

## Research Article



## Ethnomedicinal Recipes for Cardiac and Hypertension 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 ethnomedico-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 ethnomedico-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 4 plant species only having remedial effect for Cardiac and Hypertension Properties (Cardiac tonic Hypertension & blood circulation etc.). The study analyzes the habit and plant part (s) used for ethnomedicinal practices by the tribals of Sriharikota Island.

**Keywords:** Ethnomedicinal recipes, Cardiac and Hypertension 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 ethnomedico-botanical data. In Sriharikota Island about tribal families are living in 3 colonies viz. Penubakam, Kothachenu and Chengalpalem<sup>2</sup>.

### Topography

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 Sriharikota<sup>2,19</sup>.

### MATERIALS AND METHODS

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

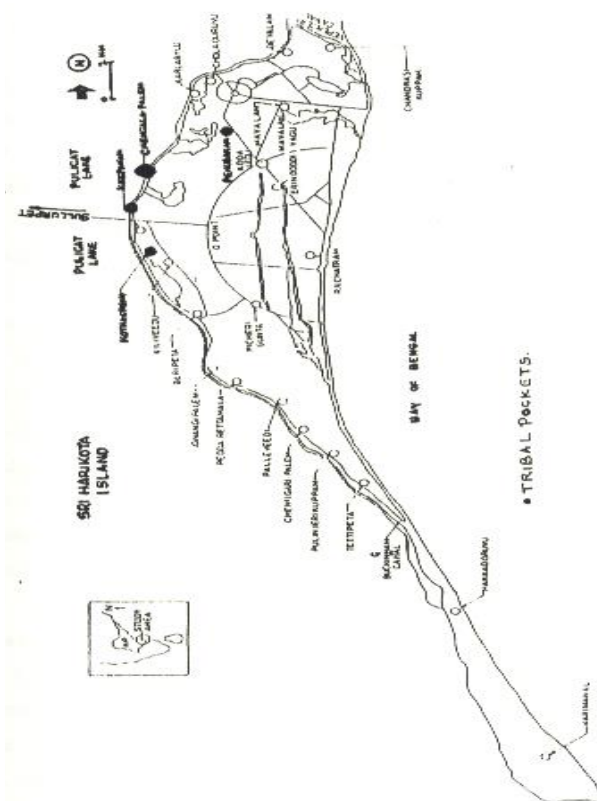


Figure A: Locality Map



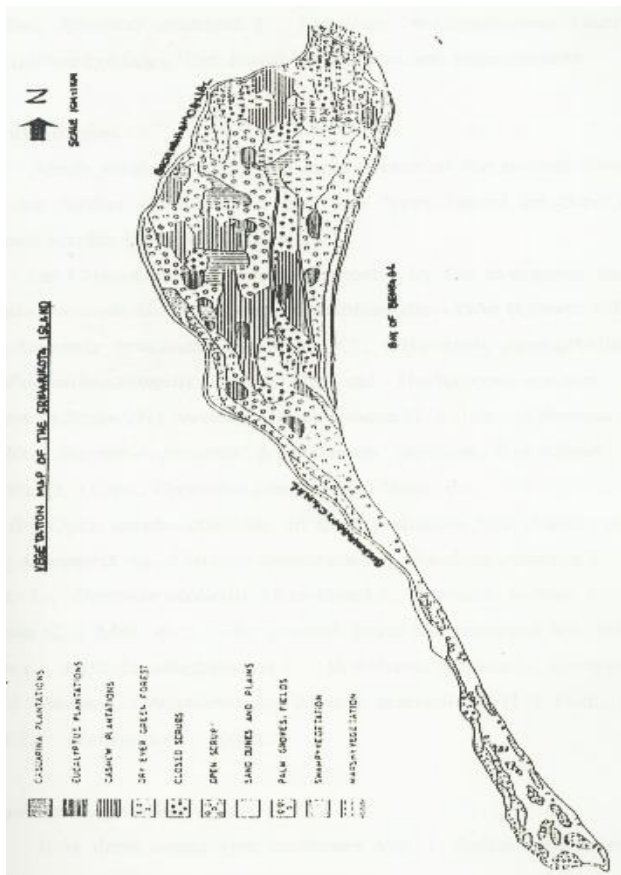


Figure B: Vegetation Map

**RESULTS AND DISCUSSION**

During these studies a good number of ethnomedicinal plants are collected. However, in this paper 4 species of having remedial/control effect on Cardiac and Hypertension Properties (Cardiac tonic Hypertension & blood circulation 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<sup>2,16</sup>. Plants marked with asterisk (\*) are

reported here first time for their remedial/control effect on Cordiac and Hypertension Properties (Cardiac tonic Hypertension & blood circulation etc.) as above mentioned. Their other medicinal uses adopted in the island and elsewhere also given in Annexure.

