

PROBABLE POTENTIAL MEDICINAL PLANTS OF ANDAMAN &
NICOBAR ISLANDS

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A B S T R A C T

The paper deals with 72 probable potential medicinal plants belonging to 63 genera and 39 families of Andaman and Nicobar Islands for curing various ailments among different ethnic societies. Out of 70 species, 6 are endemic to these islands and 8 species extend to South East Asia except mainland India. The information has been gathered by field survey and from literature.

INTRODUCTION

The Andaman and Nicobar, an arched string of about 319 islands and islets, named and unnamed in the Bengal stretching geologically from Arrakan-Yoma in Burma in the North and Sumatra in the South between 6° 40' and 13° 41' N latitude and 92° 11' and 94° 10' E longitude occupy an area of about 8300 sq. km. Andaman group alone occupies about 6400 sq. km. These two groups are separated by the deep channel of about 150 km. in width at 10° N latitude, known as 'TEN DEGREE Channel'. Once a single district of Union territory has been divided into two districts viz., Andaman district and Nicobar district in 1974.

There are hills of low elevation in the islands. Saddle Peak is the highest peak of 732 m above m.s.l. in North Andaman and Mt. Thullier of 670 m in Great Nicobar.

SOIL

The soil is usually soft coral sand in Andaman having its top soil with high base status with less nutrient value. On the other hand, Nicobar has alluvial deposits, poor in drainage and low in moisture capacity. The beaches have coralline alluvium.

CLIMATE

'Warm and Humid tropic' type of climate in general is prevailing in the islands. The temperature ranges from 23° to 32° C. The mean relative humidity is 78% with an annual rainfall between 300 to 380 cm. The islands are exposed to both South-west and North-east monsoon.

FLORA

The rainfall which actively spreads over 7 to 8 months annually has resulted in luxuriant growth of the flora. It has officially been estimated that 86% of these islands is covered by forests. The flora of these island is unique for its having several indigenous and exotic species of plants.

Kurz (1876) and Prain (1891 a,b 1893) are pioneer workers who had explored and published comprehensive accounts of the floristic elements of some parts of those islands. Later on, Parkinson (1923), in his work 'Forest Flora of Andaman Islands', dealt mainly with the woody species of the Andaman Islands. After the reorganisation of the Botanical Survey of India, botanists of the department from mainland, like Thothathri (1960 a, b, 1962) and others conducted collection tours in some of the islands. After the establishment of the

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Andaman & Nicobar Unit of Botanical Survey of India at Port Blair, exploration work was further intensified. With all the data available at that time, Vasudeva Rao (1986) listed about 1416 species of angiosperms belonging to 682 genera and 137 families. Of these 14% of the species have been estimated to be endemic to these islands and about 54% as occurring in the mainland India while 32% extend to adjacent areas of S.E. Asia and Malesia which do not occur in mainland India. Balakrishnan (1989) reported a detailed account of rare, endangered and endemic species of these islands.

At present some more species have been found out and added to Vasudeva Rao's list and the list is expected to be bigger. There still remains some inaccessible areas where the botanists could not reach. But as the islands are good biodiversity areas, some more species are expected to be discovered which are new to science.

POPULATION

The existing population of Andaman & Nicobar group of islands is 2,77,989 as per the 1991 Census of India. This population, majority of them are the settlers from the mainland India mainly, includes six aborigines and tribes found mostly in different pockets of these islands. They are the followings :—
 i) The *Onges* a Negrito race whose number is approximately 100 now. Few decades ago they were hostile and now they have become friendly. They were semi-nomadic and were depending on the forests but now they have developed contact with the administration of the islands. They are said to be decreasing in number. ii) The *Great Andamanese* : This Negrito race once was the largest in number and occupying most of the Great Andaman, now only few in number living in Strait Island in the east coast of Middle Andaman having lost their original jungle habit. iii) The *Jarawas* : Another Negritoid race of South and Middle Andaman. Their number is believed to be below 300 and are still hostile. iv) The *Sentinelese* : They are the fourth Negritoid race living in North Sentinel island of south-west of Port Blair. They are also very less in number and remain hostile. v) The *Shompens* : A rapidly decreasing semi-nomadic tribals of Mongoloid race inhabiting in Great Nicobar. vi) The *Nicobarese* :

The only fast growing highly advanced Mongoloid race of Nicobar. They live in well-settled villages of Nicobar and have successfully adopted to the city life.

All these six tribes once were fully dependent on the forests. Still now many of them are dependent on the forest though partly dependent on the island administration.

CONSTRAINTS IN COLLECTING INFORMATION

Due to inaccessibility of many islands and islets and those of the 'Tribal reserves' information on the use of the plants and plant parts could not be successfully collected while others who have adopted modern life are dependent on the modern system of medicine. Therefore the knowledge on the medicinal use of the plants by the aborigines and tribes remains inadequate.

PREVIOUS WORK

Several ethnobotanical accounts have been rendered by the earlier workers on these tribes. Awasthi (1987, 1991), Chengappa (1953), Thangam (1973), Bhargava (1981, 83), Dagar (1986, 89 a,b), Dagar & Dagar (1991, 1992) and Chakraborty & Vasudeva Rao (1988, 1990) have contributed various ethnobotanical and ethnomedicinal data on numerous plants which were brought to light through their publications in various journals which is in fragmentary form. Similarly, Yoganarasimhan *et al.*, (1983, 84), Anonymous (1988) have published the medicobotany of Andaman & Nicobar islands in which information compiled regarding the medicinal uses of the plants have been analysed on the basis of the known existing data in medicinal and ethnomedicinal literature (Chopra *et al.*, 1956; Jain, 1991).

NEED FOR THE PRESENT WORK

The need for this work has been felt by the authors to provide basic information to pharmaceutical industries and various other organisations working on the traditional system of medicines. The detailed information of all potential medicinal plants based on folk claims and data recorded from the aborigines and various tribes have been incorporated, so that the natural

resources may be utilised as an alternative source of drugs for the benefit of mankind without affecting the natural ecosystem.

