

SOME ETHNOMEDICINAL PLANTS OF KORAPUT

DISTRICT ORISSA.

P.K.DAS & M.K. MISRA

Ecology & Flouristics Laboratory, Department of Botany, Berhampur University,

Berhampur – 760 007, Orissa, India

Received: 20 March 1987

Accepted: 10 February 1988

ABSTRACT: The paper presents the ethnomedicinal use of 35 plants by the tribals of Koraput district to cure 25 diseases they suffer from. Apart from this, a note on the vegetation pattern, tribal population and geography of the district is given here.

Introduction

In past, several attempts have been made to study the medico-ethnobotanical aspects from various regions of Orissa. Haines (1921-25) while dealing with the flora of Bihar and Orissa had cited references to some useful plants of northern Orissa followed by Saxena and Dutta (1975) and Saxena et al. (1981). They had reported the useful plants of various regions of Cuttack, Puri, Dhenkanal, Sambalpur and Ganjam district alongwith certain regions of Andhra Pradesh. Mayurbhanj district of Orissa state was studied by Bal (1942), Trivedi et al. (1982) and Mudgal and Pal (1980). Jain (1971) reported plants associated with magico-religious beliefs of Ganjam and Phulbani tribals. Pattnaik (1956) and Panigrahi (1963) studied medicinal plants of localized areas of Cuttack and Gandhamardan hills respectively. Sharma et al. (1985) reported 42 medicinal plants to cure skin diseases from various regions of the state. from Koraput district Chaudhuri et al. (1975) reported as many as 26 medicinal plants.

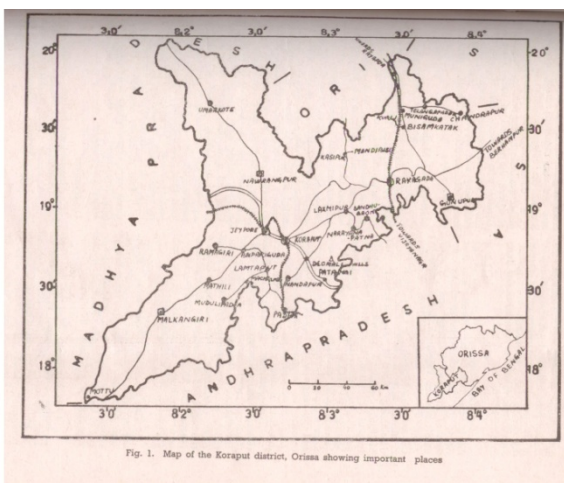
Further, Pal (1980) reported for veterinary medicinal plants followed by Munty et al. (1986) who had reported two antidote plants from the district alongwith other regions of Orissa. Pattnaik et al (1986) discussed some useful plants among Dongria of Kurli hill.

The rich tribal areas of South Orissa have given less attention in the ethnobotanical field. Since the district Koraput has not been explored floristically and ethnobotanically, the authors are engaged in exploring useful plant resources of the district. The authors have already reported the ethnomedicinal uses of plant of Deomalu hills (Das & Misra, 1987) and Chandraput area (Das & Misra, 1988) of Koraput district.

In the present paper some more information collected about the medicinal use of the plants from various regions of the district are enumerated.

Environment and Tribals

Koraput district (17°50' and 20°3' N., 81°20' and 84°1'E.) in Orissa comes under the hilly ranges of the Eastern ghats. The topography of the district is undulating except at valleys. Fig. 1 shows different places of the district indicating habitation of tribal people. The climate is monsoonal and the average annual rainfall for the district is 1522 mm. However, the rainfall pattern differs from region in the district. It experiences six month dry period and six month wet period. Most of the rainfall is received during June to September.



Geographically the vegetation of the district can broadly be divisible into four types: (i) the central plateau mostly consists of Koraput, Pottangi and Kasipur, thasils and the vegetation is dominated by Toona-Garuga series except Kasipur, (ii) the Jeypore and Nowrangpur plateau is mostly a moist peninsular type with dominating flora of shorea robusta. (iii) Malkangiri plateau consists of a peculiar type of vegetation, from Motu to Malkangiri the vegetation is dry teak and from Mathili to Malkangiri moist sal with a "tention belt" devoiding either types and form a "miscellaneous deciduous forest", and (iv) ranges of Rayagada an Gunupur consists of

shoria –*Syzygium nervosum*-Toona-Symplocos series. The forests of this zone is mostly moist evergreen types.

