THE VEGETATION OF GRAND FOND, MONOS

by W. S. Chalmers

CLIMATE

Monos falls in the dry seasonal climatic region and the distinct type of vegetation is associated with this climate.

There is no raingauge equipment at Monos. The nearest gauges are at Chaguaramas and Carrera to the east and Chacachacare to the west. Twenty year records (ref. Trinidad Rainfall, 1933-1952, by L. Wehekind, Government Printery 1955) indicate that Monos averages about 50 inches a year, as do the tips of the north-west and south-west peninsulas and a narrow belt from Isolote Point to Quinam Bay along the south coast. The only drier localities in Trinidad are the islands west of Monos and an area in the vicinity of Erin. For comparison the annual rainfall in the vicinity of the Hollis Reservoir averages over 130 inches. At Chacachacare over the period 1935-40 the average rainfall was 45 inches per year and the average number of rainy days was 113 in a year. In the dry season the monthly fall at Monos is rarely likely to be more than two inches, which represents conditions of extreme drought.

The average monthly maximum temperature will vary between 86 degrees F. in January and 90 degrees F. in May. The average monthly minimum varies between 67 degrees F. in February and 73 degrees F. in September. The diurnal variation ranges from 19 degrees F. in February to 16 degrees F. in September.

VEGETATION TYPE

Naturally the dry conditions have a marked effect on the vegetation of the island. The vegetation type is Deciduous Seasonal Forest, a Climatic Formation described by J. S. Beard in his extremely interesting "Natural Vegetation of Trinidad", (Clarendon Press 1946). The following notes are extracted from this publication.

Structure.

..The canopy of what Beard recognised as the Salt Fishwood (**Machaerium robinifolium**) facies of the Naked Indian (**Bursera simarouba**) — Yellow Savonette (**Lonchocarpus punctatus**) association is formed at 10-30 feet. Above this layer stand out irregularly scattered emergent trees up to 60 feet tall. The canopy is not entirely closed and there are few very large trees. A few may reach 8 feet in girth but 5 feet is usually the upper limit. The lower storey species rarely exceed 3 feet in girth. Most of this forest type has suffered severely from human interference — on the mainland certainly.

Physiognomy and Life Form.

Because of the dryness lianes and epiphytes are not too well developed, but a number of aroids and bromeliads normally epiphytic have become terrestrial especially on rocky places, as has the strangling epiphyte mata-pal (**Clusia rosea**). Palms are rare except for cocorite (**Maximiliana elegans**). Pinguin (**Bromelia karatas**) is occasional throughout.

The community is predominantly deciduous, more especially in the upper storey. The deciduous period is January to April during the dry season; leaves usually fall in January but the new flush commonly appears in April before the rains break.

Ground vegetation is remarkably scarce and except for an occasional seedling, herb or tuft of grass the soil is often quite bare, even of dead leaves, as the annual leaf-fall decomposes rapidly in the ensuing rainy season.

Seeding.

Most of the species have heavy seeds with no particular dispersal mechanism; the chief exceptions are yellow poui (**Tabebuia serratifolia**) and olivier (**Terminolia amazonia**) which have light winged seeds. Birds are probably the chief agents of distribution. Some species, notably salt fishwood and yellow savonette, appear to withstand human interference through their strong coppicing powers. Cacti often propagate vegetatively by layering.

Floristic Composition

The family Leguminosae is extremely well represented in this type of forest and Beard states that 18 percent of the species and 21 percent of the individuals are Leguminosae.

The chief species are:—

Emergent Layer	Lower Storey
Saltfishwood — **Machaeruim robinifolium**	Yellow Poui—**Tabebuia serratifolia**
yellow savonette — **Lonchocarpus punctatus**	Wild tamarind—**Basanacantha phyllosepala**
mahoe chardon — **Apeiba schomburgkit**	Wild guava—**Myrtaceae spp.**
redwood — **Guarea guara**	insense — **Protium guianense**
cypre — **Cordia alliodora**	bois Zaviron — **Oligentles condensata**
naked Indian — **Bursera simaruba**	purpleheart — **Peltogyne porphyrocardia**
yoke — **Astonium obliquum**	
balsam — **Copaifera officenalis**	
White fiddlewood — **Vitex capitata**	