LOCAL NAMES

Parkinson (1923) in the preface of his book observed the difficulties in giving vernacular names of different races of Andamans. According to him, the present residents of Andaman have either themselves or their forefathers came from various parts of India and Myanmar where forests are often very different from those of the islands. They also have been resident long enough in the islands to know the native plants and consequently there are not much well-established vernacular names for them. Of course many reliable vernacular names have been obtained from them.

During the course of time, Hindi has been the language for communication in these islands and Hindi vernacular names have been given to many plants, though many Hindustani names given to plants bear different names in mainland India. Therefore, until the names become well-established their use will be misleading and one must be careful to use such names.

During present quarter of this century, some work has been done on the ethnobotany of Nicobar islands. Because of friendly attitude of the Nicobarese many Nicobari vernacular names could be collected.

In this present work about 9% Hindi, 10% Onges, 8% Shompens, 5% Andamanese and 68% Nicobari vernacular names of plants have been given.

The present paper deals 72 species belonging to 63 genera and 39 families with their medicinal values compiled from the field sources and from the available literature. In this enumeration, the botanical names of the plants are arranged alphabetically followed by family and local name(s), if any, habit. A brief note on frequency of distribution in A & N Islands is given. Detailed folk claims have been given at the end. The plant species included in this article have been deposited at PBL.

The following abbreviations are used in the

text : A : Andamanese, O : Onges, N : Nicobarese, S : Shompen, H : Hindi, R : Ranchi people. O : Endemic species, + : Species distributed in A & N Islands & S.E. Asia but not in mainland India.

Acalypha indica L. (EUPHORBIACEAE) 'Kulching (N)' Annual erect herbs. Common in wastelands : North Nicobar Islands. Aug. Dec.

Folk uses : Nicobarese use its leaves for gastrointestinal troubles. The extract of the crushed leaves is taken 2-3 times a day in case of constipation (Dagar, 1989).

+**Adenia penangina** (Wall. ex G. Don) de Wilde (PASSIFLORACEAE) 'Tincham (N)' Climbers with yellow flowers. Common in inland forests with sandy loam : Little Andaman and North & South Nicobar Island. June-Sept.

Folk uses : Nicobarese use its leaves for chest, body and joint pains. Pounded leaves mixed with Hen's blood & coconut oil (*Cocos nucifera*) and then rubbed on the body to relieve pain (Awasthi, 1987, Dagar & Dagar, 1991).

Adenostemma lavenia (L.) Kunt. (ASTERACEAE) 'Mi-top (N)' Erect herbs. Common in damp shady localities; Little Andaman & North Nicobar Islands. July Nov.

Folk uses : Nicobarese use its leaves for chronic breast or chest pain and toothache. Leaves pounded along with leaves of *Blumea balsamifera* & *Ocimum sanctum* in equal proportions, mixed with pig blood and extracts are taken 2-3 spoon full each time twice a day during chronic breast or chest pain (Dagar, 1989).

The decoction of leaves with fruits of *Cocos nucifera* is gargled twice a day in case of severe toothache (Dagar & Dagar, 1991).

Aerva lanata (L.) Juss. (AMARANTHACEAE) 'Kama-ha-la (N)' Erect branched herbs. Leaves pale green beneath. Flowers white in axillary spikes. Common in waste lands; North Nicobar Islands. Sept. Dec.

Folk uses : Nicobarese use its leaves for curing fever. The decoction of leaves is drunk and pounded leaves boiled in coconut oil (*Cocos nucifera*), mixed

with pig blood and the paste is rubbed on the body (Dagar, 1989).

Ageratum conyzoides L. (ASTERACEAE) 'Topinyom (N)' Annual erect herbs with opposite leaves. Common in agricultural fields; Andaman & Nicobar Islands. Oct.-Dec.

Folk uses : Nicobarese use its leaves for eye trouble. One to two drops of leaf juice mixed with water is put in the eye during conjunctivitis. Leaf juice is also used as antiseptic for cuts & wounds (Dagar, 1989).

°**Alstonia kurzii** Hk. f. (APOCYNACEAE) 'Taungmeok (S)' Tree with whorled leaves. Flowers yellowish in cyme. Frequent in littoral forests; Little Andaman & Nicobar Islands. Nov. - March.

Folk uses : Leaves, barks and roots are used by the Shompens for curing fever. These are boiled with water and vapour inhaled (Chakraborty & Rao, 1988).

+**Alstonia macrophylla** Wall. ex G. Don (APOCYNACEAE) 'Tachoroi (S)', 'Chuharoi (N)' Large tree with whorled leaves. Flowers yellowish in cymes. Frequent in littoral forests; North Nicobar Islands. Nov. March.

Folk uses : Leaves, barks and roots are used by the Shompens for curing fever. These are boiled with water and vapour inhaled (Chakraborty & Rao, 1988).

Nicobarese use its leaves for stomach ache and root bark for bone fracture. Crushed leaves mixed with water are taken 200-300 ml / dose, thrice a day for stomachache. The pounded barks mixed with turmeric powder (*Curcuma longa*) and the paste are tied tightly on the affected part of the bone for curing bone fracture (Dagar & Dagar, 1991).

°**Amomum fenzlii** Kurz (ZINGIBERACEAE)

Large perennial rhizomatous herbs. Rare in inland forests and along stream-side; Nicobar Islands. July Oct.

Folk uses : Shompens use its stem, leaves and flowers as Bee-repellant. The paste is rubbed on the body during honey collection (Chakraborty & Rao, 1988).

Nicobarese use its roots and flowers for fever & stomach disorders. These are made into paste and taken one spoon full 2-3 times a day (Dagar, 1989).

