

## ON THE FORE-SHORE VEGETATION OF MALACCA COAST OF THE CAR-NICOBAR ISLAND

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### ABSTRACT

**In this paper, an account is given of the Fore-shore Vegetation of a part of E. Coast of Car-Nicobar along the Malacca Coast. The various types of plant species found on the shore above upper tidal limits are described, and the characteristic ones being *Ipomoea pes-caprae* (Linn.) Sweet., *Panicum repens* Linn., *Vigna marina* Mers., *Ischaemum muticum* Linn., *Blainvillea acmella* (Linn. f.) Philipson., *Pandanus furcatus* Roxb., *Scaevola frutescens* (Mill.) Krausse., *Tournefortia argentea* Linn., with *Cocos nucifera* Linn. occur behind, followed by *Hibiscus tiliaceus* Linn., *Erythrina variegata* Linn. var. *orientalis* (Linn.) Merr., *Calophyllum inophyllum* Linn., *Thespesia populnea* Corr., *Guettarda speciosa* Linn., *Syzygium aqueum* (Burm. f.) Alston. and other trees in jungles. The various species met with are enumerated, in which 13 species and one variety would appear to be new records for the Andamans and Nicobars.**

While engaged in the marine-algal survey of the Andaman and Nicobar Islands in the Bay of Bengal, the author availed himself of the opportunity to study also the coastal and inland vegetation of some of the islands in the group. In the present paper, an account is given of the fore-shore vegetation of a part of East Coast of Car-Nicobar, along the Malacca coast, based on the observations and collections made in February, 1953.

Car-Nicobar, which is locally known by its native name *Pu* is a typically tropical coral-covered flat island of about 127 sq. km. in area, with the characteristic almost continuous fringe of cocoanut palms. This island, like the other ones in the group, is exposed to both the monsoons, the rain-fall varying much from year to year. The coast along the Malacca side which was studied, was found to be for the greater part, practically sandy with good sprinkling of shells of various kinds, dead corals and debris. The general aspect of the beach was almost even and flat, with no sand-dune formations at all. Beyond the upper tidal-limit, land vegetation was noticed forming as it were a fringe, though interrupted for short distances, here and there (Fig. 1).

While the Survey of the vegetation along the coastal strip on the sea-front was the main objective, the present survey included also some of the characteristic or otherwise interesting species met with in the island, just beyond the coastal vegetation, but not far from the coast. The marine angiosperms in the inter-tidal belt of the coast are also included likewise.

Some very good accounts of the flora of the Andaman and the Nicobar islands have been published by earlier workers. A very brief resume is given here, which, it is hoped, would bring out the great interest in the vegetation of these areas.

It was nearly a century ago, and as early as mid-April 1866, that Kurz initiated systematic collection and enumeration of the species of these islands, in accordance with the directions from Government to collect

materials for a flora of the Andaman Islands and to ascertain the proportion which trees known to be valuable for their timber bear to the rest of the forest. In 1870, Kurz reported on the vegetation of the Andaman Islands wherein he listed about 669 phanerogams and 49 cryptogams. In addition, there were also a few species referred to in the text. This account was soon followed in 1875 and 1876 by additional information on the flora of Nicobar, Nancowry and other islands. Besides, in his most valuable contributions towards a knowledge of the Burmese flora, spread over the years from 1874 to 1877, and all these finding a place in his famous compilation of the Forest Flora of Burma, which was brought under 2 volumes in 1877, Kurz had adopted for the region of Burma, Andaman also, and as such several species originating from Andaman or in common with Andaman are to be found in these great works. Kurz studied the collections made by Dr. Helfer, and the valuable collections made from these islands during A. O. Hume's Ornithological Cruise in 1873, and had incorporated them also in his work. Kurz's work on the flora of these areas revealed several new discoveries from these islands, to include some new genera and several new species. As examples of the former class may be mentioned *Bixagrewia* from Kamorta Island and *Ornithocephalochloa* from Katchall.

Sir George King published in a series of communications, beginning with the year 1889, "Materials for a flora of the Malayan Peninsula". With a view to expediting completion of the series, this great work, was however, in the later years, completed in collaboration with J. S. Gamble, and with the co-operation of Dr. Prain, C. B. Clarke, O. Stapf and others, in elaborating a few of the families with the related genera and species. In these communications also, species from Andamans and Nicobars have been included and several new species from these localities have been enumerated, e.g. *Mimusops andamanensis* King and Gamble; *Aglaia glaucescens* King; *Mangifera anda-*

*manica* King; *Casearia andamanica* King. Some also proved of great interest as being endemic to Andamans and Nicobars only, e.g. *Urophyllum andamanicum* King and Gamble, *Derris andamanica* Prain, etc.

