Collection and Field Note Book
No. 15
(June 19, 1946 - July 11, 1946)
(24942 -25526)

MARIANAS ISLANDS

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* * *
Miniature Account Book
No. S 136

UNIT RULED

Journal
Cash Book
Record (29 Lines)
Ledger, Double Entry
Ledger, Single Entry

Made in 200 and 300 Pages

TO REORDER, SPECIFY NUMBER, RULING AND THICKNESS INDICATED ON BACKBONE OF THIS BOOK.
Collection number book
of F.R. Forberg #15

nos. 24942 - 25524

Descriptive passages
micrographed for file 12/14
B. Deepue
June 19 - Rota 1. airport

Limestone Flat

24-942 Eugenia
common, widespread on island

43 Ipomoea
common, covering ground, widespread on island
"foo-go" juice squeezed and used to cure cracked feet, both human and cow

June 19, 1940, Rota
low isthmus, formerly site of town, destroyed during war
Many plants, such as Delonix, Acalypha wilkesiana, etc.

44 Potanisia riosa
common weed in old cultivated ground

45 Acalypha indica
common weed in old cultivated ground

46 Cupressus rotundus
Dense patch in old cultivated ground

47 Guettarda speciosa
"pano" wood used as building material.

Rota
Native name and information from John through Juan Beno, interpreter, several others, and mission man in conference.
Dense small tufts of "tya-uan sabana"

Extensive prostrate vines, yellowish-green, blue, still open at about 11 a.m.
Tips crushed and applied to cuts.

Persisting
Limestone soil.
Trifolium trifolium forms dense thickets everywhere.

Herbage strong-scented, flowers yellow.
"mangos galan" - bird food. Seeds eaten by birds.
Styles white.

Clumps of stumps, sprouts around base.
Stumps, flowers white.
1946 Marianas I.

2493 Pithcellodium dulce
common everywhere
"hamachi" balls used for
tanning; fruit eaten; leaves
used enfold as emetic for drunk,
emesis; leaves chewed as remedy
for toothache.

47 Mucuna gigantea
common, climbing
in trees
"bodyqu ngadji" vines used
medicinally "refresh insides" and
cut sections to supply drinking water.

50 Cassytha filiformis l.
occasional, parasitic
on bushes of various kinds.

51 Lepturus reflexus var. subulatus
common, covering ground

52 Malinda citrifolia
common
"lata" wood used as building material;
root for dyeing clothes, tan, fruit and
root used medicinally, mixed
with other plants in backash remedy.

53 Mespessandra argentea
occasional, near beach
"lum" wood used for dining tables, leaves
boiled and eaten used as remedy; larvae of poisoning
from fish (tagati, skipjack) which have eaten food.
1946 Marianas

65 Cleronidendron
abundant, forming tangles between trees

Albizia lebbek
common, possibly nat. "Maladas" (because of noise it makes)
wood used for construction

57 Calonolepis multiflora
common in thickets, "alum" young tips eaten; bark used medicinally to repel insects

55 Leucaena pinnata
small tree 4 m. tall

56 Topandra tenuifolia
occasional near beach

59 Fimbristylis
very common, these plants form shade

60 Premna ohiophora A. Gray (pinetree)
occasional, "alum" wood used for firewood and construction, leaves medicinally for

Rota

low scrambling shrub
up to 1.5 m. tall; flowers white with purple stamens; "tobogan" leaves very bitter, used for backache remedy.

tree 5 m. tall; flowers papery with stamens yellow towards base, green distally; fruit solitary

small tree 4 m. tall

70 Raceme of fruits pendent

wounded shrub 1 m.
tall; flowers white; "mamana" ripe fruit used for sweeter

shrub 3 m. tall; fruit dry, brittle

dense clumps, leaves

"tobogan sabana" roots used medicinally; green squeezed and used in school for indigestion, made into a cracked tongue

shrub 2.5 m. tall; flowers green, aromatic

repeating inside, a releasing heat

shrub 1 m. tall; flowers white; fruit red with green calyx
1944 Marianas Is.

1962 Potoro
communely shaded

Barleria cristata
persisting from cultivation

June 20, same

Portulaca oleracea l.
common around camp
in cultivated ground
"bodi lasar" fed to pigs
and sold for eaten by humans.

Amaranthus spinosulus
common in disturbed places

Glenciria
around dwelling

Eragrostis amabilis L.
common, especially on sandy disturbed soil

Empedris bithya L.
very common in abandoned cultivated ground

Rota

partially dried roots collected, collapsed
stems, m. tall, flower, B viola, smell readily falling

Plant prostrate, bushy, flowers yellow, about 1 cm. across, open in sunshine, petals deeply emarginate, stamens 12-15.

stems ascending, "kilius" young growth eaten by humans is fed to pigs

small tree 5 m. tall, flowers green, slightly fragrant spreading tuft

spreading ascending, arching at tips, "golondrina" used with "abac" as fish meal substitute
Phyllanthus miniatii
common everywhere in disturbed places.

70 Hippobroma longiflora
rare in abandoned cultivated ground.

71 Chloris radiata
common everywhere in cultivated ground,
roadside, etc.

June 10 - n.w. coast
of west end of
main part of Rota Island
of coral
limestone separated
by cliffs.

72 Ficus
near base of cliff.

73 Ximenia americana
thicket on second terrace.

Rota

"maiga lalo" used with
English hibiscus as vaginal astringent
also as relief for rectal itching
leaves mashed and inserted.

sap milky; flowers
pure white.

sheaths strongly
flattened.

on second terrace the
soil is brown and very
thin. The Japanese raised it
up into windrows to get
depth enough for sweet
potato and manioc.

spreading, tannan
type tree, fruit green.

low tangled shrub,
1.5 m. tall; fruits
yellow when ripe,
plushy, rather soft,
not of especially good
flavor. "lint" fruit eaten
by children when ripe.
1946 Marianas Is.

24974 Manihot esculenta (cassava) persisting from cultivation.

75 Hirsutella citrifolia Speare (det. P.L. Hentsch) on dead insect "Ropalides marginata"

76 Jasminum marianum & twining in thicket on second terrace.

77 Ficus tinctoria in thicket on second terrace

78 Cassalpinia sappan thicket in cliffs

79 Inteca bijsus common on lower terrace

80 1 Pandanus vulgari Schodde Ward. (det. F.A. McLure) one clump seen on lower terrace, notably planted
June 20 - same
series mostly unicate, collected at direction of John
as vouchers for economic and
ethnobotanic data. Can be
correlated with other vouchers
sets of duplicate
interlock in most cases.
Two terraces and cliffs between
Gymnosporia thompsonii Men.
Thicket on second terrace

24981 Hibiscus tiliaceus
thickets

82 Hibiscus tiliaceus
thickets

83 Abutilon indicum
roadside

84 Cassia
roadside

90 Cypress
common everywhere

91 lida
general disturbance

Bush 2 m tall. Fruit
reddish-green; “dihlotil”
tips used as handles; wood for bottle handles;
branchy tree “pegs”
boats used for rope;
wood used for rubbing
to make fire.
“madras” used medicinally
to release mucus from
lungs in asthma.
“amos tulmaga”
medicine for diarrea
accompanying teething
in babies; juice sucked
on boiled root.
“sasa” used medicinally
to stop vaginal bleeding;
also to ease irritation
of eyes.
“asibayan adate”
tips eaten; also made as
poultice for bite.
7492 Casuarina equisetifolia
common on lower terrace

93 Theesperis popolenea
common on lower terrace

94 Asclepyas curassavica
general in disturbed places

95 Barwinia ariatica
common on lower terrace

96 Vincium communis
common on lower terrace

small tree
"gagi" word used for
building material, telephone
poles, bulldozers, fences,
not quickly in ground.
tree, "banalo"
one of 3 plants mixed
to use to cause abortion.
Wood used for building
and fencing material.
"calyx" greenish, coral
green, cotton orange.
"pulas ascuiom" thread made from
fiber of seeds.
tree, "putting" nut,
and bark used to
poison fish. Bark
boiled and used as
remedy for poisoning.

shuntam tall,
"agalaga" oil from seeds
used as lubricant,
medicine and as
chain oil. Seeds strong
on wire and burn
for illumination.
24977 *Terminalia catappa*
common

98 *Cubilinnia stigiating*
common in thickets

99 *Callicarpa deca
d thickets and cliffs*

25000 *Davallia solida*
climbing on trees on first terrace

01 *Psidium guajava*
collected in thickets

Tree "talisai" wood
used as building material
can be cut longer in water
than "ifil" (Antis binga).
fruit eaten, both pulp
and nut.

scarcely shamb
"gasosa" medicine to
"release heat from inside"
roots used as soap and
shampoo during japanese
occupation.

shamb, flower purple,
fruit black, "hamlag".
leave used as medicine.