+**Ardisia oxyphylla** Wall. (MYRSINACEAE) 'Mikuhon (N)' Shrub or small tree. Common in coastal areas; Andaman & Nicobar Islands. March June.

Folk uses : Nicobarese use its leaves for fertility purpose. The decoction of leaves is given for 3-4 days to restore fertility in couple unable to conceive. It is also used to give strength during child-birth (Dagar & Dagar, 1991).

Ardisia solanacea Roxb (MYRSINACEAE) 'Minkuon (N)' Shrubs; leaves glossy, succulent. Flowers pink in buds. Common in littoral forests; Andaman & Nicobar Islands. July Nov.

Folk uses : Nicobarese use its leaves for curing mumps. The paste of the leaves is boiled with coconut-oil (*Cocos nucifera*) and rubbed on neck and besides the ear.

Leaves are also used by the Nicobarese as an antiabortifacient. Mashed leaves tied in cloth dipped in boiling water and the decoction thus prepared is given to women (200 ml. thrice a day for a week) with complaints of frequent abortion (Dagar & Dagar, 1991).

Argyrea hookeri Cl. (CONVOLVULACEAE) 'Bilikhu (GA)' Climbers with simple, alternate, exstipulate leaves. Leaves silky beneath. Flowers purple. Common in inland forests; Andaman Islands. Oct. Dec.

Folk uses : Great Andamanese boiled its leaves and is applied locally to reduce swellings in hydrocele (Awasthi, 1991).

Argemone mexicana L. (PAPAVERACEAE) 'Satyanashi (H)' Herbs with yellow latex. Leaves deeply incised, spiny. Flowers terminal, yellow. Common in agricultural lands; Nicobar Islands. Nov. Jan.

Folk uses : Yellow latex of tender shoots is used by the Nicobarese as eye drops for curing conjunctivitis (Dagar, 1989).

Aristolochia tagala Cham. (ARISTOLOCHIACEAE) 'Minchokoyon (N)' Climbing shrubs. Rare in inland forests; South Andaman & Nicobar Islands. Sept. March.

Folk uses : Nicobarese use its leaves for severe stomach ache. The paste of leaves mixed with hen's blood, warmed and are applied around naval region during stomach pain (Dagar & Dagar, 1991).

Blume balsamifera (L.) DC. (ASTERACEAE) 'Hotlik (N)' Erect aromatic herbs. Common in agricultural lands; Andaman & Nicobar Islands. Sept. - Dec.

Folk uses : Nicobarese use its leaves in chest pain and also to increase appetite. The pounded leaves are boiled with coconut oil (*Cocos nucifera*) and then rubbed on the body (Dagar & Dagar, 1991).

Breynia retusa (Densst.) Alston (EUPHORBIACEAE) 'Teong (N)' Glabrous shrubs. Leaves simple, pale beneath. Flowers in axillary, few-flowered. Rare in inland forests; South & Little Andaman & North Nicobar Islands. Jan. June.

Folk uses : Nicobarese use its leaves for swellings, body pain and as febrifuge. Macerated leaves squeezed in water and are taken orally for curing swellings and pains. Pounded leaves mixed with leaves of *Cassia occidentalis* and coconut oil (*Cocos nucifera*), and the paste resultant rubbed on the body of the child as febrifuge (Dagar, 1991).

Caesalpinia bonduc (L.) Roxb. (CAESALPINIACEAE) 'Vaknuato (N)' Scandent shrubs with sharp prickles. Frequent along sea-shores; Andaman & Nicobar Islands. Sept. Jan.

Folk uses : Nicobarese use its leaves for curing fever and body pain. The pounded leaves, mixed with coconut oil (*Cocos nucifera*) are rubbed on the body (Dagar & Dagar, 1991).

Callicarpa longifolia Lamk. (VERBENACEAE) 'Kinvi-taong (N)' Shrubs with opposite leaves. Rare in inland forests; South Andaman & Nicobar Islands. Sept. Dec.

Folk uses : Nicobarese of Bompoka Islands use its leaves for cuts and wounds. The paste of the leaves is mixed with Coconut oil (*Cocos nucifera*)

and *Leea indica* leaf and applied locally for a week followed by sea bath (Dagar, 1989).

Nicobarese of Katchal Islands use its leaves as antiseptic for cuts & wounds. The leaves are made into paste, mixed with pig fat and applied locally (Dagar & Dagar, 1991).

Calophyllum inophyllum L. (CLUSIACEAE) 'Inyang (N)' Small littoral trees with dark green foliage. Common in water edges along sea-shores; Andaman & Nicobar Islands. July - June.

Folk uses : Nicobarese use its latex for eye trouble and leaves for bone fracture. The milky latex with midrib of leaves, kept in sunlight for half an hour and is applied as eye drops for curing night-blindness and short sightedness.

Pounded leaves mixed with coconut oil (*Cocos nucifera*), *Piper betel* leaf and sea-water are tied on the affected part of the bone as plaster (Dagar, 1989).

+Casearia grewiaefolia Vent. var. *deglabrata* Koord (FLACOURTIACEAE) 'Kul-tuong (N)' Large trees with white flowers. Abundant in littoral forests; Nicobar Islands. Jan. - April.

Folk uses : Nicobarese use its leaves for dysentery. The paste of the leaves, mixed with *Tamarindus indica* leaf, and is taken in water, 1 spoon full, 2-3 times a day for three days (Dagar, 1989).

Cassia alata L. (CAESALPINIACEAE) 'Thinbaw (N)' Shrubs with yellow flowers. Common in inland forests and waste lands; Andaman & Nicobar Islands. Sept-Feb.

Folk uses : Nicobarese use its leaves for skin diseases. Leaves washed in water and applied on the white patches of the skin for curing irritation and itches. Leaf paste is also used externally for reducing swellings and body pain (Dagar & Dagar, 1991).

