

Ethnomedicines in the Khordha Forest Division, Odisha

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Abstract

Based on an ethnopharmacological survey of Khordha forest division of Khordha district in Odisha, conducted during September-October 2012, the paper presents some 54 contemporary folk recipes comprising 43 taxa of folk medicinal plants used by *Kondh*, *Sabra*, *Naik* tribes of the study area, for treatment of various common and chronic diseases and conditions. Botanical name, family in bracket, locality with field book number, local name, Unani name, part(s) used, name of the disease against which used, mode of administration are given for each recipe discussed in the text. The need for their phytochemical and pharmacological investigations in the context of claims reported has been re-stressed in an effort to discover Therapeutic agents of natural origin for many of the diseases and conditions for which there are no satisfactory cure in modern medicine, thus far.

Key Words: Ethnopharmacological survey, Traditional Medicine, Khordha, Odisha.

Introduction

Although the identification of pharmacologically active plants and plant derivatives is far from complete, it is already very extensive. Science can continue to learn and profit from the practices of the folk healers, provided we do not allow this rich source of knowledge to disappear (Thomson and Schultes, 1983). Based on this rationale, an ethnopharmacological survey of Khordha forest division of Khordha district in Odisha was undertaken between September 2012 and October, 2012 and first-hand information on folk medicinal uses of plants for treatment of various diseases and conditions were recorded. Khordha district lies between 84° 55' and 86° 50' East longitude and 19° 40' and 20° 25' North latitude. It is bounded by Cuttack district in north, Nayagarh district in west, Puri district in the east and Ganjam district in the south. Khordha district has a geographical area of 2813 sq. kms. The hilly systems of the district are located in Khordha sub-division. Khordha district is situated in the southwest of the state. Also it touches the 'Chilika Lake' in the south. The specific sites visited include Mangrajpur, Shaktihal, Banpur, Pratap, Pratap, Salia Dam, Dyke Chhak, Kumaripari, Bheruambadi, Kadudibadi, Bhaliapada, Dhuanali, Khariabandho, Jodamdosahi, Badasuda, Kulthodih, Odagaon, Banpur, Manglasahi, Berbera, Barkul, Bhejiput, Langleswar, Gorapalli, Badopalli of Khordha forest division. The study presents 54 folklore recipes comprising 43 taxa of medicinal plants prevalent among the inhabitants

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of the area surveyed. Most of the uses recorded are first-hand and less known. The area had not been investigated exhaustively earlier in this direction, except for some fragmentary reports on medicinal uses of plants (Ali *et al.*, 2010; Anonymous, 2001; 1995; Ambasta, 1994; Behera *et al.*, 2008; Chopra *et al.*, 1980; Girach *et al.*, 2011; Jain 1981, 1991; Jain & Rao, 1967; Kirtikar & Basu, 1935; Mukesh *et al.*, 2010, 2011, Tribedi *et al.*, 1982; Yesodharan & Sujana, 2007).