Ten dominant tribals viz Paraja (oraput and Nandapur region), Sabara (Gunupur area) Kondha (Rayagada and Bissamkatak), Dongria (Kurli and Muniguda), Bonda (Mudulipada), Gandia and Koya (Malkangiri sub-division), Bhuyam (Ramagiri and Baipariguda), Bhatra Nowarangpur and jeypore) and Gadaba (jeypore area) constitute about 56% of the total population of the district.

The tribals in remote areas totally depend on the traditional medicines to cure their diseases. But due to rapid urbanization and availability of allopathic facilities in the district, the interest in traditional medicines in gradually diminishing.

There are mainly three different types of herbal doctors found in the district. First, the druids (as Jani, Dohari. Dhsari or Majhi) of the regional Gods or Goddesses performing various religious rites followed by the medication to the patients on the pretext of curing them by driving the evil spirits like bhuta, preta among koyas and parajas, or duma among the sobars. Different magical charms to sure various diseases are also common among the tribals. Second, the village headman or the head of a community who prescribe various plants available I the area the patient alongwith the method of use. Third, the kaviraj. Who collects different plant parts during various seasons, stores the after processing and supplies to persons in the form of decoction, tab lets, paste or powder.

Material and Methods

During our floristic survey of the district under district flora survey scheme of BSI, Howrah

since 1984, we collected the ethnobotanical information from the tribals of the region. Twigs with reproductive parts are collected from the field and their various uses are recorded by collection information from the local people and the guide. On returning to camp during changing of blotters the use of the plant are discussed with the local medicine man and noted in the field book, Information on various diseases, their symptoms, methods of medication, dose and diet of patients during treatment were collected. After processing the specimens on the herbarium sheets were identified with the help of local flora and confirmed at central nation Herbarium (CAL). Plants arranged alphabetically according to their botanical names with the latest available nomenclature, their synonym in local flora, family local (L.N) and Oriya (O.) names, followed by a short note on the habitat of the plant locality (Loc.) from where collected, along with field collection number. The specimens were deposited in the herbarium of the department of Botany, Berhampur University.

Observations

1. *Alangium salvifolium* (L.f.) Wang (Alangiaceae) L.N. & O. : Ankula A woody shrub of disturbed forests Loc: Sarapalli (Bandhugaon); Das 827.

Pounded leaves of the plant are tied in a fine cloth and dipped in fermented ricewater for sometime. To cure conjunctivitis few drops of the contents are squeezed into the opposite ear of the patient as eardrops.

2. *Aloe vera* (L.) Burm. (Liliaceae) L.N.: Ghiakuanri, O.: Ghrutakumari. Cultivated as a pot plant. Loc: Dangsorada (Chandrapur); Das 798.

Internal fleshy mucilaginous jelly of leaves is mixed with sugar and applied on burn injuries.

3. *Artocarpus integrifolia* L.F. (Moraceae) L.N. & O. : Panasa. A native widely cultivated, large tree with drupe fruits. Loc.: Mandibisi (Kasipur); Das 744.

Decoction of stem bark is used as nasal drops for headache

4. *Artocarpus integrifolia* L.F. (Moraceae) L.N. & O.: Satabari. A handsome climber with xerophytic adaptations in the deeper regions of forest, seldom cultivated in gardens. Loc: Sarapalli (Bandhugaon); Das 828.

About 50 g of the root and equal amount of "Gyanasundha" are washed and cut into small pieces. The content is gently warmed with 1.5 litre of fresh cow-milk, till the whole content attains the form of butter. The content is then cooled down and divided into fifteen equal quantities. To cure urinary discharges each dose is taken daily for fifteen days. Non-vegetarian and sour foods along with sexual course are restricted during the treatment period.

5. *Azadirachta indica* A. Juss. (Meliaceae) L.N. & O: Neema. A medium sized tree around villages. Loc: Dangsorada (Chandrapur); Das 411.

Decoction of the stem bark along with leaf of *Trichosanthes anguina* L. (O: Pitapotala), bulbous root of *Cyperus rotundus* L. (O: Matha) is taken orally to cure dermatitis.

6. *Breynia rhamnoides* Muell. (Euphorbiaceae) L. N. & O: Jajhingi A partial shade loving under shrub in semi-

disturbed regions. Loc: Sarapalli (Bandhugaon) Das 829).

- a) About 25 g of root bark and black piper (seed of *Piper nigrum* L.O: Golmaricha) is ground with fresh cow milk and taken for eye inflammation.
- b) Long straight internodes of the plant of about 15 cms of length is cut and the stem-sap directly blown into the eyes for the same purpose. Plants around water source is preferred to have a better sap.
- c) Leaf is ground and applied with fresh milk on scalp before bath to cure head-drillig, for cooling the brain and enhancing the memory power .