Cassia occidentalis L. (CAESALPINIACEAE) 'Marohah (N)' Erect herbs with yellow flowers. Common in inland forests and wastelands; Andaman & Nicobar Islands. Sept-Feb.

Folk uses : The aqueous extract of the leaves is used by the Nicobarese for curing fever. The extract is given two spoon full, 2-3 times a day. The leaf paste also mixed with leaves of *Datura metel* & *Solanum nigrum* and Coconut oil (*Cocos nucifera*) and is rubbed on the body (Dagar & Dagar, 1991).

Nicobarese use its leaves for boils and wounds. The pounded leaves mixed with Coconut oil (*Cocos nucifera*) are applied locally (Dagar, 1989).

Catharanthus roseus (L.) G. Don (APOCYNACEAE)
'Sadabahar (H)' Herbs with opposite leaves and white or purple flowers. Cultivated also found as escape; South & North Nicobar Islands. Jan.-Dec.

Folk uses : Nicobarese use its leaves for eye trouble. One to two drops of leaf juice mixed with water is put in the eye for curing conjunctivitis (Dagar & Dagar, 1991).

Celosia argentea L. (AMARANTHACEAE) 'Motiyn (N)' Erect herbs. Leaves yellowish green. Flowers in red spikes. Common in agricultural lands; South Andaman & North Nicobar Islands. Sept.-Dec.

Folk uses : Pounded leaves mixed with lime are applied locally by the Nicobarese for cuts and wounds (Dagar & Dagar, 1991).

Claoxylon indicum Hassk. (EUPHORBIACEAE)
'Sing-ke-ra (N)' Shrubs with hollow branchlets. Leaves wavy-toothed. Capsule tomentose; seeds scarlet. Frequent in inland forests; South and Little Andaman & Nicobar Islands. Jan.-May.

Folk uses : Nicobarese use its leaves for curing pyorrhoea, cuts, wounds and headache. The aqueous extract of leaves is gargled 4-5 times a day to cure pyorrhoea. Paste of leaves is applied locally as antiseptic on cuts and wounds and paste smeared on the forehead for curing headache (Dagar, 1989).

Clerodendrum inerme (L.) Gaertn. (VERBENACEAE)
'Mannyi (N)' Shrubs with opposite leaves. Flowers white. Frequent in inland forests; Andaman & Nicobar Islands. June-Nov.

Folk uses : Nicobarese use its leaves for joint pain and bone fracture. Leaves pounded along with

the Coconut kernel (*Cocos nucifera*) is rubbed on the body for body and joint pain. Leaf paste is tied with the pounded root bark of *Morinda citrifolia* on the affected part of the bone as plaster (Dagar & Dagar, 1991).

Clerodendrum paniculatum L. (VERBENACEAE)
'Tang-vong (N)' Shrubs with opposite leaves. Flowers orange-pink colour. Rare in forest edges; Middle & Little Andaman & Nicobar Islands. July-Nov.

Folk uses : The aqueous extract of the leaves is used by the Nicobarese for washing ulcers and sores. The paste of the leaves is applied locally (Dagar & Dagar, 1991).

Clerodendrum viscosum Vent. (VERBENACEAE)
'Chamhar (R)' Shrubs with opposite leaves. Fruits black. Rare in forests edges. North and South Andaman Islands. July-Nov.

Folk uses : The barks of the plant are used by the local inhabitants (Ranchi people) for curing malarial fever (Awasthi, 1987).

Cordia grandis Roxb. (CORDIACEAE) 'Choich (N)' Tree with broadly ovate, alternate leaves. Flowers white colour. Common along road sides; Andaman & Nicobar Islands. Nov.-March.

Folk uses : Nicobarese use its leaves for stomach ache. The paste of leaves is mixed with *Sterculia rubiginosa* leaves, pounded and taken along with water (Dagar, 1989).

Costus speciosus (Koen.) Sm. (COSTACEAE) 'Kewa (N)' Rhizomatous herbs with leafy stem. Flowers in terminal spikes. Common in inland forests; Andaman & Nicobar Islands. Sept.-Dec.

Folk uses : Paste of the leaves is used by the Nicobarese for stomach-disorder and rhizome for body pain. The paste of the leaves is taken 1 spoon full, 2-3 times a day for stomach-disorders. The rhizome is made into paste, mixed with fat of *Madhuca butyracea* and applied locally for curing body pain (Awasthi, 1987).

Crateva religiosa Forst. f. (CAPPARACEAE)

'Holapoh (N)' Tree with 3-foliate leaves. Flowers yellow. Rare in inland forests and along roadsides, North Nicobar Islands. Nov.-March.

Folk uses : Nicobarese use its leaves for rheumatic pain. Pounded leaves mixed with Coconut oil (*Cocos nucifera*) and turmeric powder (*Curcuma longa*) are rubbed on the swollen joints for curing rheumatic pain (Dagar & Dagar, 1991).

Croton argyratus Bl. (EUPHORBIACEAE) Small tree with long petioled leaves. Flowers white. Common in inland forests; South and Middle Andaman and Nicobar Islands. Jan.-June.

Folk uses : Shompens and Nicobarese use its seeds for stomach-disorders. Seeds are pounded and taken in small quantity for curing stomach-disorders (Chakrabarty & Rao, 1988).

Desmodium umbellatum (L.) DC. (FABACEAE) 'Damle (O)' Shrubby trees with white flowers. Rare in inland forests, Andaman & Nicobar Islands. Jan.-June.

Folk uses : Onges chewed raw leaves for curing fever (Bhargava, 1983).

Dischidia benghalensis Coleb. (ASCLEPIADACEAE) Epiphytic climbers with latex. Leaves opposite. Common in littoral and inland forests, Nicobar Islands. Sept.-Mar.

Folk uses : Paste of the leaves is used by the Shompens for reducing pain on mumps and sores. Pounded twigs are used externally as a plaster for healing fractured bone (Chakrabarty & Rao, 1988).