"Piquing machena"
leaves crushed and
used for the medicine.

for sore tongue in babies,
chewed in place to
relieve pain.

small tree or shamb.
"apai" leaves boiled
and used as vaginal
astringent; fruit
eaten. tops (top) made
from wood.
Marianas F.S. 1946

03 S. cyclanthus
common on first terrace and cliffs

04 Ficus occasional

05 Dilihu marianensis
cliffs, common

06 thicket

Rota

sub-shrub, freight when broken, small white "gao deko" medicine for "maiipi" a disease believed to be contracted in the jungle and caused by anger of the spirits of the ancient Chamorros. Characterized by pain, fever, swelling and delirium at night.

shrub up to 1.5 m. tall "gaagao vehau" medicine for backache, banyan-type tree, fruit are "mumi" used mixed with vinegar for internal pains or to cure cuts. now used as cordage. wood used as firewood in lime kilns.

shrub with white flowers "gau sali" wood used for tinker and firewood "anglao" (pronounced angale) used for forage for cattle.
23

08  Ipomoea albata
common near beach

09  Hendersonia rigida
common in lower terraces

10  Pandanus fragrans
common in forest

11  Ochna a Ochna stipitata
common in woods

12  Polysia
rare in low terraces in thicket

Rota
"sasa" not used.
"alalag" leaves used
as polotice to cure
backache, also as
cattle feed.
tree 3 m. tall, leave
glossy, flowers
greenish
"mannag" wood
used for building
material and canoe.
tree up to 5 m. tall.
"pahong" not made
into note. pulp not
eaten. but nut
eaten. has good
flavor. going out to
gather and track
these nuts is a
favorite pastime of
boys and girls on Sunday.
small tree. "pags"
wood used as building
material. nuts
eaten
about 2 m. tall. juice
"pelpiga" cattle feed.
25013 Piper
woods in ravine or cliff

14 fruit in cliff

15 Pandanus tectinus
common in forest

16 in forest

17 weed in fields

18 Derrinjua amaranthide
forest on cliffs

19 Eugenia palmensis
forest on second terrace

Rofo
shrub 1 m. tall
"pupolun anite" root used to cure
gangrene
shrub "sumaj"
used medicinally
wood used for handles, etc.

small tree, "toata" "caffei" or "kaua" leave,
used in packing,
fruit and nuts eaten.
juice, "keato" juice
said to cause severe
burns inflammation
 rash, but said
to be used to cure boils.
shrub "kadoju"
boots used for cdap.
"pekhalan" root
used in mixture
"getrenew inside":
low shrub, fruit
red, "agatlong" wood
very flexible, used for
axe handles, posts, for
bullets cul., etc.
fruit eaten.
25020

in forest

21. Guania sappirii
in forest or second timber

22. Emplenia heterophylla
weed in abandoned fields

23. Rauvolfia glauca
common everywhere

24. Calophyllum inophyllum
japanese temple ground

Rota

14. "kalaha" wood
very good for fine wood, tables, etc. Burns readily without smoke.

small tree "paipai" wood very flexible, used for handles for utensils, toggles for bullock carts, building materials, etc.

trunks red at base
"flesh brown"
later irritating to skin
shrub 1-3 m. tall

wood a "talintangan" wood used as firewood & building material
"redhoot" used during war as coffee substitute but caused loss of hair, leaves, good for feed.

Tree "daggy" wood used for building materials, bullock cart wheels, and boats. lasts well in water.
June 21 highest hill on island, near Balanu, Rota. Old excavations, eroded places and road sides in soil of weathered volcanic tuff, generally grass covered, but with extensive growth of Acacia confusa, probably planted.

25 025 26 Kryptius capitate. Iraq. Eroded place
27 Cyperus Eroded place
28 Miscanthus floridulus, gregarious on open slopes
29 Cyperus Eroded place
30 Pennisetum purpureum, road sides, commonly planted and persisting everywhere
31 Lycopodium cernuum on walls of excavation.
30 Gleichenia linearis
common on banks of excavation
33 Parapodium orbiculare
common on roadside and floor of excavation, general on island
34 Histidiella incisa
common on walls of excavation
35 Blechnum rivulare
banks and walls of excavation

June 21 & 24 mi. e. of habana Rota),
dense forest on mahata in dissected coral limestone forest mixed, Elaeocarpus, Antoscarpus, Hernandia, etc. epiphytes, abundant, underbrush sparse.

36 Piper
common in undergrowth

37 Polypodium
epiphytic, on tree trunks

Rota
other clumps seen much deeper.
isolated clumps and small tufts.

shrub up to 1 M. tall, mature spikes red, root with only slight effect on tongue when chewed rhizome buried in mass of roots, fibres, dead leaves, etc.
25078 Ardisia occasional

39 Asplenium ephiylletic on tree trunks

40 Asplenium common, ephiylletic on tree trunks

41 Fagocystis common

42 Asplenium nidus very common, mostly epiphytic

43 Metastigma chlorophyllum common

44 Dioscorea bulbifera occasional

45 Hendriana labiasthica Tuyen common in forest

Rota

small tree, fruits bright red, fleshy, spherically, pleasantly acid, in pendent racemes

ligulate with licorice odor when cut

vine climbing up tree trunks, leaves 3-ranked, all see stalk, rosettes with ascending leaves

tree 5 m. tall flowers whitish

vine, climbing on tree trunk

small tree 5 m. tall (other much larger) flower fruit pal green, fruit inflated
1944 Mariana 79

25046 Macaranga
    common

47 Elaeocarpus
    common

48 Eugenia

49 Capresia
    occasional

50 Anacardium
    occasional

(tree 2505c)

June 21 - along n. coast
4 mi. e. n.e. of Lissen
coal flats, abandoned cultivated
ground. 5 m.

51 Polypodium reptandrum
    common on ground on
    coal

52 Achyranthes

53 Peperomia argenteus
    common

54 Peperomia argenteus
    common

55 Agave sisalana
    persisting from cultivation,
    roots, leaves, 1 m. long,
    inflorescence 4 m. tall, fls. end.

Rota

tree 10 m. tall, flowers
    greenish

large spreading
tree, flowers white

tree, small

small tree - sap said to
    cause rash on skin.

fruit immature

ground erect.

plant depressed
    branch, and spike erect.

shrub 2 m. tall,
    fruit white, fleshy

shrub, fls. greenish

rosettes of leaves 1 m. long,
    inflorescence 4 m. tall, fls. end.
June 71 - see after 75050

Boelagiodendron
tree 7m tall branches
rare in forest

June 22 - for Rota (Lena)

Rota 1-2m

coral plater backs of
beach and beach
between dissected
fragments of low coral reef

Ellisphyllis
thicket

Deeringia amaranth kinds
thicket

Triphasia trifolia
thicket shaded by trees
very common

Cyperus stipitatus varanum
common in openings

Hymenocallis littoralis
common in low places
(also along top of beach)

tree 10m tall, branches
ending in large rosettes,
infl. and fruits dark
red, scarcely any
rods when broken or
branches are broken.

mixed strand trees,
persisting cultivated
trees, openings, bushy
thickets etc.

bush 1 m tall, f. white

scandent shrub,
flowers white, f. crimson
red.

bush 1.5m tall, flowers
white, fragrant, petals
reverses, ripe fruit
red.

dense clumps

Plants 1-1.5m tall,
flowers white.
1946 Mariana Is.

280 62 Thunerea involuta

Phyllanthus

Beach, under trees

Exacum agallocha

Beach

Pemphigus acidula

on disected coral remnant

abundant

Leucaena glauca

common in thickets

Cassia occidentalis

common in open places

occasional in open places

abundant, higher on island

Claroxygon acicularis

common in openings

Cenchrus echinatus

common in openings

Dactylorchrum aegyptium

common in disturbed places

Bidens pilosa

occasional, locally common

Rota

forming a dense soft carpet

defressed shrub

tree 3 m. tall, branches drooping, lactiferous

bush 1 m. tall

flowers white

leaves slightly acid-bitter

and astringent

shrub 1 m. tall

leaf 1 m. tall, flower yellow

bush 1 m. tall, flower pinkish

forming a mat, tightly adhering to ground, weepers erect, long geniculate culms spreading from crown and rooting at nodes, culms prostrate to ascending, radiating from crown, heads yellow, discoid
25073 Hibiscus tiliaceus
common in thickets
and secondary woods

74 Muntingia calabura
rare in thickets

75 Citrus limon
persisting from cultivation

76 Theobroma populnea
common

77 Lida
common in openings

78 Ipomoea
common everywhere
in openings

79 Passiflora foetida var. hispida (DC.)
ebracteate everywhere

Rota

small tree, 6 m tall,
flowers pale yellow
with maroon center,
yellow turning reddish
in afternoon
(see 2/2/32)

5 m tall,
branches ascending,
appearing distinctive,
flowers white, ripe
fruit pinkish

tree 5 m tall, leaves
very large, almost
smooth,
small tree 5 m tall
(others much larger)
gray bush 1 m tall

prostrate vine,
flowers blue, open
in morning, pink turning
taking and closing in
afternoon.

herbaceous vine
tangled over everything,
flowers white, love
half of corona filament,
and hairs on corona dist
purple.
42 1946 Mariana Is.

250 Abutilon indicum
occasional
21 Euphorbe
rare in excavated coral sand

June 22 - lower terrace
east of Jensen, Rota
82 Dodonaea viscosa
common locally in coral flat

June 22 - slopes above
at Malete,

83 Annona manicata

84 Erythrina

85 Elaiostema

86 Citrus lachryma-jobi

Rota

bush 1.5 m. tall, flower
yellow (see #24763)
tufts, leaves

erect shrub up to 3 m.
tall, slender, branches
strongly ascending
fruits inflated mostly
2-winged, occasionally
3 in same cluster, pale
green, not reddish.

stems fleshy

fruits first green,
them blue-black,
them pearl gray
June 22: Same
slopes of volcanic breccia
underlying limestone
cliffs. Slopes grass-clovered, badly leached
in places; sheltered
water and slippage,
showing evidence of
burning over.

