 days to treat migraine.

Biodynamic note(s): Plant: d-camphene, β -phelandrene, cineole, citral, borneol, gingerol, α -pinene, limonene, methylhelptenone; Rhizome: aminoacids-asparagine, pipercolic acid.

Rhizome: antioxidant.

440. Botanical Name: *Zingiber roseum* Rosc.

Family: Zingiberaceae

Local name(s): Jangli Adrak

Habit and Habitat: A perennial herb with leafy stems. Flowers red-yellow. Wild. Part(s) used: Rhizome. Locality: Ranchi.

Medical efficacy claimed (name of the disease or condition): For contraction of uterus after delivery; malarial fever with bodyache.

Name of the tribe/caste, and other sources from whom information collected: Asur.

Folk medicinal use(s):

- Rhizome (12 g), five fruits of 'anwra' (*Phyllanthus emblica* L.) and 10 leaves of 'murghetni' (*Nyctanthes arbor-tristis* L.) are ground along with 25-30 grains of black pepper. The mixture is boiled in 1 liter of water to make a decoction, and given to women twice daily, for contraction of uterus after delivery.

- Rhizome is ground and mixed with power of 21 grains of black pepper and given with milk in the dose of 5 g twice daily, for 3 days to treat malarial fever with bodyache.

441. Botanical Name: *Zizyphus nummularia* (Burm.f.) Wt. & Arn.

Family: Rhamnaceae

English name(s): Wild Jujube; *Local name(s):* Jharberrya; *Unani name(s):* Jharberi

Habit and Habitat: A small shrub. Flowers in axillary fascicles. Fruits a drupe. Wild. *Part(s) used:* Fruit. *Locality:* Gorakhpur.

Medical efficacy claimed (name of the disease or condition): Spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Tharus.

Folk medicinal use(s):

- Fruit pulp is taken to treat spermatorrhea.

Biodynamic note(s): *Root bark:* tannin, cyclopeptide alkaloids-nummularines A, B & C mucronine D & amphibine H. *Leaf:* ascorbic acid.

442. Botanical Name: *Zizyphus xylopyrus* (Retz.) Willd.

Family: Rhamnaceae

Local name(s): Ghutair, Pithore; *Ayurvedic(Sanskrit/Hindi) name:* Ghonta

Habit and Habitat: A small straggling, thorny tree. Flowers green, in axillary peduncled cymes. Fruits globose deep green when ripe with very hard stone. Wild. *Part(s) used:* Root, stem bark. *Locality:* Amarkantak, Ranchi.

Medical efficacy claimed (name of the disease or condition): Gastritis, leucorrhea, spermatorrhea.

Name of the tribe/caste, and other sources from whom information collected: Asur, Gond.

Folk medicinal use(s):

- Paste of the root (10 g) is given with water twice daily, for 3-4 days to treat gastritis.
- Roots along with bark of 'dhay' (*Woodfordia fruticosa* (L.) Kuntz) are ground in equal quantity along with ghee. Of this pills of 5 g each are prepared and given thrice daily, for 21 days to treat leucorrhea.
- Stem bark of the plant and roots of 'dhay' (*Woodfordia fruticosa* (L.) Kuntz) in equal quantities (60 g each) are ground with 50 numbers of black pepper. Whole of this mixture is then fried in ghee and 21 pills are prepared; 2 pills are given thrice daily, for 7 days to treat spermatorrhea. During the treatment use of chillies, oil, and sugar is to be avoided.

Biodynamic note(s): *Bark:* tannin, mauritine D, nummularine B; *Leaf:* quercetin, quercitrin; *Fruit:* tannins, oleanolic acid, ellagic acid; *Seed:* oleic, linoleic acid.

443. Botanical Name: *Zornia gibbosa* Span

Family: Fabaceae

Local name(s): Mutha, Bajarmot

Habit and Habitat: An erect or ascending, annual herb. Flowers minute, yellow. Pods of one-round flatten joints, echinate. Wild. *Part(s) used:* Leaf, root, whole plant. *Locality:* Keonjhar.

Medical efficacy claimed (name of the disease or condition): Eczema, scabies, sexual depressant.

Name of the tribe/caste, and other sources from whom information collected: Bhuyans, Dhimars.

Folk medicinal use(s):

- In cases of scabies, aerial parts of the plant are ground with water and paste is applied externally over the affected skin 3-4 times a day, till cure.
- Root is crushed and juice applied on the affected part twice daily, for 3-4 days to treat eczema.
- Leaf juice is given orally to men as sexual depressant.

Biodynamic note(s): Plant: silica, phosphorus, potassium, nitrogen, iron.

Folk Drug of Animal Origin

444. Zoological Name: *Columba livia* Gmelin

Family: Columbidae

English name(s): Rick Pigeon; *Local name(s):* Kabutar.

Habit and habitat: Found in pairs in the breeding season but is usually gregarious, in natural cliffs; usually on coasts, life span is 3-5 years, in the wild upto 15 years. Domesticated or wild. *Part(s) used:* Feather. *Locality:* Gwalior.

Medical efficacy claimed (name of the disease or condition): Asthma.

Name of the tribe/caste, and other sources from whom information collected: Sahariyas and other rural population.

Folk medicinal use(s):

- In case of asthma, 100 mg ash of pigeon feather is given in 'Pan' (*Piper betel*) leaf for 7-8 days continuously. The treatment could be repeated again after a month, and at the change of season.

Disease and Condition-wise Grouping of Folk Medicinal Plants

The medicinal plants investigated for the study area have been broadly grouped according to clinical indications and sign-symptom complex of patients as reported by 'tribal doctors.' The diseases were counter-checked in certain cases, if patients happened to be under treatment at the time of survey.

ALOPECIA

Barleria prionitis L.

Juglans regia L.

ANEMIA

Bischofia javanica Bl.

Curculigo orchiioides Haertn.

Hemidesmus indicus (L.) R.Br.

Pimpinella bracteata Haines

ANAL FISTULA

Aesculus indica (Colebr.ex Wall.) Hook.f.

Datura fastuosa L.

Tamarindus indica L.

ANESTHETIC

Zanthoxylum armatum DC.

ANTIFERTILITY

Bombax ceiba L.

Musa paradisiaca L.

ANTI-OBESITY

Cassia occidentalis L.

APHONIA

Acorus calamus L.

APHRODISIAC

Asparagus racemosus Willd.

Bombax ceiba L.

Curculigo orchiioides Gaertn.

Grewia subinaequalis DC.
Helminthostachys zeylanica (L.) Hk.
Mucuna pruriens (L.) DC.
Phoenix sylvestris (L.) Roxb.
Sida acuta Burm. f.

APPETITE SUPPRESSANT

Achyranthes aspera L.

APPETIZER

Caesalpinia bonduc (L.) Roxb.
Cassia fistula L.
Echinops echinatus Roxb.
Leucas cephalotes (Koen. ex Roth.) Spreng.