**Enumeration:**

1. <sup>(a)</sup>*Euphorbia hirta* L. (EUPHORBIACEAE)

Ln: Palachetha, Pacchaku /Palaaku. Sn: Pusitoo.

Erect or appressed herbs, stems often with reddish tinge.

Common weed in fields and waste places. Fl & Fr: throughout the year. Ld: Ellanthugunta: RBK 9241.

**Leaf juice for anaemia:** 200g of fresh leaves mixed with equal quantity of *Coccinia grandis* squeezed and obtained juice. 10-15 ml of juice given twice a day orally for 30 days to the patient to cure from bloodlessness.

**CC:** Triterpenoids, Coumarins, Lignans<sup>1,9,11</sup>

2. <sup>(b)</sup>*\*Limonia acidissima* L. (RUTACEAE)

= *Feronia elephantum* Correa in Trans. Linn.

Ln: Velaga. Sn: Kapitha, Nilamallika.

Tall trees, deciduous trees, armed with axillary spines.

Planted near habitations. F1. & Fr.: May-July, August-October. Ld : Beripeta: RBK 9642.

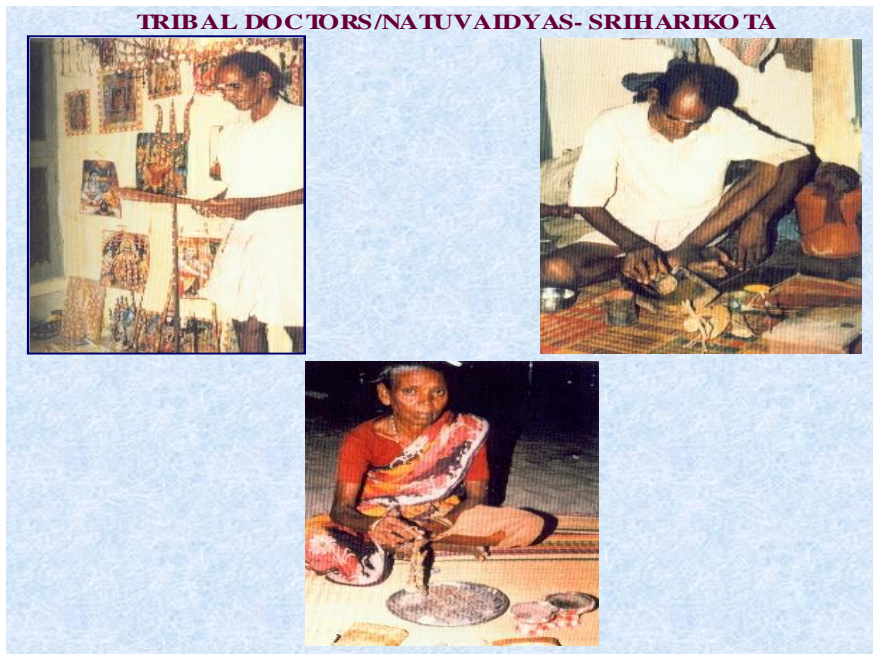
Fresh leaves dried and pounded to make powder. 500g leaf powder mixed with 5g onion 20g black pepper. The preparation is well ground and made into pills of Ground nut size. 3-4 pills thrice daily taken orally for relief of **hypertension and general debility** accompanied by head ache.

This preparation of 5g taken with food for 20 days to get relief of **hypertension** and as a tonic for general debility. **CC :** Citric acid<sup>1,10</sup>.