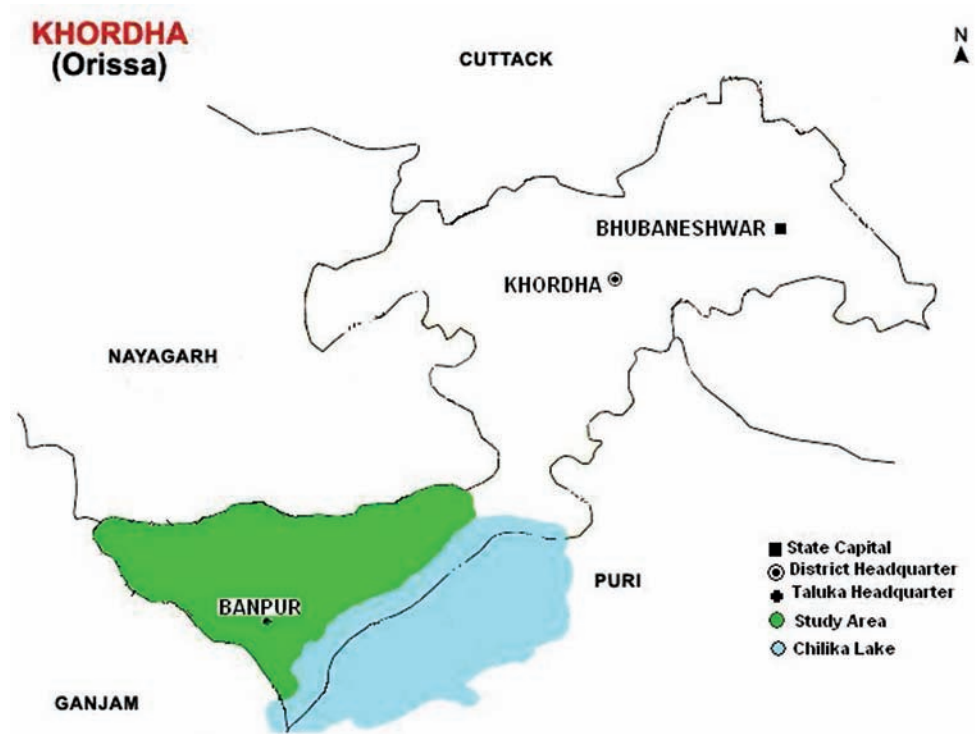


Fig. 1 : Map showing study area

Methodology

An ethnopharmacological survey of Khordha forest division of Khordha district (Fig. 1) in Odisha was conducted during September and October, 2012 with a view to study the medicinal herbs of the area and also to record the folk-wisdom of the tribals known as 'Kondh'. The data on folk medicinal uses of plants were collected from the old villagers and herbalists (medicine men) through direct field interviews, who often accompanied the survey team in the field and have long been prescribing the herbs for treatment of various diseases. Information about the efficacy of the herbs was also verified through cross-checks in other localities of the area surveyed as well. Plant specimens of the present study were mostly identified with the help of the "Flora of Orissa" (Saxena & Brahmam, 1994-1996) and Botany of Bihar and Orissa (Haines,

1921-25). Voucher herbarium specimens of all folk drugs reported have been prepared and deposited in the herbarium of Survey of Medicinal Plants Unit, Regional Research Institute of Unani Medicine, Bhadrak, for future references and study.

Enumeration of Folk Medicinal Species

The medicinal plants used as folk medicine in the study area are arranged by their botanical names in alphabetical order. Each entry gives the information: Plant's scientific name with family (in bracket), locality with Field Book No., local name(s), Unani name (wherever available), part(s) and method of usage.

Achyranthes aspera L. (Amaranthaceae); Mangrajpur-9256; Apamarango; Chirchita; Root; Dental care; Root is used as tooth stick to strengthen gum.

Abrus precatorius L. (Fabaceae); Salia Dam-9292; Kaincho; Ghungchi; Fruit; Diarrhoea (VM); ½ fruit is given to cattles with fodder to treat diarrhoea.

Adhatoda zeylanica L. (Acanthaceae); Shaktihal-9265; Basango; Aroosa; Leaf; Post Natal Care, Cough/Cold, Fever; A handful of leaves boiled in 500 ml water, cooled and filtered. Resultant water is prescribed for taking bath to subside body swelling after delivery. A few flowers fried in ghee and mixed with desired amount of honey, is given to treat cough/cold. A handful of leaves with pippli (*Piper longum*) is boiled in water to make a decoction. 30 ml of the decoction is given twice a day with honey to treat fever.

Aerva lanata (L.) Juss. ex Schults. (Amaranthaceae); Kumaripari-9297; Paunsia Sago; Biseri Buti; Root; Diarrhoea; 1-2 g of root paste is given with rice water to treat infantile diarrhoea.

