

**MEDICO – BOTANY OF ANDAMAN AND NICOBAR ISLANDS – IV
(AYURVEDIC DRUGS – 2)**

**K. VASUDEVAN NAIR, K. GOPAKUMAR, S. N. YOGANARASIMHAN, T. R.
SHANTHA AND K. R. KESHAVAMURTHY**

Regional Research Centre (AY.) Jayanagar, Bangalore – 560 011, India.

Received: August 23, 1984

Accepted: December 08, 1985

ABSTRACT: *Details on 33 plants / drugs belonging to 30 genera and 22 families are provided in this paper; ayurvedic drug name, botanical sources in the island, short description of the species occurring in the islands, chemical constituents, ayurvedic preparations and therapeutic properties are elucidated.*

INTRODUCTION

The floristic potentiality of the Andaman and Nicobar islands in relation to Ayurveda has been discussed earlier (Nair *et al.*, 1984). The present account provides details on 33 additional Ayurvedic plants / drugs of importance. This data will further help to establish ayurvedic and allied pharmaceutical based industries in the islands besides providing ample utilitarian data for all interested in exploring the natural products found abundantly.

MATERIALS AND METHODS

All the plants with asterisk mark were collected during a medico – botanical survey tour in the South Andaman, Little Andaman and Car Nicobar islands during June to September 1975 and the herbarium specimens are deposited at the Regional Research Institute, Trivandrum. The classical Sanskrit name is given following Anonymous (1978), Chunekar and Pandey (1969), Sharma (1969 a) and Singh and Chunekar (1972); the ayurvedic preparations are as per the *Astanga Hridaya* (Gupta

1970), *Caraka samhita* (Sastry 1968, 1970 a) and *Sahasrayoga* (Kurup 1972 a) while the therapeutic properties are followed as per *Bhavaprakash nighantu* (Chunekar and Pandey 1969) and the chemical constituents following Chopra *et al* (1956).

Elucidation of drugs / plants

The drugs are arranged alphabetically.

1. AMLIKA (Synonym Chinchā)

Part used : Fruit pulp, leaves.

The drug *Chinchā* is included in *Amla gana* (Gupta 1970) and is used as an ingredient in preparations like *Vastukadisaka Kakamachisaka*; the drug has *guru – ruksha guna, amla rasa, amla vipaka*, and *ushna veerya* properties.

Botanical source : *Tamarindus indica* L* (Caesalpiniaceae). Evergreen trees with

yellow flowers. Kernel contains polysaccharides and leaves glycosides.

2. ANKOLA

Part used : Root.

The drug is known for its antipoisonous effect. Some of preparations of this drug are *Ankoladi gritha*, *sumanadi taila*; *laghu – snigdha – sara guna*, *thikta katu rasa*, *ushna veerya* and *katu vipaka* are the properties.

Botanical source : *Alangium salvifolium* (L. f.) Wang * (Alangiaceae). Small shrubs or trees with solitary white flowers and ellipsoid fruits. Bark, seeds and root contain alkaloids.

3. APAMARGA

Part used: Whole plant

Vachyadi gritha, *mahapanchagavya gritha* are a few preparations and *laghu theekshna – ruksha guna*, *katu – thikta rasa*, *katu vipaka* and *ushna veerya* are the properties.

Botanical source : *Achyranthes aspers* L. * (Amaranthaceae). Herbs with spinescent bracteole and pink flowers. Seeds contain saponin and sapogenin.

4. ARAGWADHA

Parts used: Fruit pulp, stem bark

It is good drug for all types of *raktha – dosha – janya* diseases; *aragwadhadi quatha*, *mahamanjishtadi quatha*, are some of the preparations and *madhura – thikta rasa*, *guru snigdha guna*, *seeta veerya* and *madhura – thikta rasa*, *guru*

snigdha guna, *seeta veerya* and *madhura vipaka* are the properties.

Botanical source : *Cassia fistula* L.*(Caesalpiniaceae). Deciduous trees with indehiscent cylindrical pods; pulp contains resin and essential oil; leaves contain sennosides: stem bark contain *Fistucacidin*.

5. ARKA

Part used: Root, leaves and latex.

Chitrakaditailam, *arka taila* are the main preparations and *katu thikta rasa*, *rukshatheekshna guna*, *ushna veerya* and *katu vipaka* are the ascribed properties.