This vegetation type contains a distinct littoral (sea shore) society which extends from the seashore up to a height of 100-200 ft. on Monos. The emergents of the main vegetation type do not occur and the canopy is formed at 10-30 ft. The main species are saltfishwood, yellow savonette, yellow poui, bread and cheese (**Pithecellobuim unguis-cati**), olivewood (**Capparis odoratissima**), bois lezard (**Teconia stons**), goodbread (**Pisonia aespidata**) butterwood (**Diospyros inconstans**), prickly pear (**Opuntia coccinellifera** & **O. boldinghii**), button mangrove (**Conocarpus erectus**), three species of cactus — **Cereus hexagonus, Cephalocereus moritzianus, Lemaireocereus** griseus, manchineel (**Hippomane mancinella**). The ground vegetation is very sparse but includes the succulent **Agave evadens.**

PLANT COLLECTING

Collecting was done on a purely "ad hoc" basis by W. S. Chalmers and R. L. Manuel. The former collected along the dry stream bed from the seashore to the clifftop. The species collected have been listed below, giving as far as possible the common and botanical names, the type of fruit and usual time of fruiting. This data is extracted from "The Silviculture of the Trees of Trinidad and Tobago" by Marshall, and the Flora of Trinidad and Tobago. Mr. Bhorai of the U.W.I. Botany Dept. Herbarium kindly identified and mounted the specimens.

LIST OF PLANTS COLLECTED ON MONOS, 17th MAY 1964

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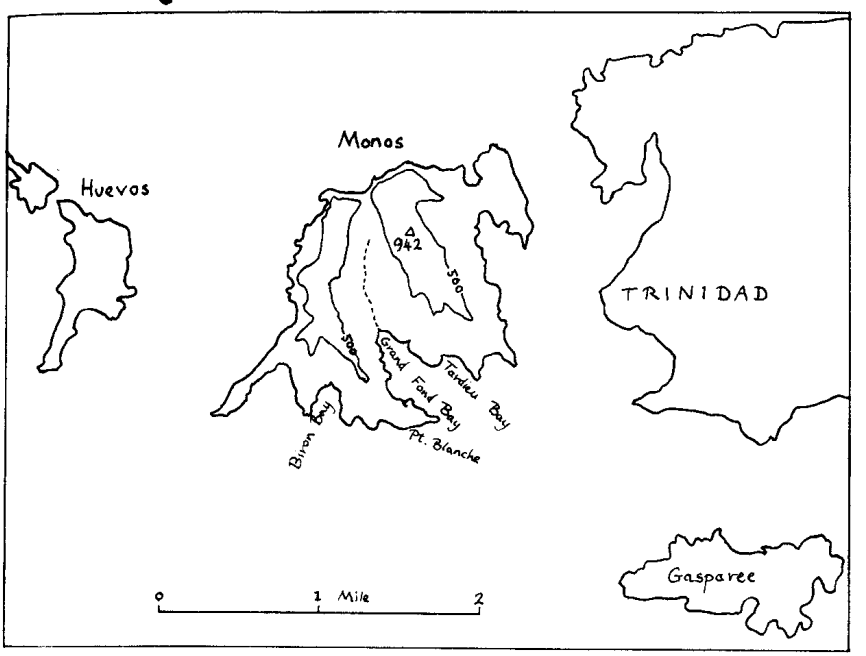
Proper Name	Common Name	Family	Fruit	Time of fruiting
Brownea latifolia	Cooperloop, Mt. Rose	Leguminosae	Pod with several large seeds	June
Ceiba occidentalis	Silk Cotton	Bombacaceae	Pod filled with small seeds	April/May
Cordia sp.	—	Boraginaceae	—	—
Mariscus ligularis	—	Cyperaceae	—	—
Justicia sessilis	—	Acanthaceae	—	—
Gossypium barbadense	Sea Island Cotton	Malvaceae	—	—
Laguncularia racemosa	White Mangrove	Combretaceae	Grey-green, hairy seeded fruit	March/Sept.
Abrus precatorius	Crabs' eyes, Jumbie beads	Leguminosae	Pod with 4-5 hard seeds, poisonous	—
Pluchea odorata	Gueri tout	Compositae	—	—
Genipa americana	Genip	Rubiaceae	Berry-like with numerous seeds	—
Cordia curassavica	Black Sage	Boraginaceae	—	—
Conocarpus erectus	Button Mangrove	Combretaceae	Cone-like collection of seeds, like brown raspberry	Feb.
Arthrostylidium excelsum	—	Gramineae	—	—
Eschweilera subglandulosa	Guatecare	Lecythidaceae	Hard capsule with 1-3 seeds	April/May
Scleria bracteata		Cyperaceae	—	—