It is of interest to note that the account included such rare and interesting species as collected earlier only by the botanists of the Austrian Expedition, in the Novara Expedition, e.g. *Otanthra nicobarensis* Teysm. While enumerating Indo-Malayan Orchids, King with Pantling has reported new species of orchids from South Andaman, e.g. *Microstylis andamanica* King and Pantling; *Zeuxina rolfiana* King and Pantling, etc. Apart from new species described, some of the species reported earlier by Kurz, were reduced to the rank of varieties, and in a few instances the genus was also transferred. Thus *Araliopsis andamanica* Kurz was transferred to *Bassiopsis palmata* Kurz var. *andamanica*.

David Prain has given in several communications the flora of these islands, almost contemporaneously with George King. He described the non-indigenous species of Andaman Flora and the vegetation of the Nicobar Islands, Narcondam and Barren Islands and the Cocos groups. Further in his series of communications entitled "Noviciae Indicae", he has included several species as occurring in the Andaman and Nicobar and other islands.

On the recommendations of the Board of Forestry at Dehra Dun in 1913, a descriptive list and simple forest flora of the Andaman Islands was brought out by Parkinson based on his extensive collections over the greater part of the Islands, especially in the Middle Andamans. In this book, Parkinson dealt with nearly about 650 plant species and according to him 540 were indigenous to the islands and 110 introduced. In this account of the flora of these islands, Parkinson has included about 4 new species, viz. *Miliusa tectona* Hutchins., *Polyalthia parkinsonii* Hutchins., *Linociera parkinsonii* Hutchins., & *Linostoma andamanica* Hutchins. This work, however, did not contain several genera and species recorded from Andamans earlier by King and others e.g. *Gowania javanica* Miq., *Otanthra celebica* Blume, *Sonerila andamanensis* Stapf & King, *Adenia trilobata* Engl., *Letsonia strigosa* Roxb.

Arising out of an aerial photographic survey made by the Survey of India in 1951, an expedition was sent out in February 1952 to great Nicobar and other islands. In this expedition, Sahni studied the vegetation of these islands under Beach Forests, Littoral Forests, Mangrove forests, Evergreen forests, Deciduous forests, etc. He has indicated some species as likely to be new or "endemic".

From the fore-going, it would be evident that the region covered by these groups of islands are of extreme botanical interest. A detailed review and account of the flora of these islands, will be published elsewhere.

#### General Aspect of the Vegetation of the Malacca Coast

As one proceeds landwards from the upper tidal-limit on the shore, *Ipomoea pes-caprae* (Linn.) Sweet is met with in the fore-shore spreading on the sandy beach.

Associated with *Ipomoea pes-caprae*, *Panicum repens* Linn. is found forming more or less dense patches. In comparatively open situations, *Ischaemum muticum* Linn. is to be seen with *Ipomoea pes-caprae*. This grass, however, was found to be in more luxuriant growth, covering larger areas behind the *Ipomoea pes-caprae* belt. In favourable situations, *Vigna marina* Merr. was noticed as a major formation with *Ipomoea pes-caprae*. *Cassytha filiformis* Linn. is common creeping over *Ipomoea* and other fore-shore plants. *Blainvillea acmella* (Linn. f.) Philipson is a common Compositeae found in association with *Ischaemum muticum* and *Ipomoea pes-caprae*. Over *Blainvillea acmella* in the *Ischaemum muticum* belt, *Ipomoea gracilis* R. Br. climbs, sometimes the growth is so luxuriant as to completely smother the plants supporting the climber. *Ipomoea gracilis* extends farther into the interior of the island, where *Pandanus furcatus* Roxb., formations are met with, and beyond the *Pandanus* limit, the *Ipomoea* is seen much scattered. *Pandanus furcatus* Roxb., in places grows as a sort of a grove, several plants together forming major formations in the belt. *Trichosanthes tricuspidata* Lam. is a characteristic climber seen on many *Pandanus* plants. Behind the *Ipomoea pes-caprae* belt, and with *Pandanus furcatus*, *Ervatamia crispa* (Roxb.) Stapf grows luxuriantly, probably as escapes. Behind the *Pandanus* line, *Premna integrifolia* Linn. is very characteristic. *Antidesma acuminatum* Wall. is noticed as the dominant under-shrub in these areas.

Just as *Pandanus* forms major formations immediately behind the *Ipomoea* belt, in places, *Scaevola frutescens* (Mill.) Krause. forms good formations, extending over large areas, and they are seen to grow in a belt immediately preceding the one where larger trees come up. *Tournefortia argentea* Linn. is another interesting species which grows to the size of large trees or shrubs in open fore-ground in the *Pandanus* and *Scaevola* belts or a little behind in thick jungles. *Cocos nucifera* Linn. occurs also in such situations and at places the cocoanut palms come right up to the shore, where, due to the wind, tidal and wave actions, the surface land gets eroded and washed, with the result that the basal root-systems of some of the palms get exposed to varying degrees. Here and there, with *Scaevola frutescens*, *Carica papaya* Linn. is also seen, possibly as another example of an escape.