25087
Myrtella fenniniana
local on eroded place

78 Ephemeris
eroded places

89 Fraxena
muddy seep

90 Colocasia esculenta
planted in moist place

91 Elephantopus scalar
common along track

92 Dicropteris gregilodes
common

Lygodium termum
& Gleichienia linear
common on eroded place,
Miscanthus japonicus
dominant on slopes

dense bushy shrubs
up to 0.7 m. tall, f.l.
white, fruit reddish,
black when ripe

stiff, red, broad
bunch

erect stems sharply
pentagonal

leaves full, with a
bluish cast.
25893
27

25893
27

25100
01
02
03
04

25100
01
02
03
04

1946 Mariana Is.

Oryza sativa

in small muddy place above trail

94 Zimbristyliis
occasional

95 Bidens pilosa var. mima
rare along trail

96 Laccora flustrae (Mill.) H.
ocasional

97 Heteropogon contortus
rare

98 Emilia sonchifolia
rare along trail

99 Cassia
rare along trail

Rumex frondosus
occasional in eroded places

01 Cleochania
muddy seeps

02 Euphorbia nodiflora
disturbed places

03 Euphorbia
eroded places, occasional

04 Curculigo
eroded burned place

common locally

Rota

panicles drooping

stiffly erect leafs

heads with white

nap.

low shrub; flowers

white; fruit white,

fleshy.

flowers purple.

red; up to 1 m tall

flowers yellow.

slender leafs

flowers yellow

strictly erect, stiff, nodding,

flowers white.

flowers yellow.
25/05  Sedum glaucinum, common locally.
       eroded place, occasional.
06  Notphila
       eroded place, occasional.
07  Taca
       eroded place, seen only here.
03  Wilestroemia elliptica
       eroded place, rare.
09  Genista longa, micanthum, var. micanthum
       eroded place, one plant seen.

June 23, Lomar (Rota) Rota.
around mined townsite
10  Jatropha curcas
       roadside.
11  Heliotropium
       old field, abundant.
12  Frons

13  Glochidium, Maytenus, zharkynii
       hedge now.
14  Oenoma
       persistent from original vegetation in corner of grounds of camp.

Rota
heads yellow, radiate.
stem 1 m. tall, baub, bladd. purple, peniath ephist.
shrub 1 m. tall, flowers greenish, yellow, berries red.
(Several plants represented.)
shrub 1.5 m. tall, flowers white.
small tree 5 m. tall.
plant gray-green, flowers white.
Tree, fruit green.
shrub 1 m. tall.
small tree 4 m. tall, flowers white, fruit yellow when ripe.

25/13 as latin writing

June 23. N.W. coast of
well and of island, about
1 mi. N.E. of Loring (Rota)
strand forest at top of
and back of beach,
on lowest terrace and

25115 Premna Pachysta R. Br. (powdery)
edge of opening

16 Calliandra
edge of opening

17 Davallia
on lower part of cliff
17 Hedystis foetida var. marnianensis
base of cliff and among rocks

19 Flagellaria indica
common in edge of
forest and thickets
20 Muscuna unica
occasional in forest

50 1944 Mariana Is.

Rota

cliffs back of terrace

shrub 2 m. tall;
flowers pale green, aromatic,
fruit immobile.
shrub 1 m. tall;
sparsely branched
flowers purple, wth
fruit black.
rhizomes creeping.

shrub 0.7 m. tall, woody,
foetid when broken.
flowers white, fruit
green.
scandent, alaba.

large vine climbing
over trees, roots mostly
in dead portion, pendent.
shrub 1 m. tall,
flowers white.
25.122 Prociss pedunculata
epiphytic on tree trunks
just back of beach

23. Cyclocapnos
epiphytic, common on branches
and trunks of trees just
back of beach

24. Digitaria
monanuclear
common on wet beach
and base of cliffs

25. Kerangia
under edge of great rock

26. Clebodendron
on base of cliff

27. Clebodendron
forest, common

28. Clebodendron
forest, common

29. Hernandia
one of common trees
in forest.

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Rota

Funals thick, coriaceous

tufts, stiffly erect
to spreading.

stems flexy,
no stinging hairs.

scandent shrub,
flowers white
with purple stamens and
style.

small tree 4 m. tall
pentarch, (5) accrescent,
soft, spongy, pale
green, surrounding yellow
fruit.

small tree 4 m. tall
fls. pale greenish white
tree 10 m. tall, flowers
white, fruit stipitate
pea-green white, ripe
circular (not toothed or limb)
25130 Rhoeo discolor
escaped and well established
locally at base of cliffs.

25131 Canthium abramum var. timotae
sloping face of great
limestone boulder near
edge of water

32 Terminalia samarica Red
sloping face of great
limestone boulder
near edge of water

33 sloping face of great
limestone boulder near
edge of water

34 Hedysotis albidus-punctata
common on rocks near
water

35 Wedelia biflora var. condensata
rocky upper beach

36 Psilotum nudum
rough, perpendicular
limestone face.

37 Dryopteris
base of cliff, in shade

Rota

leaves purple beneath,
flowers white, filament
pilose, petals 3, equal.

small shrub 0.5 m.
tall, spreading, leaves
pale beneath, fruit
immature.

small shrub 0.5 m.
tall, ripe fruit red,
almost teete.

prostrate shrub

prostrate; leaves
fleshy; flowers
white, lobes narrowly
oblong-lanceolate.
prostrate, extensive,
branches ascending;
head yellow,
tips pendent.

rhizomes buried 2-3 cm.,
prostrate.
common along base of cliff in shade

Nepthiopsis occasional on face of cliff

Asplenium occasional on face of cliff

June 23 - second terrace from the East of Lakanak Rota.

rain forest on gently sloping rough end (malaita)

Hernandia ilicintha Tuyara common tree
(flowers and developed fruits in same clusters)

Fagraea on ludomica Fast.

cane tree, strangling a Hernandia tree. (but small tree observed growing in ground)

Rota

rhizome short, erect

pods pendent

pods arching

Tree 15 m. tall, thick

flowers white, fruits hermaphroditic, oblong, black

Tree 15 m. tall, evidently developed from seedling in crotch of Hernandia, large root 20 surrounding trunk of Hernandia that it is difficult to distinguish them; flowers very fragrant, cream white, turning dull orange; fruit practically spherical, bright orange when ripe.
25143 Alyxia
epiphytic in large tree
abundant, epiphytic on
trunk of tree.

45 Pipturus incanus
common in forest
46 Pandanus
common in forest
47 Guarniq saffordii
common in forest

48 Clerodendrum speciosissimum
persisting in tiny abandoned
clearing, Japanese compound.

49 Solanum nigrum
tiny abandoned clearing

50 Alyxia
tiny abandoned clearing

51 epiphytic on tree trunk, rare

Rota
wordy vine, tends
and green fruits only,
uncommonly fruiting.

small tree, leaves
dark green above;
fruit very juicy, white,
achene on surface.
tree 4 m. tall, leaves
sparsely arranged,
fruit not quite ripe.
tree 4 m. tall, fuzzy,
leaves dark green,
fruits green, turning
greenish black, then black when
ripe.

herb 1 m. tall, flowers
scarlet, fruit immature

herb up to 1 m. tall,
flowers white, ribs
fruits blue-black.
semi-scandent shrub
flowers dull salmon
color
flower dull white.
1946 Marianas Is.

25152 Pandanus
    common in forest
53 occasional in forest

54 Kalanchoe Adenia rubicola
    rare, epiphytic on tree trunks

June 23 - coconut grove
    beyond phosphate mill,
    on road to A Bole

Open cultivated land

55 Paspalum
56 Digitaria sp.
57 Paspalum conjugatum
    common generally
    except along coastal plain

June 24 - near the airstrip,
    near east end of Rota Is.
    small patch of woods
    in scruffy second growth
    forest

58 very abundant in scrub

Rota

tree 5 m. tall, fruit
    still green
  small tree; twig
    fleshy leaves soft,
    not stinging.
25159 ficus
  not common in fruit

60 Randia echinocarpa
  rare in fruit

61 Archynanthus asper
  edge of patch of woods

62 Canthium
  in edge of patch of woods

63 Eugenia palmata
  Men.
  in edge of patch of woods,
  rare

See also p. 86
No. 25212-25214

Rota

large spreading
Banyan, fruits yellow,
of two sizes, one round,
seven to several times as
large as other.
tall slender tree 15
m. tall, fruit dark
red.
tangled shrub 2 m.
tall.
slender shrub 1.5
m. tall, ripe fruit
dark purplish red,
fruit more or less didymous,
subglobose, soft fleshy
pericarp; flowers white.
(C. differs significantly from
C. odoratum in base of
fruit, texture and color of
fruit, smaller flowers.)
slender shrub 1 m. tall,
fruit red with greenish
calyx.
Rota is a series of coral limestone terraces, about five of them (the second from the top is a bit confused when viewed from the north), with a low tip of volcanic tuff projecting thus the middle of the topmost, and a considerable exposure of volcanic breccia in the southeast side, thus capped by a thick layer of limestone. The third main terrace is the most extensive, and is where the air strip is situated. Actually there may be several more minor terraces than the 5 mentioned, but they are hard to separate.