7. *Butea monosperma* (Lam) Taub. (+*B. frondosa* Roxb.) (Fabaceae) L.N.O: Palaa. A deciduous tree of tropics, commonly known as "Flame of the forest". Loc: Hanumantapur (Chandrapur); Das 416

The root of the plant is ground with rice washed water and the paste is applied on neck to cure goitr ("Galaganda")

8. *Cissus quadrangularis* L. (Vitaceae) L.N.: Nularu O: Hadabhanga. A creeper with quadriangular stem, common on exposed bushes. Loc: Sarapalli (Bandhugaon); Das 830.

The paste prepared out of the mixture of the plant and ragi (seed of *Eleusine coracana* (L). Gaertn. O: Mandia) is baked in fire. The resulting cake is taken to sure rheumatic pains on the backbone.

9. *Globba orixensis* Roxb. (Zinziberaceae) L.N.:Gada. A shade-loveing perennial herb. Loc.: Lilibadi (Kailashkota hills): Das 292.

Rhizome is rubbed on a plain stone and the paste thus obtaine is applid on scorpion stings.

10. *Gmelina arborea* Roxb. (Verbenaceae) L.N.& O: Gambhari. A medium sized tree. Loc: Railaghati (Telangapaar); Das 434.

Equal quantities of stem bark and plant of *Tribulus terrestris* L. (L.N: Gokhara). Bulbous root of *Cyperus rotundus* L. (L.N: Matha), root of *Asparagus race-mosus* Willd., leaf of *Adhatoda zeylanica* Medic. (L.N: Basanga), and root of *Aerva lanata* (L) Juss (L.N: Chauladhua) are pounded and boiled with about 500ml of water with a closed lid till the water content is reduced by half. The content is filtered after cooling, and the filtrate (decoction) is prescribed with honey and piper longum L. fruit (L. N: Pipali) is gently warmed on fire and powdered in three doses to cure rheumatic pains, excess of bile, all kinds of fever, ad body ache.

11. *Holarrhena pubescens* (Buch-Ham.) G.Don. (=Holarrhena antidysenterica (Roth) DC.) (Apocynaceae) L.N: Indramari, O: Kurai. A tall tree, even flowers under stress in shrub condition. Loc: Mandibisi (Kasipur); Das 706.
- (a) Paste of stem-bark is given to cure dysentery .
 - (b) In Dangsorada (Chandrapur, L.N: Karuan).

Decoction of stem bark alongwith yound fruit and leaf of *Punica granatum* L. (L.N:

Dalimaba), bulbous root of *Cyperus rotundus* L., dried young fruit of *Aegle marmelos* (L.) Corr. (L. N: BelasUNTHA), FLOWER OS *Woodfordia fruticosa* (L) Kurz. (L.N: Dhatki) and 'lachu' is taken in three doses to cure dysentery.

12. *Jasminum arborescens* Roxb. (Oleaceae) L.N & O: Banamali. An under shrub of exposed forests with white fragrant flowers. Loc: Sarapalli (Bandhugaon); Das 831.

The root of the plant is ground with 'rai' (seed of *Brassica campestris* L. and missed with the urine of a child (patients opposite see) is given to sure child "crying". The dose is considered by the local physician according to the health of the patient. The mother is advised to avoid sour particles and non-vegetarian food during the treatment. Note: This disease characterizes the child continuously crying within one month of its birth and the skin staining red colouration. The causes of the :crying" are manifold and the utility of the root is questionable).

13. *Lannea coromandelica* (Houtt.) Merrill (Anacardiaceae) L.N: Mohi. A medium sized tree. Loc: Sarapalli (Bandhugaon); Das 832.

Equal amounts of the stem barks of the said plant and *Erythrina varigata* L. Lamk) O: Paladhua) are pounded, and a tea cup full (100-150 c.c) of the extracted juice is given to sure dysentery caused by indigestion.

14. *Leucas aspera* (Willd.) Spreng. Lamiaceae) L.N: Gagaisa O: Dronapuspi. A herbaceous weed on cultivated or waste lands. Loc: Sarapalli (Bandhugaon); Das 833.

To curesinusitis, juice extracted from the plant is used as nasal drops into the same side of nasal pore. Burning will continue for about 30 minutes thereafter the patient will be relieved of pain.

15. *Panicum miliaceum* L. (Poaceae) O: Koda. A cultivated annual plant with edible seeds. Loc: Railaghati (Telangapadar) Das 512.

The kernel of the plant alongwith stem bark of *Bauhinia purpurea* L. (O: Barada) is ground and warmed gently Then the content is applied on head in the portion above ear, before going to be and tied with cloth to cure "giribata" ,a disease associated with inflammation and swelling of the head above ear.

