

A BOTANICAL TRIP TO LAKSHADWEEP

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INTRODUCTION

Lakshadweep is a group of scattered coral islands lying between 8° - 12° $30'$ N and 71° - 74° E in the Arabian Sea, about 200-400 km off the Kerala coast. There are in all twenty seven islands, of which only ten (Minicoy, Kalpeni, Androth, Agatti, Kavaratti, Amini, Kadamat, Kiltan, Chetlat and Bitra) are inhabited (Mannadiar, 1977). All the islands except Androth extend along north-south direction. Most of them are crescent shaped, with an extensive lagoon on the western side.

Literature on the flora of Lakshadweep is very limited and fragmentary. The earliest account of the vegetation is of Androth island by Lieut. Wood who visited it in December, 1834 (Prain, 1892 a). Hume, who visited this archipelago in 1875 for an ornithological survey, has also reported (1896) on the plants, he had collected. Later a series of expeditions were made by a group of scientists in the steamer H.M.I.M. "Investigator", and contributed much to the knowledge of botany of Lakshadweep (Prain, 1889, 1892 b, 1893, 1894). Willis (1901) and Willis and Gardiner (1901) have also provided some floristic information. Wadhwa (1960, 1961) has given floristic accounts of these islands. Still others concerned are Ellis (1924), Krishnaswami (1955), and Mannadiar (1977). Inaccessibility, isolation from the main land of the scattered islands have been the cause of our fragmentary knowledge of the vegetation of these islands.

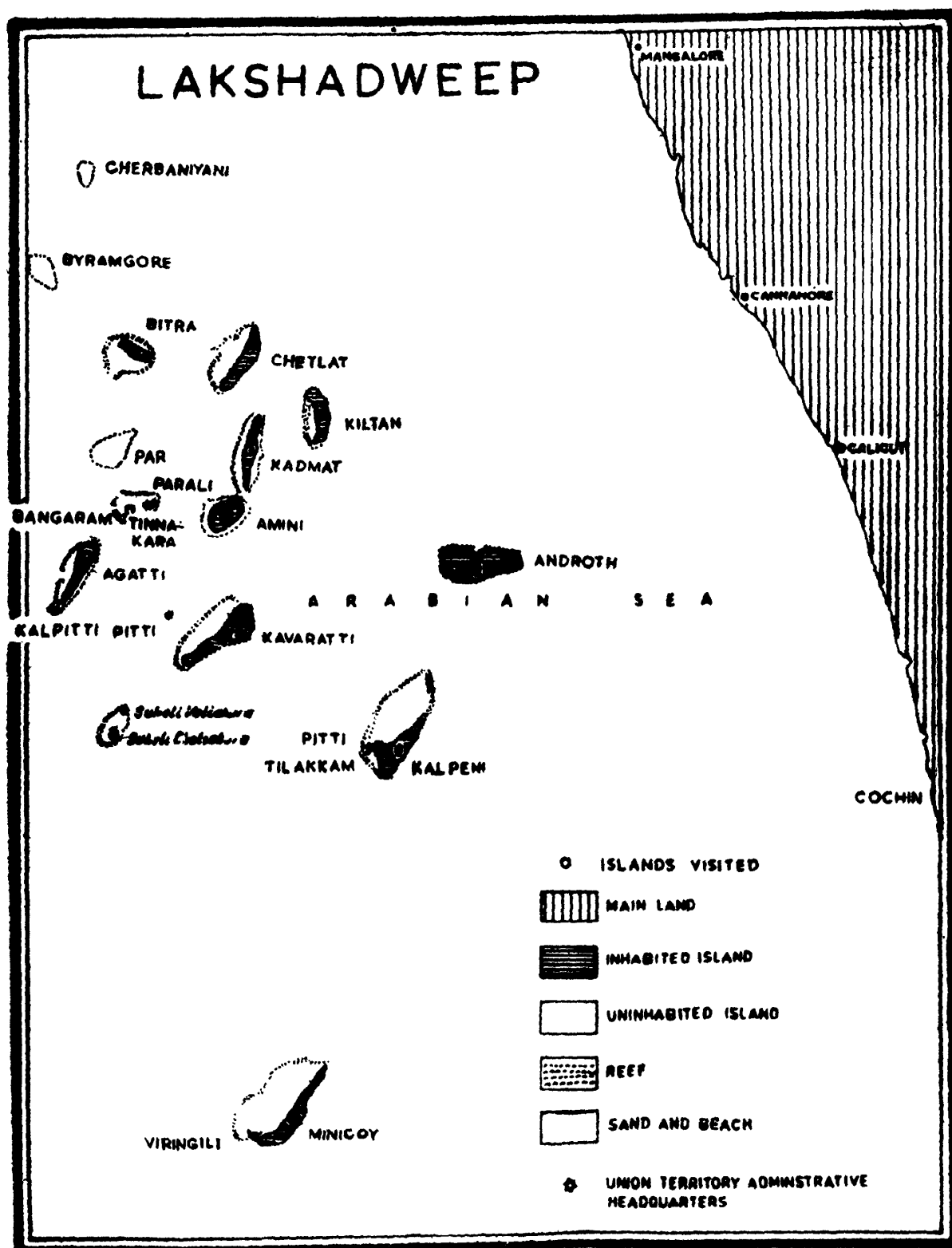
This preliminary floristic account is based on plants collected during our exploration in

January, 1978. The islands visited are Agatti, Kadmat, Amini, Kalpeni, Androth, Kavaratti, and Minicoy. This is the first of a series of collection trips planned towards preparation of an up-to-date Flora of these islands.

