The paper provides information on the use of plant crude drugs for various diseases prevalent in tribal communities of eight villages under Thuamul Rampur block of Kalahandi district, Orissa. It deals with 39 plant species under 36 genera belonging to 26 families. The local names, the method of preparation and mode of use of the medicine are mentioned. The tribal communities of the area totally depend on the herbal drug for their primary health care, which is attributed partly to their socio-economic and cultural conditions.

Keywords: Ethno-medico-botany, Herbal drugs, Kalahandi district, Tribal community.

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Ethno-medico-botanical survey of Kalahandi district of Orissa

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Orissa with its diversified topography, variable climatic condition, vast forest area and large rural population including tribal communities provides an interesting area for ethno-botanical studies. Kalahandi district (19º 12'-20º 27' N, 82º 31'-83º 48' E) is situated in the northern part of Orissa. The Thuamul Rampur block of Kalahandi district, where this work was carried out is situated towards the south of the district and is surrounded by Rayagada, Koraput and Nawarangapur districts in the east, south and west, respectively. The Thuamul Rampur block under Dharmaghar sub-division is divided into 10 Gram Panchayats. This block spreads over 41.44 x 10^4 ha and includes twelve villages, viz. Benakhamar, D. Chepataghat, Goilkhoighati, Kuspari, Khakesh, Ampadar, Upper Chirka, Ranipandar, Beja-ghati, Bhaghmari, Gopalpur and Saisurni. Hills and forests cover this block.

Tribes such as Paraja, Kandha, Kutia Kandha, Tekeria and Jhadia inhabit the Thuamul Rampur block. These people mostly depend on shifting cultivation and domestication of animals such as cattle, goat, pig and buffalo for their livelihood. Moreover, they collect non-timber forest products for their daily use and for sale. The tribes of this area are socio-economically backward and most of them are below the poverty line. They depend on the traditional medicines for their primary health care. It is observed that the forests of this area are degrading and reducing rapidly along with the medicinal herbs, threatening the health service of
the tribes, as they are not in a position to take the help of the modern health facilities.

Though investigations on the ethno-medico-botany on some districts of the state have been made, no report is available on Kalahandi district. In the present communication, an attempt has been made to collect the ethnomedicinal information available with the tribal communities of the Thuamul Rampur block of Kalahandi district, Orissa.

**Materials and Methods**

During 1999, field trips were conducted to the villages, namely D. Chepataghat, Goilkhoighati, Kuspari, Khakesh, Ampadar, Upper Chirka, Benakhamar, Beja-ghati under Thuamul Rampur block of Kalahandi district, Orissa and the ethnomedicinal data were recorded. First hand information on medicinal uses of plants was collected from native health practitioners and other persons of either sex having knowledge on herbal medicines in different villages under study. Plant specimens collected during the survey were dried, processed and identified with the help of the flora of the state. The voucher specimens were deposited in the Herbarium of the Department of Botany, Berhampur University (BOTB), Berhampur, Orissa.

The plants are enumerated alphabetically and the family names are given within parenthesis. The local names (L.N.), Oriya names and field number of the species followed by the uses of the plants are described under each species.

**Enumeration**

1. **Aegle marmelos** (L.) Corr. (Rutaceae)
   L.N. — Bela; Oriya — Bel; Nayak 12.
   a) Ripe fruit pulp is considered as a digestive agent.
   b) Crushed leaf paste is applied to cure burn injuries.
   c) Leaf extract along with water is taken orally as an antipyretic.

2. **Andrographis paniculata** (Burm.f.) Wall. ex Nees (Acanthaceae)
   Oriya — Bhuineema; Nayak 34.
   a) Leaf paste is applied on the forehead for 2-3 hours to relieve continuous headache.
   b) Paste of about 5 gm leaf is taken orally along with water twice daily to cure dysentery and diarrhoea.

3. **Annona squamosa** L. (Annonaceae)
   Oriya — Sitaphal; Nayak 84.
   a) Decoction of seed is taken orally as abortifacient.
   b) Paste of seed or leaf is applied on hair for killing lice.
   c) Leaf or seed paste is applied locally to cattle to cure cuts and wounds.