Amaranthus spinosus L. (Amaranthaceae); Mangrajpur-9261; Kanta Marish; Chaulai Khardar; Root; Jaundice; A handful of dried roots are made into fine powder. 3-5 g powder is given twice a day with sufficient water to treat jaundice.

Amorphophallus paeoniifolius (Dennst.) Nicolson (Araceae); Kadudibadi-9326; Oal; Rhizome; Edible, Filariasis; Rhizome are cooked and eaten as vegetable. Rhizome paste is applied locally on oedematous swelling for 7 days to treat filariasis.

Andrographis paniculata (Burm.f.) Wall. ex Nees (Acanthaceae); Bheruambadi-9305; Bhunimbo; Kiryat; Leaf; Malarial Fever, Skin Disease, Diabetes; 30 ml leaves decoction are given thrice daily for 5-7 days to treat

Malarial fever. Leaf paste with golmirch (*Piper nigrum*) is made into a sharbat and drunk to treat skin diseases. 50 ml leaves decoction is given with 3 golmirch (*Piper nigrum*) to treat diabetes.

Argyrea nervosa (Burm.f.) Boj. (Convolvulaceae); Kadudibadi-9319; Mundanoi; Samandersokh; Leaf; Fever; Jada oil applied on leaf and bandaged on forehead to treat fever.

Asparagus racemosus Willd. (Liliaceae); Bheruambadi-9312; Chhatuary; Satwar; Root; Spermatorrhoea; Powdered root with sugar candy juice is given 20 g/dose once at bed time to treat Spermatorrhoea (Dhaturogo).

Averrhoa carambola L. (Averrhoaceae); Shaktihal-9266; Karmanga; Khamraq; Skin diseases; Fruits are eaten raw when ripe. Root paste is applied locally on skin diseases.

Azadirachta indica A. Juss. (Meliaceae); Kulthodih-9353; Nimbo; Neem; Leaf, Twig; Skin Diseases, Dental care; Leaves decoction is used by the local inhabitants to treat kanchokundia (Skin diseases). Twigs are used as tooth stick to strengthen gums.

Bridelia retusa (L.) Spreng. (Euphorbiaceae); Kadudibadi-9322; Kassi; Stem bark; Diarrhoea; 10 g of stem bark paste is given twice daily with sufficient water to check diarrhoea.

Cardiospermum helicacabum L. (Sapindaceae); Mangrajpur-9258; Bishphutka; Habb-ul-Qilqil; Leaf; Wounds; Leaf paste is applied locally on children head to treat wounds.

Cassia occidentalis L. (Caesalpiniaceae); Pratap-9275; Kasundra; Kasondi; Root; Eczema; Root paste is applied locally on eczematous patches to treat eczema.

Cassytha filiformis L. (Lauraceae); Bheruambadi-9304; Nirmuli; Whole Plant; Loose motions; A handful of plant made into paste is taken orally in case of loose motions in children.

Chloroxylon swietiana DC (Rutaceae); Bheruambadi-9311; Bheru; Leaf; Wounds; Leaf paste is applied locally on wounds to expel worms.

Chromolaena odorata (L.) King. & Rob. (Asteraceae); Dyke Chhak-9293; Pokosunga; Root, Leaf, Plant; Cuts, animal wounds (VM), Skin diseases; Root paste is applied locally on skin diseases. A handful of leaves boiled in mustard oil and cooled and applied locally on skin infections. Leaf juice is applied locally

on fresh cuts to check bleeding. Plant paste is applied locally on wounds of animals for healing.

Cleistanthus collinus (Roxb.) Benth. ex Hook.f. (Euphorbiaceae); Bheruambadi-9315; Korada; Fruit; Skin diseases; Purified fruits are boiled in mustard oil, cooled and filtered. Resultant medicated oil is applied on scabies and other skin diseases.

Costus speciosus (Koenig.) Sm. (Zingiberaceae); Banpur 9272; Gai Gendalia; Rhizome; Headache, Giddiness, Cattle diarrhoea; Rhizome made into paste is applied on the forehead of cattles to treat headache and get relief from giddiness. Rhizome is chopped and mixed with cattle-feed is given in cases of diarrhoea among domestic animals.