TOPOGRAPHY. SOIL AND WATER

All the islands are almost plain, the highest point being not more than five metres MSL.

The soil is poor, the top layer consisting chiefly of finely disintegrated coral, forming a white sandy layer with an admixture of vegetable humus. Since there is very little cultivation, except for coconut, the soil is rarely turned over, with the result that the humus layer does not go very deep. In certain islands like Agatti, Kavaratti and Androth, it does not exist at all since the islanders are in the habit of burning the humus. Here, the soil is open to wind erosion. The depth of the sand layer varies from island to island. In general, the soil is shallow in the beach and is deeper towards the centre. The usual depth is about 1.0-1.75 m. At this depth there is a compact but porous crust of limestone conglomerate of about 30 cm thickness. In the island of Minicoy, Kalpeni and Agratti, this crust is not so well formed, being soft and powdery but in the other islands it is very hard, quarried out and used for building. On boring through the conglomerate, there is a bed of fine sand through which potable water infiltrates (Krishnaswami, 1955). The luxuriance of vegetation in some of the islands is an indication of the excessive porousness of the lime-stone substratum, allowing percolation of water to the upper layers.



CLIMATE AND RAINFALL

The islands enjoy a tropical climate, the maximum and minimum temperatures ranging between 31.1° C and 25.4° C (Mannadiar, 1977). The months of March to May, just before the break of the south-west monsoon are extremely hot and humid, like in the west coast of the mainland. During the rainy season (June-August), wind blows very fast from the west, bringing rains along with it. Though the lagoon protects the shore from the waves, the damage done by the wind is considerable, particularly to the young coconut palms.

The annual rainfall of the islands varies between 151 cm and 164 cm (Mannadiar, 1977). The islands have the benefit of both the monsoons, but most of the rainfall is confined to the months of June to August. The months of December to April are almost dry except for occasional drizzles.

VEGETATION

Due to almost similar conditions of soil, climate and rainfall prevailing in all these islands, the floristic composition is almost the same. The shallow soil with a high water table severally limits the variety of plants that can grow on the islands. Based on extensive data on physiographic, floristic and edaphic aspects, Rao and Sastry (1972, 1974) have classified the vegetation of these islands under 'strand coral' which usually has an open pioneer zone characterised by the presence of *Pemphis acidula* J. R. Forst. & J. G. A. Forst., *Cordia subcordata* Lam., *Scaevola taccada* (Gaertn.) Roxb., and *Suriana maritima* L.; and an inner woodland zone having *Thespesia populnea* (L.) Sol. ex Correa, *Dodonaea viscosa* (L.) Jacq. and *Guetarda speciosa* L.

Common trees : *Alstonia scholaris* (L.) R. Br., *Azadirachta indica* Juss., *Calophyllum inophyllum* L., *Ficus religiosa* L., *Salmalia malabarica* (DC.) Schott & Endl., *Terminalia catappa*

L., *Thespesia populnea* (L.) Sol. ex Correa, *Ziziphus mauritiana* Lam.

Food plants : *Alocasia indica* Schott, *A. macrorrhiza* Schott, *Annona muricata* L., *A. squamosa* L., *Artocarpus altilis* Fosberg, *A. heterophyllus* Lam., *Carica papaya* L., *Citrus lanatus* (Thunb.) Mansf., *Citrus medica* L., *Colocasia esculenta* (L.) Schott, *Cucumis sativus* L., *Cucurbita pepo* DC., *C. maxima* Duch. ex Lam., *C. moschata* Duch., *Ipomoea batatas* (L.) Lam., *Mangifera indica* L., *Manihot esculenta* Crantz, *Momordica charantia* L., *Moringa oleifera* Lam., *Musa sapientum* L., *Piper nigrum* L., *Psidium guajava* L., *Trichosanthes anguina* L., *Vigna unguiculata* (L.) Walp., and *Zea mays* L.

Avenue trees and ornamentals : *Bougainvillea spectabilis* Willd., *Casuarina equisetifolia* Forst., *Catharanthus roseus* (L.) G. Don, *Codiaeum variegatum* Bl., *Cosmos sulphureus* Cav., *Delonix regia* (Hook.) Raf., *Hibiscus rosa-sinensis* L., *Nerium oleander* L., and *Pedilanthus tithymaloides* (L.) Poit.

Areca catechu L., and *Piper betle* are cultivated in almost all the islands.

Altogether 99 plants spread over 44 families have been studied, and the specimens deposited in the Calicut University Herbarium.

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