ARTHRITIS

Calotropis procera (Ait.) R.Br.
Holarrhena pubescens (Buch.-Ham.) Wall. ex G.Don.
Imperata cylindrica (L.) Raeuschel.
Schleichera oleosa (Lour.) Oken.
Withania somnifera (L.) Dunal

ASTHMA & BRONCHITIS

Acacia jacquemontii Benth
Achyranthes aspera Benth.
Adhatoda zeylanica Medic.
Adiantum venustum G. Don
Amorphophallus paeoniifolius (Dennst.) Nicolson
Argemone mexicana L.
Boerhavia diffusa L.
Cassine glauca (Rottb.) O. Ktze
Columba livia Gmelin (Drug of Animal Origin)
Brassica campestris L.
Cordia dichotoma Forst. f.
Cuscuta reflexa Roxb.
Cymbopogon martinii (Roxb.) Wats.
Datura fastousa L.
Dendrophthoe falcata (L.f.) Ettingsh.
Ficus benghalensis L.
Ficus religiosa L.
Gentiana kuroo Royle
Gymnema sylvestre (Retz.) R. Br. ex Schult
Hibiscus cannabinus L.
Lagenaria siceraria (Molina) Standl.
Launaea procumbens (Roxb.) Ram. & Raj
Leucas cephalotes (Koen. ex Roth.) Spreng.
Mangifera indica L.
Nicotiana tabacum L.
Nyctanthes arbor-tristis L.

Pennisetum americanum (L.) Leeka
Pinus roxburghii Sarg.
Quercus leucotrichophora A. Camus.
Rhus succedanea L.
Solanum virginianum L.
Taxillus vestitus (Wall.) Danser
Tiliacora acuminata (Lam.) Miers
Tinospora cordifolia (Willd.) Miers
Withania somnifera (L.) Dunal
Zingiber officinale Ros.

BACKACHES

Acacia chundra (Roxb. ex Rottler) Willd.
Achyranthes aspera L.
Celastrus paniculata Willd.
Grewia subinaequalis DC.
Litsea glutinosa (Lour.) C.B. Robinson
Pueraria tuberosa (Roxb. ex Willd.) DC.
Vanda tessellata (Roxb.) Hk. f. ex G. Don

BALDNESS

Euphorbia neriifolia L.

BODYACHE

Barleria cristata L.
Celastrus paniculata Willd.
Coccinia grandis (L.) Voigt
Lasia spinosa (L.) Thw.
Paedaria scandens (Lour.) Merrill
Solanum erianthum D. Don
Zingiber capitatum Roxb.

BONE FRACTURES

Abrus precatorius L.
Achyranthes aspera L.
Argyreia involucrata Clarke
Cissus adnata Roxb.
Equisetum debile Roxb.
Hemigraphis hirta (Vahl) T. Anders.
Lannea coromandelica (Houtt.) Merrill
Leea indica (N. Burman) Merrill
Litsea glutinosa (Lour.) C.B. Robinson
Litsea monopetala (Roxb.) Pers.
Pueraria tuberosa (Roxb. ex Willd.) DC.
Scindapsus officinalis (Roxb.) Schott.
Tagetes patula L.
Vanda tessellata (Roxb.) Hk.f. ex G. Don

BRUISES AND INJURIES

Crinum defixum Ker.-Gawl.
Curcuma longa L.

Girardinia diversifolia (Link) Fries
Lepidagathis cristata Willd.
Litsea glutinosa (Lour.) C.B. Robinson
Plumbago zeylanica L.
Portulaca oleracea L.
Sesamum indicum L.
Soyimida febrifuga (Roxb.) A. Juss.

BURNING SENSATION INSIDE BODY

Viola pilosa Bl.

CHICKEN POX

Ficus religiosa L.
Lantana camara L.

CHOLERA

Alhagi maurorum Medic.
Alhagi pseudalhagi (Bieb.) Desv.
Boerhavia diffusa L.
Calotropis gigantea (L.) R. Br.
Mentha longifolia (L.) Huds.
Oroxylum indicum (L.) Vent.

COLDS AND COUGH

Acacia jacquemontii Benth.
Acorus calamus L.
Adhatoda zeylanica Medic.
Adiantum philippense L.
Adiantum venustum G. Don
Artemisia scoparia Waldst. & Kit
Bacopa monnieri (L.) Wettst.
Berberis aristata DC.
Boswellia serrata Roxb. ex Colebr.
Calotropis procera (Ait.) R. Br.
Cissampelos pariera L.
Cordia vestita (DC.) Hookf. & Thoms.
Piper longum L.
Solanum virginianum L.
Taxillus vestitus (Wall.) Danser
Thespesia lampas (Cav.) Dalz. & Gibs.
Viola canescens Wall.
Woodfordia fruticosa (L.) Kuntz

DEPRESSION

Thespesia lampas (Cav.) Dalz. & Gibs.

DHOBIE ITCH

Juglans regia L.

DIABETES

Abrus precatorius L.
Achyranthes aspera L.
Aegle marmelos (L.) Corr.

Allium cepa L.
Annona squamosa L.
Asparagus curillus Buch.-Ham. ex Roxb.
Azadirachta indica A. Juss.
Bombax ceiba L.
Butea monosperma (Lam.) Taub.
Cassia fistula L.
Cassia sophora L.
Catharanthus roseus (L.) G. Don
Ceiba pentandra (L.) Gaertn.
Cissampelos pareira L.
Clerodendrum phlomidis L.
Cochlospermum religiosum (L.) Alston.
Convolvulus microphyllus Sieb.ex Spergn.
Curcuma longa L.
Diplocyclos palmatus (L.)Jeffrey
Euphorbia heyneana Spreng.
Ficus benghalensis L.
Flemingia phursia Ham.
Grewia subinaequalis DC.
Lipocarpha sphacelata (Vahl) Kunth.
Momordica charantia L.
Phyllanthus emblica L.
Psidium guajava L.
Pterocarpus marsupium Roxb.
Sapindus mukorossi Gaertn.
Sesamum indicum L.
Syzygium cuminii (L.) Skeels
Tephrosia purpurea (L.) Pers.
Tinospora cordifolia (Willd.) Miers
Tribulus terrestris L.
Trigonella foenum-graecum L.