Botanical source :

a. *Calotropis gigantean* R. Br.* (Asclepiadaceae);

b. *Calotropis procera* (Ait.) R. Br. (Asclepiadaceae);

C. gigantean is a stout shrub with purple to white flowers; stem bark contains α and β calotropeols, giganteol; flowers contain esters of α and β calotropeols.

6. BADARA

Parts used: Fruit

Some of the preparations are *karanja chavyadi arishta*, *jambuvadi quatha* and it has properties *guru – snigdha guna*, *kashaya*, *madhura rasa*, *madhura vipaka* and *seeta veerya*.

Botanical source : a. *Ziziphus mauritiana* Lam.* (Rhamnaceae); b. *Ziziphus nummularia* (Burm. f.) W. & A. (Rhamnaceae);

Z. mauritiana is moderate sized prickly tree with globose, brownish pink fruits;

fruit contains aliphatic acids; saponin in stem.

7. CHAKRAMARDA

Parts used: Seeds, Leaves.

It is used in preparations like the *saindhavadi lepa*, *dandooghnavati*, *lakshadi lepa*; *laghu – ruksha guna*, *katu rasa*, *katu vipaka* and *ushna veerya* are the properties.

Botanical source : *Cassia tora* L* (Caesalpiniaceae). Woody herbs with yellow flowers; seeds contain glycoside and fixed oil.

8. DHATTURA

Parts used: Leaves, fruits.

This drug is mentioned in *Susrutha Samhita* (Sastry 1970 a) for *visha* and *nadi vrana* treatment and has *thikta – katu rasa*, *ruksha – theekshna guna*, *ushna veerya* and *katu vipaka* properties.

Botanical source : a. *Datura metel* L* (Solanaceae); b. *Datura stramonium* L. (Solanaceae).

D. metel is a under shrub with white flowers and globose capsules with short spines; flowers, leaves and seeds contain alkaloids.

9. DUGDHIKA

Parts used: Latex.

Dugdika gritha, *charengeryadiyusha*, *palithanasaka lepa* are some of the preparations; the properties ascribed are *madhura rasa*, *guru ruksha guna*, *ushna veerya* and *katu vipaka*.

Botanical source : *Euphorbia hirta* L.* (Euphorbiaceae) cyathium. Procumbent hairy, lactiferous herbs with capitates cymes; plant contains alkaloid and essential oil.

10. GAMBHARI

Parts used: Root and fruits.

This drug is one among the *Dasamoola* group and is used in preparations like *Dasamoolarishta*, *Tasnadi quatha* to mention a few: it has *thikta – kashaya – madhura rasa*, *guru guna*, *ushna veerya* and *katu vipaka* properties.

Botanical source : a. *Gmelina asiatica* L.* (Verbenaceae); b. *Gmelina arborea* Roxb. (Verbenaceae).

G. asiatica is shrub with thorns and bright yellow flowers; plant contains a glycosides and seed oil consists of sitosterol.

11. KADAMBA

Parts used: Root and stem bark.

Main ayurvedic preparations include *mahavajrakadi taila* and *chandanadi taila*; it possess *laghu guna*, *katu – thikta – kashaya rasa*, *seeta veerya* and *katu vipaka* properties.

Botanical source : *Anthocephalus indicus* A. Rich. * (Rubiaceae).

A small tree with orange or yellow flowers, in globose heads; bark contains alkaloids, steroids, fats and reducing sugars; flowers contain essential oil.

12. KAKAMACHI

Parts used: Whole plant.

This drug is included in *surasadi gana* of *Astanga hridaya*: *karaveeradi lepa*, *kushta masaka lepa*, *yogaraja rasa* are some of the preparations; *laghu – snighda guna*, *thikta rasa*, *katu vipaka* and *anushna veerya* are the properties.

Botanical source : *Solanum nigrum* L.* (Solanaceae). Unarmed herbs with glabrous, globose berries; plant contains alkaloids, glycosides; berries and seeds contain oil also.

13. KARNASPHOTA

Parts used: Whole plant.

Punarnavadi lepa, *kakadinyadi medya* are some of the preparations of this drug and the properties are *laghu – ruksha guna*, *thikta – kashaya rasa*, *katu vipaka* and *ushna veerya*.