The island has more vegetation than Tinian, apparently because there is less arable soil. On exposures of the original forest persists in fairly undisturbed condition. Patches of this occur on all terraces and on the crevices between them where they are not vertical cliffs. In the upper terraces this is real rain forest with an abundance of small leaf epiphytes. The tree cover is thick, with a fair growth of epiphytic fern and a few orchids, and with but little undergrowth. The rocks are covered by mosses, etc. Principal trees are Pandanus sp. (differing from the strand species in the non-peltate leaves, smaller fruit in proportion to the size of the perigone, ovate hour-glass shaped instead of circular, and some flower differences), Ficus sp., Pandanus tectinus (?), Elaeocarpus sp. (large tree), Ficus sp., Antidesma sp. (entire leaves), Pipturus argentens, Laportea (?) and Eugenia.
teleanthus(?), Guanica
saffordii, Macaranga sp.,
Clavixylon (?) with Ficus
andina sp., Piper sp.,
as shrubs. Musa
gigantea and (more rarely)
M. sarae, are tangled
in the trees. Flagellaria
indica and Freycinetia
are common climbers.
Tageea sp. is not common.
It has a strangling habit
as in Ficus and Clusia.

It is hard to tell if this
forest was what was found
in the parts of the upper
terraces while soil was
most abundant or not.
These places have been
cleared. Wind trees and
patches of Acacia confusa
have been planted. Under
these nothing grows. Most
of the cleared land is now
abandoned. Basidiomycetous
conjugation, P. obtusifolia
and Solanum nigrum
are abundant weeds,
as well as Cryptanthus
cultivarian. The exposure
of volcanic soil on the
top terrace is largely
covered with Acacia
confusa, but where
it is open, Gleichenia
lineata, Lycopodium
cervarium, Cryptostegia
sp., 3 sp. of Cyperus, and,
above all, tangled brack
of Miscanthus japonicus,
are common. Nypa
grace, Pennisetum purpureum
persists everywhere,
both on volcanic and
calcareous soils. Patches
of Haccharum also persist.
The large third (?) terrace
has mostly been cleared.
Judging from the remnants,
the forest there was a rather
mesophytic type, without many leaf
epiphytes. Ficus sp.,
Randaia cochinchinensis,
Pandanus tectorius, P. pryanus,
were components, probably
no more. A shrub,
as a small tree of the Sterculiaceae
(15159) has come in in almost pure stands over large areas, forming a scrub 2-3 m. tall. In open places Cassifera, Leucaena or Ipomea, and both form a dense mat over the ground.

On the lower terraces the strand character of the vegetation becomes more and more pronounced. The portions of the second and its associated terrace examined had been largely cleared, except for patches of scrubby forest. This had been cleared of its Leucaena, Thespesia, Hibiscus, tiliaceus, and others. The Japanese had planted Casuarina in patches. Sweet potatoes, cassava, and papaya are persisting from cultivation. On places where the soil is very thin, the Japanese had raised it up in windrows following the contours and planted in these. The coral bedrock is exposed between these.

The lowest terrace forms a sort of coastal plain along the northwest coast, at least. It lies, here about 2 m. above sea level. On the southeast coast it is much higher, 10-15 m. or more. On the isthmus it is variable. This apparently had, originally, a strand forest of Hernandia (sp. with petalate leaves), Thespesia, Hibiscus tiliaceus, Barringtonia, Asiasia, Pandanus tectum, Pandanus frangans, Terminalia catappa, Crackylon (??), Lapata (?), Macaranga, Frenna, Ochrosia, Guettarda species, Pithcellobium dulce (an important component but probably introduced).
allophyllum, Pipturus argenteus,
Moringa citrifolia, Melanthera
multiglandulosa, occasional
Prosopis grandi, Albizia
lebbeck, Grewia, occasional
Muntingia calabura, Ficus spp.,
Intsia bijuga (common),
along the beach Menzieschima
argenteus, Lophira teretiora,
Excoecaria agallocha and
abundant Leucaena pustulata
undergrowth of Phyllanthus
jasminum, Cleodendrum
holubrum asiaticum,
Callicarpa, etc., and
above all dense thickets
of Trifolium trifolium, the
whole forest entangled
in Mucuna gigantea
and, more rarely, M. menziesii
(0.5 m tall), with Ipomoea
alba near the ocean.
In openings are many
weeds - Phyllanthus
mimica, Euphorbia
Euphorbia hirta, Erythrina
Cassia occidentalis, Sida
sp. (aff. rhombifolia), Eclonia
indica, Chloris radiata,
Stachys nigra, Botanisca
ictericifolia, Digitaria sanguinalis,
Cyperus rotundifolius
forming dense patches,
C. stappersii in isolated
tuft, common, Lepturus
repens near the coast,
Thuarea pubescenti (Top of lead,
Asclepias curassavica, Euphorbia
heterophylla

An cliffs and big rocks
near ocean Pentaphylla
acida (only night near
ocean), Bilbergia, Terminalia
sp., Canthium sp.,
Cleodendrum, Wedelia,
Digitaria marianensis,
Darallia albida, Cleophracta
sp., Psilotum nudum,
Hedyotis alboflora, Truncata,
and at bases of cliffs
Hedyotis spectabilis, marianensis,
and a fern (25/37), a large
Drynaria (25/37). On the
branches of trees Hypnodendron
spicata, Darallia albida,
and Prooru, pedunculata, and
a sterile Euphorbia is common. Also Passiflora conjugata.

Ceramita have been common along most of the coast, but except for a few places, only stumps remain. Where any trees remain they are very seriously affected by woolly leaf. 

Cultivated plants of various sorts persist on the lower terrace — Citrus limon, C. aurantium, Erythrina wilkieana, Agave salmiana, A. americana, Calephellum incanum, Rhododendron, Polydora, guilfoylei, Phyllanthus niruri, Cordia virgulata, Ricinus communis, Carica papaya (one of the most abundant weeds), Bougainvillea, Delonix regia (common), etc.

In the south coast above the village of Ke Malote, is an extensive slope of a deeply weathered volcanic breccia. This is open country, frequently burned, and with large erosion and slippage areas. It has a distinctive flora. The dominant plant is Miscanthus japonicus. Other things are chiefly found in and around erosion scars — Bidens alba, Rynchospora sp., Eriocaulon, Fimbristylium sp., Eremurus sp., Euphorbia sp., Heliotropium, Echium sp., Nototaena sp., Ephemerella, sp., Taeaca dentroprodiva, and shrubs of Wikstroemia, elliptica, Genrostigma sp., and especially Syzygium nodiflorum. This is a prominent weed in cultivated areas in this region. In a small marshy place was a
stand of rice. Small
farms here have
patches of jca, types of
Colocasia, one the ordinary
A. manihot, with almost
erect, bright green leaves,
the other with a distinct
angle between blade
and petiole and dull
glamorous green leaves.
Colocasia is cultivated
here also. Artocarpus
and Mangifera surround
the houses. This seems
to be the only active
agriculture on the island
at present
June 27 - Kannata estate (Valley of Plants), 3 km. E. of Afetna O.P., Saipan.
Small valley, abandoned coffee plantation, with Passiflora foetida smothering out the coffee trees.

Strychnine

Occasional

Aglaia
Occasional, at foot of cliff, on talus.

Cynometra
Small, at foot of cliff, common locally.

Melaleuca species multiglandula
Common

Alyxia
Common in face of limestone cliff.

Coffee arabica L.
Plantation, formerly cultivated

Acacia confusa
Planted as windbreaks

Intsia bijuga
Common in valley

Saipan
Coral limestone with some soil on it.

Tree 5 m tall, with small prickles.
Tree 1 m tall, leaflets.
Tending to droop. 
Flowers orange.

Fruit orange when ripe.
Small tree, fruit immature.

Shrub 1 m tall, flowering spikes pendulous.
Pendulous shrub, Bixa lutea, yellow.

Tub orange.
Small trees, 3 m tall.

Nipple fruit red.

Tree 6 m tall, rounded.
Bushy, flowers yellow, fragrant.

Tree 3 m tall, flowers with green calyx, single petals with minute tips, white, sweet.

Flowering and fruiting.
25172. Passiflora foetida var. hispida 10 ft. tall
very abundant everywhere

73. Leucaena glauca
very abundant in thickets and
invading openings

74. Cynodon dactylon var.
very abundant in openings

75. Albizia lebbek
common everywhere
this specimen in ravine

June 27 - south ridges
of Mt. Tapotohan (highest
mountain on island), Taipan.
rough limestone knob
and slopes below it.
thickets and openings

76. Psychotria marianensis;
occasional in brushy slope

77. Phyllanthus
very common on rocky
slopes and bluffs

78. Erythroxylon
occasional in thickets

79. Cyperus
common on open slopes

78 1940 Mariana's 25

Taipan
herbaceous vine
climbing over everything
fruit orange

Leucaena leucocephala
shrub 1-2 m. tall
forming a deep, soft, lean
mat about 3 dm. deep.
small tree 5 m. tall

Phyllanthus leucotrichus
shrub 15 m. tall, flowers
white, ripe fruit
acid. (Explant in all)

Cyperus flavescens
shrub 5-10 m. tall,
flowers greenish white

Cyperus flavescens
shrub 5-10 m. tall, fruit
green, fleshy,
culms solitary,
thickets yellow green
75/3d Jasminum ohiense
common in thickets
31 Chloris radiata
common in road
32 Delania, uncanthidum
occasional in thickets
33 Mixanthus praecipius
dominant
June 27 ridge
south of Mt. Tapotchau
open ridge covered with
tall grass, Miscanthus
soil a deep red to brown
clay overlaiding limestone
34 Indigofera tinctoria
single shrub in grass
near road
35 Tena clevelandii var. argentea
occasional along road
36 Chrysopogon aciculatus
bush spots
25137 *Curculigo*
common along old road

93 *Fimbriostylis*


89 *Echinochloa colorans*
common in eroded spot

90 *Heteropogon contortus*
common in eroded spot

91 *Fimbriostylis*
common in eroded and bare spots

92 *Fetaria*
common along road

93 *Bidens pilosa*
small patch along road

94 *Echinochloa colorans*
occasional along road

95 *Bidens pilosa*
rare along road

96 *Aeschynomene*
*Guarana* mucronata
occasional along road

97 *Pueraria*
*Calopogonimum mucronate* Desv.
rare along road

99 *Cas sia*
rare along road

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flaxen.

flowers yellow.

carphilete head tan.