DIARRHEA & DYSENTERY

Achyranthes aspera L.
Actinopteris dichotoma Bedd.
Ageratum conyzoides L.
Aegle marmelos (L.) Corr.
Ailanthus excelsa Roxb.
Asparagus racemosus Willd.
Balanites aegyptiaca (L.) Del.
Bergenia ciliata (Haw.) Sternb.
Boswellia serrata Roxb. ex Colebr.
Cajanus cajan (L.) Millsp.
Calotropis gigantea (L.) R.Br.
Careya arborea Roxb.
Carissa congesta Wight

Carissa opaca Stapf
Cassia fistula L.
Cassia tora L.
Cissampelos pareira L.
Curculigo orchiioides Gaertn.
Curcuma aromatica Salisb.
Dalbergia sissoo Roxb.
Diospyros melanoxylon Roxb.
Elephantopus scaber L.
Euphorbia geniculata Orteg.
Euphorbia hirta L.
Euphorbia thymifolia L.
Ficus racemosa L.
Gardenia latifolia Ait.
Gardenia turgida Roxb.
Grewia hirsuta Vahl.
Helicteres isora L.
Hibiscus rosa-sinensis L.
Holarrhena pubescens (Buch.-Ham.) Wall. ex G.Don
Kalanchoe pinnata (L.) Pers.
Legenaria siceraria (Molina) Standl.
Lagerstroemia parviflora Roxb.
Musa paradisiaca L.
Oxalis corniculata L.
Phyllanthus emblica L.
Piper longum L.
Portulaca pilosa L. ssp. *grandiflora* (Hook.) Greesink
Shorea robusta Gaertn. f.
Sida cordifolia L.
Smilax perfoliata Lour.
Syzygium cuminii (L.) Skeels
Tamarix dioica Roxb. ex Roth
Terminalia alata Heyne ex Roth
Vetiveria zizanioides (L.) Nash
Xeromphis uliginosa (Retz.) Mahesh.

DIGESTIVE DISORDERS

Colicky Pain

Stephania glabra (Roxb.) Miers

Constipation

Ailanthus excelsa Roxb.
Bauhinia roxburghiana Voigt
Calotropis procera (Ait.) R.Br.
Careya arborea Roxb.
Cassia fistula L.
Cyperus rotundus L.
Diplocyclos palmatus (L.) effrey

Phyllanthus emblica L.

Sida cordifolia L.

Soymida febrifuga (Roxb.) A. Juss.

Flatulence

Curcuma longa L.

Hyper Acidity

Delonix regia (Bojer) Rafin

Pyrus pashia Buch. Ham. ex D. Don

Indigestion

Leucas aspera (L.) Spreng.

Thespesia lampas (Cav.) Dalz. & Gibs.

Purgative

Croton tiglium L.

Stomach Disorders

Aegle marmelos (L.) Corr.

Boswellia serrata Roxb. ex Colebr.

Caesalpinia bonduc (L.) Roxb.

Callicarpa macrophylla Vahl.

Calotropis procera (Ait.) R.Br.

Ipomoea paniculata R.Br.

Lygodium flexuosum (L.) Sw.

Plumeria rubra L.

Rivea ornata Choisy

Sida cordifolia L.

Solanum torvum Swartz

Terminalia bellirica (Gaertn.) Roxb.

Zizyphus xylopyrus (Retz.) Willd.

Stomachache

Aconitum heterophyllum Wall. ex Royle

Barleria prionitis L.

Caesalpinia bonduc (L.) Roxb.

Carissa opaca Stapf

Cassia tora L.

Cissampelos pareira L.

Corchorus aestuans L.

Croton roxburghii Balakr.

Curcuma longa L.

Diospyros melanoxylon Roxb.

Helicteres isora L.

Leucas indica (L.) R.Br. ex Vatke

Mallotus philippensis (Lam.) Muell.-Arg.

Oroxylum indicum (L.) Vent.

Quercus leucotrichophora A. Camus.

Rivea hypocrateriformis (Desr.) Choisy

Rumex hastatus D. Don

Syzygium cuminii (L.) Skeels

Woodfordia fruticosa (L.) Kuntz

DIGITAL NECROSIS

Diospyros melanoxylon Roxb.

Drimia indica (Roxb.) Jessop

Ficus benghalensis L.

Streblus asper Lour.

Tridax procumbens L.

DISORDERS OF CARDIO-VASCULAR SYSTEM

Blood Purifier

Gloriosa superba L.

Psoralea corylifolia L.

Smilax perfoliata Lour.

Tagetes purpurea (L.) Pers.

Cardiac Pains

Commiphora berryi Engl.

External Bleeding

Benincasa hispida (Thunb.) Cogn.

Hemorrhoids (Piles)

Amorphophallus paeoniifolius (Dennst.) Nicolson

Asparagus curillus Buch.-Ham. ex Roxb.

Berberis aristata DC.

Beta vulgaris L.

Boerhavia diffusa L.

Blumea balsamifera (L.) DC

Butea monosperma (Lam.) Taub.

Calotropis procera (Ait.) R.Br.

Cannabis sativa L.

Carissa congesta Wight

Cassia occidentalis L.

Cassia sophera L.

Celastrus paniculata Willd.

Convolvulus microphyllus Sieb.ex Spreng.

Eruca sativa Mill. var. *sativa* (Mill.) Thell.

Lepidagathis trinervis Wall. ex Nees

Luffa echinata Roxb.

Moringa oleifera Lam.

Phyla nodiflora (L.) E.E. Greene

Prunus cerasoides D. Don

Raphanus sativus L.

Ricinus communis L.

Scoparia dulcis L.

Thalictrum foliolosum DC.

Trichodesma indica (L.) R.Br.

Hypertension

Santalum album L.

Low Blood Pressure

Ougeinia oojeinsis (Roxb.) Hochr.

Nose Bleeding

Woodfordia fruticosa (L.) Kuntz

Palpitation

Ficus religiosa L.

Glycyrrhiza glabra L.

Terminalia arjuna (Roxb. ex DC) Wt. & Arn.

Zingiber capitatum Roxb.

DOG & WOLF BITES

Achyranthes aspera L.

Alangium chinense (Lour.) Harms

Alangium salvifolium (L.f.) Wang.

Calotropis procera (Ait.) R.Br.

Cyperus rotundus L.

Strychnos nux-vomica L.

DRACONTIASIS

Elytraria acaulis (L.f.) Lindau

Glossocardia bosvallea (L.f.) DC.

DYSURIA

Achyranthes aspera L.

Crateva nurvala Buch.-Ham.

Hemigraphis hirta (Vahl) T. Anders.

Kalanchoe pinnata (L.) Pers.

Lygodium flexuosum (L.) Sw.

EAR DISORDERS**Earache (Otitis)**

Calotropis procera (Ait.) R.Br.

Capsicum annuum L.

Cleome viscosa L.

Crinum defixum Ker.-Gawl.

Nerium oleander L.

Ricinus communis L.

Tiliacora acuminata (Lam.) Miers

Otorrhoea

Acacia nilotica (L.) Willd. ex Del.

Allium sativum L.

Euphorbia neriifolia L.

Plumbago zeylanica L.

Ricinus communis L.

EPILEPSY (FITS)

Achyranthes aspera L.

Rauvolfia serpentina (L.) Benth.ex Kurz

EYE DISEASES**Cataract**

Cajanus cajan (L.) Millsp.
Coccinia grandis (L.) Voigt
Solanum virginianum L.
Strychnos potatorum L.f.

