



## Traditional uses of some medicinal plants of Kendrapara district of Odisha

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### ABSTRACT

Kendrapara district in the state of Odisha is a storehouse of rich indigenous knowledge on medicinal plants. Past floristic studies conducted in the district suggest that this coastal district was much richer in terms of medicinal plant diversity and the rural people possess fairly good knowledge on uses of locally occurring medicinal plants for various ailments. With urbanization and access to modern medicine, the rich traditional knowledge base on indigenous medicine is fast eroding. During the present investigation, through extensive fieldwork, the traditional knowledge on medicinal plants of this district has been documented. About four hundred medicinal plants have been collected and identified from different areas of this district. The urgent need for documentation of local knowledge and conservation of medicinal plants have been emphasized.

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### 1. Introduction

Kendrapara district lies between 20° 20' N to 20° 37' N Latitudes and 86° 14' E to 87° 01' E Longitudes and is situated in central coastal plain of the state of Odisha. The present district of Kendrapara was carved out of the erstwhile district of Cuttack vide notification no. DRC-44193-14218 dated 27.03.93 of Government of Orissa. This district was formerly a sub-division of the undivided district of Cuttack. The Bay of Bengal lies in the eastern part of the district. The coastline covers 48 km. stretching from Dhamara Muhan to Batighar. The district is surrounded by the Bay of Bengal in the East, Cuttack district in the West, Jagatsinghpur district in the South and Jajpur and Bhadrak districts in the North. Topographically, Kendrapara district comprises two distinct tracts; the first being marshy and swampy strips along the coast covered with wild growth of reeds and the second is the deltaic plains, which is very fertile and is under the influence of frequent floods. The soil is of alluvial type.

People of Kendrapara largely depend upon agriculture. The geographical area of the district is 2644 sq. kms. and it constitutes 1.70 percent of the total area of the state. There are 7 Tahasil namely Aul, Kanika, Kendrapara, Marshaghai, Pattamundai, Rajnagar&Mahakalpada; 9 blocks namely Aul, Derabis, Goradpur, Kendrapara, Mahakalapada, Marshaghai, Patamundai, Rajakanika and Rajnagar (Figure-1).

Kendrapara District lies in the river delta formed by the rivers Brahmani and Baitarani and branch rivers of Mahanadi. The Bhitarkanika Mangroves, Bhitarkanika National Park, Gahir Matha Beach and Baladev Jew Temple are the important landmarks of the district.

The vegetation of the Kendrapara has also a special significance as the Bhitarkanika National park is located in this district which harbours rich mangrove vegetation with a number of rare medicinal plants (Choudhury *et. al.* 1991, 1993; Subudhi *et.al.* 1992; Nayak and Choudhury, 2001).

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People of this district have been using various plants as well as plant products for the treatment of various diseases since long. However, the vegetation of this district in general and the medicinal plants, in particular are under severe threat due to anthropogenic pressure and habitat modification and traditional knowledge on plants is first eroding.

### 3. Results and discussion

Now a days due to rapid growth of population, urbanization and easy access to the allopathic system of medicines, people in rural areas are also used to resort to modern medicine and as a result, the herbal medicines have

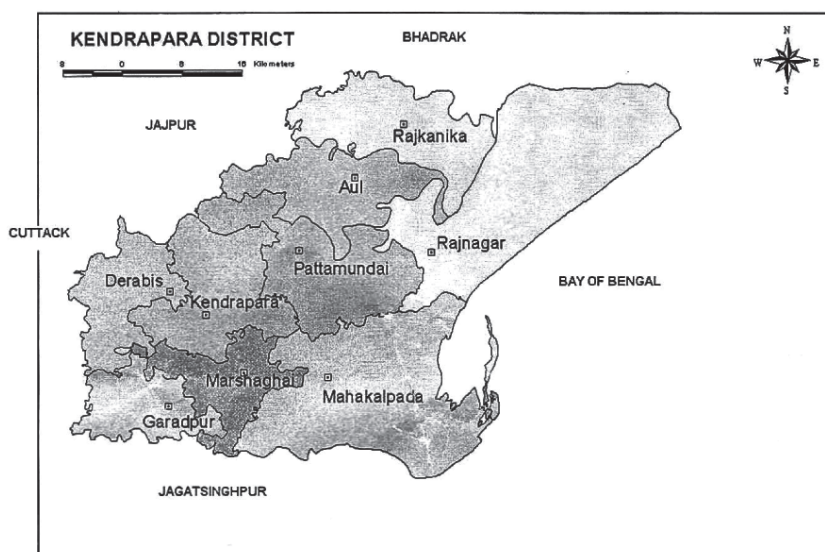


Fig. 1 Map of the study area

### 2. Materials and methods

Floristic survey was conducted in different seasons of the year to different localities of Kendrapara district between 2008-2013 to collect important medicinal plant species and record uses of each of them from the local inhabitants and medicine practitioners. The collected information on traditional uses were cross-checked for reliability and accuracy by interacting with different groups of people and through literature consultation.