Tufts.

stems x-stemmed

smoke grass, cress, cress, etc.

rare white.

spreading to prostrate

disk yellow, rays less.

slender herb 1 m tall, 
fls. yellow, standard 
outside

flowers yellow.
June 28 - sea cliffs east of Mt. Petrozuana, m. end of Laipan Island cliffs and steep slopes mostly of a tuff that is largely composed of light gray porphyry in a white crumbly matrix.

25199 Wedelia biflora var. canaliculata
brushy limestone slope

25200 Leceolgy fruticosa (Mill.) Ko open tuff cliffs, common

01 Bikelia
ledge on tuff cliffs

02 Heteropogon contortus dominant in spots where Miscanthus is absent

03 Fimbristylis cymosa common in open places in cliffs

04 Vicia

forming a mat at top of limestone cliffs.

Laipan

this is lateral contact with coral limestone, the tuff mainly open slopes with Miscanthus and Heteropogon, the limestone with bushy forest, the contact sharply delineated.

scrambling herb, leaves with a fleshy appearance, flowers yellow, low spreading shrub, leaves fleshy, flowers dull white, fruit white, fleshy, shrub 2 m. tall; leaves fleshy; flowers white, strongly valvate, corolla long, in bud, lobes becoming recurved late, in anthesis loose branches

densely caespitose, leaves stiff, prostrate, flowers violet.
25205  Biddaeas xerophyta, terriformis
corenae bare tuff slopes
06 Euphrosia alata,
roadside, large patch
07 Cnidoscolus xerophyta (L.) Hall.
climbing on shrubs or
open tuff slopes
(seen also but sterile
with #25133 - 25198)
08 Alyxia
ledges on tuff cliffs
09 Portulaca quadrifida L.
edges of tuff cliffs
10 Zygia matrella
open tuff slopes and ledges
11 Hedysarum albidos punctata
crevices and ledges in
tuff cliffs

June 24 - same as 25110 - 25114.
cultivated ground in storey
12 Euphorbia thymiophylla
13 Apollo nematophilla
densely covering ground
14 Parasitic on Euphorbia thymiophylla
Tai-pan - Rota

Rapa yellow, shrut.
prostrate, extens. flowers white, cloth
at 10:30 a.m.
twiner, leaves strongly
reticulate, gray beneath,
flowers dull yellow.

climbing on bushes,
flower lemon yellow
with orange tube, fragrant.
prostrate, leafy.
flower yellow, about
15 mm. across.

prostrate, erect tufts
spreading by prostrate
rhizomes.
prostrate, leathery.
flowers white.

Rota
prostrate, pubescent.
cause normally prostrate
plant to grow upright.
June 12 - just south of Granpam, on coastal plain, weedy roadside. Occasional.

16. Longham salepense
   weedy, low roadside, abundant near most of island except uplands.

June 13 - at base of cliffs, north of Mt. Marpi, south end of Taipan.
   Rocky ground, dense, bracken forest against cliffs, thinning outward.

17. Cerebra marnora dilatata
   occasional.

18. Emilia soncfifolia
   Common weed in open places.

19. Abrutelum indicum
   occasional in open.

Lavaran

Extensive vine. Covering ground and bushes.
   Tufts with heavy rhizomes.

Spreading rounded tree. 5 m. tall. Flowers white with yellow eye, fragrant; only one carpel developing into fruit. This pendant flower purple, scarcely essential.

Height 1 m. tall. Flowers yellow, closed by 10 a.m.
1946 Marianas 9-

25. Cypress stumps
   open ground

21. Ficus
    edge of forest

22. Randia cochinchinensis
    edge of forest

23. Laportea
    edge of forest

24. Ficus tintoria
    on a large limestone
    boulder.

25. Psychotria
    edge of forest

June 23 - south end of Taipan I.
   near kobber field

26. Micrula
    common in second growth bush.

Taipan

Small clump,
leaves glaucous.

Spreading tree
3 m tall, rounded
flats immaturr, turning
purplish

Shrub 1.5 m tall,
buds white, ripe
fruits purple.

Small tree with soft
wood, flowers green,
leaves do not sting.
But the open flowers
sting most painfully,
the sensation lasting for
hours.

Pendant shrub
fruits green; when
ripe becoming yellowish.

Shrub 1.5 m tall,
flowers white, ripe
fruit red. Leaves dull-
glossy.
June 16, slopes of Mt. Tapotchau.

25.577. Ficus tineinhae
in top of large conical boulder.

same - knob of deeply weathered volcanic material covered with laspeula.

28. Phyllanthus minceiae
road cut talus.

29. Phyllanthus mimui
road cut talus.

June 18. slopes m. of Mt.
Tapotchau. Leipen
remnants of native forest on limestone outcrops.

30. Alyxia
brushy slope under trees.

31. Pisonia grandis R.B.S.
occasional.

32. Pandanus fragrans
common.

Sprawling shrub, fruit immure, green with purplish cast, a few ribs, dull reddish.

erect, purplish-green.

erect, green.

scandent shrub, corolla lobes yellow, tube orange, somewhat inflated above.

tree 12 ft. tall, trunk 1.5-2 m.

through, flowers green, fragrant.

tree 6 ft. tall, leaves spirally arranged, fruit glaucous.
June 28 - just north of Ayingan Point, s.w. corner of Laipan. Beach with dunes of coral sand at one end and low undercut shelf of coral limestone about 3 m. high at other. Disturbed weedy flats with compact soil behind this.

25233 Euphorbia thyrsifolia
weedy flat

34 Acalypha indica
weedy flat

35 Euphorbia rostrata
common weedy flat

36 Terminalia catappa
top of low cliff in thicket

37 Acanthus similis
weedy flat of beach below low cliff, occasional

38 Polypondium acropteridum
face of low limestone cliff

39 Premna (Acmatopterus) kanei
thicket at top of low limestone cliff

prostrate, purplish.

erect, green.

erect, flowers yellow.

tree 6 m. tall, flowers white.

erect herb up to 0.8 m. tall

and erect, rhizome creeping.

shrub 7 m. tall, flowers green.
1946 Mariana's Is.

25340 Vitis negundo
deciduous, coastal, rarely common
41 Messerschmidtia argentea
sand dunes, common
42 Wedelia biflora var. carnea
sand dunes
43 Cassytha filiformis
sand dunes, climbing on and parasitic on various shrubs
44 Thiuaria involuta
top of beach
45 Cencimus echinatus
Common duners and flats
46 Cantrasia
common tree along top of beach
47 Tacca leontopodia
small colony in shelter of sand dune
48 Euphorbia
sand dunes
49 Amaranthus spinosus
sand dunes
50 Vernonia cinerea
sand dunes, common

Taiapan

shrub, hanging over edge of rocks, flowers lavender
shrub 2.5 m. tall, leaves, flesh, silver green, flowers white
prostrate, branches ascending, flowers yellow
leafless vine, yellow-green, fleshy, flowers white, fruit green
prostrate, forming low mats

Canephora

small tree 4 m. tall, leaves glossy, flowers white, stamens

Euphorbia

prostrate, pale green

herb 0.7 m. tall

flowers purple
25451

Ipsmoca pseudocaparoe
beaches

52 Malvaceum comandilianum
common dunrand plata
53 Euphorbia heterophylla
occasional in dunes
54 Isla
common in dunes and plata

55 Triumphia procumbens
occasional on upper beach
56 Euphorbia hirta
common everywhere
57 Casuarina equisetifolia
common along upper edge of beach

June 29. Tamapag, laipan.
small mangrove swamp
partially filled in with silted;
only one species of mangrove
seen, other associated
plants around edges.

Laipan
prostrate, extensively
creeping vine.
flowers purple, closed
in afternon

cract herb, bright
scarlet at base.
bushy herb up to 0.8 m.
tall, flowers dull orange-yellow.
white toward outside, (specimen
from several plant)
prostrate, flowers
deep yellow.
stems ascending,
arching at tips.
topp 10 m. tall, 2.5 cm. thick.
(these trees looks quite
healthy as do most
that are down along
raft, as contrasted
with those up in mountains.)

