

Traditional Ethnomedicinal Plants Used For Skin Disease by Primitive Tribes of Ananthagiri Mandal, Visakhapatnam District, Andhra Pradesh, India

Ch. Surekha¹, Padal S. B^{2*}, Rajesh Babu Y. T³¹Research Scholar, Department of Botany, Andhra University, Visakhapatnam -530003, Andhra Pradesh, India²Professor, Department of Botany, Andhra University, Visakhapatnam -530003, Andhra Pradesh, India³Research Scholar, Department of Botany, Andhra University, Visakhapatnam -530003, Andhra Pradesh, IndiaDOI: [10.36347/sajb.2021.v09i08.003](https://doi.org/10.36347/sajb.2021.v09i08.003)

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*Corresponding author: Padal S. B

Abstract

Original Research Article

Plant species used in the treatment of skin diseases among the primitive tribes of Ananthagiri Mandal, Visakhapatnam district. To document traditional medicinal plants knowledge used in treating skin diseases by primitive tribes like Porja, Mali, Kotia, Nukhadora and Khonds. Forty-five plant species belonging to 30 families were found to be used specifically in the treatment of various skin diseases. Most preferred species for the management of skin ailments are *Abrus precatorius* Linn. *Alangium salvifolium* (Linn.f.) Wang. *Asparagus racemosus* Wild and *Argemone mexicana* Linn etc.

Keywords: Ethnomedicine; Traditional knowledge; Skin disease; primitive tribes, Ananthagiri Mandal.

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INTRODUCTION

The term Ethnobotany refers to the interrelationship between the primitive people and plants growing around them. The primitive people were devoid of any written language but retain their tradition by verbal means.

The World Health Organization (WHO) has estimated that as many as 80% of the world population is dependent on traditional medicine for their primary health needs [1]. At present about 65% of Indians are dependent on the traditional system of medicine [2]. Skin diseases like eczema, leukoderma, ringworm, scabies, and many other conditions are treated completely with herbal drugs. Hundreds of medicinal plant species worldwide are used in the traditional medicine as a treatment for skin diseases caused by bacteria, fungi and viruses [3]. In India also there is a huge base of herbal treatment for skin diseases.

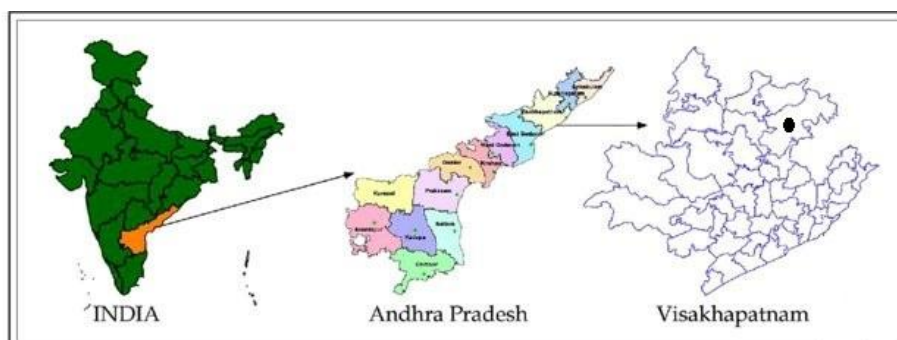
Ethno-medicinal studies showed that herbal medicine is an alternative therapy for treatment and control of skin ailments [4]. Herbal anti-skin medicines have many useful properties including low side effects and cost treatment with high significant efficacy [5, 6]. Medicinal flora has shown a pivotal part in management of dermatological conditions [7], particularly

communities in developing countries local communities depend on traditional medicine for their health care [8].

STUDY AREA

The present studies revealed that totally 30 modes of treatment were followed by the primitive tribes of Ananthagiri Mandal, Visakhapatnam district to cure skin disease. Visakhapatnam district is one of the North Eastern Coastal districts of Andhra Pradesh and it lies between 17° – 15° and 18° - 32° Northern latitude and 18° - 54° and 83° - 30° in Eastern longitudes. It is bounded on the North partly by the Orissa State and partly by Vizianagaram District, on the South by East Godavari District, on the West by Orissa State and on the East by Bay of Bengal.

