

Research Article



Ethnomedicinal Recipes for Psychoactive Problems and Nervous Disorders from Tribals of Sriharikota Island, Andhra Pradesh

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ABSTRACT

Sriharikota Island in Andhra Pradesh is an elliptical land mass sandwiched between Bay of Bengal in the East and Pulicat lake in the West. Sullurpet is the nearest railway station, which is 18 Km from Sriharikota Island and it is on Chennai –Kolkata trunk line and 90 Km away from North of Chennai. An aboriginal tribe called *Yanadi* dwells in Sriharikota. It is similar to Chenchu community elsewhere in Andhra Pradesh. In spite of the community being drifted from their natural way of life due to agro-rural development activities, a few aged tribals are still able to furnish traditional ethnomedicinal data². So far no ethno medico-botanical studies are conducted in this area except for list of 50 plants reported for general ailments/ diseases by Suryanarayana (1989)²². Therefore a detailed study on ethno medico-botanical uses of the tribals of Sriharikota Island was undertaken for the duration three years (1996-1999)². During this work about 280 species are collected having a variety of ethno medico-botanical/pharmaceutical values. However the article presents the 8 plant species only having remedial effect for Psychoactive and nervous disorders (Stimulants, Tonic, Anti-spasmodic, depressants, stimulants etc.)^{2,10}. The study analyzes the habit and plant part(s) used for ethnomedicinal practices by the tribals of Sriharikota Island.

Keywords: Ethnomedicinal recipes, Psychoactive and nervous disorders, tribals, Sriharikota.

INTRODUCTION

An aboriginal tribe called 'Yanadi' dwells in Sriharikota. It is similar to Chenchu community elsewhere in Andhra Pradesh. In spite of the community being drifted from the natural way of life due to agro-rural development activities a few aged tribal men are still able to furnish traditional ethno medico-botanical data(). In Sriharikota Island about tribal families() are living in 3 colonies viz. Penubakam, Kothachenu and Chengalpalem².

Topography^(A&B)

Sriharikota Island is geographically located at 80° 21" E and 13°22" N to 14° N. It is a spindle shaped landmass sandwiched between Bay of Bengal on the East and Pulicat Lake on the West. It is 18 km East of Sullurpet. The nearest railway station located on Chennai-Kolkata trunk line. Chennai is 98 km away from Sriharikota²².

MATERIALS AND METHODS

An intensive medico-ethnobotanical survey of Sriharikota Island was undertaken for the duration three years (1996-1999)².

Regular periodical fieldwork is conducted covering all the seasons so as not to miss seasonal elements having pharmaceutical value and collected a large number of specimens in their respective phenological stages.

Ample field notes recorded pertaining to frequency, abundance, edaphic and morphological characters, which cannot be deducted from exsiccata.

Local tribal men are contacted to record data related to ethno medico-botanical uses, drug preparation and mode of administration etc.

After identification, samples are properly processed, mounted on herbarium sheets and deposited in Visodaya Govt.College Herbarium (VGCH) and a duplicate set at SHAR Herbarium, Sriharikota.

RESULTS AND DISCUSSION

During these studies a good number of ethnomedicinal plants are collected.

However in this paper 8 species of having remedial effect on various common Psychoactive and nervous disorders (Stimulants, Tonic, Anti-spasmodic, Depressants, Stimulants etc.) are enumerated.

Latest Scientific name followed by relevant synonyms if any, local name, habit flowering & fruiting season, ethnomedicinal data and their phytochemical composition are also furnished for each species^{2,16}.

Plants marked with asterisk (*) are reported here first time for their remedial effect on various common Psychoactive and nervous disorders as above mentioned.

Their other medicinal uses adopted in the island and elsewhere also given in **Annexure**.

Enumeration:

- ^(a) *Bacopa monnieri* (L.) Pennell.
(SCROPHULARIACEAE)

= *Moniera cuneifolia* Michauxe Fl. Bor. Amer.



Ln: Brahmi. Sn: Nir-brahmi.

A succulent, prostrate herb, rooted at nodes.

Common and abundantly growing in moist soil among margins of doruvus and lowlying areas. Fl & Fr.: throughout the year. Ld: Palliveedi: RBK 9374.

