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ETHNOMEDICINAL RECIPES FOR ANTIPYRETIC AND ANTIPERIODIC PROPERTIES 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 data.

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 et.al (1989). Therefore a detailed study on ethno medico-botanical uses of the tribals of Sriharikota Island was undertaken for the duration three years (1996-1999).

During this work about 280 species are collected having a variety of ethno medico-botanical/pharmaceutical values. However the article presents the 18 plant species only having remedial effect for various common fevers and allied diseases (i.e. Antipyretic and Antiperiodic properties etc.).

The study analyzes the habit and plant part (s) used for ethnomedicinal practices by the tribals of Sriharikota Island.

Keywords: Ethnomedicinal recipes, Antipyretic & Antiperiodic properties, 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 Chengalpalem[2].

Topography

Sriharikota Island is geographically located at 80⁰ 21'' E and 13⁰22'' N to 14⁰ 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 Sriharikota [23].19

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 13 species of having remedial/control effect on **Antipyretic, anthelmintic and antiperiodic fevers** 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. Plants marked with asterisk (*) are reported here first time for their remedial/control effect on diabetes as above mentioned. Their other medicinal uses adopted in the island and elsewhere also given in **Annexure**.

Enumeration:

1. *Aerva lanata* (L.) Juss. (AMARANTHACEAE)

Ln: Pindikura, Konda pindi. Sn: Astmabayada, Pashanabedha.

Erect tomentose herbs.

Common in fields and waste places. Fl & Fr: October – February. Ld: Penubakam: RBK 9116.

Root decoction for fevers: 100g of fresh roots taken and ground to paste. It is mixed in 200 ml of water, boiled and prepared decoction. 10-15 ml of decoction taken orally twice a day, 2-3 times a day for 4-5 days to get relief from malarial fever.

CC: Tannin[1,2].

2. *Alangium salvifolium* (L.f.) Wang. (ALANGIACEAE)

=*Alangium lamarckii* Thw.

Ln: Udaga, Sn: Ankola.

3-4 m tall deciduous tree, branchlets often thorny.

Common along the margin of water bodies and low lying areas. Fl. & Fr.: June-September. Ld: Chenugaripalem: RBK 8913.

Root bark– as febrifuge : 200g of root bark cut into small pieces, it was made into powder. 1– spoonful of root bark powder mixed with black pepper powder is given for fever, twice a day for 5-7 days to get relief.

CC : Alangine[1,4].

3. *Caesalpinia bonduc* (L.) Roxb. (CAESALPINIACEAE)

=*Caesalpinia crista* L.

Ln:Gacchakaya. Sn: Putikaranja, Tingacchika.

Armed straggling shrub.

Common, forming impenetrable thickets. Fl.& Fr.: September-November. Ld: Penubakam: RBK 9209.

Seed juice - as antipyretic: The cotyledons are crushed juice is extracted. 5-10 ml of juice orally taken to get relief from fever. This treatment is continued twice a day for 3-5 days to get relief from fevers.

CC: Bonducin, Natin, Sulphur[3,7].

4. *Evolvulus alsinoides* (L.) L. (CONVOLVULACEAE)

Ln: Vishnukrantham. Sn: Vishnugandhi.

Appressed hairy, prostrate herbs.

Common in dry pasture lands. Fl. & Fr.: December-April. Ld: Palarevu: RBK 9462.

Whole plant juice **febrifuge**: 100g fresh plant material squeezed and obtained juice. 10 ml of juice

given orally 2-3 times a day for 3-4 days to get relief from **fever** with cold.

CC:Alkaloid[3,6].

5. *Ficus religiosa* L. Sp. Pl. 1059. 1753 ; FPM 3 : 953. (MORACEAE)

Ln: Ravi chettu. Sn: Aswvatha, Pipal, Chladala.

A large, tree, without aerial roots.

Occasional in forests often planted near temples. Fl & Fr: July – December. Ld: Palliveedi : RBK 8930.

100g of fresh plant material (tender branches) are prepared into decoction. 10 ml of decoction is administered orally 2-3 times a day for 3-4 days to get relief from **fever** with cold.

CC: Tannin, caoutchoric[1,11].

6. *Geniosporum tenuiflorum* (L.) Merr. (LAMIACEAE)

=*Geniosporum prostratum* (L) Benth.

Ln: Bhootulasi

Prostrate herbs, branches many, hispid, radiating from a woody root stock.

Common on open sandy coast. Fl & Fr: August – November. Ld: Beripeta: RBK 8946.