This Mandal the major tribal groups are Bagatha, Valmiki, Kamara, Konda dora, Kotia, Kulia, Malis, Manne dora, Nuka dora and Gonds where as in the primitive tribal group (PTG) comprise Khonds, Gadaba and Porja (Porangi, porja). Most of the tribes except Bagatha and Valmiki are habitual podu cultivators. These tribes depend on local health practitioners or Vaidyas called the gurus for their health care. The gurus rely on indigenous system of medicine using the locally available medicinal plants.



Map showing Anantahgiri Mandal in Visakhapatnam District

MATERIAL AND METHODS

The authors have conducted an extensive field survey in the tribal belts and other interior villages adjoining forest areas in the Mandal of Visakhapatnam district to collect information about ethno-medicinal plants used by the tribals to heal skin diseases. Simultaneously, actual applications of plant parts to treat skin diseases were also observed during the field work.

The information on the use of medicinal plants was gathered by direct Interaction with the primitive tribal people. The information was recorded in standard questionnaire which include, local name of the plant, parts used, method of drug preparation, mode of administration, probable dosage and duration of treatment. At the end of each interview, plants specimens were collected and identified with the help of regional and local floras [9, 10]. Prior informed consent was taken from all the tribal and traditional healers. Voucher specimens were deposited in the herbarium, Department of Botany, Andhra University, Visakhapatnam.

RESULTS

Data on medicinal uses of plants are arranged alphabetically in the following sequence: scientific name, family, habit, vernacular name if any, parts used and modes of use.

1. *Abrus precatorius* Linn.

Family: Fabaceae

Syn: *Glycine abrus* Linn.

Vernacular name: Guruginja, Gurivinda

Flower & Fruit: January-May

Part used: Leaf, Seed

Uses: Quarter litre of gingelly oil mixed with one litre of leaf juice of *Eclipta alba* and two spoons of seed paste of *abrus precatorius* is applied on all types of skin diseases.

2. *Acacia rugata* (Lam.) Ham.

Family: Mimosaceae

Syn: *Mimosa sinuate* Lour

Vernacular name: Sikaya

Flower & Fruit: December –March

Part used: Pod

Uses: Pod paste is applied on the skin for eczema, leukoderma and other skin diseases.

3. *Alangium salvifolium* (Linn.f.) Wang.

Family: Alangiaceae

Syn: *Grewia salvifolia* Linn.f.

Vernacular name: Uduga chettu

Flower & Fruit: February-July

Part used: Root

Uses: Root paste is applied on the affected skin to cure seed oil mixed with turmeric is applied on the affected areas.

4. *Aloe vera* (Linn.) Burm. f.

Family: Liliaceae

Syn: *Aloe barbadensis* Mill.

Vernacular name: Kala bandha

Flower & Fruit: September-January

Part used: Leaf

Uses: Leaf pulp is applied on the affected areas

5. *Ammannia baccifera* Linn.

Family: Lythraceae

Vernacular name: Agnivendrapaku

Flower & Fruit: Throughout the year

Part used: Whole plant

Uses: Plant paste is applied on the affected areas

6. *Argemone mexicana* Linn.

Family: Papaveraceae

Vernacular name: Balla rakasi

Flower & Fruit: July-November

Part used: Gum

Uses: Yellow coloured latex of the plant is applied on the plant is applied on the affected parts.

7. *Asparagus racemosus* Wild.

Family: Liliaceae

Vernacular name: Bheemudu chettu, Satavari

Flower & Fruit: July-November

Part used: Tuber

Uses: one spoon of tuber powder is taken with milk.

8. *Bauhinia variegata* Linn.

Family: Caesalpiniaceae

Vernacular name: Devakanchanum

Flower & Fruit: July-December

Part used: Leaf

Uses: Leaf paste is applied on the affected areas.

9. *Brassica nigra* (Linn.) Koch.

Family: Brassicaceae

Syn: *Sinapsis nigra* Linn.