In the background, *Hibiscus tiliaceus* Linn. is seen which species extend into the interior of the island also to some distance. *Erythrina variegata* Linn. var. *orientalis* (Linn.) Merr. is another species to be met with in the background vegetation, and a little to the interior, *Calophyllum inophyllum* Linn. grows to very large size. Among other interesting species in these belts are to be mentioned *Syzygium aqueum* (Burm.f.) Alston, *Hernandia peltata* Meissn. and *Thespesia populnea* Corr., and *Guettarda speciosa* Linn. In some of the sheltered areas, and on large trees, *Piper longum* Linn., was noticed as climbers. Heavy moss belts are also seen on some of the larger tree trunks and branches, on which *Pteropsis*

*piloselloides* Desv., was found as a common creeper. *Drynaria quercifolia* (Linn.) J. Smith, an interesting epiphytic fern was also met with on some trees. Inside the thickets and bushes, *Crinum latifolium* Linn., was common, which species was also found to extend to the fore-shore. In very shady situations in jungles, *Asplenium nidus* var. *musaeifolium* Mett., was also seen with its very large plantain-leaf like fronds. In the inter-tidal belts in the lagoons, *Enhalus koenigii* Rich., was common.

In general, among the characteristic families composing the flora of the beach are to be mentioned *Convolvulaceae*, *Compositae*, *Leguminosae*, *Gramineae*, *Amaryllidaceae*, *Goodeniaceae*, *Boraginaceae*, *Pandanaceae*, *Malvaceae*, *Lauraceae*, *Euphorbiaceae*, *Rubiaceae*, *Verbenaceae*, *Myrtaceae*, etc., on the littoral and supra-littoral regions, and *Hydrocharitaceae* in the inter-tidal

belt. A schematic representation of the flora is presented in the accompanying figure (Figure 2).

An enumeration of the different species met with is given at the end of the paper, with the local popular names of the species and the economic uses of some of them. Among the species listed, the following 13 species and one variety would appear to be new reports for Andamans and Nicobars, viz., *Scolopia spinosa* (Roxb.) Warb.; *Syzygium aqueum* (Burm. f.) Alston.; *Trichosanthes tricuspidata* Lam.; *Eupatorium odoratum* Linn.; *Dischidia guadichaudii* Decne.; *Pseuderanthemum album* Merr.; *Piper longum* Linn.; *Cudrania Javenensis* Trecul.; *Ficus chartaceae* Wall.; *Crinum latifolium* Linn.; *Pandanus furcatus* Roxb.; *Panicum repens* Linn.; *Asplenium nidus* Linn. var. *musaeifolium* Mett. and *Nephrolepis exaltata* (Linn.) Schott.

### SYSTEMATIC ENUMERATION OF THE SPECIES COLLECTED

#### ANONACEAE

*Popowia nitida* King. (Fig. 10).

No. 842. Fruiting.

This species was reported earlier from Andaman and Nicobars by King (1892), and by Parkinson (1923) from middle and south Andamans. Kurz (1875-1876) and Prain (1891) recorded, however, *Popowia parvifolia* Kurz, from Kamorta, Car-Nicobar and Batti Malv. King (1892) relegated *Popowia parvifolia* Kurz to a doubtful species and remarks that it appears to have also had the manuscript name *Popowia nitida* given to it by Kurz. Herbarium specimens of *Popowia nitida* from Andamans, collected by convicts and King's collectors, from Hobdaypur hill jungles in south Andamans and from Kamorta in Nicobar Islands, collected by Kurz are available in the National Herbarium, Sibpur (Calcutta).

This species was met with in jungles about human dwellings, and not far from the coast. The wood of this plant is stated to be used by the Nicobarese for making bows.

#### BIXACEAE

*Scolopia spinosa* (Roxb.) Warb. (Fig. 12).

(*Scolopia roxburghii* Clos.) No. 847. Fruiting freely.

There is no earlier report of this species from Andamans and Nicobars.

#### GUTTIFERAE

*Calophyllum inophyllum* Linn.

*Iriyang*; No. 822. Fruiting.

Common on sea-shores and littoral zones; reported from Ross Island, S. Corby's Cove,

S. and middle Andamans, Little Andamans, in Bomliya creek, Car-Nicobar in Batti Malv. Kamorta, Katchall and Narcondam Islands.

The wood is used for boat making in Nicobar.

#### MALVACEAE

*Sida acuta* Burm. f.

(*Sida carpinifolia* Linn.) No. 851. Flowering.

Reported earlier from Aberdeen, Ross Island (Kurz, 1870), Kimo's village in Car-Nicobar (Prain, 1891, and Nicobar Islands (Kurz, 1876); Great Nicobar (Sahni, 1953).

*Urena sinuata* Linn.