Leaf decoction **febrifuge**: 100g of fresh leaves squeezed and obtained juice, it is taken in 100 ml of water and mixed with 5g of black pepper powder boiled and prepared decoction. 15-20 ml decoction given orally 2-3 times a day for 4-5 days to get relief from fevers.

CC: Methylchaviol, Eugenol[2,12].

7. *Hemidesmus indicus* (L.) R. Br. (PERIPLOCACEAE)

Ln: Sugandhapala, Sn: Anantamula, Sariva, Gopakanya.

Twining herbs stems wiry, latex milky.

Common and gregarious on bushes and hedges also trailing on ground. Fl. & Fr.: October-April. Ld: Kothachenu: RBK 9189.

Root tubers – **tonic for fevers**: 200g of root tubers cut into small pieces and pounded to powder. 1-2 spoonfuls of powder taken into 200 ml of water and prepared decoction. 20 ml decoction mixed with 100-

150 ml of milk is taken orally twice a day for 10-15 days to give strength and act as tonic and get relief from fevers.

CC: Coumarin, Hemidesmine, Tannin, Saponin[2,5].

8. *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.

Leaf paste **antipyretic**: 100g of fresh leaves ground to paste with 1-2 ml of *Sesamum* oil, it is applied on the whole body and taken bath with warm water for 3-days to get relief from fever.

CC: Protein, Phosphorus, Calcium[1,4].

9. *Ocimum americanum* L. (LAMIACEAE)

=*O. canum* Sims in Bot.

Ln: Kukka tulasi. Sn: Ajaka, gambhira, kuthera.

Erect, annual, aromatic herbs puberulous.

Common in waste places and as weed in fields. Fl & Fr: September – March. Ld: R.V. Chatram: RBK 8949.

Leaf paste for **febrifuge**: 100g of fresh leaves are ground to fine paste. It is applied from head to foot. After 1 hour head bath is taken with warm water to get relief from fever. This treatment is repeated for 4-5 days to get relief from fevers.

CC: Citronellic acid, Citronellal, Eugenol [4,13].

10. *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.

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.

CC: Solasodine, protein[14,20].

11. **Sphaeranthus indicus* L. (ASTERACRAE)

Ln: Boddatarupu, Boddasoramu; **Sn**: Mahamundi, Hapusa;

Branched herb.

Common in waste places and as weed in fields. Fl & Fr: September – March. Ld: R.V. Chatram: RBK 6969.

100g of fresh leaves squeezed and obtained juice, it is taken in 100 ml of water and mixed with 2g of black pepper powder boiled and prepared decoction. 5-10 ml of juice taken orally 2-3 times a day for 3-4 days to get relief from **fevers**.

CC: Eudesmenolides, Flavanoids[8,15]

12. *Strychnos nux-vomica* L. (LOGANIACEAE)

Ln: Mushti, Mushini,

Sn: Karaskara, Vishmusthi, Ramyaphala.

Tall deciduous trees.

Common and locally abundant, Fl. & Fr.: March-July Ld: Kothachenu: RBK 9693.

Seed - **febrifuge**: Seeds crushed and pills are made. 1-2 pills administered with 100-150 ml of milk twice a day for 4-5 days to get relief from fever.

CC: Strychnine, Brucine, Vomisine[16,21].

13. *Toddalia asiatica* (L.) Lam. (RUTACEAE)

=*Paulinia asiatica* L. Sp.P1. 365. 1753.