Nervine tonic: 100g of fresh leaves taken in 250 ml of water boiled and prepared decoction. 10-15 ml of decoction is taken twice a day for 30-40 days as a tonic and for relief from nerve problems.

CC: Triterpenoid saponins, Bacosides^{1,9}

2. ^(b)*Centella asiatica* (L.) Urban.
APIACEAE(=UMBELLIFERAE) = *Hydrocotyle asiatica* L.

Ln: Saraswathi aku, Valluriaku. Sn: Manduka parni.

Pretty herbs, stems creeping, rooted at nodes.

Occasional in the island, trailing in moist places often forming mats. F1: October-November. Ld: Keepakam. RBK 9911.

Leaf juice – as pschycoactive principle: Fresh leaves taken crushed and extracted juice. 10-15 ml juice taken orally twice a day to get relief from **nervine pains**. This treatment is also taken for 40-60 days to improve memory.

CC: Vellarin, Ascorbic acid, Bhraminoside^{1,10}.

3. ^(c)*Crotalaria laburnifolia* L. (**FABACEAE**)

Ln: Peddagilakiti, Gaddagirakati.

Shrubs.

Common in open scrubs. F1. & Fr.: November-January. Ld: Beripeta: RBK 9249.

Leaves - antiarthritic & nerve pains: 100g of fresh leaves taken in 50 ml of coconut oil boiled thoroughly.

The mixture is applied on affected parts thrice a day for relief of joint swellings and nerve pains.

It is continued for about 20 days to get relief from rheumatism².

CC: Flavonoids, steroids, steroidal nucleus^{9,10}.

4. ^(d)*Ipomoea pes-tigridis* L. (**CONVOLVULACEAE**)

Ln: Hanumantha beera, Puli beera.

Hispid hairy, twining herbs.

Common either trailing on ground or in waste places and on small bushes. Fl. & Fr.: September - March. Ld: Penubakam: RBK 10059.

Twining stems dipped in turmeric water and worn around neck of children, in case of **restlessness**, evil spirits and believes. Leaf paste warmed and cooled, applied on head. It will have hypnotic effect and used in hypnotic practices by tribals².

CC: Protein, Phosphorus, Calcium^{4,5}.

5. ^(e)*Momordica charantia* L. (**CUCURBITACEAE**)

Ln: Kakara. Sn: Kanda Kataka, Karawallilata.

A slender climber.

Common on bushes and hedges especially near colonies. F1 & Fr.: November- March. Ld: Chengalpalem: RBK 9156.

Fruit juice – **Hypertension & Nervine disorders:** 200g fruits are crushed to obtain juice.

10-15 ml of juice taken orally twice a day for 30-40 days to get relief from nervine disorders and also to control hypertension & psychoactive problems.

CC: Glucoside⁴

6. ^(f)*Solanum trilobatum* L. (**SOLANACEAE**)

Ln: Mullamushti teega, Teega vankaya. Sn: Alarka.

An armed climbing herb.

An occasional gregarious climber along hedges. Attractive from a distance by its showy flowers. Fl & Fr: September – April. Ld: Chengalpalem: RBK 9159.

Berries (fruits) antirheumatic, nerve pains: 100g of fresh fruits curry is prepared added with 1g of black pepper powder. It is taken with meal for 30-40 days to get relief from rheumatism and nerve pains.

CC: Solasodine, Protein^{8,9}.

7. ^(g)*Tinospora cordifolia* (Willd.) Miers. ex. HK.f. & Thoms. (**MENISPERMACEAE**)

Ln: Kotari teega, tippa teega. Sn: Amritha, Guduchi.

An elaborate climber with succulent stem with papery bark. Common in forests on large bushes and trees. F1 & Fr.: August-January. Ld: Kothachenu: RBK 9028.

Leaves as **analgesic & nervine tonic**.: Fresh and clean warmed leaves applied on painful swellings.

Fresh leaves washed with water and dried. 50g of leaves are ground well and sap is collected and warmed.

1 tsp. of sap is taken once a day as nervine tonic.

CC: Berberine^{10,11}.

8. ^(h)*Trichosanthes cucumerina* L. (**CUCURBITACEAE**)

Ln: Pamudonda, Sn: Chachonda.

Climbers; stems grooved, tendrils branched.