Conjunctivitis

Argemone mexicana L.
Berberis aristata DC.
Calotropis procera (Ait.) R.Br.
Catharanthus pusillus (Murr.) G. Don
Clerodendrum viscosum Vent.
Cynodon dactylon (L.) Pers.
Euphorbia geniculata Orteg.
Ficus racemosa L.
Gardenia turgida Roxb.
Hedychium coronarium Koenig
Launaea procumbens (Roxb.) Ram. & Raj
Peristrophe paniculata (Forsk.) Burmm.
Pterocarpus marsupium Roxb.
Sphaeranthus indicus L.
Strychnos potatorum L.f.
Symplocos racemosa Roxb.
Verbascum thapsus L.
Vernonia cinerea (L.) Less.

Eye Injuries

Crotalaria linifolia L.f.

Iritis

Cajanus cajan (L.) Millsp.
Gymnema sylvestre (Retz.) R.Br. ex Schult

Night Blindness

Cassia auriculata L.
Sapindus emarginatus Vahl
Urtica dioica L.

Poor Vision

Boerhavia diffusa L.

FEVERS

Common Fever

Achyranthes aspera L.
Aconitum falconeri Stapf
Acorus calamus L.
Adina cordifolia (Willd. ex Roxb.) Hook.f. ex Brandis
Alysicarpus vaginalis (L.) DC.
Andrographis paniculata (Burm.f.) Wall. ex Ness
Areca catechu L.
Artemisia scoparia Waldst. & Kit
Asparagus racemosus Willd.
Barleria prionitis L.

Berberis aristata DC.
Caesalpinia digyna Rottl.
Celastrus paniculata Willd.
Cissampelos pareira L.
Citrus medica L.
Datura fastuosa L.
Dioscorea bulbifera L.
Elephantopus scaber L.
Gardenia turgida Roxb.
Goniopteris prolifera Presl.
Grewia hirsuta Vahl.
Holarrhena pubescens (Buch.-Ham.) Wall. ex G. Don
Indoneesiella echioides (L.) Sreemadh.
Lygodium flexuosum (L.) Sw.
Phyla nodiflora (L.) E.E. Greene
Pogostemon benghalense (Burm.f.) O. Ktz.
Rauvolfia serpentina (L.) Benth. ex Kurz
Solanum viarum Dunal
Tinospora cordifolia (Willd.) Miers
Urena lobata L.
Zingiber capitatum Roxb.

Fever of Long Duration

Caesalpinia bonduc (L.) Roxb.
Carissa opaca Stapf
Curcuma longa L.
Hemidesmus indicus (L.) R.Br.
Solanum ferox L.
Vitex negundo L.

Fever with Colds and Cough

Acorus calamus L.
Miliusa tomentosa (Roxb.) J. Sinclair
Viola pilosa Bl.

Filarial Fever

Agave americana L.
Calotropis gigantea (L.) R.Br.
Cassia fistula L.
Fumaria indica (Haussk.) Pugsley
Gardenia turgida Roxb.,
Hodgsonia macrocarpa (Bl.) Cogn.
Holarrhena pubescens (Buch.-Ham.) Wall. ex G. Don
Melia azedarah L.
Moringa oleifera Lam.
Nyctanthes arbor-tristis L.
Streblus asper Lour.
Strychnos nux-vomica L.
Viscum articulatum Burm.f.

High Fever with Abnormal Utterances

Cassia fistula L.

Punica granatum L.

Intermittent Fever

Achyranthes aspera L.

Azadirachta indica A. Juss.

Malarial Fever

Ajuga parviflora Benth.

Berberis aristata DC.

Caesalpinia bonduc (L.) Roxb.

Calotropis procera (Ait.) R.Br.

Cissampelos pareira L.

Cleome gynandra L.

Cryptolepis buchanani Roem. & Schult.

Cyperus rotundus L.

Datura fastuosa L.

Datura stramonium L.

Desmodium gangeticum (L.) DC.

Enicostema axillare (Lam) Raynal

Ficus religiosa L.

Flemingia phursia Ham.

Grewia hirsuta Vahl.

Hemidesmum indicus (L.) R.Br.

Holarrhena pubescens (Buch.-Ham.) Wall.ex G.Don

Indoneesiella echioides (L.) Sreemadh.

Lygodium flexuosum (L.) Sw.

Mimosa pudica L.

Momordica charantia L.

Murraya paniculata (L.) Jacq.

Nyctanthes arbor-tristis L.

Ocimum canum Sims.

Ocimum tenuiflorum L.

Peristrophe paniculata (Forsk.) Burmm.

Ricinus communis L.

Sisymbrium irio L.

Solanum virginianum L.

Swertia chirayita (Roxb. ex Flem.) Karsten.

Tinospora cordifolia (Willd.) Miers

Urena lobata L.

Vernonia cinerea (L.) Less.

Zingiber officinale Rosc.

Zingiber roseum Rosc.

Pneumonia

Achyranthes aspera L.

Adiantum incisum Forsk.

Cassia fistula L.

Leucas cephalotes (Koen. ex Roth.) Spreng.

Oryza sativa L.

Xeromphis spinosa (Thunb.) Keay

Post Natal Fever

Centella asiatica (L.) Urban

Solanum ferox L.

Typhoid Fever

Adiantum philippense L.

Anogeissus sericea Brandis

Berberis aristata DC.

Capparis sepiaria L.

Carissa opaca Stapf

Citrus medica L.

Clerodendrum serratum (L.) Moon

Crocus sativus L.

Cyperus rotundus L.

Cyperus scariosus R.Br.

Diospyros melanoxylon Roxb.

Elephantopus scaber L.

Jatropha curcas L.

Litsea glutinosa (Lour.) C.B. Robinson

Ocimum basilicum L.

Oryza sativa L.

Rorippa indica (L.) Hiern.

Rubia manjiith Roxb. ex Fleming

Trianthema portulacastrum L.

GENERAL WEAKNESS

Buchanania lanzan Spreng.

Corchorus aestuans L.

Cordia dichotoma Forst. f.

Helminthostachys zeylanica (L.) Hk.

Lygodium flexuosum (L.) Sw.

Paedaria scandens (Lour.) Merrill

Pueraria tuberosa (Roxb. ex Willd.) DC.

Rauvolfia serpentina (L.) Benth. ex Kurz

Wendlandia tinctoria (Roxb.) DC.

GOUT

Aconitum falconeri Stapf

Costus speciosus (Koen.) Sm.

Flemingia strobilifera (L.) R.Br. ex Ait.

GREY HAIR

Terminalia chebula (Garetn.) Retz.

GYNECOLOGICAL COMPLAINTS

Abortifacient

Abrus precatorius L.

Carica papaya L.

Mentha spicata L.

Raphanus sativus L.

Ruellia tuberosa L.

Soymdia febrifuga (Roxb.) A. Juss.

Aid to Conception

Diplocylos palmatus (L.) Jeffrey

Amenorrhea

Achyranthes aspera L.

Amaranthus spinosus L.

Sesamum indicum L.

Contraception

Abrus precatorius L.

Avena sativa L.

Curcuma longa L.

Dioscorea bulbifera L.