Acrostichum aureum
clumps among
mangroves.
25-258 Bruguiera
  dominant plant in calcareous
  tidal mud flat

59 Hernandia
  common around edges of
  mangrove swamp

60 Thespesia populnea
  common around edges
  of mangrove swamp

61 Ipomoea
  along roadside

62 Sigra latifolia
  marine
  edge of mangrove swamp
  along roadside and rubble heaps

67 Hibiscus tiliaceus
  edge of mangrove swamp

Taijan
  tree 5 m. tall with
  3 blunt, knee-shaped
  pneumatophores; calyx bright red, glossy;
  petals dull flesh-color; radical leaf (and root) hexagonal in
  cross section.
  tree 7 m. tall, flowers
  white, fruiting plump, pale green, not quite
  mature, born in
  clusters below flowering
  clusters at flowering time;
  stipules circular, # plugged
  by fruit when immature.
  small tree 4 m. tall;
  flowers pale yellow
  with deep purple-black
  center;
  vine, flowers purple,
  small (1 cm. across);
  prostrate, extensive;
  peduncles erect;
  flowers dull yellow.
June 29 - west of lake tusupi, Saipan.

Low ground on coastal plain.

Fence row

Spreckelsia, dulce
Fence row, commonest
Lowland tree.

Terminalia catappa
Roadside

June 29. Lake tusupi, Saipan.
Lake of clear, dark colored
water, almost fresh,
surrounded by marshes
of Paspalum vaginatum
and swamps of
Principally Acrostichum amami,
Chrom ovenia sp.
Hibiscus tiliaceus etc.
With a few large trees
Paspalum vaginatum
Pure stand forming
dense turf or not found

67 Acrostichum amami
Common in swampy
ground

Shrub 1.5 m. tall.

Rounded spreading
tree 8 m. tall with
fruit pendulous, coiled.
Tree 6 m. tall, flowers
white, fruit very young.
June 19 - Afetna (fusufu) Pk. (Taiwan).

June 29 - Marshes at pond about 1 km. S. of Lake Tumoy, Taiwan?

Margin of pond

Fusiform
abundant in water

June 27 - Pompes

70. Clenodendrum
abundant in swamp

Fusiform
abundant in water

72. Cyperus
common in edge of water

73. Lepturus
abundant in water

74. Indigofera suffruticosa Mill.
occasional near pond.

75. Ipomea reptans
abundant in mud

Flower, purple

76. Heliotropium indicum L.

Flower, purple

Semi-scandent shrub forming large masses.

Spreading shrub
2 m. long, flowers yellow, petals oblong, calyx toothed

culme terete

shrub 3 m. tall

Decumbent with ascending tips, stems pistillate, plant, sterile.

Fls. pinkish white
The island of Saipan is much less simple in its topography than Rota or Tinian. Like them it is principally a raised coral limestone, and a number of terraces are in places evident. There has been much erosion and probably other disturbance, resulting in a rather high mountain mass in the center (Mt. Tapotchau) continuing rather ruggedly to the north but sloping off rapidly to a low ridge in the south. Much of the western part, except in the north, is a broad coastal plain, variable in height but not more than 4 m. A lake of almost fresh water and a string of ponds and marshes lie along the inner edge of this coastal plain. Around the lake is an extensive swamp.
The island of Sarigan is much less simple in its topography than Rufo or Tinian. Like them it is principally a raised coral limestone, and a number of terraces are in places evident. There has been much erosion and probably other disturbance, resulting in a rather high mountain mass in the center (Mt. Tapotchao) continuing rather ruggedly to the north but sloping off rapidly to a low ridge in the south. Much of the western part, except in the north, is a broad coastal plain, variable in height but not more than 3 m. A lake of almost fresh water and a string of ponds and marshes lie along the inner edge of this coastal plain. Around the lake is an extensive swamp of Aeschynomene, Cleome, and Vasconia vaginata.

The marshes are filled with Heliconia, Jussiaea, Ipomoea, etc.

This island is so disturbed and torn up that it is little more than a great weed patch. All of the lowland has been under cultivation or bulldozed except the extreme strand, and even this is not undisturbed in many places. Most of the ordinary tropical trees characterize the lowlands, and are about the only thing there. Along the beach and occasionally inland are large Casuarina trees appearing quite healthy. *Triphasia triflora* covers the island forming thickets both in the low and middle altitudes. Passing from island almost another everything out.
One large ridge to the south of Mt. Tagotchau is covered by Miscanthus and has a slight development of the volcanic soil flora. The soil is thick and clay-like, but underlain by limestone. Otherwise the middle altitudes are either cleared, in thickets of Triphasis, Albizzia, and Acacia confusa. Patches of remnants of native vegetation such as Pandanus (vul.) and Ficus sp. remain here and there, but most of the brush and woods are Acacia and Albizzia, which are apparently competing for complete possession of the island. The Acacia, especially from a dense stand, permitting nothing to live beneath it. From a distance the mountain cliff, wooded, but most of it in these two species.

On the cliffs a many native species persist, both actually on them.
July 1, Mt. Aluto, Guam. Eroded slopes of volcanic soil, generally covered by Miscanthus japonicus, but eroded spots and sheltered places have a peculiar flora, similar but with more numerous species than that on Rota in volcanic soil. Several sedges, Leaveda pratensis, Wahlenbergia, Pianella sp., Pityrogramma, Blechnum, Pteris, Glossochilum, Bidens, etc., and several grasses.

25177 Leaveda pratensis comum

73 Mitracarpum comum

79 Euphorbia common

80 abundant

81 Desmodium triflorum common

82 Bidens gloriosa temulifolia local, in crevices among red rocks.

Guam

Euphorbia sp., Hypopodium cernuum, Glossochilum lineare, etc., all characterize it, besides a number of weeds, as Emilia tetragona, Stachytarpheta, etc., etc.

low shrub 1 m. tall, rounded; flowers white; fruit white, fleshy, erect, flowers white; grayish green; prostrate, flowers purple; flower yellow.
25v83 Curculigo
- bare soil
34 Wedelia lillia var. canariensis
- common
35 Pityrogramma
- occasional
36 Wickstroemia elliptica var.
- occasional
37 Genista campanulata var. mimosa
- one bush seen
38 Gleichenia linearis
- common
39 Glosidion
- occasional
40 Dryopteris
- common
41 Physcanthus
- local
42 Fimbristylis
- occasional
43 Elephantopus racemosus
- common
44
- occasional
45 Atlas
- common

Guam

flower yellow

Prostrate,
- branches ascending,
- flower yellow

shrub 1 m. tall,
- flower green
- shrub 1 m. tall,
- flower white
- forming dense low
- tangles
- shrub 1 - 1.5 m. tall.

erect, leaves sensitive
erect
- erect, flower white
- low bush, 0.7 m. tall,
- flower white
- glands erect from
- buried rhizome.
25 July

- *Irema orientalis* var. *inidii* var.

99 *Dianella*
- common

98 *Rynechozema*
- common

97 *Fimbriostylis schrenkiana* var.
- *foveata (Kiitler)* Ford

- July 1 - Ritidian Point, northern end of Guam. Thick wet forest on rough coral limestone at top of high cliff.

- *Cycas cincinnalis*
- common in forest

01 - common in forest

02 *Ficus*
- occasional, this specimen on cliff rim.

03 *Aplasia*
- occasional in forest

04 *Bikbia mariannensis*
- common on edge of cliff

- Guam
  - shrub 0.5 m. tall.
  - leaves green beneath, fruit purple when ripe.
  - loosely cespitose.
  - flowers and fruit white.

- tufts

- tufts

- cliff bordered by a high rim of dissected coral, about 4 m. high.

- trunk 1.2 m. tall, leaves ascending, constricted, bright tan, somewhat immature.

- tree 17 m. tall with rounded crown and drooping branches.

- buds with yellow color.
- small tree 4 m. tall.
- flower orange
  - shrub 1.5 m. tall, flowers white.
25305 loc. acc. W. V. Dhill saw to chance. on banks of dying branch of Aglaia (25303)
06 Cordyceps occasional in forest.
07 Hedystis fortitud. var.
08 common on cliffs and in limestone beds of them.
10 Bidibia mariannensis var. tos of cliff.
11 Minarda umbellata var. glandulosa. climbing in trees in forest.
12 Phyllaria involuta. common on level places.
13 Platostemma. inner face of rim of cliff.
14 Polyopodium scolopendrium. edge of cliff or rough limestone.
15 Cordia suber. Data cam. inner face of rim of cliff.
16 Bidibia mariannensis. just below edge of cliff.

Guam

942 for tall white flowers.
Black raised spots.
Small tree. erect.
Calyx accrescent. spiny.
Pale green.
Small shrub. up to 50 cm. tall. flowers white.
Plant felted when broken. shrub 15cm. tall. fl. white.
Woody vines. fruits yellow when nearly ripe.
Frustrate. mat. fomy.

943 erect.
Tree 5m. tall. flowers brilliant red orange.
Fruit green.
Small shrub. flowers white.
occasional in edge of cliff
in crevice of edge of cliff
common in rock crevice
mim of cliff
mim of cliff
just below rim of cliff
July 2 - just south of Agfayan Bay, south of Tumon Bay, Guam
reef flat, slightly exposed at low tide
very local
abundant all over reef flat

Guam:
shrub 1 m. tall, flowers pink, deeper at center, spreading tufts.
compact bush 1 m. tall, vine fruit red with green calyx
shrub, flowers white (photo)
sterile, rhizome buried in sand.
sterile, rhizome deep in sand, leaves distichous, mostly frayed off at tips, two lateral fibers persisting after leave not away
July 2. Plateau between Ylig and Talafos; river Southwest of Talafos 100-150 m.