Plants samples were collected and identified based on the methods of Radford *et al.* (1974) and Jain and Rao (1977). The uses of whole plants and plant parts like fruits, flowers, leaves, roots etc. were recorded in the field note books. Minimum three to four samples of each species were carefully collected so as to include all the possible type of variations. Herbarium specimens of the plants have been prepared as per the standard method (Jain and Rao, 1997).

Detailed botanical description of each species was made and the plants were identified with the help of the regional floras such as “The Flora of Orissa” (Saxena and Brahmam, 1994-1996), “The Botany of Bihar and Orissa” (Haines, 1921-1925) and “The Supplement to the Botany of Bihar and Odisha” (Mooney, 1950). The identification was confirmed with the help of other standard literatures.

lost their significance. About sixty percent of total populations of Kendrapara district are living in villages. However, people of different villages are still using traditional medicines. Out of 400 species of medicinal plants collected and identified from the study area, 80 species of medicinal plants are being used locally in folk medicines by the local people on the advice of the local healers/Vaidays for the treatment of various diseases like diabetes, dysentery, gastritis, skin diseases, rheumatism, menstrual disorders, scorpion and snake bite, asthma, leucoderma, epilepsy, ulcers and wounds etc. Of all the species collected from the study area, indigenous uses of forty eight important medicinal plants have been reported in this paper. These species have been arranged in alphabetical order in the table and for each species correct botanical name, family, local name, locality of collection, field number and information on medicinal uses have been provided (Table-1).

The data on the medicinal uses as recorded from the local people have been compared with the available literature (Chopra, 1956; Agarawal and Ghosh, 1985; Kirtikar and Basu, 1935; Satyavati *et al.*, 1987; Warriar *et al.*, 1994-1996). These local and tribal claims should be authenticated scientifically through phytochemical screening and animal experimentation.

Table 1  
Traditional uses of some common medicinal plants of Kendrapara District, Odisha

Sl. No.	Botanical Name	Family	Local Name	Locality & Field No.	Parts Used	Medicinal/ other uses
*1.	<i>Aegiceras corniculatum</i> (L.) Blanco	Myrsinaceae	Teluni	Rajkanika 22045	Leaves	Asthma, diabetes.
2.	<i>Aristolochia indica</i> L.	Aristolochiaceae	Eswaramula	Aul 22026	WP	Digestion, fever, irregular menstruation.
*3.	<i>Avicennia officinalis</i> L.	Avicenniaceae	Kala bani	Bhitarkanika 22411	WP	Diuretic, leprosy, relieving ulcers, aphrodisiac.
*4.	<i>Bruguiera cylindrica</i> (L.) Bl.	Rhizophoraceae	Kaliachua	Bhitarkanika 22434	Lf	Hepatitis, source of tannin
5.	<i>Butea monosperma</i> (Lam.) Taub.	Fabaceae	Palasa	Debasis 22437	Bk, Fl, Gm, Sd.	Aphrodisiac, tonic, anthelmintic, bone fracture, diabetes
*6.	<i>Caesalpinia bonduc</i> (L.) Roxb.	Caesalpinaceae	Gila	Bhitarkanika 22390	Sd.	Febrifuge, Intermittent fever, skin disease, diabetes
*7.	<i>Caesalpinia crista</i> L.	Caesalpinaceae	Nentei	Hukitola 22389	Sd.	Antiperiodic, antipyretic, tonic, febrifuge and asthma.
8.	<i>Calophyllum inophyllum</i> L.	Clusiaceae	Polang	Aul 22385	Bk,seed	Skin disease, scabies, gonorrhoea, leprosy,
9.	<i>Caryota urens</i> L.	Areaceae	Salap	Rajkanika 22393	Seeds	Employed to alloy thirst and in fatigue, hemicranias
10.	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Thalkudi	Kendrapara 22364	Wp	Cooling, nervine tonic, epilepsy, diabetes
*11.	<i>Cynometra iripa</i> Kostel	Caesalpinaceae	Singada	Bhitarkanika 22347	Lf	Ulcers
12.	<i>Dendrophthoe falcata</i> (L.f.)Eitling	Loranthaceae	Malanga	Aul 22495	Wp	Astringent, wounds and menstrual trouble, consumption, asthma
*13.	<i>Derris trifoliata</i> Lour	Fabaceae	Kala Katiranai	Bhitarkanika 22318	Wp	Stimulant, antispasmodic
14.	<i>Desmostachya bipinnata</i> (L.) Stapf	Poaceae	Kusa	Rajnagar 22320	Wp	Cold, diuretic, leucorrhoea, bleeding piles, calculi
15.	<i>Erythrina suberosa</i> Roxb.	Fabaceae	Paladhua	Pattamundai 22457	Bk,Lf	Anthelmintic, obesity, oedema
*16.	<i>Excoecaria agallocha</i> L.	Euphorbiaceae	Guan	Bhitarkanika 22308	Lf.	Milky latex is used against paralysis, rheumatism, inflammation.