Vernacular name: Varnavalu

Flower & Fruit: June-March

Part used: Seed oil

Uses: Equal quantities of mustard and neem oils are mixed and applied on the affected areas.

10. *Ceiba pentandra* (Linn.) Gaertn

Family: Bombacaceae

Syn: *Bombax ceiba* L

Vernacular name: Tella buruga chettu

Flower & Fruit: November-May

Part used: Stem bark

Uses: Bark paste is applied on the affected areas till cure.

11. *Cinnamomum zeylanium* Garc. Ex Bl.

Family: Lauraceae

Vernacular name: Dalchina chekka

Flower & Fruit: January- March

Part used: Stem bark

Uses: Stem bark powder with sufficient honey is applied on the affected areas.

12. *Cleome gynandra* Linn.

Family: Cleomaceae

Syn: *Gynandropsis pentaphylla* (Linn.) Briq.

Vernacular name: Ventumkura

Flower & Fruit: June-December

Part used: Whole plant

Uses: One cup of plant juice mixed with a quarter cup of mildly heated gingelly oil is used for washing the affected areas.

13. *Costus speciosus* (Koen.) Sm.

Family: Zingiberaceae

Syn: *Banksia speciosa* Koen.

Vernacular name: Bokacchika

Flower & Fruit: June-November

Part used: Leaf

Uses: Leaf juice is used to wash the affected skin for healing from scabies, ring worm and infectious skin diseases

14. *Curcuma aromatic* Sal.

Family: Zingiberaceae

Vernacular name: Kasthuri dumpa

Flower & Fruit: June-September

Part used: Rhizome

Uses: rhizome paste is applied on the affected areas. Rhizome paste is applied on the face for face glow.

15. *Curcuma longa* Linn.

Family: Zingiberaceae

Syn: *Curcuma domestica* valetton

Vernacular name: Pasupu

Flower & Fruit: May-August

Part used: Leaf

Uses: Leaf paste and lemon juice (3:1) is applied on the affected areas before going to bed till cure.

Rhizome paste is applied on the affected parts once a day for 3 days.

16. *Dichrostachys cinerea* (Linn.) Wt. And Arn.

Family: Mimosaceae

Syn: *Mimosa cinerea* Linn.

Vernacular name: Veluturu chettu

Flower & Fruit: October-December

Part used: Stem bark

Uses: Stem bark decoction is used to wash the affected areas.

17. *Gloriosa superba* Linn.

Family: Liliaceae

Vernacular name: Venka vajram

Flower & Fruit: August-September

Part used: Root

Uses: Root juice is applied on the affected areas.

18. *Haldinia cordifolia* (Roxb.) Ridsd.

Family: Rubiaceae

Vernacular name: Bandari

Flower & Fruit: June-May

Part used: Stem bark

Uses: Two spoons of stem bark decoction are administered daily to purify the blood.

19. *Heliotropium indicum* Linn.

Family: Boraginaceae

Vernacular name: Nagadanti

Flower & Fruit: throughout the year

Part used: Vegetative parts

Uses: Tender vegetative parts are boiled and made into decoction. Three spoons of it are administered for scabies, eczema and other skin diseases.

20. *Jatropha curcas* Linn.

Family: Euphorbiaceae

Vernacular name: Dola chettu

Flower & Fruit: April-December

Part used: Seed

Uses: Seed oil is applied on the skin to cure eczema, scabies and other skin diseases.

21. *Limonia acidissima* Linn.

Family: Rutaceae

Syn: *Feronia limonia* (Linn.) SW

Vernacular name: Velaga

Flower & fruit: October-December

Part used: Stem bark

Uses: Stem bark juice is applied on the affected areas.

22. *Luffa acutangula* (Linn.) Roxb.

Family: Cucurbitaceae

Syn: *Luffa amara* Roxb.

Vernacular name: Chedu beera

Flower & Fruit: June-September

Part used: Seed

Used: Seed oil is applied on the affected areas.

23. *Marsilea quadrifolia* Linn.