Occasional on hedges. F1. & Fr.: November-January. Ld: Chengalpalem: RBK 9219.

Roots (tubers) antiarthritic & nervine swellings: 200g of fresh roots are cut into small pieces ground and extracted juice.

It is mixed with 10g *Foeniculum vulgare* powder, slightly warmed and applied on rheumatic & nervine swellings⁷.

CC: Trichosanthalic acid, Linoleic acid, Thiamine, Nicotinic acid^{10,11,15}.



Medicinal Plant Species –Used By Tribals for Psychoactive and Nervous Disorders



(a) *Bacopa monnieri* Wettst.



(b) *Centella asiatica* (L.) Urban.



(c) *Crotalaria laburnifolia* L.



(d) *Ipomoea pes-tigridis* L.



(e) *Momordica charantia* L.



(f) *Solanum trilobatum* L.



(g) *Tinospora cordifolia* (Willd.) Miers.



(h) *Trichosanthes cucumerina* L.

Other Medicinal uses for Plants of Psychoactive and nervous disorders from Tribals of Sriharikota Island, Andhra Pradesh reported first time from Sriharikota

S.No.	Scientific Name and Family	Local Name(s)	Other uses	
			In Island	Elsewhere
1.	^(a) <i>Bacopa monnieri</i> Wettst.) SCROPHULARIACEAE	Brahmi. Nir-brahmi	It is used for treatment of a number of disorders, particularly those involving anxiety, intellect and poor memory ^{2,10}	It is traditionally used as neurological tonic and cognitive enhancer and also known as neuroprotective properties ^{6,11} .
2.	^(b) <i>Centella asiatica</i> (L.) Urban. APIACEAE(=UMBELLIFERAE)	Saraswathi aku, Valluriaku, Manduka parni.	100g of dried leaves taken and pounded into powder. 1-2 spoon-fuls of powder taken orally twice a day for 20-25 days to get relief from cold, cough. This treatment is also taken for asthma for 35-40 days to get relief from asthma.	It is effective in lowering blood pressure (antihypertensive agent), is used as a tonic to purify blood through removal of toxins as well as a diuretic, for treating indigestion and nervousness ^{12,13}
3.	^(c) <i>Crotalaria laburnifolia</i> L. (Fabaceae)	Peddagalakiti, Gaddagirakati.	100g of fresh leaves taken with 50 ml of lime stone water ground into fine paste.. It is applied on painful parts of the body twice a day to get relief from pains.	Leaves - dermatotherapy: The above preparation is applied on burnings of skin. It is to be continued till the wounds are healed ^{14,15} .
4.	^(d) <i>Ipomoea pes-tigridis</i> L. (CONVOLVULACEAE)	Hanumantha beera, Puli beera.	The leaf paste is applied on the whole body and taken bath with warm water for 3-days to get relief from fever.	It is used for wound healing, leaf powder is smoked to get relief from bronchial spasm ^{16,17} .
5.	^(e) <i>Momordica charantia</i> L. (CUCURBITACEAE)	Kakara, Kanda Kataka, Karawallilata.	Leaf paste – antiseptic: 30g of leaves taken and ground into paste. It is applied on cattle for wounds and cuts until the wounds are healed ² .	It is used as antidiabetic, abortifacient, anthelmintic, contraceptive, dysmenorrhea, eczema, emmenagogue, antimalarial, kidney (stone), laxative, leprosy, leucorrhea, piles ^{18,19} .
6.	^(f) <i>Solanum trilobatum</i> L. (SOLANACEAE)	Mullamushti teega, Teega vankaya, Alarka.	Root juice as febrifuge: 200g of fresh roots taken ground to prepare juice. It is slightly warmed along with 2g of black pepper powder. 10-15 ml of juice taken orally 2-3 times a day for 3-4 days to get relief from fevers.	Leaf & fruit is used for asthma, lung diseases & stomach pain ²⁰ .
7.	^(g) <i>Tinospora cordifolia</i> (Willd.) Hook. f. & Thoms. (MENISPERMACEAE)	Kotari teega, tippa teega, Guduchi.	Leaves as analgesic: Fresh and clean warmed leaves applied on painful swellings ²² .	It is used for diabetes, high cholesterol, allergic rhinitis (hay fever), upset stomach, gout, lymphoma & cancers ^{20,21} .
8.	^(h) <i>Trichosanthes cucumerina</i> L. (CUCURBITACEAE)	Pamudonda, Chachonda	Roots (tubers) antiarthritic: 200g of fresh roots are cut into small pieces ground and extracted juice. It is mixed with 10g <i>Foeniculum vulgare</i> powder, warmed & applied on rheumatic swellings.	It is used as antidiabetic, hepatoprotective, cytotoxic, anti inflammatory, abortifacient and vermifuge properties ²³ .