Euphorbia heyneana Spreng.

Euphorbia ligularia Roxb.

Ficus religiosa L.

Foeniculum vulgare Mills.

Madhuca indica G.F.Gmelin

Mentha arvensis L.

Mimosa pudica L.

Mucuna pruriens (L.) DC.

Piper longum L.

Ricinus communis L.

Ruellia tuberosa L.

Trichosanthes tricuspidata Lour.

Wrightia tinctoria (Roxb.) R.Br.

Expulsion of Placenta (after child birth)

Celastrus paniculata Willd.

Mesua ferrea L.

Soymdia febrifuga (Roxb.) A. Juss.

Zingiber roseum Rosc.

Facilitation of Labor

Abelmoschus esculentus (L.) Moench.

Achyranthes aspera L.

Citrullus colocynthis (L.) Schrad.

Echinops echinatus Roxb.

Ruellia tuberosa L.

Female Sterilization

Cuscuta reflexa Roxb.

Ficus religiosa L.

Galactagogue

Abutilon indicum (L.) Sweet

Asparagus racemosus Willd.

Euphorbia heyneana Spreng.

Gmelina arborea Roxb.

Piper longum L.

Leucorrhea

Abelmoschus esculentus (L.) Moench.

Acacia jacquemontii Benth.

Acacia nilotica Willd. ex Del. ssp. *indica* (Benth.) Brenan

Achyranthes aspera L.

Ajuga bracteosa Wall. ex Benth.

Argemone mexicana L.

Asparagus racemosus Willd.

Bombax ceiba L.

Cuscuta reflexa Roxb.

Cynodon dactylon (L.) Pers.

Euphorbia heyneana Spreng.

Euphorbia fusiformis Buch.-Ham.

Grewia hirsuta Vahl.

Lagerstroemia parviflora Roxb.

Launaea procumbens (Roxb.) Ram. & Raj

Lawsonia inermis L.

Mentha arvensis L.

Nyctanthes arbor-tristis L.

Pandanus fascicularis Lam.

Pedaliium murex L.

Polyalthea longifolia (Sonnerat) Thw.

Sida cordifolia L.

Tinospora cordifolia (Willd.) Miers

Urena lobata L.

Vernonia cinerea (L.) Less.

Withania somnifera (L.) Dunal

Zizyphus xylopyrus (Retz.) Willd.

Menorrhagia

Clausena excavata Burm. f.

Elephantopus scaber L.

Glycyrrhiza glabra L.

Mallotus philippensis (Lam.) Muell.-Arg.

Polyalthea longifolia (Sonnerat) Thw.

Solanum virginianum L.

Soyimida febrifuga (Roxb.) A. Juss.

Viola canescens Wall.

Viola pilosa Bl.

Withania somnifera (L.) Dunal

Woodfordia fruticosa (L.) Kuntz

Menstrual Disorders

Acanthospermum hispidum DC.

Acorus calamus L.

Allium sativum L.

Areca catechu L.
Benincasa hispida (Thunb.) Cogn.
Boerhavia diffusa L.
Carica papaya L.
Celastrus paniculata Willd.
Desmodium gangeticum (L.) DC.
Desmostachya bipinnata (L.) Stapf
Gerbera gossypina (Royle) Beauv.
Ipomoea paniculata R. Br.
Luffa echinata Roxb.
Myrica esculenta Buch.-Ham.
Punica granatum L.
Tamarix dioica Roxb. ex Roth

Post Natal Complaints

Butea monosperma (Lam.) Taub.
Celastrus paniculata Willd.
Centella asiatica (L.) Urban
Chlorophytum tuberosum (Roxb.) Baker
Drimia indica (Roxb.) Jessop
Helicteres isora L.
Lagerstroemia parviflora Roxb.
Solanum erianthum D. Don
Soyimida febrifuga (Roxb.) A. Juss.
Woodfordia fruticosa (L.) Kuntz
Zingiber roseum Rosc.

Prevention of Recurrent Abortion

Mentha spicata L.
Solanum virginianum L.

Prolapse of Uterus

Acacia nilotica (L.) Willd. ex Del

HEADACHE

Acacia nilotica (L.) Willd. ex Del.
Actinopteris dichotoma Bedd.
Artemisia scoparia Waldst. & Kit
Azadirachta indica A. Juss.
Centella asiatica (L.) Urban
Cissampelos pareira L.
Cleome gynandra L.
Leucas cephalotes (Koen. ex Roth.) Spreng.
Zingiber officinale Rosc.

HYDROCELE

Butea monosperma (Lam.) Taub.
Grewia hirsuta Vahl.
Martynia annua L.
Mimosa pudica L.

Musa paradisiaca L.

HYSTERIA

Curculigo orchiioides Gaertn.

Leea macrophylla Roxb. ex. Hornem.

Merremia emarginata (Burm.f.) Hall.f.

INFLAMMATION

Amaranthus spinosus L.

Cuscuta reflexa Roxb.

Moringa concanensis Nimmo ex Dalz & Gibs.

Scilla hyacinthina (Roth.) Macb.

INSANITY

Sida cordata (Burm.f.) Borssum

INSOMNIA

Biophytum sensitivum (L.) DC.

Rauvolfia serpentina (L.) Benth.ex Kurz

KNOTTING OF UMBILICAL CORD

Gentiana kuroo Royle

LEG PAIN

Cassia fistula L.

Pterocarpus marsupium Roxb.

LICE

Clerodendrum viscosum Vent.

Ipomoea hederifolia L.

LIVER DISORDERS

Adina cordifolia (Willd. ex Roxb.) Hook.f. ex Brandis

Ailanthus excelsa Roxb.

Ajuga bracteosa Wall. ex Benth.

Ajuga parviflora Benth.

Benincasa hispida (Thunb.) Cogn.

Blumea lacera (Burm.f.) DC.

Boerhavia diffusa L.

Cichorium intybus L.

Cocculus hirsutus (L.) Diels

Curcuma amada Roxb.

Curcuma longa L.

Eclipta alba (L.) Hassk.

Elephantopus scaber L.

Marsdenia hamiltonii Wight

Piper longum L.

Solanum nigrum L.

Trianthema portulacastrum L.

LOSS OF CONSCIOUSNESS

Merremia emarginata (Burm.f.) Hall.f.

MAGICO-RELIGIOUS USES

Helicteres isora L.

Holoptelea intergrifolia (Roxb.) Planch.

Moringa oleifera Lam.

Pentanema indicum (L.) Ling

Radermachera xylocarpa (Roxb.) K. Schum.

Sterculia villosa Roxb. ex DC.

Stereospermum colais (Buch.-Ham. ex Dill.) Mabberley

Streblus asper Lour.

Toona ciliata Roem.

MENTAL RETARDATION

Adiantum philippense L.

Plectranthus mollis (Ait.) Spreng.

Rhododendron arboreum Sm.

Terminalia arjuna (Roxb. ex DC) Wt. & Arn.

MIGRAINE

Aegle marmelos (L.) Corr.