No. 845. Flowering and fruiting.

Sahni (1953) reported this species from Great Nicobar only, there being no earlier report of the species from Islands in Andamans and Nicobars, the species known being *Urena lobata* Linn., from Port Blair (Parkinson, 1923), Car-Nicobar (Prain, 1891), Kamorta, Katchall and Pulu Milu (Kurz, 1876).

A good fibre-yielding plant; root is medicinal.

*Hibiscus tiliaceus*, Linn. (Fig. 13).

*Thaw Ku*. No. 813, 846. Fruiting.

Known from Andamans and Nicobars, on sea-shores (Parkinson, 1923), Valdora Bay (Great Nicobar, Sahni, 1953), S. and Middle Andamans (Kurz, 1870, 1877), Little Andamans in Bomliya creek, Car-Nicobar, Batti Malv. (Prain, 1891), Narcondam and Barren Islands (Prain, 1893), Kamorta and Katchall (Kurz, 1876).

The bark is used for extraction of a useful fibre for cordage and rope-making and much employed in house-constructions. Locally highly esteemed for its fibre. Root and bark are also used medicinally.

*Thespesia populnea* Corr.

*Kulap*. No. 834. Fruiting.

Known from several areas in Tidal and beach forests in the Islands.

The wood of this species as well as that of *Guettarda speciosa* Linn. is largely employed by the natives for posts and pillars.

*Gossypium barbadense* Linn.

No. 844. Fruiting with ripe cotton bolls burst. Evidently introduced and run wild in places. Prain (1890) reports that *Gossypium barbadense* Linn. var. *acuminatum* Roxb. which was seen under cultivation only at Mt. Harriet in 1866, had appeared spontaneously in waste places in 1890.

#### STERCULIACEAE

*Heritiera littoralis* Dryand.

No. 850. Fruiting.

Known from Mangrove-swamps in Andamans (Parkinson, 1923), Great Nicobar (Sahni, 1953), and in other Tidal forests in Andamans (Kurz, 1877). Though the trees are not met with in Narcondam and Barren Islands, the fruits of this species get stranded on the beach (Prain, 1893).

#### SAPINDACEAE

*Erioglossum edule* Blume.

(*Erioglossum rubiginosum* Brand.) No. 849. Profusely flowering and fruiting.

Known from Middle and South Andamans in Baratang, Havelock Island, Rutland Island, S. Clinque Island (Parkinson, 1923), Port Blair (Kurz, 1870; Parkinson, 1923), Narcondam and Barren Islands (Prain, 1893), Car-Nicobar, Kamorta, Katchall, Nancowry (Kurz, 1876), Batti Malv. (Prain, 1891).

#### ANACARDIACEAE

*Semecarpus kurzii* Engler.

No. 848. Fruiting.

Kurz (1875, 1876, 1877) and Prain (1891, 1893) reported *Semecarpus heterophylla* Blume. (species spelt also *heterophyllus*) from various localities as Batti Malv., Narcondam, Barren Islands, Katchall, Car-Nicobar, Great Nicobars and Andamans. Sahni (1953) has reported *Semecarpus kurzii* Eng. from Car-Nicobar as common and Parkinson refers to the species as being frequent throughout the forests. Herbarium specimens of this species collected by Kurz, Heinig, Prain and Novara

Expedition are available in the National Herbarium at Sibpur (Calcutta).

#### LEGUMINOSAE

*Abrus precatorius* Linn.

No. 852; Flowering.

Reported earlier from Andamans (Parkinson, 1923, Kurz, 1870), Bomliya creek, Car-Nicobar and Batti Malv. (Prain, 1891), Narcondam and Barren Islands (Prain, 1893).

*Erythrina variegata* Linn. var. *orientalis* (Linn.) Merr. (*Erythrina indica* Lam.) *Maket*. No. 816; Flowering.

Commonly reported from Andamans (Kurz, 1870, 1877; Parkinson, 1923), Little Andamans, Car-Nicobar and Batti Malv. (Prain, 1891), Narcondam and Barren Islands (Prain, 1893), Campbell Bay, Great Nicobar (Sahni, 1953).

*Vigna marina* (Burm.) Merr. (Fig. 11).

(*Vigna lutea* A. Gray.) *Kon. Am.* No. 812; Flowering.

Prain (1891, 1893) reported this species from Little Andamans and Narcondam. Sahni (1953) recorded it from Casuarina Bay in Great Nicobars. There has been no report of this species outside these localities in these Islands by earlier workers. However, collections of this species from Andamans (Prain), Long Island (Parkinson), Cocos Island (Prain), Narcondam (Prain) are available in the National Herbarium, Sibpur (Calcutta).

#### COMBRETACEAE

*Terminalia catappa* Linn.

*Thapogong*. No. 837; Flowering.