4. **Argemone mexicana** L. (Papaveraceae)
   L.N. — Dragugach, Oriya — Odasamari; Nayak 33.
   a) The leaf juice is mixed with common salt and water (1:1) and applied locally in ringworm, scabies, and skin diseases.
   b) Paste of seeds is cooked, and oil is extracted which is used to cure skin diseases of both human beings and cattle.
5. **Azadirachta indica** A. Juss.  
(Meliaceae)  
L.N. — Neem, Oriya — Nimbo; Nayak 47.  
   a) Leaf decoction is applied locally to cure wounds.  
   b) Neem leaves along with *sal* (*Shorea robusta* Gaertn.f.) leaves are boiled in water, and the decoction is cooled and stored in bottles and taken once or thrice a day to cure diarrhoea and dysentery.

6. **Calotropis gigantea** R. Br.  
(Asclepiadaceae)  
L.N. — Arakh, Oriya — Arakha; Nayak 52.  
   a) The latex is used to cure toothache, ringworm and piles.  
   b) Dried root powder is taken orally with cold water to cure diarrhoea.

7. **Cascabela thevetia** (L.) Lippold  
(=Thvetia peruviana (Pers.) Merr.)  
(Apocynaceae); L.N. — Koniyar, Oriya — Kaniyar; Nayak 11.  
   a) Mature seeds are used as an abortifacient and as purgative in rheumatism and dropsy.  
   b) Fruit latex is applied in nail infection.  
   c) Leaf paste mixed with castor oil and after little warming applied thrice daily for 2-3 days on external injuries as a pain alleviator.

8. **Cassia fistula** L. (Caesalpiniaceae)  
Oriya — Sunari; Nayak 66.  
   a) Decoction of fruit is used in rheumatism.

b) The fruits are crushed and the paste is taken orally in very small quantity in case of constipation.  
c) Stem bark is ground and applied on the forehead to cure headache.

9. **Dioscorea bulbifera** L.  
(Dioscoreaceae)  
L.N. — Pitkanda; Nayak 75.  
   a) Root powder is applied externally in cases of hernia and hydrocele.  
   b) Tuber powder is applied on scorpion bite wound.

10. **Grewia abutilifolia** Vent. ex A. L. Juss. (Tiliaceae)  
Oriya — Dhamana; Nayak 19.  
   Bark juice is given in dysentery.

11. **Adhatoda zeylanica** Medic.  
(Acanthaceae)  
L.N. — Basak, Oriya — Basang; Nayak 14.  
   a) Leaf decoction is used for bathing children to prevent skin diseases.  
   b) Leaf smoke is inhaled for asthma.

12. **Lannea coromandelica** (Hout) Merr.  
(Anacardiaceae)  
Oriya — Mohi; Nayak 105.  
Equal amount of stem bark of this tree and *Erythrina variegata* L. are pounded and about 100 - 150 ml of extracted juice is given to the patient suffering from diarrhoea and dysentery.

13. **Leonotis nepetifolia** (L.) R. Br.  
(Lamiaceae)  
L.N. — Kantasido, Oriya — Tipiri; Nayak 39.
a) Plant ash is used to cure paralysis; plant paste used in skin diseases.
b) Leaf paste is applied locally to cure joint pain.
c) Leaf steam bath is taken to cure swelling after delivery.

14. **Mallotus philippensis** (Lam.)
Muell.–Arg. (Euphorbiaceae)
Oriya — Sundari; Nayak 21.
  a) Leaves are considered appetizer.
  b) Diluted paste of seed and fruit is administered orally in urinary and menstrual disorders.
  c) Red glandular hair powder along with ghee is applied locally to cure boils and blisters. Powder is taken orally to cure dysentery and constipation.

15. **Michelia champaca** L.
(Magnoliaceae)
Oriya — Champa; Nayak 13.
Leaf decoction is used to cure eye diseases.

16. **Mollugo pentaphylla** L.
(Aizoaceae)
L.N. — Pitasag, Oriya — Pitasaga; Nayak 58.
Whole dried plant is crushed and the paste is applied locally on wounds, scabies and for different skin diseases.

17. **Phyllanthus emblica** L. (=**Emblica officinalis** Gaertn.)
(Euphorbiaceae); L.N. — Aenla, Oriya — Amla; Nayak 92.
a) The fruit is washed, ground and 1-2 drops of juice are administered as eye drop in conjunctivitis.
b) The fruit juice is given orally in skin diseases.
c) Fruits are dried and ground and taken orally for better digestion and stomach trouble and to stop vomiting.