Family: Marsileaceae

Vernacular name: Chenchalam koorā

Flower & Fruit: October-January

Part used: Leaf

Uses: Leaf paste is applied on the affected areas.

Tender leaves used as leafy vegetables.

24. *Melia azedarach* Linn.

Family: Meliaceae

Vernacular name: Turaka vepa

Flower & Fruit: February-June

Part used: Leaf

Uses: Leaf paste is applied on the affected areas.

25. *Ocimum basilicum* Linn.

Family: Lamiaceae

Vernacular name: Jetti mokka

Flower & Fruit: Most of the year

Part used: Leaf

Uses: Leaves are crushed into paste and applied on the affected skin.

26. *Pedilanthus tithymaloides* (Linn.) Poit

Family: Euphorbiaceae

Vernacular name: Seema chitramulam

Flower & Fruit: January-March

Part used: Root

Uses: Root paste is applied over the affected areas till cure.

27. *Phyllanthus amarus* Schum. and Thonn.

Family: Euphorbiaceae

Syn: *Phyllanthus niruri* Linn.

Vernacular name: Nelasirli, Nela usiri

Flower & Fruit: Throughout the year

Part used: Whole plant

Uses: Whole plant ground with salt is applied on the affected skin daily.

28. *Pongamia pinnata* (Linn.) Pierē

Family: Fabaceae

Vernacular name: Ganuga, Kanuga

Flower & Fruit: March-October

Part used: Seed

Uses: Seed oil is applied regularly to the affected skin till cure seed oil mixed with equal quantity of neem oil is applied on the affected areas of Psoriasis, Ring worm, Itching, Allergy and Scabies.

29. *Pterocarpus marsupium* Roxb.

Family: Fabaceae

Vernacular name: Yegisa

Flower & Fruit: April-July

Part used: Stem bark

Uses: Stem bark paste is applied on affected area.

30. *Rauvolfia tetraphylla* Linn.

Family: Apocynaceae

Syn: *Rauvolfia canescens* Linn.

Vernacular name: Papataku

Flower & Fruit: September-April

Part used: Tuber

Uses: Tuber paste is applied on the affected areas.

31. *Strychnos potatorum* Linn.

Family: Loganiaceae

Vernacular name: Induga

Flower & Fruit: May-October

Part used: Root

Uses: One spoon of root powder or decoction is taken daily once.

32. *Terminalia chebula* Retz

Family: Combretaceae

Vernacular name: Karakkai

Flower & Fruit: March-July

Part used: Fruit

Uses: The epicarp of the myrobalan is roasted powdered and mixed with gingelly oil is applied on the affected areas.

33. *Vetiveria zizanoides* (Linn.) Nash

Family: Poaceae

Syn: *Phalaris zizanoides* Linn.

Vernacular name: Vattiveru, Kuruveru

Flower & Fruit: August-October

Part used: Root

Uses: Root paste applied on the affected areas.

34. *Acalypha indica* Linn.

Family: Euphorbiaceae

Vernacular name: Kuppinta

Flower & Fruit: Throughout the year

Part used: Leaf

Uses: Leaf extract mixed with small amount of lime is applied.

35. *Albizia lebbbeck* (Linn.) Willd

Family: Mimosaceae

Syn: *Mimosa lebbbeck* Linn.

Vernacular name: Dirisena

Flower & Fruit: March-September

Part used: Stem bark

Uses: Stem bark paste is applied on the affected areas.

36. *Andrographis paniculata* (Burm.f.) Wall. Ex Nees

Family: Acanthaceae

Vernacular name: Nela vemu

Flower & Fruit: August-December

Part used: Whole plant

Uses: Half to two spoons of whole plant powder mixed in water is taken daily once to purify blood.

37. *Anthocephalus cadamba* Miq

Family: Rubiaceae

Vernacular name: Kadamba

Flower & Fruit: March-June
 Part used: Stem bark
 Uses: One spoon of stem bark decoction mixed with equal quantity of honey is administered daily once till cure.

38. *Aristolochia bracteolata* Lam.