Azadirachta indica A. Juss.

Calotropis procera (Ait.) R.Br.

Cassia fistula L.

Citrus medica L.

Daucus carota L.

Drypetes roxburghii (Wall.) Hurusawa

Gardenia turgida Roxb.

Hemigraphis hirta (Vahl) T. Anders.

Ocimum canum Sims.

Sesamum indicum L.

Stereospermum colais (Buch.-Ham. ex Dill) Mabberley

Vitex negundo L.

Zingiber officinale Rosc.

MOSQUITO REPELLENT

Leea asiatica (L.) Rid.

Murraya paniculata (L.) Jacq.

MUSCULO-SKELETAL DISORDERS

Lumbago

Alstonia scholaris (L.) R.Br.

Muscular Pain

Crinum defixum Ker.-Gawl.

Rheumatism

Abelmoschus esculentus (L.) Moench.

Aconitum falconeri Stapf

Aconitum heterophyllum Wall. ex Royle

Allium sativum L.

Costus speciosus (Koen.) Sm.

Aloe vera (L.) Burm. f.

Biophytum sensitivum (L.) DC

Butea monosperma (Lam.) Taub.

Calotropis procera (Ait.) R.Br.

Cassia fistula L.

Cassia siamea Lam.
Celastrus paniculata Willd.
Chlorophytum tuberosum (Roxb.) Baker
Coccinia grandis (L.) Voigt
Coix lachryma-jobi L.
Cuscuta reflexa Roxb.
Dioscorea bulbifera L.
Elytraria acaulis (L.f.) Lindau
Euphorbia fusiformis Buch.-Ham.
Ficus benghalensis L.
Flacourtia indica (Burm.f.) Merrill
Flemingia strobilifera (L.) R.Br.ex Ait.
Gloriosa superba L.
Grewia subinaequalis DC.
Helminthostachys zeylanica (L.) Hk.
Kirganelia reticulata (Poir.) Baill.
Madhuca indica G.F. Gmelin
Moringa concanensis Nimmo ex Dalz & Gibs.
Paedaria scandens (Lour.) Merrill
Papaver somniferum L.
Pedaliium murex L.
Picrorhiza scrophulariiflora Pennell
Plumbago zeylanica L.
Rauvolfia serpentina (L.) Benth.ex Kurz
Ricinus communis L.
Solanum ferox L.
Sphaeranthus indicus L.
Thunbergia grandiflora (Roxb. ex Rottl.) Roxb.
Trichosanthes tricuspidata Lour.
Tylophora rotundifolia Wt.
Vitex negundo L.
Zingiber capitatum Roxb.

Sprains

Baliospermum montanum (Willd.) Muell.-Arg.

NASAL MAGGOTS

Gossypium herbaceum L.

ORAL AND DENTAL DISORDERS

Gum Strengthening

Flemingia chappar Buch.-Ham.ex Benth.

Streblus asper Lour.

Odontalgia (Toothache)

Achyranthes aspera L.

Aegle marmelos (L.) Corr.

Alstonia scholaris (L.) R.Br.

Barringtonia acutangula Gaertn.

Cleome gynandra L.

Cordia gharaf (Forsk.) Ehrenb. & Asch.

Euphorbia neriiifolia L.

Jatropha curcas L.

Ocimum basilicum L.

Sida cordata (Burm. f.) Orssum

Solanum ferox L.

Solanum virginianum L.

Pyorrhoea

Achyranthes aspera L.

Alstonia scholaris (L.) R.Br.

Calotropis gigantea (L.) R.Br.

Jatropha gossypifolia L.

Juglans regia L.

Mallotus philippensis (Lam.) Muell.-Arg.

Strychnos nux-vomica L.

Zanthoxylum armatum DC.

Sensitive Gums

Achyranthes aspera L.

Swelling of Gums

Cassia fistula L.

Tooth Decay

Jatropha curcas L.

Musa paradisiaca L.

Solanum viarum Dunal

PARALYSIS

Ficus hispida L.f.

PARKINSONISM

Calotropis procera (Ait.) R.Br.

Gymnema sylvestre (Retz.) R.Br. ex Schult

PEDIATRIC DISEASES

Bed Wetting

Leucas aspera (L.) Spreng.

Bronchitis

Piper longum L.

Dermal Eruptions around Nose and Anus

Datura fastousa L.

Diarrhea and Dysentery

Helicteres isora L.

Lablab purpurens (L.) Sweet

Lygodium flexuosum (L.) Sw.

Woodfordia fruticosa (L.) Kuntz

Marasmus

Indoneesiella echioides (L.) Sreemadh.

Mimosa pudica L.

Radermachera xylocarpa (Roxb.) K.Schum.

Rickets

Euphorbia heyneana Spreng.
Launaea procumbens (Roxb.) Ram & Raj
Radermachera xylocarpa (Roxb.) K. Schum.
Solanum nigrum L

Worms

Butea monosperma (Lam.) Taub.
Tridax procumbens L.

POLYDIPSIA

Cryptolepis buchanani Roem. & Schult.
Prosopis cineraria (L.) Druce

PRURITUS ANI

Capparis sepiaria L.

REFRIGERANT

Terminalia chebula (Gaertn.) Retz.
Woodfordia fruticosa (L.) Kuntz

REPRODUCTIVE DISORDERS**Infertility**

Abelmoschus esculentus (L.) Moench.
Bombax ceiba L.
Convolvulus arvensis L.
Coriandrum sativum L.
Curculigo orchiioides Gaertn.
Dioscorea bulbifera L.
Grewia flavescens A. Juss.
Mangifera indica L.
Melia azedarach L.
Smilax perfoliata Lour.
Vallaris solanacea (Roth) Kuntze
Zornia gibbosa Span

Male Sterilization

Bombax ceiba L.

Seminal Insufficiency

Dioscorea bulbifera L.

Spermatorrhoea

Acacia jacquemontii Benth.
Arnebia hispidissima (Lehm.) DC.
Asparagus racemosus Willd.
Bombax ceiba L.
Butea monosperma (Lam.) Taub.
Convolvulus microphyllus Sieb.ex Spreng.
Crotalaria linifolia L.f.
Echinops echinatus Roxb.
Euphorbia chamaesyce L.
Euphorbia heyneana Spreng.
Evolvulus alsinoides (L.) L.
Ficus benghalensis L.

Ficus racemosa L.
Girardinia diversifolia (Link) Fries
Grewia hirsuta Vahl.
Grewia subinaequalis DC.
Grewia tiliaefolia Vahl
Helminthostachys zeylanica (L.) Hk.
Hemidesmus indicus (L.) R.Br.
Ichnocarpus frutescens (L.) R.Br.
Lawsonia inermis L.
Luffa echinata Roxb.
Nelumbo nucifera Gaertn.
Pedaliium murex L.
Scoparia dulcis L.
Sida cordata (Burm.f.) Borssum
Sida cordifolia L.
Sterculia villosa Roxb. ex DC.
Tinospora cordifolia (Willd.) Miers
Tribulus terrestris L.
Triticum aestivum L.
Zizyphus nummularia (Burm.f.) Wt. & Arn.
Zizyphus xylopyrus (Retz.) Willd.