Dischidia major (Vahl.) Merr. (ASCLEPIADACEAE) Climbing shrubs. Rare in inland forests; North and South Andaman Islands. Nov.-March.

Folk uses : Nicobarese use its leaves for earache and roots for cough and cold. One or two drops of leaf juice mixed with water is put in the ear for curing ear ache. The juice of the roots is rubbed on the body for curing cough and cold. (Awasthi, 1987).

+Donax canneformis (Forst.) Rolfe (MARANTACEAE) 'Kang (O)' Herbs or

undershrubs. Rare in inland forests; Andaman & Nicobar Islands. July-Nov.

Folk uses : Onges use its leaves for abdominal and spinal pain. Leaves boiled in water and extract is given, 2-3 times a day for curing abdominal pain (Awasthi, 1987).

The decoction of the stems along with its roots is taken orally by the Nicobarese and Shompens for curing fever (Chakrabarty & Rao, 1988, Awasthi, 1987).

Dracena angustifolia Roxb. (AGAVACEAE) 'Zibak (O)' Large woody shrubs with yellow flowers. Fruits drupe, orange colour. Rare in inland forests; North & South Nicobar Islands. Sept.-March.

Folk uses : The juice of its leaves is used by the Onges & Nicobarese for stomach ache. The extract is given 2-3 times a day (Awasthi, 1987).

Eria bractescens Lindl. var. *affinis* (Griff.) Hk. f. (ORCHIDACEAE) Epiphytic herbs. Common in littoral forests; North & South Andaman & Nicobar Islands. Nov.-March.

Folk uses : Nicobarese use its leaves for malarial fever. The infusion of leaves is administered orally, 2-3 spoon full each time, thrice a day (Dagar, 1989).

Erioglossum rubiginosum (Roxb.) Bl. (SAPINDACEAE) 'Cham-yev (N)' Large tree with compound leaves. Flowers white in long racemes. Common in inland and littoral forests; Andaman & Nicobar Islands. Jan.-March.

Folk uses : Nicobarese use its leaves to check (avoid) pregnancy. The pounded 3-5 leaflets, mixed with water are taken by women, 2-3 days each month (during menstrual period) to avoid pregnancy. Leaves are abortifacient and causes sterility. Fruits are given to the pregnant lady for easy delivery (Dagar & Dagar, 1991).

Eupatorium odoratum L. (ASTERACEAE) 'Tukukala (O)' Herbs with opposite leaves. Flowers white. Common in waste lands; Andaman & Nicobar Islands. Sept.-Jan.

Folk uses : Onges, Nicobarese and Great

Andamanese use its leaves for cuts and wounds. The extract of leaves is applied locally as antiseptic for cuts and wounds (Dagar & Dagar, 1991).

Euphorbia atoto Forst. f. (EUPHORBIACEAE) 'Mupet (N)' Small herbs with subsessile leaves. Common in waste lands; Little Andaman & North Nicobar Islands. Sept.-Nov.

Folk uses : Nicobarese use its leaves for skin infections, rheumatic pain, ulcers, wounds and sores.

The pounded leaves, mixed with water are applied locally for curing skin infections i.e. irritation and itches (Dagar and Dagar, 1991).

Leaves pounded along with leaves of *Ipomoea pescaprae* in equal proportions, boiled with Coconut oil (*Cocos nucifera*) and the extract is rubbed on the body for curing rheumatic pain and lumbago (Dagar, 1989).

Paste of the leaves boiled with wax and extract is applied locally for curing sores, wounds & ulcers (Dagar, 1989).

Euphorbia hirta L. (EUPHORBIACEAE) 'Raihipot (N)' Prostrate herbs with opposite leaves. Common in waste lands; Andaman & Nicobar Islands. Sept.-Dec.

Folk uses : Nicobarese use its leaves for skin infections. Pounded leaves mixed with turmeric powder (*Curcuma longa*) and Coconut oil (*Cocos nucifera*) is slightly warmed and the extract is rubbed on the sole for curing itches (Dagar & Dagar, 1991).

Globba marantina L. (ZINGIBERACEAE) 'Rasukedar (H)' Rhizomatous herbs. Rare in marshy places; South & Middle Andaman & Nicobar Islands. Sept.-Nov.

Folk uses : Nicobarese use its leaves for eye trouble and rhizome for asthma. One to two drops of leaf juice mixed with water is put in the eye during severe conjunctivitis. The extract of the rhizome is taken 1 spoon full each time, twice a day for curing asthma and bronchial trouble (Dagar, 1989).

Glochidion calocarpum Kurz (EUPHORBIACEAE) 'Hintiv (N)' Small tree with distichous, short

petioled leaves. Flowers small, in axillary clusters. Common in inland forests; Andaman & Nicobar Islands. Jan.-April.

Folk uses : Shompens use this plant for curing two ailments. First the bark and seeds are pounded and applied externally with little water for curing various skin diseases. Second, a decoction of the leaves is taken orally for curing fever (Chakrabarty & Rao, 1988, 1990).

Nicobarese use bark & seeds for gastro-intestinal troubles. The bark and seeds are pounded and eaten in little doses for about 3 days to cure any sort of ailmentary disorder (eg. diarrhoea, dysentery, amoebiasis etc.,) (Chakrabarty & Rao, 1990).

Glycosmis arborea (Roxb). (RUTACEAE) 'Kuyanvo (O)' Unarmed small tree with 3-5 foliate leaves. Rare in inland forests; South, Little Andaman & North Nicobar Islands. Nov.-March.

Folk uses : Onges and Nicobarese use its leaves for chronic headache. Pounded leaves are applied locally on the forehead for curing headache (Awasthi, 1987, Dagar, 1989).

Hedyotis biflora (L.) Lamk (RUBIACEAE), 'Infech (N)' Herbs with opposite leaves. Common in inland forests ; Nicobar Islands. July-Nov.