Crinum asiaticum L. (Amaryllidaceae); Bhaliapada-9329; Arsa/Sukra; Leaf; Joint Pain; Leaf paste is boiled in jada oil and applied on joints to treat joint pain.

Croton bonplandianus Baill (Euphorbiaceae); Kulthodih-9368; Banomircho; Plant Sap; Cuts; Plant sap is applied locally on cuts to check bleeding.

Curculigo orchioides Gaertn. (Hypoxydaceae); Bheruambadi-9318; Talmuli; Musli Siyah; Root; Spermatorrhoea; Root of this species with roots of Satabari (*Asparagus racemosus*) are made in to powder and 10 g of this powder is given with cow's milk twice a day for one month to treat spermatorrhoea.

Datura metel L. (Solanaceae); Salia Dam-9282; Dudura Dhoda; Dhatura; Leaf; Boils, Inflammation; Leaves warmed with jada oil (*Ricinus communis* L.) and tied locally on boils. Leaf paste warmed in jada oil (*Ricinus communis* L.) is applied on affected part of the body to treat inflammation.

Dillenia indica L. (Dillaneaceae); Shaktihal-9267; Chalta; Flower; Wounds; Flowers powdered and mixed with coconut oil. This preparation is applied locally on wounds for healing.

Dioscorea bulbifera L. (Dioscoreaceae); Kadudibadi-9321; Pita Alu; Tuber; Constipation; 5-10 g powdered tuber is given once every morning with warm water as laxative to treat constipation.

Eclipta prostrata (L.) L. (Asteraceae); Banpur-9269; Bhrangraja; Bhangra; Leaf; Cuts, Madness; Crushed leaves are directly applied on fresh cuts to check bleeding. A handful of leaves and fresh pulp of *Aloe vera* (Ghrita kumari) leaves are made into paste with water and applied on forehead to treat madness.

Elephantopus scaber L. (Asteraceae); Kadudibadi-9328; Mayurchulia; Whole Plant; Diarrhoea, Dysentery; 5-10 g root powder is taken two times daily with sufficient water to treat diarrhoeal problems. Plant is also used as fodder in this area.

Erythrina variegata L. (Fabaceae); Bhaliapada-9330; Paladhua; Leaf; Anthelmintic; Leaf juice with 1g turmeric powder is given to children to expel worms.

Ficus racemosa L. (Moraceae); Kulthodih-9365; Dimiri; Gular; Latex, Stem Bark; Spermatorrhoea, Wounds; 5-7 drops of latex is given in the morning on empty stomach to treat spermatorrhoea. Stem bark decoction is used for washing wounds and fast healing.

Gloriosa superba L. (Liliaceae); Pratap-9274; NaNangalia; Muleem; Root; Veterinary Medicine; Root is cut into small pieces and given with fodder to treat mums in cattles.

Glycosmis pentaphylla (Retz.) DC (Rutaceae); Kadudibadi-9320; Chauldhua; Twig; Dental Care; Twigs are employed as tooth brush to check bleeding from gums and strengthening teeth.

Helicteres isora L. (Sterculiaceae); Salia Dam-9287; Mudi; Marorphali; Fruit; Rickets like complaint in infants; A handful of fruits are boiled in mustard oil, cooled and filtered. Resultant medicated oil is massaged gently on affected legs of children. The remedy is quite popular in many places of the study area among rural population.

Ipomoea carnea Jacq. (Convolvulaceae); Mangrajpur-9262; Amari; Behaya; Plant sap; Cuts, Wounds; Plant sap is applied locally on minor cuts to check bleeding and healing wounds.

Jatropha gossypifolia L. (Euphorbiaceae); Badasuda-9345; Gabo; Latex; Diarrhoea; 2-3 drops of the latex is given with water to children to check diarrhoea.