25324 Hedyotis biflora
shaded roadside

same - pools of mud and water in depression on plateau, largely filled with sedges -

25 Eleocharis
common locally in mud

26 Rynchospora
abundant in mud

27 Heliotropium indicum
common in mud

28 common in mud

29 Timbristylis
common locally in mud

30 Lygodium
the plant seen, climbing in clumps of Miscanthus

Guam
open country, red soil with Miscanthus japonicus, but large areas denuded and covered by Baccharischantha.

plant almost prostrate, corolla white, minute.

Rynchospora, Twineea
Timbristylis (29p.)

culms weak, erect but supported by other vegetation.
large dense clumps

flowers pinkish

calyptrate, leaves equitant, distichous; flowers yellow.

calyptrate, dense clumps

viviparous sterile pinnae below, fertile above, becoming more or less auricate.
same - abandoned military camp.

Ficus persisting from former vegetation in yard

32 Emilia javanica around buildings (with E. sonchifolia) Nov. 31 25
33 Stachytarpheta indica (L.) Voelk very common everywhere in disturbed ground
34 Chloris inflata occasional
35 Mitracarpum common

July 3. - Togeha Bay, east coast of Guam. sand flats, back of beach, some rough coal

36 Pemphis acidula abundant on rough coral rock, "mugas" wood used for canes or swagger sticks.

37 Trumpet flower prostrate, not common
124 1946 Marianas Is.

1. *Wedelia biflora* var. *contorta*
   - common on sand

2. *Leucaena glutinosa*
   - common

3. *Mussaenda argentea*
   - occasional on sand

4. *Fimbristylis*
   - occasional on sand

5. *Vigna marina*
   - abundant on sand

6. *Colubrina asiatica*
   - common in thickets

7. *Lesueurium potulacastum*
   - rare on rocks
   - "chara" eaten cooked as a vegetable

8. *Euphorbia chlamydea* (Bisw.)
   - rare on sand

85 Guam

- "marigig" sometimes used medicinally
- prostrate, extensive
- with ascending branches
- shrub 7-10 m. tall
- flowers white, fruit white
- fleshy, "maráso" indigenous fruit
- shrub 3 m. tall; leaves
  - silver green, fleshy;
  - flowers white; "miq. kóto" carrephio, leaves somewhat stiffish
- prostrate, extensive
- peduncle erect; flower "ahakuri mahlo" yellow
- medicinal for many ailments
- semi-scandent shrub
- leaves glossy; flowers yellow; "gáváo" used medicinally for many ailments}
- prostrate, stems viscid
- leaves thick, fleshy;
- flowers pink within;
- leaves white beneath,
- flowers greenish;
- "betulagas undai"
July 3 - just south of
Ylig Bay, Guam
Thicket of Tischbia irsic
Triphasia on slope 50-65.

25346. Ochnosia appertifolia
Common "fago" nuts eaten, trunks
used for fuel.

47. Sporea
Common in clearing
"fago" leaves, bud to fruit, young the
masculine and adult the feminine.

48. Scolanum miganum
Common along roadside
and in clearings.

49. Capsicum frutescens
Roadside, "doni san" fruit, edible
leaves cooked with

50. Jasminum marinum DC.
In clearing

51. Eugenia palumbi
Thicket

52. Quamia sappi
Occasional in thicket

wood used for firewood
and for handles for forinos
(local hoe-like implements)
and axes.

Guam

tree 3 m. tall, roen. thick,
lacticiferous. Flowers small,
fruits yellow when ripe,
slightly reflexed, dispropo.
wind, turning over ground
and bushes, flowers blue,
still open at noon.

Hele 1/2 m. tall; rip.
fruits black, flower
white.

Small shrub; flowers
white; fruit red when ripe,
recedent shrub; flower
white.

Shrub 1 m. tall, flower white.
"doni changa"

Small tree 4 m. tall,
leaves thin; flowers
greenish, yellow, timeous
petals, fleshy, rugose
within; fruits immature,
carpsels radiating in
all directions. "paipai"
54 Gymnosporium

occasional in thicket

July 3 - Valley just back of Pago Bay, Guam
roadside

mainly Hernandia and Hibiscus tiliaceus, covered by vines.

55 Hernandia

common

"nana" leaves and cambium applied fresh to boils, seeds used by children for mantles.

56 Hedyotis biflora

common along small dirt road

57 Hibiscus tiliaceus

very common generally

"pago" bank of young shoots, wood sap; roots, wood ashes in boats; used as medicine for boils.

Guam

small tree 4 m. tall, fruit green, "myelon" wood used for house foundation

semi-scrambled shrub, fruit reddish green, "lalukat" used medicinally.

tree 12 m. tall, leaves glossy; flowers white

3-4 merous, stigma horse-shoe shaped; fruiting peduncle red, inflated, when ripe, with round orifice.

stems ascending;

leaves thin; flowers white, corolla tube swollen "pan dere" used medicinally.

low shrubly tree 4 m. tall, leaves dark green above;

flowers pale yellow with maroon. 
July 3, just east of Mergo, south end of Guam. Mud flat just developing into a mangrove swamp.

25753 Denis triploites common in thickets

25754 July 3, just east of Mergo, south end of Guam. Mud flat just developing into a mangrove swamp.

59 Bruguiera common locally. "mangle" wood used for rafting on house, back used for dyeing fish nets and lines. Dark brown no fish want to them.

10 Intis lajuga occasional along shelf

vines climbing over shrubs leaves glossy, bud glands. "bangan" vines used for tying bundles of wood and for weaving bamboo strips for fish traps.

Small tree with blunt knee-like pneumatophores; calyx shiny, red; corolla dull fleshly orange; developing radicle bluntly hexagonal in cross section.

Small tree 5 m. tall. "ifil" wood very valuable, used for construction, flooring, furniture, carving. also for charcoal.
Thebesia populnea
common along shore
"banalo" or "kilili"

32 Rhizophora mucronata
occasional in mud

63 Casuarina equisetifolia
common along beach

July 3 - just north of Talofofo Bay, Guam
trees on slope tangled with vines, brush
mostly Triplochiton.

63a Dioscorea
common (wild variety)
"gago" roots eaten; leaves used for

69 Cordia subcordata
occasional

69 Premna oblongifolia L.f. (prettico)
occasional

leave used medically
for disease like pneumonia.

July 4, Inarajan, N.E. coast
of Guam
dissected rough coral
on edge of sea, mostly
covered by Nephrissa acidula

Guam

small tree 5 m. tall,
flowers pale yellow,
tuning reddish

fruit used by children to make tops

small tree 3 m. tall,
with arched pret wood,
tree 8 m. tall; branched drooping
"gago," very hard wood used
for foundations for houses, also
good for charcoal; leaves used for
smudging mosquitoes, at
night.

tripe covered ever

everything, sterile,
medicine for fatigue and stomach ache.

small tree 5 m. tall,
fruit immature
wood used for house foundation

small tree 4 m. tall
leaves dull, much
affected by a gall; flower
green, "again" valuable wood,
"good" "gago" termite, don't like it.

Scaevola frutescens
also prominent.
1946 Marianas Is.

25366 Amaryllis
gravelly flat back of roxby
edge of water

67 Callicarpa
gently common rough
rubber

68 Hedyotis albidopunctata
in holes in rough rubber

July 4 - Umatag, Guam

69 Laminaria canaensis
cultivated in village

July 4 - Merizo and vicinity
south and off Guam
moist coastal plain
almost completely
under cultivation but
speedy and with thistles

70 Pandanus tenarius
wadsides

Guam

Cluster of bulbs rooted
but exposed; flowers
with perianth segment
white with a rose-purple stripe along
center.

deepened shrub,
flowers pink

flowers white, lobes
patent, oblong-lanceolate

shrub 7-8 ft. tall,
trunk 6 cm. thick, gravel,
flowers white, fruit immature

tree 6 cm. tall, fruit
ripe, orange-yellow,
rather unpleasantly fragrant;
nuts eaten but flesh
very irritating to mouth
and throat.
73 Ixora
   cultivated as an ornamental
   weed around building
   and thickets

74 Noronha charantia

75 Jatropha curcas
   in thickets

76 Mariana 75

77 Guam
   shrub 2 m. tall, flowers white.
   vine, extensively climbing, flowers yellow, open in morning, closed and dropping in afternoon; fruit, red-orange, elastically deliquescent at touch, said to have been brought to Agaña from Puerto Rico, then the local priest, Father Mariano, brought it to Meno before the war, planted it around the church. Now it has spread into the surrounding areas.
   small, spreading tree, later thin and drooping, flowers green, fruit, yellow when mature, dry nuts still hanging on tree. "tuba tuba" sap used for blowing bubbles, nuts eaten but only in small quantities, also strong and burned in place of candles. "chiquan Malojo" fodder for cattle.
25375  Apotulaca seracea
        disturbed ground

76  Cassia
    probably planted, near
    dwellings.

77  Vernonia cinerea
    common weed

78  Baspalum
    occasional in open

79  Euphorbia hirta
    very common

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80  Chyllanthus minor, M. P. Welata
    common everywhere in open
    zones viscosa L.

