

Traditional remedies of *Kani* tribes of Kottoor reserve forest, Agasthyavanam, Thiruvananthapuram, Kerala

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Agasthya Vanam is known for its floral diversity and is a part of Western Ghats. Kottoor Reserve forest is a rich source for medicinal plants that has long been utilized by the people, and hence this region is remarkable for rich medicinal folk knowledge. The paper provides information about 50 plant species used by *Kani* tribes to treat 39 ailments. In addition to the scientific names, vernacular names, family, habit, procedure for preparation of medicine, dosage and dietary control are given.

Keywords: Traditional remedy, *Kani* tribes, Ethnomedicine, *Agasthya Vanam*, Kottoor reserve forest, Kerala

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Agasthya Vanam has been regarded as a resource reservoir of several economically important plants. However, still large number of plants used by local inhabitants of this region is little known to the outer world¹⁻⁵. The knowledge of the tribals, associated with the traditional healing practices using wild plants, is now fast disappearing due to modernization and the tendency to discard their traditional lifestyle and gradual migration to the main stream. There is an urgent need to study and document their precious knowledge for posterity. According to the World Health Organization more than 80% of the world's population relies on traditional herbal medicine for their primary healthcare. In view of exploitation and conservation of folk knowledge, an attempt has been made to study the medico-ethnobotanical aspects from the Kottoor Reserve forest of *Agasthya Vanam*. *Agasthya Vanam* Kottoor reserve forest stretches across 77°5' and 77°40' E, 8°20' and 8°50' N in the Paruthippally range of Thiruvananthapuram forest division. The dense vegetation is contiguous with Neyyar wild life sanctuary in the southwest borders and the Peppara wild life sanctuary in the northeast. Climatic conditions are moderately hot and humid. Maximum temperature is recorded in March and April. Annual temperature generally ranges from

16°-35°C. Annual rain fall is 2,800 mm. Maximum rain fall occurs from May to July during the southwest monsoon and October to November during north east monsoon. There is a very limited and scattered scientific record of the herbal remedies in detail, used by the local inhabitants of this region belonging to *Kani* tribes.

The *Kani*, a forest dwelling tribe, live in and around the *Agasthya malai* hill of Western Ghat in the Thiruvananthapuram district of Kerala, numbering about 16,000. The word *Kanikar* means a hereditary proprietor of land. *Kanis* live together in small communities, under a *muttukani* or headman. Some are settled in the vicinity of towns and become domesticated. Traditional occupation of *Kanis* includes collection of cane and supplies it to the artisans living close by. They themselves also make some baskets and mats. They are also engaged in seasonal collection of minor non-timber forest products, such as honey, bee wax, medicinal plants, gums, etc. *Muttu kanis* are popular in treating severe diseases even among civilized populations. They acquired the knowledge of treatment procedures from their ancestors.

Methodology

Ethnobotanical surveys of the tribes and folklores were conducted following the prescribed procedure⁶⁻⁸.

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During the field trips, personal interviews were conducted with chieftains, elderly and experienced people, and herbal doctors for documenting herbal medicines and home remedies using the plants. For documenting the medicinal properties and to identify the herbs used by them in different ailments, forests or fields were visited along with the herbalists of every settlement. The medicine men were interviewed using a questionnaire. To confirm the information, it was rechecked with other herbalists. Repeated queries were also made to get the data verified and confirmed. The study material consisted of medicinal plant samples, which were collected at various time periods during 2001-2004. The plant specimens were processed according to herbarium techniques, identified and all plant specimens were kept at the Herbarium of ST Hindu College, Nagercoil^{9,10}.

Enumeration

Plants name and local names of the plant, family, and uses against various diseases are given. The disease has been enumerated alphabetically:

Abdominal colic (*Vayaru vethana*)

Hemidesmus indicus (L.) R. Br., (Periplocaceae), *Naruneendi*

Uses: *Hemidesmus indicus* tuber washed, dried, powdered and mixed with coconut milk is taken after food.