Family: Aristolochiaceae
 Syn: *Aristolochia bracteata* Retz.
 Vernacular name: Gadida gadapa
 Flower & Fruit: June-December
 Part used: Leaf
 Uses: Fresh leaf paste mixed with castor oil is applied on the affected areas.

39. *Cascabela thevetia* (Linn.) Lipp

Family: Apocynaceae
 Syn: *Thevetia neriiifolia* Juss. Ex. Steud
 Vernacular name: Paccha ganneru
 Flower & Fruit: Almost throughout the year
 Part used: Leaf
 Uses: Handful of leaves are pounded with two spoons of fresh turmeric and the paste is applied on the affected areas for half an hour twice a day till cure.

40. *Cassia fistula* Linn.

Family: Caesalpiniaceae
 Syn: *Cassia rhombifolia* Roxb.
 Vernacular name: Rela
 Flower & Fruit: February-April
 Part used: Stem bark and Leaf
 Uses: Stem bark and leaf juice mixed with coconut oil is applied on the affected areas for ringworm, rashes and leprosy.

41. *Celastrus paniculata* Willd.

Family: Celastraceae
 Vernacular name: Palleru thivva
 Flower & Fruit: February-may
 Part used: Fruit oil
 Uses: Oil is used for massage on the affected areas.

42. *Mimosa pudica* Linn.

Family: Mimosaceae
 Vernacular name: Atti patthi, Touch-me-not
 Flower & Fruit: October-May
 Part used: Root
 Uses; Two to six gm of root powder is administered with cow milk daily once.

43. *Murraya koenigii* (Linn.) Spreng.

Family: Rutaceae
 Syn: *Bergera koenigii* Linn.
 Vernacular name: Karrivepaku
 Flower & Fruit: April-September
 Part used: Leaf
 Uses: Equal quantity of curry leaves and neem leaves are made into paste. One spoon of it is mixed with butter milk and administered in the early morning on empty stomach to reduce blood sugar.

44. *Solanum nigrum* Linn.

Family: Solanaceae
 Syn: *Solanum americanum* Mill.
 Vernacular name: Jaji kura, kamanchi
 Flower & Fruit: October-April
 Part used: Leaf
 Uses: Leaf paste is applied on the affected areas once a day till cure.

45. *Tridax procumbens* Linn.

Family: Asteraceae
 Vernacular name: Ganti mandhu
 Flower & Fruit: Throughout the year
 Part used: Whole plant
 Uses: one spoon of shade dried plant powder is taken daily.

DISCUSSION

During the present ethnobotanical study, 45 plant species belonging to 29 families were reported by the informants for the treatment of common skin diseases. Among them, 19 families represent single species each. The predominant families were Euphorbiaceae and Mimosaceae with 4 species, Fabaceae, Liliaceae and Zingiberaceae with 3 species each and one plant from Pteridophytes. These plants are arranged in alphabetical order of their scientific name along with family followed by local name, parts used, method of drug preparation, mode of administration and probable duration of treatment.

Skin health is fundamental to total health. The skin, along with the hair, glands and nails is the part of the integumentary system, the largest and most versatile organ system in the body [11]. Plants have traditionally served as man's most important weapon against pathogens. In aboriginal system of traditional medicines, people have been heavily dependent on plant products and have believed in their various remedial properties for a very long time.

Moreover, these reports differ in the parts of the plant used or in preparation and mode of use. For instance, bark of *Achyranthes aspera* is used by the people of Gujarat for skin diseases (itching) [12]; root paste of *Cassia fistula* and whole plant extract of *Eclipta prostrata* is used for skin disease by Tribals of Bankura Districts, West Bengal [13]; *Cissampelos pareira* root paste is used by the people of Villupuram district of Tamil Nadu for wound healing and skin disorders [14].

CONCLUSION

From the present study it can be concluded that the ethnic communities inhabiting in the coastal parts of Visakhapatnam district have sound ethnomedicinal knowledge of curing common skin diseases using natural resources of the Ananthagiri Mandal around them. Thus, the wealth of medicinal plants points to a great potential for research and the discovery of new drugs to fight skin diseases.

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