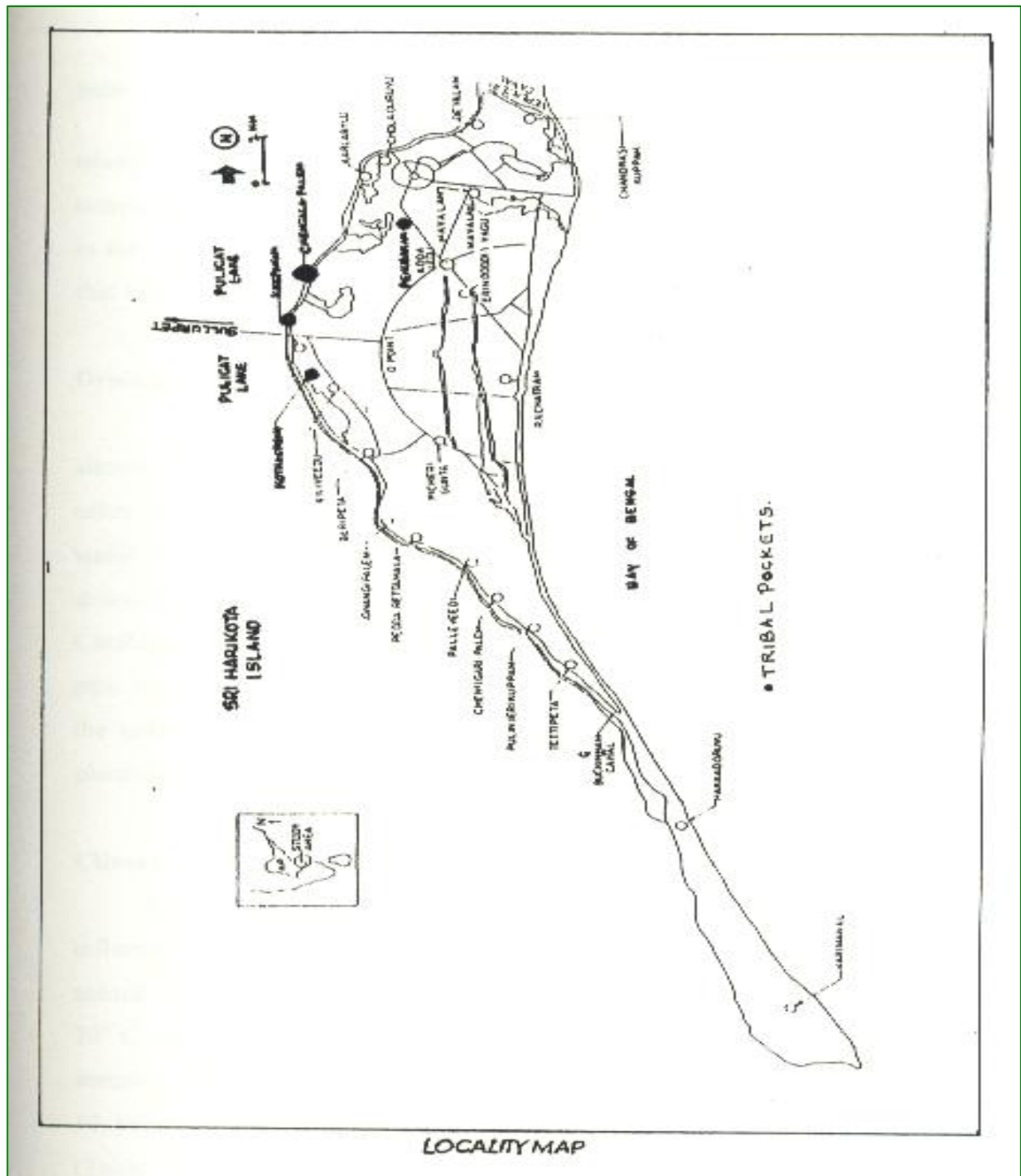
Ln: Mirapagandra. **Sn**: Dahana, Kanchana.

Heavily prickled, scandent shrub.