17.	<i>Gloriosa superba</i> L.	Liliaceae	Pancha angulia	Mahakalapada 22271	Tu rt.	Aborti facient, stimulant and anthelmintic properties used to treat leprosy.
18.	<i>Heliotropium indicum</i> L.	Boraginaceae	Hatisundha	Derabis 22279	Wp	Diuretic, anodyne, urticaria, ulcer.
*19.	<i>Hibiscus tiliaceus</i> L.	Malvaceae	Bania	Bhitarakanika 22280	Lf.	Dysentery and laxative.
20.	<i>Holarrhena pubescens</i> (Buch.- Ham.) Wall. ex G.Don	Apocynaceae	Pitakorwa	Garadpur 22009	Bk, Sd, LF.Ft.	Bronchitis, cholera, anaemia, piles, leprosy, diarrhoea.
*21.	<i>Ipomoea pescaprae</i> (L.) R. Br.	Convolvulaceae	Kansari nata	Mahakalapada 22245	Wp	Rheumatism, diuretic.
22.	<i>Jatropha curcas</i> L.	Euphorbiaceae	Baigaba (Dhala)	Marshashaghai 22248	Lf,Sd,Oil	Purgative, wound healing, toothache.
*23.	<i>Kandelia candel</i> (L.) Druce	Rhizophoraceae	Gualia	Bhitarakanika 22253	Lf	Diabetes.
24.	<i>Lantana camara</i> L. var. <i>aculeata</i> (L.) Mold.	Verbenaceae	Naguari	Kendrapara 22255	Wp	Antiseptic, ulcer, piles, rheumatism, malaria fever.
25.	<i>Leucas aspera</i> (Willd.) Link	Lamiaceae	Gayasa	Derabis 22241	Lf, Fl.	Cold, fever, worms in children anthelmintic, respiratory and skin disease.
26.	<i>Luffa acutangula</i> Roxb.	Cucurbitaceae	Pitarada	Kendrapara 22236	Ft, Sd.	Jaundice, Vomiting, Spleen enlargements.
*27.	<i>Lumnitzera racemosa</i> Willd.	Combretaceae	Tunda, Churunda	Bitarkanika 22237	Wp.	Asthma, antifertility, snake-bite.
28.	<i>Mimusops elengi</i> L.	Sapotaceae	Baula	Marshaghai 22196	Bk, Fl, Frt, Sd.	Diarrhoea, dysentery, tonic, astringent, constipation for children.
29.	<i>Neolamarkia cadamba</i> (Roxb.) Bossler	Rubiaceae	Kadamba	Pattamundai 22021	Bank	Tonic, febrifuge, astringent and in snakebite.
30.	<i>Nicotiana tabacum</i> L.	Solanaceae	Dhuanpatra	Aul 22208	Fl, Lf.	Asthma, scabies, destroy lice, toothache.
31.	<i>Ocimum basilicum</i> L.	Lamiaceae	Dahana, Landabaguli	Pattamundai 22213	Wp.	Diaphoretic, anthelmintic, fever.
32.	<i>Paederia foetida</i> L.	Rubiaceae	Pasaruni	Kendrapara 22220	Lf.	Rheumatism, dysentery, dyspepsia, gastritis and enteritis.
*33.	<i>Pandanus fascicularis</i> Lam.	Pandanaceae	Kia, Keya	Bhitarakanika 22221	Rt, Lf, Fl.	Cardio tonic, brain tonic, skin disease.
34.	<i>Petalium murex</i> L.	Pedaliaceae	Badagokhara Gokhara	Rajkanika 22225	Wp	Spermatorrhoea, nocturnal emission, purpureal diseases.
*35.	<i>Phoenix paludosa</i> Roxb.	Areaceae	Hentala	Mahakalapada 22224	Frt.	Fruit edible.