Allopatia (*Mudi kozhichil*)

Indigofera tinctoria L., (Fabaceae), *Neelayamari*

Uses: 200 gm *Indigofera tinctoria* leaf paste boiled with 500 ml coconut oil is applied over head.

Asthma (*Iluppu*),

Curculigo orchioides Gaertn., (Hypoxidaceae), *Nilappana*

Uses: *Curculigo orchioides* tuber is washed, dried, powdered and about 5 gm powder is rolled to balls with coconut milk. This is swallowed along with a glass of lukewarm water.

Bone fracture

Pterospermum rubiginosum Heyne ex Wight & Arn., (Sterculiaceae), *Ellooti*

Uses: The bark of *Pterospermum rubiginosum* after removing the outer dead layer is crushed to paste with lukewarm water. The bone is held back to normal healing position and the paste is applied over the area.

Chest infection (*Kabhakett*)

Evolvulus alsinoides (L.) L., (Convolvulaceae), *Vishnukranthi*

Uses: Whole plant of *Evolvulus alsinoides* is shade dried, powdered and mixed with jaggery is administered twice.

Phyllanthus urinaria L. (Euphorbiaceae), *Chuvanna keezharnelli*

Uses: 20 gm whole plant is washed, crushed to paste and is consumed in empty stomach along with cow/coconut milk.

Chickenpox (*Vasoori*)

Oryza meyeriana (Zoll & Mor. ex Steud.) Baill., (Poaceae), *Annoori nellu*

Uses: 5 gm *Oryza meyeriana* seeds are ground to paste with 5 gm *Lycopodium cernuum* and *Lycopodium clavatum*, a black ant's (*Monomorium dichroum* Forel.) head and 100 mg *Humboldtia unijuga* (root gall) mixed with lukewarm water is consumed.

Conjunctivitis (*Kannu novu*)

Spatholobus parviflorus (Roxb. ex DC.) O. Ktze., (Fabaceae), *Plachi valli*

Uses: 100 gm leaf paste is applied over head half an hour before bath.

Vernonia cinerea (L.) Less., (Asteraceae), *Poovan pacha*

Uses: Crushed leaves are tied in a clean cloth; juice extracted, drained and used as eye drops.

Cough (*Chuma*)

Hemidesmus indicus (L.) R. Br., (Periplocaceae), *Naruneendi*

Uses: *Hemidesmus indicus* tuber is washed, crushed and the juice is used.

Diabetes mellitus (*Prameham*)

Curculigo orchioides Gaertn., (Hypoxidaceae), *Nilappana*

Uses: The underground root stock is washed, dried, powdered and about 5 gm powder rolled to balls with coconut milk is swallowed along with a glass of lukewarm water.

Diarrhoea (*Vayarilakam*)

Protasparagus racemosus (Willd.) Oberm., (Liliaceae), *Sathaveri*

Uses: 250 gm fresh tubers are crushed, extract is boiled with 100 ml water and is consumed lukewarm.

Dyspnoea (*Shwasam mutt*)

Vitex negundo L., (Verbenaceae), *Karinochi*

Uses: Juice extracted from 100 gm leaves is consumed.

Eye injuries

Emilia sonchifolia (L.) DC., (Asteraceae), *Muyalchevi*

Uses: Juice of 5 gm leaves mixed with breast milk is used as eye drops.

Fever (*Pani*)

Protasparagus racemosus (Willd.) Oberm., (Liliaceae), *Sathaveri*

Uses: Extract of 250 gm fresh tuber of *Protasparagus racemosus* boiled with 100 ml water is consumed lukewarm.

Frothy stool

Cyclea peltata (Lam.) Hook. f. & Thomas., (Menispermaceae), *Pillathali*

Uses: 200 gm aerial parts of *Cyclea peltata* crushed to paste with water is allowed to sediment for 10 min. The jelly sediment is applied on head and washed off after half an hour.

Headache (*Thala vethana*)

Aristolochia indica L. (Aristolochiaceae), *Garudakodi*

Uses: 20 gm fresh root of *Aristolochia indica* along with 5 gm of *Coscinium fenestratum* (*Plamanjal*) crushed to paste is applied on the forehead.