Reported from several islands in Andamans and Nicobars (Kurz, 1870, 1876, 1877, Parkinson, 1923), Little Andamans, Car-Nicobars, Batti Malv. (Prain, 1891), Narcondam, Barren Islands (Prain, 1893), Trinkat, Champlong Bay, Great Nicobar (Sahni, 1953).

The wood of this tree is used for posts.

#### MYRTACEAE

*Syzygium aqueum* (Burm. f.) Alston.

*Milum*. No. 828.

I do not find any report of this species from Andaman and Nicobar by earlier authors.

The fruits of this species are eaten by the Natives.

#### LECYTHIDACEAE

*Barringtonia asiatica* (Linn.) Kurz.

(*Barringtonia speciosa* Forst.) *Kiniyavu*. No. 814, 843. Flowering and Fruiting.

Frequent at Andamans, Nicobars (Kurz, 1870), Valdora Bay (Sahni, 1953), Batti Malv. (Prain,

1877, 1891), Narcondam (Prain, 1893). Though the tree is not reported from Barren Islands, fruits have been picked up at beaches of that island (Prain, 1893).

The fruit, after removing the pericarp is rubbed with water on large stones in pools, tanks and creeks and other water-sheds and the paste allowed to mix freely with water when it acts as a fish-poison.

## MELASTOMACEAE

*Melastoma malabathricum* Linn. (Fig 9).  
No. 854. Flowering.

This is known from Port-Blair and Pt. Mouat (Parkinson, 1923), Great Nicobar (Sahni, 1953), and Kamorta (Kurz, 1876). Besides, an unidentified species is also known from South Corbyn's Cove to Phoenix Bay (Kurz, 1870).

## CARICACEAE

*Carica papaya* Linn.  
*Tkalyong*. No. 824.

This is known under cultivation in many places in Andamans and Nicobars (Parkinson, 1923 ; Prain, 1890, Kurz, 1876). It is also wild in Kamorta and Katchall beach forests (Kurz, 1876, Prain, 1890).

I saw this under cultivation in some places. But also wild in jungles.

## CUCURBITACEAE

*Trichosanthes tricuspidata* Lam.  
*Buhu*. No. 807.

This species does not appear to have been recorded from Andaman and Nicobars by the earlier reporters. The species known earlier are *Trichosanthes anguina* Linn., *T. cucumerina* Linn., *T. palmata* Roxb. and *T. quadrata* Roxb.

The juice of the leaf is taken in for stomach troubles.

*Luffa cylindrica* (Linn.) Roem.  
(*Luffa aegyptiaca* Mill.) No. 853. Fruiting.

This is reported from Andamans as a cultivated species (Prain, 1890), and along the outskirts of Tropical Forests of Kamorta (Kurz, 1876). This is seen also as an escape.

## RUBIACEAE

*Guettarda speciosa* Linn.  
*Dhumalu*. No. 833. Flowering and fruiting.

Known from Andamans (Parkinson, 1923 ; Kurz, 1876, 1877), Great Nicobar (Sahni, 1953), Rutland to Middle Andamans (Kurz, 1870), Bomliya creek, Batti Malv. (Prain, 1891), Narcondam (Prain, 1893).

The wood is used locally for posts in house building.

*Morinda citrifolia* Linn.  
No. 841. Flowering.

Reported from Andamans (Parkinson, 1923 ; Prain, 1893 ; Kurz, 1877), Great Nicobar (Sahni, 1953), Bomliya creek, Car-Nicobar, Batti Malv. (Prain, 1891), Narcondam, Barren Islands (Prain, 1893), Kamorta, Katchall (Kurz, 1876).

## COMPOSITAE

*Eupatorium odoratum* Linn.  
No. 839. Flowering and fruiting.

I do not find this species recorded earlier from the Andamans and Nicobars by the earlier authors.

*Blainvillea acmella* (Linn. f.) Philipson (Fig. 3).  
(*Blainvillea latifolia* DC.) *Tharu-haivu*. No. 805.  
Flowering and fruiting profusely.

Kurz (1870) alone refers to *Blainvillea latifolia* DC. as common on Hopetown and Aberdeen ; Prain, Parkinson and Sahni do not record this species from Andaman and Nicobars.

## GOODENIACEAE

*Scaevola frutescens* (Mill.) Krause.  
(*Scaevola Koenigii* Vahl) *Dhuful*. No. 823. Flowering in plenty.

Reported from Andamans (Kurz, 1877 ; Parkinson, 1923), Valdora Bay, Great Nicobar (Sahni, 1953), S. Andamans and adjacent islands (Kurz, 1870), Batti Malv., Narcondam, Barren Island (Prain, 1891, 1893).

The natives crush the leaves and extract a juice which is taken with water as a "bitter drink". This is taken even when not suffering from any ailment.