Folk uses : Nicobarese use the whole plant for curing malarial fever and body pain. The plant is macerated with Coconut oil (*Cocos nucifera*) along with Hen's blood and rubbed on the body (Dagar & Dagar, 1991).

+Hernandia peltata Meissn. (HERNANDIACEAE) 'Minhont (N)' Tree with simple alternate, peltate leaves. Flowers white. Common along seashores and growing at the water edges; South Andaman & North Nicobar Islands. Jan.-May.

Folk uses : The paste of the leaves is used externally by the Nicobarese for curing headache, cut, wounds, sores and ulcers (Dagar, 1989).

Hibiscus tiliaceus L. (MALVACEAE) 'To-u-ku (N)' Small tree with yellow flowers. Common in littoral forests ; Andaman & Nicobar Islands. March-Dec.

Folk uses : Nicobarese use its leaves for urinary trouble. The extract of the leaves is administered, 4-5 tea spoon full, 3 times a day to check the flow of the blood with urine (Dagar, 1989).

***Ipomoea pes-caprae* (L.) Sweet. ssp. *brasiliensis* (L.) Oost. (CONVOLVULACEAE)** 'Lanan-kap (N)' Creeper with deeply 2-lobed leaves. Common on the sand along the coasts; Andaman & Nicobar Islands. Sept.-Dec.

Folk uses : Nicobarese use its leaves for headache and easy delivery. The young leaves, made into paste, mixed with water are given to women at the time of delivery to hasten birth and reduce pain. Paste of leaves is also applied on forehead during severe headache (Awasthi, 1987, Dagar & Dagar, 1991).

***Ixora brunnescens* Kurz (RUBIACEAE)** 'Hama-ok (N)' Small tree. Leaves thick, coriaceous. Flowers white, scented. Rare along seashores; South Andaman & North Nicobar Islands. March-Sept.

Folk uses : Nicobarese use its leaves for headache. Leaves pounded along with leaves of *Scaevola taccada*, mixed with hen's blood and boiled. The paste is applied on forehead for curing persistent severe headache (Dagar & Dagar, 1991).

***Leea aequata* L. (LEEACEAE)** 'Kototo (N)' Erect shrubs. Common in inland hilly forests; Andaman and Nicobar Islands. Oct.-Dec.

Folk uses : Nicobarese use its leaves as antiseptic for wounds. The paste of the leaves mixed with pig oil is applied locally on wounds (Dagar & Dagar, 1992).

***Leea indica* (Burm. f.) Merr. (LEEACEAE)** 'kurkurjiwah (H)' Erect shrubs. Leaves imparipinnate with opposite serrate leaflets. Flowers many, in corymbose cymes. Common in inland hilly forests; Andaman & Nicobar Islands. Nov.-Jan.

Folk uses : Nicobarese use its leaves as antiseptic for cuts, wounds, and sores. Paste of the leaves is applied externally (Awasthi, 1987).

***Macaranga indica* Wt. (EUPHORBIACEAE)** 'Kin-nil (N)' Tree with large peltate orbicular leaves.

Flowers minute. Fruits capsule. Frequent in damp places in they inland hilly forests; Nov.-Jan.

Folk uses : Nicobarese use its leaves as antiemetic (*i.e.* check vomiting) and for curing stomach pain. Leaves are slightly warmed and decoction is taken with water to check vomiting. Paste of the leaves is applied on belly during severe stomach pain (Dagar, 1989).

+*Macaranga tanarius* (L.) Muell.-Arg. (EUPHORBIACEAE) 'Petwaing (S)' Small tree with peltate leaves. Capsules with soft prickles. Common in inland forests along the streams; Andaman & Nicobar Islands. Feb.-May.

Folk uses : Shompens use its leaves for stomach disorder. The decoction of the leaves is taken 1-spoon full 2-3 times a day (Awasthi, 1987).

***Melastoma malabathricum* L. (MELASTOMACEAE)** 'Tinrok (N)' Shrubs with purplish to rose coloured flowers. Frequent along the roadsides; South Andaman & Nicobar Islands. Jan.-Dec.

Folk uses : Nicobarese use its leaves for rheumatic pain. Leaves pounded in bamboo mortar, boiled with coconut oil (*Cocos nucifera*) and paste are rubbed on the joint for curing rheumatic pain (Dagar & Dagar, 1991).

Paste of the leaves is also used externally by the Shompens as antiseptic for cuts & wounds (Awasthi, 1987).

***Morinda citrifolia* L. (RUBIACEAE)** 'Nibase (N)' Small tree with white flowers. Common in littoral forests; Andaman & Nicobar Islands. April-July.

Folk uses : Nicobarese use its leaves for cuts, wounds and stomach disorder.

Leaves pounded along with leaves of *Alstonia macrophylla* mixed with fruit sap of *Cocos nucifera* (coconut) and are taken orally 2-3 times a day for curing stomach disorder (Dagar, 1989).

The paste of the leaves is also used externally as antiseptic for cuts, and wounds (Awasthi, 1987).

°*Ophiorrhiza nicobarica* Balakr. (RUBIACEAE) Herbs with large white flowers. Common in inland

forests along stream sides. Nicobar Islands. Sept.-Nov.

Folk uses : Shompens use its leaves as antiseptic for cuts and wounds. The paste of the leaves is applied locally (Chakrabarty & Rao, 1988).

Peperomia pellucida H.B.K. (PIPERACEAE) 'Votok (N)' Herbs. Common in agricultural lands ; Andaman & North Nicobar Islands. Sept.-Dec.

Folk uses : The extract of the plant juice is administered orally 2-3 spoon full, 3 times a day by the Nicobarese for curing urinary trouble (check frequent urination) and diarrhoea (Dagar, 1989).