Botanical source : *Cardiospermum halicabum* * (Sapindaceae). Slender, tendrillar, climbing herbs with inflated winged capsules; plant contains saponin.

14. KASAMARDA

Parts used: Whole plant.

This drug is included in *Surasadigana* of *Susruta* and *kasamaradi yoga*, *kasamardadi gritha* are the main preparations; *thikta – madhura rasa*, *ruksha guna*, *ushna veerya* and *katu vipaka* are the properties ascribed.

Botanical source : *Cassia occidentalis* L.* (Caesalpiniaceae). Woody herbs with linear, turgid, compressed pods;

seeds contain tannic acid, mucilage, fatty oil, emodin, a toxalbumin and chrysarobin.

15. KEMUKA

Parts used: Rhizome.

Sireeshadi rasa, *davasaptahwa quatha* are the two main preparations of *Kemuka*; the properties are *tikta rasa*, *laghu guna*, *ushna veerya* and *katu vipaka*.

Botanical source : *Costus speciosus* (Koen.) Sm. (Zingiberaceae). Erect, rhizomatous herbs with large white flowers; plant contains diosgenin, tigogenin, lanosterol and stigmaterol; seeds contains saponin.

16. KETHAKI

Parts used: Root and flowers.

Kethakyadi kera, *swarikadikshara* are some of the preparations in which this drug is used as an ingredient; it has *laghu – snigdha guna*, *tiktha – madhura rasa*, *katu vipaka* and *anushna veerya* properties.

Botanical source : a. *Pandanus odoratissimus* L. f* (Pandanaceae); (= *P. fascicularis* Lam.) b. *Pandanus andamanesium* Kurz* (Pandanaceae). Both the species are evergreen shrubs or small trees with large, globose furits; oil of *Kewda* obtained from the flowers is well known, particularly from *P. odoratissimus*.

17. KUBERAKSHI (Syn. *Latha Karanja*)

Parts used: Fruits.

This drug is used in the treatment of *andravrudhi* (personal observation) while *ullivettadukadi quatha* Kurup (1972 a) is a preparation made out of this drug; *laghu guna*, *ushna veerya*, *katu – vipaka* and *katu-thiktha rasa* are the properties.

Botanical source : *Caesalpinia cirata* L.* (Caesalpinaceae). Prickly shrubs with obovoid pods; seeds contain bitter substance phytosterinin, bonducin, saponin and phytosterols.

18. LANGALI

Parts used: Tuber.

This is an ingredient in *Bhallatakadi taila*, *kalanagadi churna*, the properties are *laghu – teekshan guna*, *katu – tikta rasa*, *ushna veerya* and *katu vipaka*.

Botanical source : *Gloriosa superba* L.* (Liliaceae). Climber with leaf tips tendrils and large reddish flowers; contains colchicine and other related alkaloids.

19. MADAYANTIKA

Parts used: Leaves.

Bala taila, *maha pancha gavya quatha* are the main preparations; it has *tikta – kashaya – rasa*, *laghu – rooksha guna*, *seetha veerya* and *katu vipaka* properties.

Botanical source : *Lawsonia inermis* L.* (Lythraceae). Shrubs or small trees with greenish – white flowers; leaves contain colouring matter *lawsome* and essential oil.

20. MANDOOKAPARNI

Parts used: Whole plant.

The main preparations are *Brahma rasayana* and *Nagabaladi gritha*; its properties are *tikta rasa*, *laghu – sara guna*, and *madhura vipaka*.

Botanical source : *Centella asiatica* (L.) Urb* (Apiaceae). Trailing herbs with cordate leaves and brownish flowers; fresh leaves contain glucoside, essential oil, sitosterol and tannin; dried plant contains alkaloid *hydrocotylin*.

21. MASHAPARNI

Parts used: Root

It is included in *Jeevaneeya gana* and *vidaryadiquatha* preparations; it is known for the properties *tikta rasa*, *ruksha guna*, *madhura vipaka* and *seetha veerya*.

Botanical source : 1. *Vigna marina* (Barum.f.) Miers* (Fabaceae); 2. *Teramnus mollis* (W. & A.) Benth. (-do-). *V. marina* is a twining herb with yellow flowers and linear pods.

22. MATSYAKSHI

Parts used: Whole plant.