## APOCYNACEAE

*Ervatamia crispa* (Roxb.) Stapf.  
No. 808. Flowering freely.  
Parkinson (1923), Prain (1891), Kurz (1876) and Sahni (1953) have recorded *Tabernaemontana crispa* Roxb. from Andamans, Campbell Bay in Great Nicobars, Car-Nicobar and Batti Malv.

*Plumeria* sp.  
Probably cultivated and run wild in places.

## ASCLEPIADACEAE

*Dischidia gaudichaudii* Decne.  
No. 855.  
There appears to be no record of this species earlier from the Andamans and Nicobar Islands. Kurz

(1870, 1876) reported *Dischidia nummularia* Br. and a species near *Dischidia rafflesiana* Wall., as also one *Dischidia benghalensis* Coleb. Prain (1891, 1893) also reported *Dischidia nummularia* Br. and *Dischidia griffithii* Hk. f. If *Dischidia guadichaudii* should prove a distinct species from *Dischidia nummularia*, it would appear to be a new record for this locality.

## BORAGINACEAE

*Tournefortia argentea* Linn. f.

*Kavap.* Nos. 825, 836. Flowering freely.

Reported earlier from Andamans (Parkinson, 1923), S. Great Nicobar (Sahni, 1953), Bomliya creek, Car-Nicobar (Prain, 1891), Katchall (Kurz, 1876).

## CONVOLVULACEAE

*Ipomoea gracilis* R. Br. (Fig. 8).

(*Ipomoea denticulata* Choisy.) *Panandrikyia*. No. 806, 820. Flowering, fruiting.

Previously known from Andamans (Parkinson, 1923), Great Nicobar (Kurz, 1876; Sahni, 1953), Bomliya creek, Car-Nicobar, Batti Malv. (Prain, 1891), Narcondam (Prain, 1893), Kamorta, Katchall (Kurz, 1876).

Pigs are stated to be very fond of this species and they eat this plant freely.

*I. pes-caprae* (Linn.) Sweet (Fig. 5).

(*Ipomoea biloba* Forsk.)

No. 802. Flowering and fruiting.

Common in Andaman (Parkinson, 1923; Kurz, 1870), Casuarina Bay, Great Nicobar (Sahni, 1953), Bomliya creek, Car-Nicobar, Batti Malv. (Kurz, 1876; Prain, 1890), Narcondam, Barren Islands (Prain, 1893).

*Merremia umbellata* (Linn.) Hall. f.

*Ipomoea cymosa* Roem. & Schutt.)

No. 856. Flowering and fruiting.

Earlier reports are from Andamans (Parkinson, 1923), Middle Straits and Bird Nest Cape (Kurz, 1870) and Car-Nicobar (Prain, 1891).

*M. vitifolia* (Burm. f.) Hallier f.

(*Ipomoea vitifolius* Blume)

No. 857. Flowering and fruiting.

Recorded earlier from north of Pt. Mouat (Kurz, 1870), Narcondam, Cocoa Bay (Prain, 1893), Kamorta, Nancowry and Great Nicobar (Kurz, 1876).

## ACANTHACEAE

*Pseuderanthemum album* Merr.

No. 858. Flowering.

This appears to be a new report for this region, as earlier authors have not recorded this species from Andamans and Nicobars.

## VERBENACEAE

*Stachytarpheta indica* Vahl.

No. 838.

Reported as cultivated in gardens (Kurz, 1870; Prain, 1890) and on sands of Ross Island, Aberdeen (Kurz, 1870) and grass plains of Kamorta (Kurz, 1876).

*Callicarpa longifolia* Lam. (Fig. 6).

No. 859. Flowering freely.

The only earlier records are by Prain (1891) in Car-Nicobar and Kurz (1876), Car-Nicobar and Nancowry.

*Premna integrifolia* Linn.

*Hanamisok.* Nos. 809, 831. Flowering.

Known earlier from Andamans (Parkinson, 1923; Prain, 1893), Bomliya creek, Batti Malv. (Prain, 1891), Narcondam, Barren Island (Prain, 1893), Kamorta, Katchall and Car-Nicobar (Kurz, 1876). The wood is used as fuel. The roots and leaves are medicinal.

## PIPERACEAE

*Piper longum* Linn.

*Thakaicha.* No. 817.

There is no report of this species by any of the previous authors from Andamans and Nicobars.

The leaves are used by the natives as betel.

## LAURACEAE

*Cassytha filiformis* Linn.

*Kumtran.* No. 811.

The earlier reports are from Shoal Bay and Crab Island (Kurz, 1870) and Kamorta, Katchall and Car-Nicobar (Kurz, 1876).

The plant is considered medicinal by the natives. It is boiled with water and used for bathing infants and children.

## HERNANDIACEAE

*Hernandia peltata* Meissn.

*Menot.* No. 830. Flowering and fruiting.