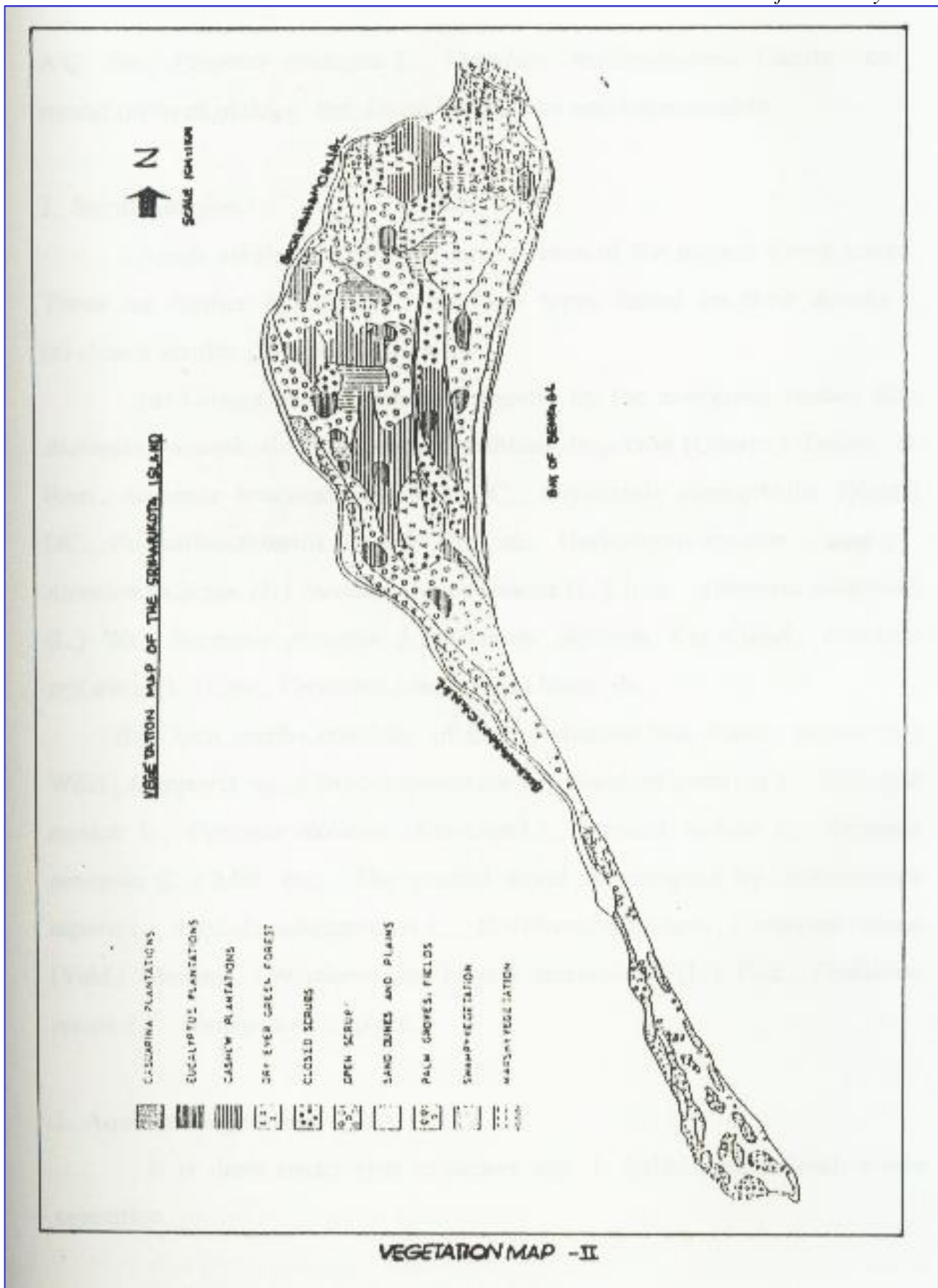
Occasional in hedges. Fl. & Fr.: October-December. Ld:Chengalpalem: RBK 9501.

Root bark - **for fevers**: 200g of fresh root bark cleaned and cut into small pieces and ground into paste with 1 spoonful of turmeric powder. 1-2 spoonfuls of paste given twice a day to get relief from fever, (**antipyretic** and **antimalarial fevers**). It is to be continued until the patient gets relief from fever.

CC: Toddalin, toddalinine, toddalolactone[1,19].



LOCALITY MAP



VEGETATION MAP









TRIBALS OF SRIHARIKOTA ISLAND








TRIBAL DOCTORS/NATUVAIDYAS- SRIHARIKOTA



Medicinal Plants species -used by Tribals for Antipyretic and Antiperiodic Fevers from Sriharikota Island

	
<p><i>Aerva lanata</i> (L.) Juss.</p>	<p><i>Alangium salvifolium</i> (L.f.) Wang.</p>
	
<p><i>Caesalpinia bonduc</i> (L.) Roxb.</p>	<p><i>Evolvulus alsinoides</i> (L.) L.</p>
	
<p><i>Ficus religiosa</i> L.</p>	<p><i>Geniosporum tenuiflorum</i> (L.) Merr.</p>
	
<p><i>Hemidesmus indicus</i> (L.) R. Br.</p>	<p><i>Ipomoea pes-tigridis</i> L.</p>