SCIATICA

Aconitum falconeri Stapf
Alangium salvifolium (L.f.) Wang.
Phyllanthus fraternus Webster

SCORPION STING

Acacia pennata (L.) Willd.
Acacia torta (Roxb.) Craib
Achyranthes aspera L.
Carissa opaca Stapf
Cynodon dactylon (L.) Pers.
Cyperus rotundus L.
Hemidesmus indicus (L.) R.Br.
Ipomoea carnea Jacq. ssp. *fistulosa* (Mart.ex Choisy) D.Austin
Martynia annua L.
Portulaca pilosa L. ssp. *grandiflora* (Hook.) Greesink

SCROFULA & TUBERCULOSIS

Actinopteris dichotoma Bedd.
Adhatoda zeylanica Medic.
Bauhinia racemosa Lam.
Celastrus paniculata Willd.
Cotoneaster microphyllus Wall.ex Lindl.
Gossypium herbaceum L.

SINUS FISTULA

Calotropis procera (Ait.) R.Br.

SKIN AND SUB-CUTANEOUS DISORDERS

Abscesses and Boils

Achyranthes aspera L.
Argyreia involucrata Clarke
Argyreia nervosa (Burm.f.) Boj.
Arudinaria falcata Nees
Azadirachta indica A. Juss.
Barleria prionitis L.
Bergenia ciliata (Haw.) Sternb.
Bombax ceiba L.
Cissampelos pareira L.
Commiphora wightii (Arn.) Bhandari
Cuscuta reflexa Roxb.
Datura fastuosa L.
Elephantopus scaber L.
Ficus religiosa L.
Gmelina arborea Roxb.
Ipomoea carnea Jacq. ssp. *fistulosa*
Launaea procumbens (Roxb.) Ram.& Raj
Lygodium flexuosum (L.) Sw.
Mallotus philippensis (Lam.) Muell.-Arg.
Musa paradisiaca L.
Oroxylum indicum (L.) Vent.
Plumbago zeylanica L.
Rheum webbianum Royle
Ricinus communis L.
Trichodesma indica (L.) R.Br.
Withania somnifera (L.) Dunal
Xeromphis spinosa (Thunb.) Keay

Burns

Cordia dichotoma Forst. f.
Mallotus philippensis (Lam.) Muell.-Art.

Carbuncle

Phlogacanthus thyrsiformis (Hard.) Mabb.

Cuts and Wounds

Alangium salvifolium (L.f.) Wang.
Amaranthus tricolor L.
Argemone mexicana L.
Artemisia nilagirica (Cl.) Pamp.
Cajanus cajan (L.) Millsp.
Callicarpa macrophylla Vahl.
Carissa opaca Stapf
Celastrus paniculata Willd.
Clerodendrum serratum (L.) Moon
Dillenia aurea Sm.
Elephantopus scaber L.
Flemingia prostrata Roxb.

Grewia hirsuta Vahl.
Hedychium spicatum J.E. Smith
Holarrhena pubescens (Buch.-Ham.) Wall. ex G.Don
Jatropha gossypifolia L.
Lannea coromandelica (Houtt.) Merrill
Lepidagathis cristata Willd.
Lepidagathis hyaline Nees
Mallotus philippensis (Lam.) Muell.-Arg.
Martynia annua L.
Ougeinia oojeinensis (Roxb.) Hochr.
Phyla nodiflora (L.) E.E. Greene
Phyllanthus fraternus Webster
Prunus persica (L.) Stokes
Ricinus communis L.
Semecarpus anacardium L.f.
Shorea robusta Gaertn.f.
Tephrosia purpurea (L.) Pers.
Thalictrum foliolosum DC.
Tinospora cordifolia (Willd.) Miers
Vigna radiata (L.) Wilczek

Eczema

Caesalpinia bonduc (L.) Roxb.
Calotropis procera (Ait.) R.Br.
Cassia fistula L.
Curcuma amada Roxb.
Cuscuta reflexa Roxb.
Euphorbia royleana Boiss.
Indoneesiella echioides (L.) Sreemadh.
Ougeinia oojeinensis (Roxb.) Hochr.
Pedaliium murex L.
Picrorhiza scrophulariiflora Pennell
Zornia gibbosa Span

Leprosy

Alangium salvifolium (L.f.) Wang.
Argemone mexicana L.
Croton bonplandianum Baill.
Tamarix dioica Roxb. ex Roth

Leucoderma

Argemone mexicana L.
Ficus benamina L.
Plumbago zeylanica L.
Tamarindus indica L.
Withania somnifera (L.) Dunal

Other Skin Diseases

Eclita alba (L.) Hassk.
Sphaeranthus indicus L.

Pimples*Annona squamosa* L.*Ardisia solanaceae* Roxb.*Tephrosia purpurea* (L.) Pers.**Ringworm***Ammannia baccifera* L.*Cassia occidentalis* L.*Elephantopus scaber* L.*Holoptelea intergrifolia* (Roxb.) Planch.*Indoneesiella echioides* (L.) Sreemadh.*Pedaliium murex* L.**Scabies***Adiantum philippense* L.*Aerva lanata* (L.) A.Juss. ex Schult.*Amorphophallus paeoniifolius* (Dennst.) Nicolson*Argemone mexicana* L.*Cassia occidentalis* L.*Cassine glauca* (Rottb.) O. Ktze*Cedrus deodar* (Roxb. Loud.*Curcuma amada* Roxb.*Euphorbia royleana* Boiss.*Girardinia palmata* (Forssk.) Gaud.*Holoptelea intergrifolia* (Roxb.) Planch.*Indoneesiella echioides* (L.) Sreemadh.*Litsea glutinosa* (Lour.) C.B. Robinson*Lyonia ovalifolia* (Wall.) Drude*Mallotus philippensis* (Lam.) Muell.-Arg.*Martynia annua* L.*Pedaliium murex* L.*Pergularia daemia* (Forsk.) Chiov.*Peristrophe paniculata* (Forsk.) Burmm.*Pongamia pinnata* (L.) Pierre*Zornia gibbosa* Span**Urticaria***Drypetes roxburghii* (Wall.) Hurusawa**Warts***Sida cordata* (Burm.f.) Borssum**SMALL POX***Diospyros montana* Roxb.*Hemidesmus indicus* (L.) R.Br.*Xeromphis spinosa* (Thunb.) Keay**SNAKE BITE***Achyranthes aspera* L.*Alangium salvifolium* (L.f.) Wang.*Albizia lebbeck* (L.) Benth.*Arisaema tortuosum* (Wall.) Schott

Aristolochia indica L.
Calotropis procera (Ait.) R.Br.
Canna indica L.
Drimia indica (Roxb.) Jessop
Eclipta alba (L.) Hassk.
Eragrostis viscosa (Retz.) Trin.
Ficus religiosa L.
Ficus virens Ait.
Haemanthus multiflorus Martyn
Heliotropium supinum L.
Hemidesmus indicus (L.) R.Br.
Holorrhena pubescens (Buch.-Ham.) Wall. ex G.Don
Indoneesiella echioides (L.) Sreemadh.
Leucas cephalotes (Koen. ex Roth.) Spreng.
Leucus indica (L.) R.Br. ex Vatke
Physalis minima L.
Rauvolfia serpentina (L.) Benth.ex Kurz
Sapindus mukorossi Gaertn.
Semecarpus anacardium L.f.
Sensevieria cylindrica Boj.
Sensevieria zeylanica Willd.
Stereospermum colais (Buch.-Ham. ex Dill.) Mabberley
Tiliacora acuminata (Lam.) Miers
Vitex leucoxylon L.f.