Reported from Andamans (Kurz, 1877; Parkinson, 1923), Escape Bay, Pt. Mouat and Island Bay

(Kurz, 1870), Bomliya creek, Car-Nicobar (Prain, 1890), Kamorta, Katchall (Kurz, 1876).

The wood is used as fuel. The juice of the leaves is claimed as a powerful depilatory.

## EUPHORBIACEAE

*Securinega virosa* (Roxb. ex Willd.) Pax. & Hoffm.  
(*Flueggia microcarpa* Blume).

No. 860. Fruiting.

Known earlier from Batti Malv. (Prain, 1891), Barren Islands (Prain, 1893).

*Antidesma acuminatum* Wall. (Fig. 7).

(*Antidesma menasu* Muell.)

Sanip-Kamo. No. 810. Flowering.

Kurz (1877) reported *Antidesma menasu* Muell. from Andamans and Car-Nicobar (1876). The other species represented in the Islands are *Antidesma ghesaembilla* Poir, another species near *Antidesma lanceolaria* Roxb., *Antidesma puncticulatus* Miq. and *Antidesma persimile* Kurz.

*Baccaurea* sp. (*Baccaurea sapida* Muell. ?)

Japogung. No. 840. Fruiting.

The species *B. sapida* Muell. has been reported earlier from Andamans (Parkinson, 1923 ; Kurz, 1870, 1877) and Nancowry (Kurz, 1876).

The wood of this species is used for the central shaft of the famous trigger bows of the Nicobarese, the arrow of which is generally made out of the wood of Areca palm.

*Alchornea rugosa* Muell. (Fig. 4).

(*Alchornea javensis* Muell.-Arg.) No. 861.

The only report of this is by Prain (1891) from Car-Nicobar.

## MORACEAE

*Ficus gibbosa* Blume var. *cuspidata* King.

No. 862. Flowering and fruiting.

Known earlier from Andamans in Long Island, Havelock Island and S. Andamans (Parkinson, 1923), Barren Island (Prain, 1893) and Kamorta and Car-Nicobar (Kurz, 1876).

*F. chartacea* Wall.

No. 863. Flowering and fruiting sparingly.

I do not find any report of this species in the earlier records for Andamans and Nicobars.

## URTICACEAE

*Cudrania javanensis* Trecul.

Larak. No. 810. Not in flowers.

There is no report of this species from Andamans and Nicobars by earlier workers.

The fruit of this species is eaten by the natives.

## HYDROCHARITACEAE

*Enhalus koenigii* Rich.

(*Enhalus acoroides* Rich.) No. 865.

The only report is by Kurz (1870) at Purslane and Botanists' Creek and Termoklea Islands of Andamans.

## AMARYLLIDACEAE

*Crinum latifolium* Linn.

Fa. Nos. 829, 835.

There appears to be no report of this species from Andamans and Nicobars earlier. The species known are *Crinum asiaticum* Linn., *Crinum toxicarium* Roxb., *Crinum ornatum* Herb.

## LILIACEAE

*Dracaena brachyphylla* Kurz.

No. 864. Flowering.

Earlier reports are for Andamans (Kurz, 1877) and Great Nicobar (Sahni, 1953).

## PANDANACEAE

*Pandanus furcatus* Roxb.

Thayathu. Nos. 826, 827.

The species already recorded from Andamans and Nicobars include *Pandanus tectorius* Sol., *P. andamanensium* Kurz., *P. verus* Rumph., *P. leram* Jones. There appears to have been no earlier report of *P. furcatus* from the Andamans and Nicobars.

Mats and mattresses are prepared out of the dried leaves of this species. The species locally known as Kewang (*Pandanus leram* Jones) provides the fruit, which is largely used for making flour for bread by the local people.

## GRAMINEAE

*Panicum repens* Linn.

Nos. 803, 819. Not seen in flowering.

This species is not reported earlier from Andamans and Nicobars.

*Ischaemum muticum* Linn. (Fig. 14).

No. 804. Flowering and fruiting.

Reported earlier by Kurz (1870) in Pt. Mouat, Prain (1891) in Car-Nicobar, Batti Malv., Prain (1893) in Barren Island.

## LYCOPODIACEAE

*Lycopodium cernuum* Linn.

No. 868.

This species was reported earlier from Barren Islands (Prain, 1893) and Kamorta (Kurz, 1876).

Besides this species, two others are also known from these islands, viz. *Lycopodium phlegmaria* Linn. (Great Nicobars, Mt. Harriet, Homfrey's Ghat and Phoenix Bay in Andamans, Kamorta) and *Lycopodium laxum* Presl. (Kamorta).

#### DAVALLIACEAE

*Nephrolepis exaltata* (Linn.) Scholt.  
(*Polypodium exaltatum* Linn.)  
No. 867.

This does not appear to have been reported earlier. *Nephrolepis tuberosa* Presl. is known from Barren Islands.

#### ASPLENIACEAE

*Asplenium nidus* Linn. var. *musaeifolium* Mett.  
No. 866.