Plectranthus ambonicus (Lour.) Spreng., (Lamiaceae), *Navarapacha*

Uses: 250 gm of *Plectranthus ambonicus* along with equal volume of *Naregamia alata* is crushed to paste and boiled with 500 ml of coconut oil. This medicated oil is applied on head, half an hour before bath.

Humboldtia unijuga Bedd., (Caesalpiniaceae), *Palakan*

Uses: 2 gm of *Humboldtia unijuga* (root gall) is crushed and paste prepared with water is consumed along with 5 gm *Coscinium fenestratum* (*Plamanjal*). The paste is also applied on forehead.

Indigofera tinctoria L., (Fabaceae), *Neelayamari*

Uses: Leaf paste of *Indigofera tinctoria* boiled with coconut oil is applied over head.

Naregamia alata Wight & Arn., (Meliaceae), *Nilanarakam*

Uses: Whole plants paste of *Naregamia alata* and *Plectranthus amboinicus* (both 250 gm) boiled with 500 ml of coconut oil is applied on head regularly.

Injuries

Spermacece articularia L. f. (Rubiaceae), *Kaarapacha*

Uses: Tender leaf paste is applied over wound.

Clerodendrum viscosum Vent., (Verbenaceae), *Peruvalam*

Uses: Tender leaves crushed to paste with little amount of lime is applied over wound. To make the blood clot, leaf juice is rubbed over head.

Chromolaena odorata (L.) King & Robins., (Asteraceae), *Vallipoochedi*

Uses: Tender leaf paste of *Chromolaena odorata* with little amount of lime is applied over wound.

Pterospermum rubiginosum Heyne ex Wight & Arn. (Sterculiaceae), *Ellooti*

Uses: Plant bark after removing the outer dead layer is dried, powdered and sprinkled over the wound.

Insect bite (*Kadannal kuth*)

Chlorophytum laxum R. Br. (Liliaceae), *Neerooti kizhangu*

Uses: The bulb of *Chlorophytum laxum* is crushed to paste and applied over the swellings.

Jaundice (*Manja pitham*)

Dalbergia lanceolaria L. f. (Fabaceae), *Velleeti*

Uses: Extract of 200 gm bark of *Dalbergia lanceolaria* after removing the outer dead layer is consumed along with coconut milk.

Laceration (*Chathav*)

Pterospermum rubiginosum Heyne ex Wight & Arn. (Sterculiaceae), *Ellooti*

Uses: Crushed *Pterospermum rubiginosum* bark tied in a clean cloth (*kizhi*) is placed over a hot mud utensil to get it heated to a mild temperature. *Kizhi* is placed gently over and around the affected area for relief.

Leucorrhoea (*Vella poak, Asthi sravam*)

Protasparagus racemosus (Willd.) Oberm. (Liliaceae), *Sathaveri*

Uses: 50 gm tuber of *Protasparagus racemosus* in either paste form or powdered form is taken in with cow/ coconut milk.

Migraine (*Chenni kuth*)

Myxopyrum smilacifolium (Wall.) Blume, (Oleaceae), *Chathuramulla*

Uses: Stem is crushed and boiled with coconut oil to prepare the medicated oil, which is applied on head half an hour before bath.

Obesity (*Ponna thadi*)

Trichopus zeylanicus Gaertn. (Trichopodaceae), *Arogyapacha*

Uses: Whole plant is shade dried, powdered, mixed with distilled water is consumed.

Odontalgia (*Pallu vethana*)

Acacia pennata Willd., (Mimosaceae), *Karincha*

Uses: Decoction of *Acacia pennata* bark is kept in mouth for 2 min and spit out.

Ottalgia (*Chevi vethana*)

Plectranthus amboinicus (Lour.) Spreng. *Naregamia alata* Wight & Arn. (Lamiaceae), *Navarapacha*

Uses: 250 gm plant material of each species is crushed to paste, boiled with 500 ml of coconut oil and the medicated oil is applied on head, half an hour before bath.

Costus speciosus (Koenig) J. E. Smith, (Zingiberaceae), *Mookanachenthi*

Uses: *Costus speciosus* stem is heated to high temperature and lukewarm juice extract is used as ear drops.