18. **Phyllanthus fraternus** Webster
(Fabaceae)
Oriya — Bhuianla; Nayak 101.
a) Paste of whole plant is made in water and given once in morning for a fortnight to cure jaundice.
b) Plant paste is given orally thrice daily to cure dysentery.

19. **Pongamia pinnata** (L.) Pierre
(Fabaceae)
L.N. — Karnji, Oriya — Karanja; Nayak 108.
Leaf paste is used to cure round worms and skin diseases.

20. **Pterocarpus marsupium** Roxb.
(Fabaceae)
L.N. — Bija, Oriya — Piasala; Nayak 17.
a) Water is kept overnight in the wooden container made out of the wood and drunk in the morning for cooling effect. This is also recommended to cure diabetes.
b) Decoction of bark is administered orally in stomachache.
c) Gum obtained from bark is applied over cracks of lips.

ex. Kurz (Apocynaceae)
L.N. — Patal goruda, Oriya — Patalagoruda; Nayak 32.
a) It is used for treatment of insect bite, fever and dysentery.
b) Root (about 3 gm) decoction along with ginger (4-15 g) is given before meals in the morning to expel intestinal worms in children.

22. **Ricinus communis** L.
   (Euphorbiaceae)
L.N. — Jada; Oriya — Jada; Nayak 79.
a) The leaf paste is used for massaging to get relief in joint pain and body swelling.
b) The seed oil is used for headache and cooling effect.

23. **Shorea robusta** Gaertn. f.
   (Dipterocarpaceae)
L.N. — Sargi, Oriya — Sal; Nayak 68.
a) The resin is used in dysentery.
b) About 5 gm of resin powder is taken along with warm milk to relieve chest pain and stomachache.
c) The resin powder is used against chicken pox.

24. **Smilax zeylanica** L. (Liliaceae)
Oriya — Muturi; Nayak 16.
a) The root paste is applied on joint pain.
b) Root paste is administered orally with cold water daily in the morning for a month to cure spermatorrhea.
c) Root paste is administered orally to cattle in case of dysentery.
d) Root decoction is applied externally in sores, swelling and abscess in cattle.

25. **Solanum virginianum** L.
   (Solanaceae)
Oriya — Bheji, Baigan; Nayak 45.
a) Dried plant powder is smoked to cure toothache.
b) Dried plant powder is mixed with turmeric (*Curcuma domestica* Valeton) and is taken orally to cure cough.
c) Dried seed boiled with water is applied on pimples.
d) About 20 gm root is boiled with goat milk and applied on eye to cure eye infection.
e) Fruit juice is dropped into itching ear for instant relief.

26. **Sphaeranthus indicus** L.
   (Asteraceae)
Oriya — Bhuikadam; Nayak 3.
a) Root and seed powder is given orally to kill intestinal worms in children.
b) Bark powder is given orally and applied externally to cure piles.

27. **Strychnos nux-vomica** L.
   (Loganiaceae)
Oriya — Kochila; Nayak 29.
a) Root bark paste with lemon juice is given to cure cholera.
b) Root paste is applied locally in snakebite.
c) The infusion of bark is given in epilepsy.
28. **Syzygium cuminii** (L.) Skeels (Myrtaceae)  
Oriya — Jambakoli; Nayak 7.  
a) 30-40 ml of stem bark juice is mixed with curd (1:2) and taken orally for diarrhoea.  
b) Bark paste is used as an antidote to snakebite.  
c) Young leaves are chewed to cure mouth blisters and ripe fruit juice is used to cure stomachache and digestive troubles.

29. **Tagetes erecta** L. (Asteraceae)  
L.N. — Mandaful, Oriya — Gendu; Nayak 137.  
a) Decoction of inflorescence is used as an antipyretic drug.  
b) Leaf juice is applied on boils and carbuncles for the relief from pain and healing.

30. **Tamarindus indica** L.  
(Caesalpiniaceae)  
L.N. — Tetli, Tetel, Oriya — Tentuli; Nayak 8.  
a) The leaf paste is used as poultice and applied on boils for easy bursting.  
b) The pulp is mixed with water and salt and is given to cattle to cure fever and dysentery.