16. *Pergularia daemia* (Forsk.) Chiov (Asclepiadaceae) L.N.& O: Uturuli. A creeper on bushes with milky latex. Loc.: Sarapalli (Bandhugaon); Das 834.

The juice extracted from the tender vegetative part is used to cure toothache. It is used as ear drops in the opposite side of the decaying tooth.

17. *Rauolfia serpentine* (L.) Benth ex Kurz (Apocynaceae)L.N: Patalagaruda. A small herb with milky latex,glabrous leaves and white flowers in the disturbed areas of slopes. Loc.: Ankadelli (Machkund); Das 588.

Root of the plant is ground and the diluted paste is taken orally to cure stomachache. A single dose per day in empty stomach for about fifteen days is prescribed.

18. *Sphaeranthus indicus* L. (Asteraceae).
L.N.: Gokhura. A common weed on
fallow lands. Loc.: Marichamala
(Deomali hills); Das 257.

A piece of root is hanged on neck by thread
to cure a type of loca fever called "Bati
jwara"

19. *Tinospora cordifolia* Miers.
(Menispermaceae) L.N.& O: Guluchi. A
creeper with fleshy stem. Loc.:
Hanumantapur (Chandrapur); Das 799.

The infusion of the plant is orally
administered with honey to cure vomiting.

20. *Trapa natans* L. (Trapaceae) L.N.& O:
Panisingada. An aquatic weed. Loc:
Dangsorda (Chandrapur), Das 800.

Decoction of the leaf along with leaves of
Punica grauatum L., *Syzygium cumini* (L)
Skells, *coleus aromaticus* Benth (cultivated;
L.N: Kurubuli), bulbous roots of *Cyperus*
rolundus L. (O.: Matha) and dried rhizome
of *Zingiber officinale* Rosc (L.N: Snthi) are
taken in three doses to cure blood
dysentery.

21. *Vitex negundo* L. (Verbenaceae)L.N:
Nirgundi. O: Bengunia. A large shrub or
an under three, with small violet
flowers. Loc.: Mandibisi (Kasipur); Das
716.

About 100ml of leaf decoction is given to
cure intermittent fever. With higher body
temperature of the patient, the patient, the
decoction is prescribed with honey.

Discussion

The purpose of this paper is not prescribe any
remedy against diseases but a preliminary

report on ethnomedicinal uses of some plants
which should be screened and tested by the
pharmacologists to be used as medicines for
various diseases. Table 1 summarises the plants
used for various diseases enumerated in the
paper.

The above information is compared with the
available reports on medicinal plants like
Tripathy (1953), Chopra et al (1956), Dastur
(1970), Kirtikar & Basu (1975) and Jain (1981)
and found that they are not reported as such as
here. Out of the present report, use of
Artocarpus integrifolia, *Breynia rhamnoides*,
Butea monosperma, *Cissus quadrangularis*,
Globba orixensis, *Jasminum arborescens*,
Lannea coromandelica and *Panicum miliaceus*
are little known as medicinal plants. At the
same time most of the uses are endemic to the
community or a tribe only. It is interesting to
note that the uses are endemic to the
community or a tribe only. It is interesting to
note that the use of liquid forms as ear or nasal
drop for various aches is rare among India
tribals and a combined medication a decoction
of paste of different parts of various plants to
individuals of which are being reported as a
remedy for different related ailments shows the
judicious utilization of herbal medicines by
tribals.

In India the medicinal plants available in nature
are still not explored well, which warrant a
thorough investigation and collection of the
ethnobotanical data from various parts of the
country, especially from the state of Orissa to
evaluate their various levels of efficacies.

Acknowledgement

(The financial assistance by BSI is
acknowledged)