Piles (*Moolakkuru*)

Caesalpinia bonduc (L.) Roxb., (Caesalpinaceae), *Kazhanji*

Uses: 50 gm root of *Caesalpinia bonduc* is washed, minced and boiled with one liter of water and is consumed.

Smilax zeylanica L., (Smilacaceae), *Karuvilanji*

Uses: 20 gm *Smilax zeylanica* tuber paste with coconut milk is consumed.

Pneumonia

Justicia adhatoda L., (Acanthaceae), *Adalodakam*

Uses: 100 gm *Justicia adhatoda* fresh leaves are minced, crushed and tied in a clean cloth (*kizhi*). It is placed over a hot mud utensil to get it heated to a mild

temperature. It is placed over the chest for relief. 50 gm minced leaf is boiled in 1L water is consumed.

Postnatal care

Capsicum frutescens L., (Solanaceae), *Kancharimulaku*

Uses: Sun dried coconut along with 100 gm dried fruits of *Capsicum frutescens*, 1 gm *Curcuma longa* and 5 gm *Allium sativum* are crushed to paste with water, which is then heated in an earthen pot. Woman after 24 hrs of delivery consumes whole of the preparation in a divided dose three times a day. This is continued for the next nine consecutive days. It helps the woman to regain complete health and induce a higher level of immunity in the baby against polio, jaundice, etc.

Promote lactation

Adenia hondala (Gaertn.) de Wilde, (Passifloraceae), *Palmuthakkan*

Uses: 40 gm tuber paste/powder is taken with cow/coconut milk in empty stomach.

Holostemma ada-kodien Schult., (Asclepiadaceae), *Adakodien*

Uses: 20 gm *Holostemma ada-kodien* tuber paste is consumed with cow's milk in empty stomach.

Pyoderma (*Chori*)

Croton tiglium L., (Euphorbiaceae), *Neervalam*

Uses: 100 gm tender leaves of *Croton tiglium* crushed to paste are boiled along with 200 ml coconut oil until the paste loses its entire water content. Oil is then applied over the skin using a feather, twice a day.

Pyrosis (*Nenjerichil*)

Dioscorea hispida Dennst., (Dioscoreaceae), *Vevatti*

Uses: The tuber (50gm) of *Dioscorea hispida* is washed and peeled-off and chewed to consume.

Hemidesmus indicus (L.) R. Br., (Periplocaceae), *Naruneendi*

Uses: *Hemidesmus indicus* tuber is washed, crushed and the extract is consumed.

Rhinitis (*Thummal*)

Naravelia zeylanica (L.) DC., (Ranunculaceae), *Mookerivalli*

Uses: *Naravelia zeylanica* stem is dried, powdered, tied in a clean cloth and the aroma from the cloth bag is gently inhaled.

Sebaceous cyst (*Maykkuru*)

Scleria lithosperma (L.) Sw., (Cyperaceae),
Vakkathipullu

Uses: *Scleria lithosperma* tuber is washed, baked, powdered and mixed with coconut oil is applied over the infection, which alleviates the problem.

Snakebite (*Pambu kadi*)

Anaphyllum wightii Schott., (Araceae), *Keerikizhangu*

Uses: 5 gm each of *Anaphyllum wightii* and *Aristolochia indica* along with *Sansevieria trifasciata*, *Humboldtia unijuga* (root gall) and *Plamanja* (*Polyporous* sp.) (200 mg each) and 20 mg of *Strychnos nux-vomica* seed paste with water is taken in. In case of unconsciousness, 500 mg of *Campferia galanga* is added to the above mixture and applied on forehead to regain consciousness. Tribal use poison-stone (a ball, made of certain medicine) to drain off the venom. The stone is attached to the wound and it detaches off only when it has drained off the entire venom. The patient is given a bath in hot water only after the stone is detached.

Chlorophytum laxum R. Br., (Liliaceae),
Neerootikizhangu

Uses: *Chlorophytum laxum* tuber paste is applied on the affected area.