31. **Tephrosia purpurea** (L.) Pers.  
(Fabaceae)  
L.N. — Paharagacha, Oriya — Kolathia; Nayak 9.  
a) Whole plant is crushed and applied locally to eradicate lice and flies on cattle.  
b) A piece of root is crushed with teeth and kept for sometime to cure toothache.  
c) Pulverized roots are smoked for relief from asthma and cough.  
d) Plant juice is taken orally to cure acidity and joint pain.

32. **Terminalia alata** Heyne ex Roth. [=**Terminalia tomentosa** (Roxb. ex DC.) W. & A.]  
(Combretaceae); L.N. — Sahaj, Oriya — Asan; Nayak 77.  
a) 2 to 3 fresh leaves made into paste and given thrice a day (about 4 gm in single dose) to cure vomiting and loose motion.  
b) Bark ash mixed with sesamum oil is applied externally for curing itches.

32. **Terminalia arjuna** (Roxb. ex DC.) W. & A. (Combretaceae)  
Oriya — Arjuna; Nayak 10.  
a) Bark of the plant along with bark of *Nyctanthes arboristis* L. is pounded into paste and applied over the body in case of internal injuries.  
b) Bark paste is also used for bone fracture.

34. **Terminalia bellirica** (Gaertn.) Roxb. (Combretaceae)  
Oriya — Bahada; Nayak 40.  
a) Fruit is used to cure diarrhoea, eye diseases, cough and asthma.  
b) Fruit decoction along with raw honey is used to cure ophthalmia.

35. **Terminalia chebula** Retz.  
(Combretaceae)  
L.N. — Harda, Oriya — Harida; Nayak 98.
a) Seeds are used to check diarrhoea.
b) Seeds are used for digestion, to check vomiting and stomach problems.
c) Fruit paste is applied locally to cure skin diseases, eczema and cuts.

36. **Thysanolaena maxima** (Roxb.) Kuntze (Poaceae)
   L.N. — Phulbadun, Oriya — Phulachanchuni; Nayak 30.
   Root paste is applied on boils to dry the pus and quick healing.

37. **Tridax procumbens** L.
   (Asteraceae)
   Oriya — Bishalya karani; Nayak 123.
   a) Leaves are applied externally in ringworm.
   b) Root decoction is used in diarrhoea and stomachache.
   c) Leaf juice is applied externally on injuries to arrest bleeding.
   d) A poultice of the leaves is applied on the forehead to treat headache.

38. **Viscum orientale** Willd.
   (Loranthaceae)
   Oriya — Madang, Malang; Nayak 88.
   Fruits of *V. orientale* and equal quantities of host plant are ground together and small pills are made. One pill is given daily in the morning for 4-5 days in case of giddiness and also stiffness.

39. **Zingiber officinale** Rosc.
   (Zingiberaceae)
   Oriya — Ada; Nayak 102.
   a) Dried rhizome paste is applied externally after any physical injury to stop bleeding.
   b) Rhizome juice rubbed on and around the nose is helpful in checking diarrhoea.
   c) Ginger paste is applied on the forehead for relief from headache.

**Discussion**

This study provides information on 24 human diseases against which the plants are used by the tribes of Thuamul Rampur area. A maximum of 22 species were used against skin diseases followed by 15 plants for diarrhoea and dysentery and 11 plant species for stomach related diseases. Two plants have been identified as abortifacient and three plants as antipyretic. Four plants have been identified which are used against the diseases of domestic animals. Further research on these medicinal plants will provide an insight to improve the quality and efficacy of these traditional medicines. The people take this traditional medicine with a strong spiritual belief, which should not be ignored. The people of this region derive immense benefit by using the herbal medicines for their primary health care. In this report, use of *Aegle marmelos* and *Tagetes erecta* as antipyretic, *Calotropis gigantea* and *Sphaeranthus indicus* for piles, *Strychnos nux-vonica* for cholera and epilepsy, *Dioscorea bulbifera* for hernia and hydrocele and *Cascabela thevetia* for dropsy is little known. In Orissa, particularly in Kalahandi district the
medicinal plants available in nature and the traditional medicinal knowledge available with the tribes are still not explored well which warrant a thorough investigation.

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