TABLE -1

List of diseases and plants used against them

1. Batijwara	Sphaeranthus indicus
2. Blood dysentery	Trapa natans
3. Bodyache	Adhatoda zylanica, Aerva lanata, asparagus racemosus, Cyperus rotundus, Gmelina arborea, Tribulus terrestris
4. Burn injuries	Aloe vera
5. 'Child crying'	Brassica campestris, Jasinum arborescens
6. Conjunctivities	Alangium salvifolium
7. Decaying tooth	Pergularia daemia
8. Dermatitis	Azadirachta indica
9. Dysentery	Aegle marmelos, C. rotundus, Holarrhena pubescens, Puica granatum, Woodfordia fruticosa
10. Dysentery due to indigestion	Erythrina variegata var. orientalis, Lannea coromandelina
11. Eye inflammation	Breynia rhamnoides
12. Excess of bile	A. marmelos, C. rotundus, G. arborca, T. terrestris, W. fruticosa
13. Fever	A. zeylanico, A. lanata, A. racemosus, C. rotundus, G. arborea, T. terrestris
14. 'Giribata'	Bauhinia purpurea, Panicum miliaceum
15. Goitre	Butea monosperma
16. Headache	Artocarpus integrifolia
17. Intermittent fever	Vitex negundo
18. Reduction of excess body-heat	Breynia rhamnoides
19. Rheumatic pains	A. zylanica, A. lanata, A. racemosus, C. rotundus, G. arborea, T. terrestris
20. Rheumatic pain on backbone	Cissus quadrangularis
21. Scorpion sting	Globba orixensis
22. Sinusitis	Leucas aspera
23. Stomachache	Rauvolfia serpentine
24. Vomiting	Tinospora cordifolia
25. Urinary discharges	A. racemosus

REFERENCES

- 1 Haines, H.H "The Botany of Bihar and Orissa", Parts 1-6, London (1921-25) Rep. ed., BSI., Calcutta (1961).
2. Saxena, H.O and Dutta, P.K Studies on the Ethnobotany of Orissa, Bull. Bot Surv. India, 17, 124-131 (1975)
3. Saxena, H.O., Brahman, M. and Dutta, P.K. Ethnobotanical studies in nobotany", (Ed. S.K Jain) Oxford and IBH Publications, Calcutta, 232-244 (1981).
4. Jain, S.K., Banerjee, D.K.,and Pal, D.C Medicinal plants among certain Adivasis in Inia, Bull. Bot Surv. India, 15, 85-91 (1973).
5. Bal, S.N. Useful plants of Mayurbhanj state o Orissa, Records Bot. Surv. India, 6, 1-118 (1942).
6. Trivedi, G.N., Kayal, R.N and Chaudhuri, Rai H.N Some medicinal plants of Mayurbhanj (Orissa), Bull. Bot Surv. India, 22, 59-69(1980)
7. Mudgal, V. and Pal D.C Medicinal plants used by tribals of Mayurbhanj (Orissa), Bull. Bot Surv. India, 22,59-69 (1980)
8. Jain, S.K Some Magico-religious beliefs about plans among Adicasi of Orissa,Adivasi, 15, 39-44 (1971).
9. Pattnaik, H. Some useful weeds in and around Cuttack, J Bombay nat Hist. Soc., 54,140-152 (1956).
10. Panigrahi, G. Gandhamardan Parbat, Orissa – A potential source of important indigenous drugs, RRL Bulletin, 1, 111-116 (1963).
11. Sharma, P.C., Murty, K.S., Bhat, A.V., Narayanappa, D, and Kishore, P.Medicinal-lores of Orissa-I Skin diseases, Bull, Med Ethnobot. Res., 6, 93-101 (1985).
12. Chaudhuri, Rai H.N. Pal D.C and Tarafder, C.R Less known uses of some plants from the tribal areas of Orissa, Bull Bot Surv. India, 17, 132-136 (1975).
13. Pal D.C Observations on folklore about plants used in veterinary medicine in Bengal, Orissa And Bihar, Bull Bot Surv. India 22, 96-99 (1980).
14. Murthy, K.s., Sharma, P.C and Kishore, P. Tribal remedies for snake bite from Orissa Ancient Science of Life, 6, 122-123 (1986).
15. Patnaik, N., Bara, F. and Mall, A. Herbal medicines of Dongrias, Adibasi, 26,1-4 (1986)
16. Das, P. K and Misra, M.K Some medicinal plants use by the tribals of Deomali and adjacent areas of Koraput district, Orissa, Indian J. For., 10, 301-303 (1987).
17. Das, P.k. and Misra, M.K some medicinal plants among kondhas around chandrapur, J. Econ. & Tax Bot. (in press) (1988).
18. Tripathy, B. "Drabyaguna Kalpadruma", D.P Tripathy, Nayagarh, Orissa (1953)
19. Chopra, R.N., Nayar, S.L and Chopra, I.C "Glossary of Indian Medicinal Plants" ,CSIR, New Delhi (1956)
20. Dastur, J.F., "Medicinal plants of India and Pakistan", D.B. Tarapore Vala Sons & Co., Bombay (1975).
21. Kirtikar, K.R and B.D Basu, "Indian Medicunal Plants", Vols 1-4, Jayyed press, New Delhi (1975).

22. Jain, S.K. " Glimpses of Indian Ethnobotany"
(Ed S.K Jain), Oxford & IBH Publications,
Calcutta (1981).