Strychnos nux-vomica L., (Loganiaceae), *Kanjiram*

Uses: 300 mg *Strychnos nux-vomica* seed paste mixed with self urine is consumed.

Thottea siliquosa (Lam.) Ding Hou,
(Aristolochiaceae), *Kuttillavayana*

Uses: 10 gm *Thottea siliquosa* tuber paste with self urine is taken.

Spider bite (*Chilanthi visham*)

Ipomea pes-tigridis L., (Convolvulaceae),
Chilanthipacha

Uses: 50 ml fresh leaves extract is taken along with equal volume of cow's/coconut milk. Leaf paste is applied over the infected area.

Spinter in throat

Ipomea quamoclit L., (Convolvulaceae), *Mullurukki*

Uses: Leaf paste is applied over the throat.

Sprain (*Ulukku*)

Pterospermum rubiginosum Heyne ex Wight & Arn.,
(Sterculiaceae), *Ellooti*

Uses: Bark is crushed and kept on clean cloth (*kizhi*) and heated over a hot mud utensil at a mild temperature. It is then placed gently over and around the affected area for relief.

Stomachache

Zingiber officinale Rose., (Zingiberaceae), *Inchi*

Uses: 100 gm *Zingiber officinale* and 10 gm *Allium sativum* crushed and mixed together is consumed lukewarm.

Tinea-pedis (*Eran kalukadi*)

Begonia malabarica Lam., (Begoniaceae), *Enamkolli*

Uses: Leaf paste is applied gently covering entire foot.

Tuberculosis

Glycyrrhiza glabra L., (Fabaceae), *Athimathuram*

Uses: 5 gm paste of *Glycyrrhiza glabra* is consumed with milk.

Vitex negundo L., (Verbenaceae), *Karinochi*

Uses: 100 gm fresh leaf extract of *Vitex negundo* is consumed.

Discussion

The total number of species that are still utilized in the survey area is 50 from 33 different families; in addition, two pteridophytes (*Lycopodium* sps.) are also used as components of medicinal preparations. Plants belonging to Fabaceae and Asteraceae are more frequently used. Most of the remedies are reported for the first time. The population use herbal remedies for the treatment of common minor ailments and even for some major diseases like pneumonia, jaundice, tuberculosis, etc. The people have a long history of traditional uses of plants. Even people from far away places use remedies for certain fatal problems like snake poison and other serious diseases. Although traditional medicine is still widely practiced throughout the region, it is now fast disappearing due to modernization. The fear of losing their cultural heritage has promoted some people to conserve and cultivate the medicinal plants. Most of the time drug is utilized in the fresh or dried state, the most frequently used preparations being powder, decoction, extract and paste. The methods and period of administration may be widely different. Some remedies consist of single herbs but more than two herbs are reported in several preparations. The same

disease may have several plant remedies and the same plant species may be used for several ailments, eg. two remedies (*Evolvulus alsinoides* and *Phyllanthus urinaria*) are used for chest infection and the same plant *Pterospermum rubiginosum* is used for more than one (sprain, injuries and bone fracture) disease. The dosage and duration of intake of these crude drugs may slightly vary from one healer to another. Most popular method of application of plant material is the direct application. It may be either fresh or in dried form. Fresh materials are usually taken orally or applied externally. Dried materials are powdered and are taken along with milk or hot water. It can be kept for future use. Another most common practice is the medicated oils especially for the skin problems. It is prepared by boiling the crushed or minced plant materials in oil until it loses entire water content. Application of liquid preparations (decoctions) is also common. Decoctions are prepared by boiling the powdered, crushed or minced plant material with water and removing the residue by filtration. A lot of remedies are found for snakebite (may be because of its frequent occurrence). Seven treatments are reported for snakebite, and some of the components seem to be common to all. Some remedies with single herbs are advised to take with self-urine and this method is found only in the treatment for snakebite. Another interesting method is the preparation of *kizhi*. It is prepared by tying the plant material (minced/crushed) in a clean cloth and heating it by placing it over a hot mud utensil. *Kizhi* is then placed gently over and around the affected area for quick relief.

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