Brahmiyadi gritha is the main preparation and the properties are *madhura rasa*, *laghu guna*, *seetha veerya* and *katu vipaka*.

Botanical source : *Alternanthera sessilis* (L.) R. Br. Ex DC.* (Amaranthaceae). (=A. *triandra* Lam.) Prostrate branching herbs with globose heads; young shoots contain protein and iron.

23. MURVA

Parts used: Roots

This drug is included in the '*tikta gana*' and used in preparations like *chandanady gritha* and *padolady choorna*; it has properties like *tikta madhura rasa*, *guru guna*, *ushna veerya* and *madhura vipaka*.

Botanical source : 1. *Chonemorpha fragrans* (Moon) Alst* (Apocynaceae); 2. *Marsdenia tenacissima* (Roxb.) Moon (Asclepiadaceae) C: *fragrans* is a large, liana with large yellowish – white flowers; contains an alkaloid.

24. MUSTHA

Parts used: Tubers

Amrutarishta, *Dasamoolarishta* are some of the preparations and *laghu – ruksha guna*, *katu – tikta – kashaya rasa*, *seetha veerya* and *katu vipaka* are the properties.

Botanical source : 1. *Cyperus triceps* (Rottb.) Endl* (Cyperaceae); 2. *Cyperus rotundus* L. (Cyperaceae). Herbs with basal leaves and slender spikelets (*C. triceps*); roots contain an oil.

25. NAKTH (?)

Parts used: Whole plant

This drug is a member of *Syamadi gana* and used as a *Virechaka* drug by *Susrutha* (Sastri 1954); *kashaya – madhura rasa*, *laghu guna* and *seetha veerya* are the properties.

Botanical source : 1. *Ipomoea pescaprae* (L.) Sw* (Convolvulaceae); 2. *I. aquatica* Forssk... (Convolvulaceae); (= *I. reptans* Vahl). *I. pescaprae* is a trailing herb with thick, long root and large flowers; plant contains a mucilage, volatile oil, red colouring matter, sterol and acids.

26. PUNNAGA

Parts used: Flowers and seeds

Punnaga is included in the *Priyangvadi gana* and *eladi gana*; it has *laghu – ruksha guna*, *madhura – kashaya rasa*, *seetha veerya*, and *madhura vipaka*.

Botanical source : *Calophyllum inophyllum* L.* (Clusiaceae); 2. *Mesua ferrea* L... (Clusiaceae); 3. *Mammea longifolia* Pl. & Tr. (Clusiaceae). *C. inophyllum* is a large tree with a reddish-brown wood and globose fruits in bunches; bark contains tannin, resin; leaves saponin and hydrocyanic acid.

27. SANA

Parts used: Whole plant.

Dasamoola gritha, *Muktadi choorna* are the main preparations of this drug and the properties are *amla – katu rasa*, *snigdharuksha guna*, *ushna veerya* and *katu vipaka*.

Botanical source : 1. *Crotalaria mucronata* Desv.* (Fabaceae); 2. *Crotalaria juncea* L. .. (Fabaceae). *C. mucronata* is an under shrub with yellow flowers; seeds contain alkaloids.

28. SANKHAPUSHPI

Parts used: Whole plant.

This is one of the ingredients in *Brahmi gritha*, *Agastya hareetaki* and known for its *medhya karma*; the properties are *kashaya – thikta – katu rasa*, *snigdha – picchila – guru – sara guna*, *madhura vipaka* and *seetha veerya*.

Botanical source : 1. *Clitoria ternatea* L.* (Fabaceae); 2. *Convolvulus pluricaulis* Choisy (Convolvulaceae); 3. *Evolvulus alsinoides* (L.) L. (Convolvulaceae).

Clitoria ternatea is a slender twiner with bluish – white flowers; leaves contain lactone; flowers an ester and a resin glycoside.

29. SARIVA

Parts used: Roots

Preparations like *sarivadiquatha*, *sarivady asava*, *pinda – taila* are prepared with this drug as an ingredient; *guru – snigdha guna*, *madhura – thikta rasa*, *madhura vipaka* and *seetha veerya* are its properties.

Botanical source : 1. *Ichnocarpus frutescens* (L.) R. Br.* (Apocynaceae); 2. *Hemidesmus indicus* (L.) R. Br. (Asclepiadeaceae); 3. *Cryptolepis buchani* R. and *S. Asclepiadaceae*.