? ?		—	Rutaceae	—	—
Inga acuminata		Pois Doux	Mimosaceae	Thin, flat pod with numerous seeds ½" long	September
Miconia sp.		Miconia, Sardine	Melastomaceae	Berry with seeds	—
Heliconia hirsuta		—	Strelitziaceae	—	—
Rudgea freemanii		Bois Tatoo, Kakapol Ashes Wood	Rubiaceae	Small scarlet drupe	—
Myrcia splendens		Wild Guava	Myrtaceae	Small, round ⅓" Diameter	—
Copaifera officinalis		Balsam	Caesalpinaceae	Pod with a small seed	April/May
Apeiba schomburgkii		Mahoe chardon	Tiliaceae	Prickly fruit	—
Eulophidium maculatum	*	—	Orchidiaceae	—	—
Mariscus umbellatus		—	Cyperaceae	—	—
Diplazium arboreum		—	Fern	—	—
Catasetum barbatum		—	Orchidiaceae	—	—
Machaerium robinofolium		Saltfish Wood	Papilionaceae	Pod, hairy and oblong, 2" long	

* First record for Monos.

(W. S. Chalmers, c/o Dept. of Forestry, Long Circular Road, Port of Spain.)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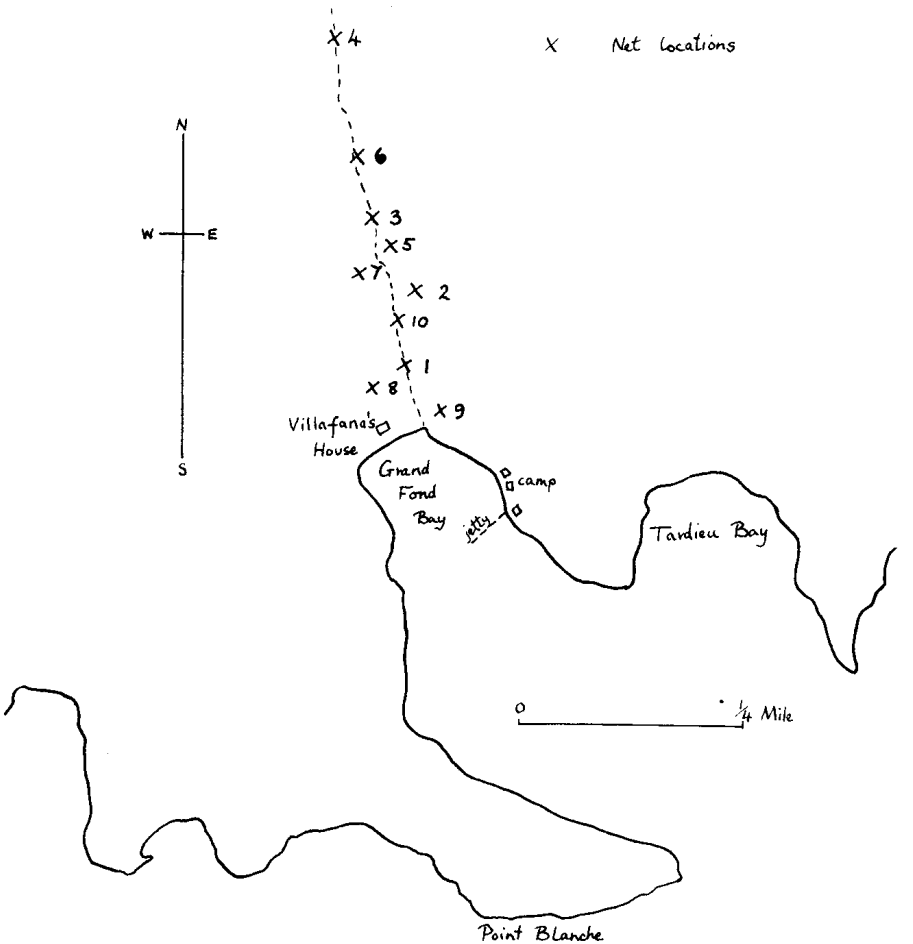
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