Pongamia pinnata (L.) Pierre (FABACEAE) 'Biochune (O) 'Thinwin (N)' Tree with pink violet flowers, Pods woody. Common in littoral forests along seashores; Andaman & Nicobar Islands. Jan.-May.

Folk uses : Onges and Nicobarese use its barks (with leaves) for intermittent fever. The bark and leaves, boiled with water, and the water is used for bathing to reduce intermittent fever. Twigs are also used as toothbrush for curing toothache (Bhargava, 1983, Awasthi, 1991).

Premna obtusifolia R. Br. (VERBENACEAE) 'Tomonja (N)' Small tree. Flowers white. Fruits small & ribbed. Common along the coasts; Andaman & Nicobar Islands. March Sept.

Folk uses : Nicobarese use its leaves for body pain & rheumatic pain. The leaves are made into paste with pig blood and applied on the body during body pain in fever and also in rheumatic pain (Dagar & Dagar, 1992).

Psychotria sarmentosa Bl. (RUBIACEAE) Shrubs with white flowers. Rare in inland forests; Nicobar Islands. May June.

Folk uses : Nicobarese use its leaves for body pain. The leaves are made into paste with pig blood and applied on complete body to cure all sorts of body pains (Dagar & Dagar, 1992).

Samanea saman (Jacq.) Merr. (MIMOSACEAE) 'Too-na-ka (N)' Tall tree with bipinnate leaves. Flowers in heads, pinkish white. Common along

roadsides; South Andaman & North Nicobar Islands. Feb.-May.

Folk uses : Two drops of aqueous extract of green leaves (2-3 time a day) is used by the Nicobarese for curing conjunctivitis *i.e.* eye complaints (Dagar, 1998).

Scaevola sericea Vahl (GOODENIACEAE) 'Kwyae (N,O)' Littoral shrubs with simple alternate leaves and white flowers. Common along the seashores; Andaman & Nicobar Islands, Jan.-Dec.

Folk uses : Onges and Nicobarese use its leaves for rheumatic pain and fruits for fever. The fruits are eaten raw for curing fever and the paste of leaves is applied locally for rheumatic pain (joint pains) (Awasthi, 1987, Bhargava, 1983).

Semicarpus kurzii Engl. (ANACARDIACEAE) 'Bip (S)' Trees with large leaves and orange red fruits, seated on fleshy receptacle. Common in beach or inland forests; South Andaman & Nicobar Islands. Jan.-April.

Folk uses : Shompens use its fruits for cuts and wounds. The fruits are made into paste and applied externally (Chakrabarty & Rao, 1988).

Nicobarese use its leaves as antiseptic for cuts & wounds. The paste of the leaves is applied externally (Awasthi, 1987).

Sterculia rubiginosa Vent. (STERCULIACEAE) 'Shawni (N)' Large tree with oblong leaves and long stipules. Flowers reddish-brown. Fruits follicle, woddy. Rare in inland forests; Andaman & Nicobar Islands. Jan.-May.

Folk uses : Nicobarese use its leaves for fever, asthma and also to remove cough. The decoction of the leaves is taken in morning and at the bed time for curing asthma and also to remove cough. (Dagar, 1989).

The pounded leaves mixed with pig blood are applied on the body during fever (Dagar & Dagar, 1992).

+Syzygium samarangense (Bl.) Merr. & Perry (MYRTACEAE) 'Mi-lul (N)' Evergreen trees with opposite, gland dotted leaves. Rare in inland

forests ; Andaman & Nicobar Islands. Nov.-March.

Folk uses : Nicobarese use its leaves for rheumatic pain and lumbago. The juice of the leaves is mixed with Coconut oil (*Cocos nucifera*) and applied locally (Awasthi, 1987)

°**Tabernaemontana crispa** Roxb. (APOCYNACEAE) Thikarothung (N)' Shrubs with latex. Flowers white. Abundant along the road sides and wastelands; Andaman & Nicobar Islands. Nov.-March.

Folk uses : Nicobarese use its fruits for dysentery and leaves for stomach ache and ulcers. Fruits are taken as raw for curing dysentery. Paste of the fruits is also applied locally for curing ulcers and wounds. The decoction of leaves is used for stomach ache and also washing on ulcers and sores, (Dagar, 1989).

Terminalia catappa L. (COMBRETACEAE) 'Chap (A)' Large tree with white flowers and angled fruits. Common along seashores; Andaman Islands. March-Nov.

Folk uses : Nicobarese use its leaves for skin infections. The paste of the leaves is applied locally (Dagar, 1989).

Trema tomentosa (Roxb.) Hara (ULMACEAE) 'Buckri-pathi (H)' Small tree. Leaves Palminerved, softly tomentose. Flowers in small axillary clusters. Frequent in open places; Andaman & Nicobar Islands. Dec.-March.

Folk uses : Nicobarese use its leaves for curing headache. The pounded leaves are boiled with hen's blood and rubbed on the forehead for curing headache. (Dagar & Dagar, 1992).

Trichosanthes bracteata (Lamk.) Voigt (CUCURBITACEAE) 'Kula-chaul (N)' Climbers with white flowers. Common in wastelands; Andaman & North Nicobar Islands. Sept.-Dec.

Folk uses : The aqueous extract of tender leaves is taken orally by the Nicobarese for curing inflammation of the bowel with severe evacuation of blood and mucus (Dagar, 1989).

Triumfetta rhomboidea Jacq. (TILIACEAE) 'Thiathi (N)' Herbs with simple alternate leaves and yellow

flowers. Common in wastelands; Andaman Islands: Sept.-Dec.

Folk uses : Nicobarese use its leaves for asthma and roots for cough. The leaves mashed with rhizome of *Zingiber officinalis*, Lemon juice and Coconut oil (*Cocos nucifera*) fried and taken for curing asthma. The decoction of root is administered orally for the treatment of cough (Dagar, 1989).