Lantana camara L. (Verbenaceae); Pratap-9280; Nageswar; Leaf; Cuts, Swelling; Leaf juice is applied locally on cuts to check bleeding. Leaves paste is applied locally on sprain to reduce swelling & pain.

Martynia annua L. (Martyniaceae); Pratap-9276; Baghnakha; Kalabichua; Leaf; Cuts; Leaves juice are applied locally on cuts to check bleeding.

Mimosa pudica L. (Mimosaceae); Salia Dam-9301; Lajkoli; Lajjalu; Root; Cold & Fever; Root paste is given in required quantity with honey to treat common cold and fever.

Nyctanthes arbor-tristis L. (Oleaceae); Kulthodih-9356; Gangaseoli; Harsingar; Leaf; Fever, Cough & Cold; Leaves juice with equal quantity of honey is given twice a day for 4-5 days to treat fever, cough & cold.

Pedilanthus tithymaloides (L.) Poit. (Euphorbiaceae); Odagaon-9377; Khiro Gachho; Latex; Cuts; Latex is applied locally on cuts to check bleeding & healing wounds.

Plumeria rubra L. (Apocynaceae); Salia Dam-9281; Kathchampa; Flower; Swelling; Leaves are boiled in jada (*Ricinus communis*) oil and applied locally on swollen part to reduce swelling.

Scoparia dulcis L. (Scrophulariaceae); Dhuanali-9332; Madhusmita; Leaf; Spermatorrhoea; 100 ml Leaf juice with 'misri' is given every morning on empty stomach for seven days to treat spermatorrhoea (dhaturogo).

Tephrosia purpurea (L.) Pers. (Fabaceae); Salia Dam-9283; Bano Kulthia; Sarphonka; Root; Stomachache; Root is chewed raw for the treatment of stomachache.

Woodfordia fruticosa (L.) Kurz (Lythraceae); Bheruambadi-9314; Dhaj; Gul-e-Dhawa; Flower; Blood dysentery; A handful of dried flowers are made into powder and 5-10 g of this powder is taken twice daily with sufficient water to check dysentery with blood.



Averrhoa carambola L. (Khamraq)



Elephantopus scaber L. (Mayurchulia)



Cardiospermum helicacabum L.
(Habb-ul-Qilqil)



Gloriosa superba L. (Muleem)



Mimosa pudica L. (Lajjalu)



Tephrosia purpurea (L.) Pers.
(Sarphonka)

Fig. 2 : Common folk-medicinal plants used by tribals of Khordha district, Odisha

Discussion

The intrinsic potential of ethnobotanical knowledge as a key resource for developing new kinds of pharmaceuticals and other chemicals of industrial importance has been increasingly realized. In the present study some traditional therapeutic methods employed by the natives of Khordha forest division of Khordha district have been discussed. Out of 160 taxa of medicinal plants collected and identified from the study area. 43 are used in folk medicine by Kondh, Sabra, Naik etc., suggesting that these plants may cure satisfactorily certain ailments. Although, they do not have as high prestige as modern

medicines, these folk drugs are relatively un-expensive and easily available to locals at their door steps. For some problems such as eczema, jaundice, fever, diarrhoea, diabetes, wounds etc. these crude therapeutic methods are recognized as equal or superior to biomedicines; for other diseases there are readily available satisfactory cure; viz. diarrhoea, cold and fever, menstruation problems, wounds, skin diseases, nervous system disorders etc.

The data on folk medicinal uses have been compared with available literature and it is found that many of the uses are already reported (Jain, 1981; 1991). However, their modes of application, part(s) used are different. Therefore, present study represents contemporary folk uses of medicinal plants of the area investigated. It would, therefore, be worthwhile to subject all these folk drugs to scientific testing in the context of claims reported herein. It is likely through such investigations new drugs of natural origin may be discovered for treatment of many of the diseases and conditions for which there seems to be no satisfactory cures in modern medicine, thus far.

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