SPINAL DISORDERS AND STRAINS

Achyranthes aspera L.
Dalbergia sissoo Roxb.

STOMATITIS

Blumea membranacea DC.
Careya arborea Roxb.
Centella asiatica (L.) Urban
Jatropha curcas L.
Leucas cephalotes (Koen. Ex Roth) Spreng.
Spilanthes calva DC.

STONE FORMATION

Gall Bladder Stone

Hibiscus rosa-sinensis L.

Kidney Stone

Bergenia ciliata (Haw.) Sternb.
Citrus medica L.
Coccinia grandis (L.) Voigt
Dendrophthoe falcata (L.f.) Ettingsh.
Macrotyloma uniflorum (Lam.) Verd.
Sida cordata (Burm.f.) Borssum
Tribulus terrestris L.

SUN STROKE

Asparagus racemosus Willd.

Centella asiatica (L.) Urban

Melia azedarach L.

Oxyceros fasciculata (Roxb.) Yamazaki

SWELLING OF BODY (ANASARCA)

Adhatoda zeylanica Medic.

Amaranthus viridis L.

Cassia fistula L.

Ceiba pentandra (L.) Gaertn.

Croton bonplandianum Baill.

Cuscuta reflexa Roxb.

Datura stramonium L.

Embelia robusta Roxb.

Hydrophila auriculata (Schum.) Heine

Oroxylum indicum (L.) Vent.

Rubia manjiith Roxb. ex Fleming

Solanum nigrum L.

Telosma pallida (Rob.) Craib

Tinospora cordifolia (Willd.) Miers

Trichodesma indica (L.) R.Br.

THORN EXTRACTION

Calotropis procera (Ait.) R.Br.

Datura fastuosa L.

Tamarix dioica Roxb. ex Roth

TONSILLITIS

Achyranthes aspera L.

Flemingia chappar Buch.-Ham.ex Benth.

Xeromphis uliginosa (Retz.) Mahesh.

ULCERS AND WOUNDS

Achyranthes aspera L.

Jatropha curcas L.

Kaempferia rotunda L.

URINARY COMPLAINTS

Adina cordifolia (Willd. ex Roxb.) Hook.f. ex Brandis

Buchanania lanzan Spreng.

Butea monosperama (Lam.) Taub.

Desmodium triangulare (Retz.) Merrill

Oxalis corniculata L.

Terminalia chebula (Gaertn.) Retz

VENEREAL DISEASES

Abelmoschus esculentus (L.) Moench.

Acacia nilotica (L.) Willd. ex Del.

Alangium salvifolium (L.f.) Wang.

Argemone mexicana L.

Asparagus curillus Buch.-Ham. ex Roxb.

Ficus benghalensis L.
Grewia subinaequalis DC.
Rosa damascena Mill.,
Soymdia febrifuga (Roxb.) A. Juss.

VERMIFUGE

Acorus calamus L.
Azadirachta indica A. Juss.
Butea monosperma (Lam.) Taub.
Canscora diffusa (Vahl) R.Br.
Clerodendrum viscosum Vent.
Coix lachryma-jobi L.
Dalbergia sissoo Roxb.
Dioscorea bulbifera L.
Embelia ribes Burm. f.
Erythrina suberosa Roxb.
Limonia acidissima L.
Mallotus philippensis (Lam.) Muell.-Arg.
Morus australis Poir.
Myrica esculenta Buch.-Ham.
Prunus persica (L.) Stokes
Punica granatum L.
Solanum erianthum D. Don
Viburnum cylindricum Buch.-Ham. ex D.Don

VERTIGO

Stereospermum colais (Buch.-Ham. ex Dill.) Mabberley
Teramnus labialis (L.f.) Spreng.

VETERINARY USES

Abutilon indicum (L.) Sweet
Acorus calamus L.
Amaranthus spinosus L.
Azadirachta indica A. Juss.
Barringtonia acutangula Gaertn.
Boehmeria macrophylla Horn.
Calotropis gigantea (L.) R.Br.
Calotropis procera (Ait.) R.Br.
Cannabis sativa L.
Carissa congesta Wight
Carissa opaca Stapf
Clerodendrum viscosum Vent.
Convolvulus microphyllus Sieb. ex Spreng.
Curcuma longa L.
Cuscuta reflexa Roxb.
Datura fastuosa L.
Drimia indica (Roxb.) Jessop
Erythrina variegata L.
Gardenia turgida Roxb.

Heliotropium indicum L.
Indigofera tinctoria L.
Kydia calycina Roxb.
Lagerstroemia parviflora Roxb.
Lannea coromandelica (Houtt.) Merrill
Launaea procumbens (Roxb.) Ram. & Raj.
Linum usitatissimum L.
Mallotus philippensis (Lam.) Muell.-Arg.
Marsdenia hamiltonii Wight
Mucuna pruriens (L.) DC.
Paedaria scandens (Lour.) Merrill
Peristrophe paniculata (Forsk.) Burmm.
Phyllanthus emblica L.
Pogostemon benghalense (Burm.f.) O.Ktze.
Schleichera oleosa (Lour.) Oken.
Scilla hyacinthine (Roth.) Macb.
Semecarpus anacardium L.f.
Sesamum indicum L.
Solanum virginianum L.
Spondias pinnata (L.f.) Kurz.
Stephania glabra (Roxb.) Miers
Sterculia villosa Roxb. ex DC.
Tiliacora acuminata (Lam.) Miers
Tinospora cordifolia (Willd.) Miers
Toona ciliata Roem.
Trichodesma indica (L.) R.Br.
Urtica dioica L.

VOMITING

Aegle marmelos (L.) Corr.
Allium sativum L.
Foeniculum vulgare Mills.
Oryza sativa L.
Picrasma quassioides (D. Don) Benn.
Rubus ellipticus Sm.
Solanum ferox L.

WASP STING

Cassia tora L.

WEAK MEMORY

Centella asiatica (L.) Urban

WHOOPING COUGH

Achyranthes aspera L.
Pogostemon pubescens Benth.
Punica granatum L.
Solanum virginianum L.

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