Urena lobata L. (MALVACEAE) 'Kasinrih (N)' Herbs with purple violet flowers. Common in waste agricultural lands; Andaman & Nicobar Islands. Sept.-Dec.

Folk uses : Nicobarese use its leaves for cuts, wounds, eye trouble (conjunctivitis) and in case of hair loss. The pounded leaves boiled with Coconut oil (*Cocos nucifera*) are applied externally on cuts and wounds. One to two drops of leaf juice mixed with eater is put in the eye for conjunctivitis. The paste of leaves is also applied locally on head to check hair loss (Dagar & Dagar, 1991).

Wedelia biflora (L.) DC. (ASTERACEAE) 'Kotan (N)' Spreading herbs. Common in wastelands; Andaman & Nicobar Islands. Sept.-Dec.

Folk uses : Nicobarese and Onges use its leaves for headache and as antiseptic for cuts and wounds. The leaves mixed with lime, macerated between palm and are applied locally (Bhargava, 1983, Dagar & Dagar, 1991).

CONCLUSIONS

In the present study folk uses of 72 potential medicinal plants of different tribal societies in Bay Islands are discussed. Out of these, 6 species are endemic to these islands and 8 species extend to South-East Asia but not in mainland India. These potential plants can be categorised on the basis of diseases or their curative properties as below:

Anti-emetic : *Macaranga indica*.

Antiseptic (Cuts, wounds etc.): *Ageratum conyzoides*, *Callicarpa longifolia*, *Celosia argentea*, *Claoxylon indicum*, *Clerodendrum paniculatum*, *Eupatorium odoratum*, *Euphorbia atoto*, *Hernandia peltata*, *Leea aequata*, *L. indica*, *Melastoma malabathricum*, *Morinda*

citrifolia, *Ophiorrhiza nicobarica*, *Semicarpus kurzii*, *Tabernaemontana crispa*, *Urena lobata* and *Wedelia biflora*.

Body pain : *Adenia penangiana*, *Adenostemma lavenia*, *Blumea balsamifera*, *Breynia retusa*, *Caesalpinia bonduc*, *Cassia alata*, *Costus speciosus*, *Dischidia benghalensis*, *Premna obtusifolia* and *Psychotria sarmentosa*.

Bone fracture : *Alstonia macrophylla*, *Calophyllum inophyllum*, *Clerodendrum inerme*, and *Dischidia benghalensis*.

Check pregnancy : *Erioglossum rubiginosum*.

Ear-ache : *Dischidia major*.

Easy delivery : *Erioglossum rubiginosum*, *Ipomoea pes-caprae* ssp. *brasiliensis*.

Eye disorders : *Ageratum conyzoides*, *Argemone mexicana*, *Calophyllum inophyllum*, *Catharanthus roseus*, *Globba marantina*, *Samanea saman* and *Urena lobata*.

Fertility purpose : (Anti-abortion) *Ardisia solanacea*, *Ardisia oxyphylla*.

Fever/Malarial Fever : *Aerva lanata*, *Alstonia kurzii*, *Alstonia macrophylla*, *Caesalpinia bonduc*, *Cassia occidentalis*, *Clerodendrum viscosum*, *Desmodium umbellatum*, *Donax cannaeformis*, *Eria bractescens* var. *affinis*, *Glochidion calocarpum*, *Hedyotis biflora*, *Pongamia pinnata*, *Scaevola sericea* and *Sterculia rubiginosa*.

Gastro-intestinal disorders : *Acalypha indica*, *Alstonia macrophylla*, *Amomum fenzlii*, *Aristolochia tagala*, *Casearia grewiaefolia* var. *deglabrata*, *Cordia grandis*, *Costus speciosus*, *Croton argyratus*, *Donax cannaeformis*, *Dracaena angustifolia*, *Glochidion calocarpum*, *Macaranga indica*, *M. tanarius*, *Morinda citrifolia*, *Peperomia pellucida*, *Tabernaemontana crispa* and *Trichosanthes bracteata*.

Hair loss : *Urena lobata*.

Headache : *Claoxylon indicum*, *Glycosmis arborea*, *Hernandia peltata*, *Ipomoea pes-caprae* ssp. *brasiliensis*, *Ixora brunnescens*, *Trema tomentosa* and *Wedelia biflora*.

Joint pain & Lumbago : *Clerodendrum inerme*, *Crateva religiosa*, *Euphorbia atoto*, *Melastoma malabathricum*, *Premna obtusifolia*, *Scaevola sericea*, and *Syzygium samarangense*.

Mumps : *Ardisia solanacea*, *Dischidia benghalensis*.

Respiratory disorder : *Dischidia major*, *Globba marantina*, *Sterculia rubiginosa* and *Triumfetta rhomboidea*.

Skin infections : *Cassia alata*, *Euphorbia atoto*, *E. hirta*, *Glochidion calocarpum* and *Terminalia catappa*.

Swellings : *Argyreia hookeri*, *Breynia retusa* and *Cassia alata*.

Toothache/Pyorrhoea : *Adenostemma lavenia*, *Pongamia pinnata*, *Claoxylon indicum*.

Urinary trouble : *Hibiscus tiliaceus* and *Pepromia pellucida*.

The above analysis reveals that the tribals of Bay Islands use the maximum number of plant species for skin care (22), Gastro-intestinal disorder (17) followed by fever (14) and body pain (10).

Tribe wise analysis shows that out of 72 species discussed, the maximum number of plant species are used as folk medicines by the Nicobarese (i.e. 62 species). The blood of domestic pigs and hen's oil, coconut oil and kernel are the chief ingredients in the preparation of their folk medicines. The use of folk medicines other than Nicobarese is by the Shompens (10 species,) the Onges (7 species) and the Great Andamanese (2 species). Since the Jarawas and the Sentinelese are still hostile and away from the modern society no ethnobotanical studies have been undertaken among them.

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