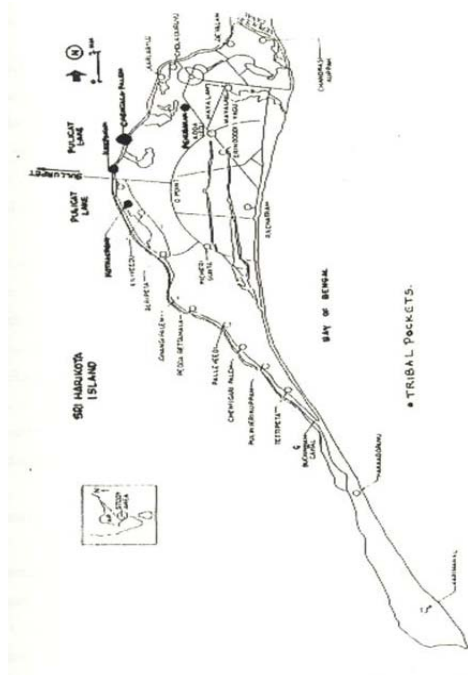


Figure A: Locality Map

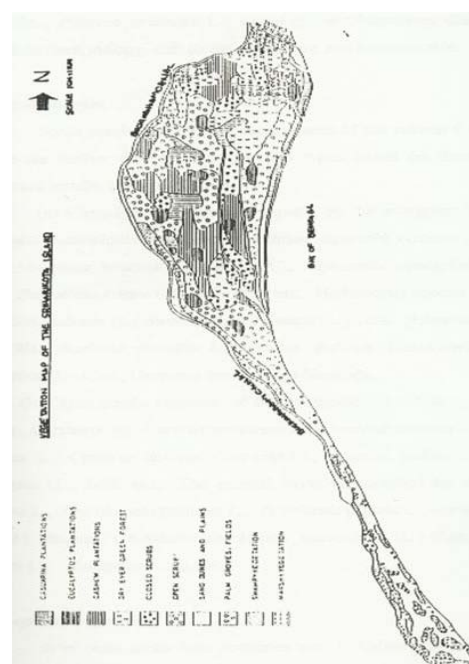


Figure B: Vegetation Map

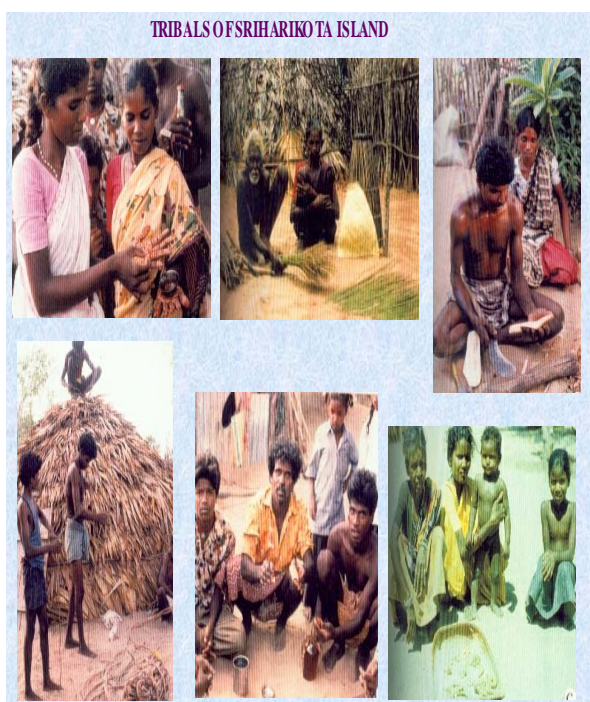


Figure C: Tribals of Sriharikota Island



Figure D: Tribal Doctors/Natuvaidyas Sriharikota

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