36.	<i>Piper longum</i> L.	Piperaceae	Pippali	Rajkanika 22160	Rt, Sk.	Tonic, cough, asthma.
*37.	<i>Pongamia pinnata</i> (L.) Pierre	Fabaceae	Karanja	Derabis 22173	Rt,Bk,Lf, Fl,Sd.	Diarrhoea, Cough, dyspepsia, leprosy, foul ulcers, gonorrhoea skin diseases.
38.	<i>Rauwolfia serpentina</i> (L.) Benth, ex Kurz		Apocynaceae	Patalgaruda	Rajkanika 22180	Rt,Lf. High blood pressure, snakebite, Removal of opacities of the cornea.
*39.	<i>Rhizophora mucronata</i> Lamk.	Rhizophoraceae	Rai	Bhitarkanika 22182	Wp.	Hepatitis, diabetes.
*40.	<i>Salicornia brachiata</i> Roxb.	Chenopodiaceae	Batula	Bhitarkanika 22482	Wp.	Hepatitis, Leaves and young shoots are eaten.
*41.	<i>Salvadora persica</i> L.	Salvadoraceae	Miriga	Bhitarkanika 22122	Lf.	Asthma, cough, rheumatism.
*42.	<i>Tamarix troupii</i> Hole	Tamaricaceae	Jagula	Bhitarkanika 22488	Gl,Lf,Frt.	Astringent, leucorrhoea, diarrhea, skin disease, toothache.
*43.	<i>Thespesia populnea</i> (L.) Soland ex Correa	Malvaceae	Habeli	Bhitarkanika 22096	Wp.	Dermatitis, scabies, stomach ailments.
44.	<i>Tinospora cordifolia</i> (Willd.) Hook.f. & Thoms.	Menispermaceae	Guluchi	Mahakalapada 22097	Stem,Brk.	Tonic, antiperiodic, aphrodisiac and malaria.
45.	<i>Trianthema portulacastrum</i> Linn.	Aizoaceae	Puruni	Rajnagar 22101	Rt.	Diuretic, anaemia, Jaundice, asthma.
46.	<i>Tridax Procumbens</i> L.	Asteraceae	Bisalya- karani	Aul 22105	Lf.	“Finger” nail bed, antiseptic.
47.	<i>Uraria picta</i> (Jacq.) Desv. ex DC.	Fabaceae	Iswarijata	Derabis 22109	Wp	Appetiser, aphrodisiac, fever and cough.
*48.	<i>Xylocarpus granatum</i> Koenig.	Meliaceae	Sisumar	Bhitarkanika 22072	Sd,Frt.	Mumps, boils, toothache, elephantiasis.

\* The aster mark indicates the plants belonging to mangrove vegetation.

**Abbreviations** : AB - Axillary bud, Al.rt - Aerial root, BK. - Bark, Fl. - Flower, Frt. - Fruit, Per - Fruit pulp, Gl. - Gall, Gm. - Gum, Hw - Heart wood, Inf. - Inflorescence, K1 - Kernel, Lf. - leaf, Lx. - Latex, Pd - Pod, Rn. - Resin, Rt. - Root, Rz. - Rhizome, Sd. - Seed, Sk. - Spike, ST. - Shoot tip, Stm. - Stem, Tn.st - Tender shoot, Tu - Tuber, Tu.rt - Tuberous root, Wp. - Whole plant and LN - Local Name.

## Conclusion

During the present investigation it has been observed that even though the allopathic system of medicines is widely practiced in different areas of Kendrapara district, the traditional system of medicine has not lost its significance and plant-based drugs are still in use in certain pockets of the district. However, the traditional knowledge possessed by the locals need to be properly documented, studied and authenticated, which may lead to discovery of new drugs. Besides, conservation of medicinal mangroves species and all mangrove habitats in Kendrapara district as such has to be taken up on priority basis.

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