Although the species is known from Narcondam (Prain, 1893), Great Nicobar (Sahni, 1953), Kamorta and Katchall (Kurz, 1876), the variety *musaeifolium* Mett is not reported earlier.

#### POLYPODIACEAE

*Drynaria quercifolia* (Linn.) J. Smith.  
(*Polypodium quercifolia* Linn.)

Known earlier from Car-Nicobar, Batti Malv. Andamans (Prain, 1891), Mangrove Jungles in Andamans (Kurz, 1870), Kamorta and Katchall (Kurz, 1876).

*Pteropsis piloselloides* Desv.

(*Drymoglossum piloselloides* Presl.)

No. 821. On the trunks with Moss belts.

Earlier reported by Kurz (1870) from S. Andamans, Aberdeen and Labrynthine Archipelagoes.

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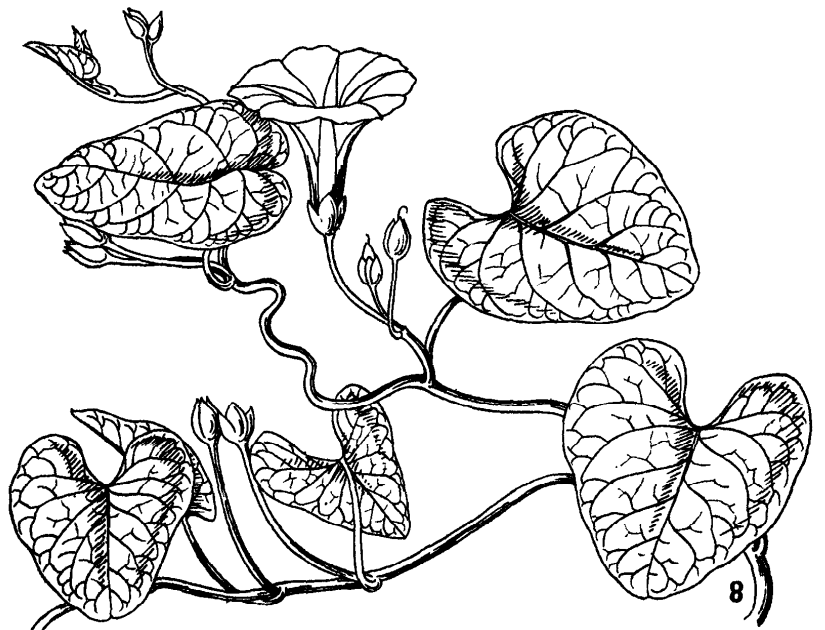
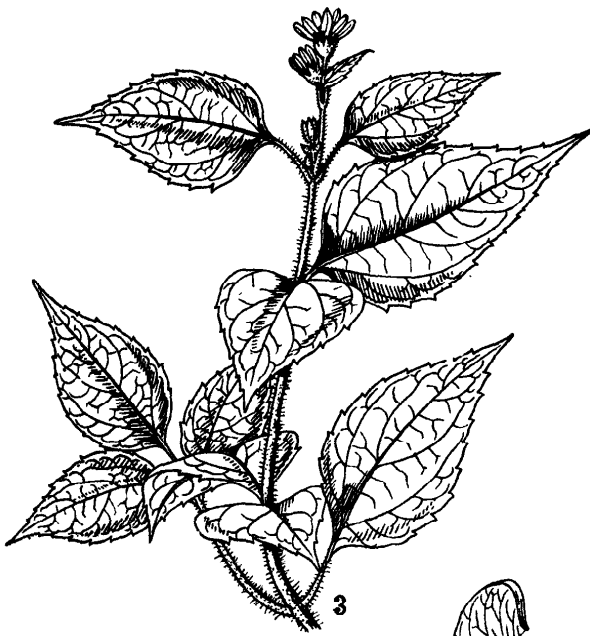




Fig. 1. A general view of a portion of Beach Forest, Car Nicobar.



Fig. 2. General distribution of species on the fore-shore above High Water Mark.



[Figs. 3-8]

Fig. 3. *Blainvillea acmella* (Linn. f.) Philipson; fig. 4. *Alchornea rugosa* Muell.; fig. 5. *Ipomoea pes-caprae* (Linn.) Sweet; fig. 6. *Callicarpa longifolia* Lam.; fig. 7. *Antidesma acuminatum* Wall.; fig. 8. *Ipomoea gracilis* R. Br.



[Figs. 9-14]

Fig. 9. *Melastoma malabathricum* Linn. ; fig. 10. *Popowia nitida* King ; fig. 11. *Vigna marina* (Burm.) Merr. ; fig. 12. *Scolopia spinosa* (Roxb.) Warb. ; fig. 13. *Hibiscus tiliaceus* Linn. ; fig. 14. *Ischaemum muticum* Linn.