	
<p><i>Ocimum americanum</i> L.</p>	<p><i>Solanum trilobatum</i> L.</p>
	
<p><i>Sphaeranthus indicus</i> L.</p>	<p><i>Strychnos nux-vomica</i> L.</p>
	
<p><i>Toddalia asiatica</i> (L.)Lam.</p>	

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ANNEXURE

OTHER MEDICINAL USES FOR PLANTS OF ANTIPYRETIC AND ANTIPERIODIC FEVERS FROM**SRIHARIKOTA ISLAND**

S.No.	Scientific Name and Family	Local Name(s)	Other uses	
			In Island	Elsewhere
1.	<i>Aerva lanata</i> (L.) Juss. (AMARANTHACEAE)	Pindikura, Konda pindi. Astmabayada, Pashanabedha	--	The plant is used as a traditional medicine for snakebites. The juice of crushed <i>Aerva lanata</i> root is used for jaundice therapy
2.	<i>Alangium salvifolium</i> (L.f.) Wang. <i>Alangium lamarckii</i> Thw. (ALANGIACEAE)	Udaga, Ankola.	200g fresh root bark is cut into small pieces and crushed to obtain juice. 20-30 ml of juice administered orally twice a day to cattle to get relief from stomach ache due to indigestion	The root-bark is also used to expel parasitic worms (Platyhelminthes) and other internal parasites from the body. It is used as an emetic and purgative
3.	<i>Caesalpinia bonduc</i> (L.) Roxb. <i>Caesalpinia crista</i> L. (CAESALPINIACEAE)	Gacchakaya. Putikaranja, Tingacchika.	--	Leaves, bark and roots are used to cure fever, headache and chest pain and as an anthelmintic
4.	<i>Evolvulus alsinoides</i> (L.) L. (CONVOLVULACEAE)	Vishnukrantha mVishnugandhi	--	It is a brain tonic, alterative, febrifuge, vermifuge and anti-inflammatory.

5.	<i>Ficus religiosa</i> L. (MORACEAE)	Ravi chettu. Aswvatha, Pipal, Chladala.	Leaf ash mixed with coconut oil, applied on wounds and burns for 15 – 20 days twice a day until the patient gets relieved.	It is used for asthma, diabetes, diarrhoea, epilepsy, gastric problems, inflammatory disorders, infectious and sexual disorders.
6.	<i>Geniosporum tenuiflorum</i> (L.) Merr. <i>Geniosporum prostratum</i> (L) Benth. (LAMIACEAE)	Bhootulasi	--	Traditionally, <i>tulasi</i> is taken as herbal tea, dried powder, fresh leaf or mixed with <i>ghee</i> the dried leaves have been mixed with stored grains to repel insects
7.	<i>Hemidesmus indicus</i> (L.) R. Br. (PERIPLOCACEAE)	Sugandhapala, Anantamula, Sariva, Gopakanya.	1-2 spoonfuls of powder taken into 200 ml of water and prepared decoction. 20 ml decoction mixed with 100-150 ml of milk is taken orally twice a day for 10-15 days to give strength and act as tonic	It is used in the treatment of oligospermia, gastritis, anorexia, menorrhagia
8.	<i>Ipomoea pes-tigridis</i> L. (CONVOLULACEAE)	Hanumantha beera, Puli beera.	--	The mashed leaves are applied as a poultice on sores, boils, pimples and tumours
9.	<i>Ocimum americanum</i> L. (LAMIACEAE) <i>O. canum</i> Sims in Bot.	Kukka tulasi. Ajaka, gambhira, kuthera.	--	Decoction used for coughs, pounded leaves are placed on the forehead to relieve catarrh or on the chest for respiratory problems
10.	<i>Solanum trilobatum</i> L. (SOLANACEAE)	Mullamushti teega, Teega vankaya. Alarka.	--	It is good for asthma, Boiling its flower can be used to improve mental ability or as brain enhancer

11.	<i>+Sphaeranthus indicus</i> L. (ASTERACEAE)	Bodatharamu	--	It helps in epilepsy, mental illness, hemicranias, jaundice, hepatopathy, diabetes, leprosy, fever, pectoralgia, cough.
12.	<i>Strychnos nux-vomica</i> L. (LOGANIACEAE)	Mushti, Mushini, Karaskara, Vishmusthi,Ra myaphala.	200g of fresh roots cut into small pieces and ground to paste.1-2 pills administered with 100-150 ml of butter milk, 2-3 times a day for 3-4 days to get relief from dysentery.	It is used for liver cancer, various gastrointestinal complaints (abdominal pain, vomiting, constipation, intestinal irritation, heartburn), nervous conditions, menopausal problems.
13.	<i>Toddalia asiatica</i> (L.) Lam. <i>Paulinia asiatica</i> L.	Mirapagandra. Dahana, Kanchana	Root bark - antiseptic: 200g of fresh root bark cleaned and cut into small pieces and ground into paste with 1 spoonful of turmeric powder.	It is used folk medicine for the treatment of various ailments including cough, malaria, indigestion, influenza, rheumatic fever cholera, diarrhoea and stomach ailments

Conflict of Interest: We declared that this review does not have any conflict of interest.

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