Figure C: Tribals of Sriharikota Island





**Figure D: Tribal Doctors/ Natuvaidyas of Sriharikota**

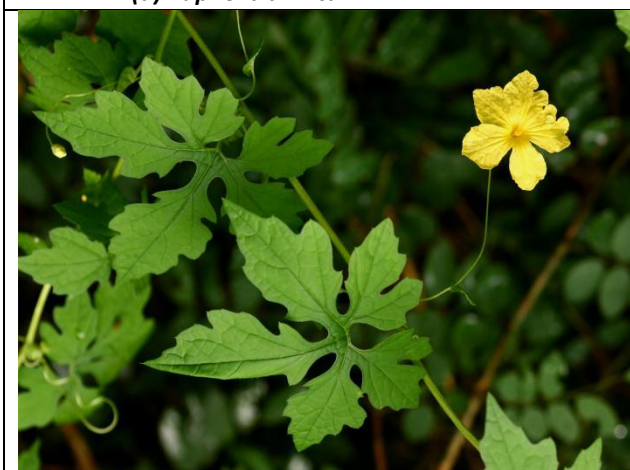
**Medicinal Plant Species –used by Tribals for Cardiac and Hypertension Properties**



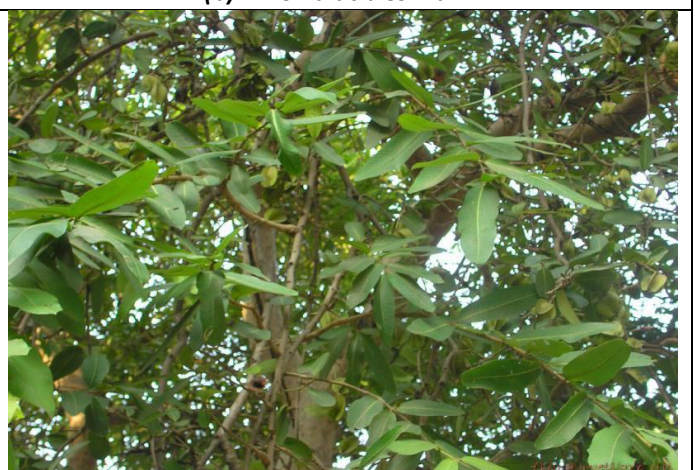
**(a) *Euphorbia hirta* L.**



**(b) *Limonia acidissima* L.**



**(c) *Momordica charantia* L.**



**(d) *Terminalia arjuna* (Roxb.ex.DC.) Wt.&Arn.**

**Other Medicinal uses for Plants of Cardiac and Hypertension Properties from Tribals of Sriharikota Island, Andhra Pradesh reported first time from Sriharikota**

S.No.	Scientific Name & Family	Local Names	Other Uses	
			Island	Elsewhere
1.	<sup>(a)</sup> <i>Euphorbia hirta</i> L. (EUPHORBIACEAE)	Ln: Palachetha, Pacchaku /Palaaku. Sn: Pusitoo.	--	Stem juice(1-2 ml) is administered with milk for relief from cough& cold <sup>4,5</sup>
2.	<sup>(b)</sup> <i>Limonia acidissima</i> L. (RUTACEAE)	Ln:Velaga. Sn:Kapitha, Nilamallika.	--	Fruit pulp mixed with sugar and given for constipation <sup>11,12, 20</sup>
3.	<sup>(c)</sup> <i>Momordicacharantia</i> L. (CUCURBITACEAE)	Ln:Kakara. Sn: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.	It is used as anti- daibetic, aborti- ficiant, anthel- mintic, contraseptive, antimalarial, laxative, piles. <sup>16,17,18</sup>
4.	<sup>(d)</sup> <i>Terminalia arjuna</i> (Roxb. ex. DC.) Wt. & Arn. (COMBRETACEAE)	Ln:Maddi. Sn:Arjuna, Dhananjaya.	--	Decoction of bark is used as a wash for external ulcers <sup>13,14</sup>

**3. <sup>(c)</sup>\**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–high blood pressure & antidiabetic:** 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 diabetes and also to control high blood pressure. (Savitam).

**CC:** Glucoside<sup>4</sup>

**4. <sup>(d)</sup>\**Terminalia arjuna* (Roxb. ex. DC.) Wt. & Arn. (COMBRETACEAE)**

Ln: Maddi. Sn: Arjuna, Dhananjaya.

10-15 ml large trees, bark grey-white.

Common along streams and doruvus. F1. & Fr.: May-October. Ld: Mavalam: RBK 9322.

**Stem bark-cardiac tonic:** 200g of fresh stem bark cut into small pieces, taken in 1 lt of water and prepared decoction. 10-15 ml decoction 2-3 times a day to give from heart problem and to control blood pressure. It is continued for 30-40 days to avoid heart attacks.

**CC:** Arjunolic acid, Arjunic B-sitosterol, ellagic acid, Tannins<sup>8,9,10</sup>.

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