I.frutescens is a woody twiner with whitish flowers and paired follicles; contains glycoside.

30. SYONAKA

Parts used: Stem bark and roots.

Some of the important preparations are *Dasamoolarishta*, *Dasamoola haritakee*. *Etc*; *tikta – kashaya rasa*, *lghu ruksha guna*, *seetha veerya* and *katu vipaka* are the properties.

Botanical source : *Oroxylum indicum* Vent.* (Bignoniaceae). Large trees with numerous purple flowers and large pods; bark and seeds contain crystalline substance *oroxylin* and *baicalein*.

31. TANDULIYAKA

Parts used: Whole plant

Lodharadi quatha, *tanduliyadi anjama*, *tanduliyadi nasya yoga* are some of the preparations and *laghu –ruksha guna*, *madhura rasa*, *seetha veerya* and *madhura vipaka* are the properties.

Botanical source : 1. *Amaranthus spinosus* L.* (Amaranthaceae); 2. *A. tricolor* L. (Amaranthaceae).

A. *Spinosus* is a branched, spiny herb with flowers in clusters; contains proteins, carbohydrates and mineral matter.

32. TILA

Parts used: Whole plant, seeds.

Ksheerabala taila, *sarshapadi lepa* and most of the oil preparations include this drug; the properties are *madhura kashaya rasa*, *guru – snigdha guna*, *madhura vipaka* and *ushna veerya*.

Botanical source : *Sesamum indicum* L.* (Pedaliaceae). Erect herbs with obovate seeds; seeds contain fixed oil and leaves gummy matter.

33. TULASI

Parts used: Whole plant.

Tulasi is included in the *Surasadi gana* (Sastri 1969b) and is used in preparations like *Surasadi quatha*, *tribhuvanakeerthi rasa*, *neeli tulasyadi kera* as an ingredient; it has properties like *laghu – ruksha guna*, *katu-thikta rasa*, *ushna veerya* and *katu vipaka*.

Botanical source : 1. *Ocimum sanctum* L.* (Lamiaceae); 2. *O. gratissimum* L. (Lamiaceae).

O. sanctum is a cultivated woody herb with aromatic leaves and red or purple flowers in thyrsus; leaves contain essential oil.

ACKNOWLEDGEMENTS

The authors are thankful to the Director, C. R. A. S., for showing interest in this work and to Dr. B. V. Holla, Assistant Director, R. R. C., Bangalore for providing necessary facilities.

REFERENCES

1. Anonymous, *The Ayurvedic Formulary of India* (Part I) Controller of Publications, Delhi, pp. 241 – 259 (1978).
2. Chopra, R. N., S. L. Nayar and I. C. Chopra, *Glossary of Indian Medicinal Plants*, CSIR, New Delhi, (1956).
3. Chunekar, K. C., and G. S. Pandey, *Bhavaprakasa Nighantu* (commentary), Chowkambha Series, Varanasi; (1969).
4. Gupta, A. D., *Astanga Hrdaya* (Commentary), Chowkambha Sanskrit Series, Varanasi (1970).
5. Kurup, V., *Sahasrayoga*, Sri Rama Vilasam Press, Quilon (1972a).
6. Nair, K. V., S. N. Yoganarasimhan, K. R. Keshava Murthy and T. R. Shantha, *Medico – botany of Andaman and Nicobar Islands – III – Ayurvedic Drugs – 1*, J. Ancient Sc. Life, 461 (1984).
7. Sastri, A. D. *Susrutha samhita* (Part I), (Commentary), Chowkambha Sanskrit Series, Varanasi, (1954).
8. Sastri A. D., *Susrutha Samhita* (Part II), (Commentary), Chowkambha Sanskrit Series, Varanasi, (1968).

9. Sastri, A. D., *Bhaishajya Ratnavali* Chowkambha Sanskrit Series, Varanasi, (1969 b).
10. Sastri, A. D., *Caraka Samhita* (commentary), Chowkambha Vidya Bhavan, Varanasi, (1970 a).
11. Singh, T. B. and K. C. Chuneekar, *Glossary of Vegetable drugs in Brihatrayi*, Chowkambha Sanskrit Series, Varanasi (1972).