81  Polanisia licandra
    common in disturbed ground.

82  Dioscorea
    cultivated

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Guam

fleshy, depressed, ascending,
flowers yellow, stamens
about 10. "bedulagas
langulu" eaten cooked
as a vegetable.

shrub 1 m. tall, flowers
yellow, pods teete.
"amot tumaga" leaves used medicinally.

flowers purple.
"chaquon santa Maria" "laho" for fodder

arching, "gothandina"
both leaves and roots
used medicinally & curr

erect herb "maigalalo"
used medicinally, plant
boiled in water and
water drunk for dysentery.

bushy herb, flowers
yellow. "mang3 palma" used medicinally;

seeds eaten by pigemy.

vine climbing into lower
branches of trees. "mika"
tubers eaten. used
medicinally for stomachache.
Tacea lentopodioides
cultivated (occurs both planted and wild)

Hibiscus
occasional

Pachyrhizus erosus
cultivated

Dioscorea alata
cultivated

Dioscorea alata

Dioscorea alata

very common

Urena lobata
common weed in waste places

Pteridium scolopendrium
occasion

Guam
"gab gab" tubers used
for making starch for
food for invalids

"hamang" plant soaked
in water and mucil-
aginous extract drunk
for cooling effect by
people in hot weather. Also medicinal.

vine, sterile. "hikama"
tuber eaten.

vine, sterile. "dago agaga"
(red yam). Tubers eaten,
scrapped and made into
paste.

vine, sterile. "dago haya"
(pronounced haija),
tuber eaten, not best yam.
sterile vine "dago apacu"
root eaten.

extensive vine
"alamli" used as fodder.

"dadi sji agaga" leaves and roots boiled
and used medicinally.

pends erect from creeping
ghigone. "kahalas"
used medicinally.
142 1946 Mariana Is.

25392 Ficus tinctoria

94 Chryllanthas
    Calophyllum inophyllum scattered

95 Colocasia esculenta
    cultivated in low places

96 Cenopodendron
    in thickets

97 Theretia peruviana
    ornamental, semi-wild

98 Colocasia esculenta
    cultivated in low places

99

143 Guam

small tree. "booda" used medicinally to treat children with coated tongue and throat as in diphtheria.

well formed tree "dagq" or "pala maria" wood used for bull-cast wheel hubs and axles. One of toughest woods available. Often used for carving.

petioles pale green "suni pasencies" or white tars; leaves and stems cooked and eaten. semi-scandent shrub "lodigan" boiled and water drunk to remedy fevers.

small dense tree, flowers bright yellow. petals, deep red-purple. "suni agaga" a red taro mature leaves and stems eaten. sterile clumps "mumutung palawan" used medicinally (distinct from 3546)
144 1946 Mariana Is.

25408 Areca carambola L. growing on edge of field, probably planted

01 Mangifera indica scattered in field

02 Marinda citrifolia very common

03 Mucuna gigantea common

04 Heritiera littoralis rare in low thicket

05 Bryophyllum calycinum common along roadside

06

Guam

small tree with red inflorescence of rose purple flowers with white edges; fruit with 5 strong ribs. "belimbo." Fruit eaten.

Large dense tree "carabao mango," best of local mangoes: fruit large, not fibrous, said to be propagated by seed and to come true.

small tree, flower white; "lada" leaves applied to forehead to cure headache.

vain, sterile. "gaje" used medicinally.

thumb, sterile. "liga" wood used for bull-cast hubs.

rect., fleshly, sterile. "zelenzina" medicinal. erect, clumps, somewhat aromatic. "mamutung cake" not used distinct from #25399,
25407 Tribulus trifoliata
forming dense thickets
in fence rows, road sides,
and all uncultivated places.

08 Rubus precatorius
common in thickets.

09 Physalis lanceolata
weeds in cultivated ground.

10 Cyclophorus
epiphytic on tree trunks.

11 Taeniophyllum
epiphytic on tree trunks.

12 Muntingia calabura
common.

Guam:
deep tangles of very
springy bushes fruit
dark red when ripe
"limon de china" fruit
eaten when ripe by children.
green fruit used for glue.
(a serious pest, making
walking very difficult
of the trails).

Vine climbing
small tree, seeds
scarlet, with black
end "kolola a uniti"
(Devil's beads) used
for making necklace.

Flowers pale yellow.
"tomato kahului"
fruit edible, used medicinally.

Fonds fleshy. "galala"
(one of several plants of
this name) leaves and
roots boiled, made
taken for stomach ache.

Green roots flattened
against tree trunks
"gamsen" (octopus grass)
used to cure pimples.

Tree 5 m. tall, flowers white,
fruit pink, sweet "mangantea"
fruit, eaten.
148

**Lecaena glauca**
very abundant in thickets and everywhere, used as fodder but not for making necklaces and ornaments.

15

**Ficus benjamina**
cultivated and spontaneous in cultivated ground.

16

**Pithecellobium dulce**
very common

17

**Cestrum nocturnum**
cultivated around church.

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**Guam**

Small tree 4 m tall, flowers white, "tagantagi"

Leaves up to 1 m, turn high, bluish green, with a distinctly angular between petiole and blade. "yautia"

Tuber used for food, young leaves also as a green vegetable. Older leaves boiled with coconut milk and fed to pigs (generally believed to come from Hawaii)

"chaquan far" (several grasses called this) used for fodder.

Tree 8 m tall, spreading, rounded, dense, flowers white "kamachili" (fruit edible, cows and goats eat leaves, bark used for tanning, wood used for house foundation, sometimes planted for hedges.

Shrub 4 m tall, flowers greenish-white, very fragrant at night, "dama de noche"
25418 Cassia occidentalis
weed everywhere

17 Stachys tapetiana (L.) Kuhl
weed in disturbed ground

20 Sida acuta
weed in open places

21 Acalypha indica
uncommon in open places

22 Lygodium nodiflorum
common in disturbed ground

July 4 — Hill between Meriyo and Umataq
south end of Guam
basaltic volcanic soil

23 Canthareuspermum scabaeideae (L.) Baill,
very common

24 Hypo masticum (L.) Poj.
common

25 Euphorbia
common

Guam

horr. 1.5 m. tall, flower
yellow "amo tumaga
"carabaos"

horr. 1 m. tall, flower
blue-violet "dadalaqe
"scoutilla anakoo" (beams
of long leaves). used
for brooms."

"mutumung umai"

flowers yellow
"saigen" toddle only

Turnings vine with gray
leaves, yellow flowers;
"hakeqanates aniti"
"devil's peanuts"
leaves used medicinally.

strongly aromatic
"mutumung" not used.
when it grows vigorously
it is thought to induce fatig. of
seat, lactifarious flowers
white "poloundina"
1944 Mariana Is.

July 6 — Numerous hills north of Mt. Tenjo and Mt. Alutum. Guam weedy disturbed places, largely thickets of Vernicana.

27 Ipomoea triloba L. climbing in thickets
28 Bixa orellana thickets
29 Waltheria indica L. edge of thickets
30 Ageratum conyzoides edge of weedy thickets
31 Indigofera suffruticosa L. thickets
32 Castaloria quinquedentata L. weedy roadside
33 Lythrum flavescent rhizoma open weedy hilltop on bare ground
34 Desmodium triflorum creeping in bare spots and among weedy common
35 Heliotropium ornithopodum common in disturbed places

Guam

many decumbent & ascending stems from a w.p.crown.

vines, flowers dull purple.
small tree 1 m. tall, fruit dry.
herb 1 m. tall, flowers yellow.

suffruticous herb 1.5 m.
tall, flowers salmon pink.
flowers yellow, pods inflated.
flowers yellow.

prostrate, flowers purple.

plant grayish; flowers white.
Fundamentally, Guam exhibits two main vegetation types. One well correlated with the two types of substratum—raised coral limestone and volcanic tuff. The limestone in parts has weathered to produce a rather shallow red soil that is friable and apparently fertile. In most places where this is deep enough, the forest has been cleared and the land planted to coconut or other crops. In places where the soil is thinner, even the rough coral is exposed a thick wet forest with many epiphytes forms a complete cover. This is largely Pandanus, Ochrosia, Gomphocarpus, Areca,克拉科斯等, and several species of Ficus, with Cyca, Clusia, and several smaller shrubs. This forest covers much of the island and occurs in the southern part where the volcanic material is covered by coal. This forest may be regarded as a modified strand forest, but more...
mesophytic than that on Rota. It lacks the Hernandia and has more species of non-strand plants. This vegetation is probably what logically may be expected when typical strand vegetation is elevated over a period of many years. The conditions tend to become less and less halophytic as the rain-water washes the salt and excess alkali out. The continual influx of propagules that always takes place produces more and more effect — more and more invaders find conditions to their liking and become established. A succession takes place, enormously slow, toward a mesophytic condition.

In such places as cliffs, cliff tops, forest is not so well supported and

Guam

other more pioneer species such as Physanthera, mariannensis, Hedypodi, Foetidus, Bissinia, ete. are found.

On the coastal plain, which is usually coal sand or slightly raised dissected coal, tree-stump, or low muddy strand land, true strand conditions prevail. The usual fringes of Licaeola, Pedersen-, midin, Colubrina, Hesperocarpus, caprae, Wedelia, Cassytha, ete. line the sandy flats. The rocky parts have Pemphigus eudela, very abundant with Licaeola, Calliscarpa, Hedypodi, Allelo, Punicaria, Fimbrystylis, Cyperus, ete. Out in the reef flats in shallow salt water are two seagrasses, 25322, 25323 very abundantly.
The low muddy areas have Bruguiera and Rhizophora, with Thespesia, and Casuarina around the edges. The land back of the beach supports a forest of Hibiscus tiliaeaceus, Thespesia, Hernandia, Intia siroga, Gnettarda, Lthisella, Stenocarpus, Clearedon, Casuarina, Cocos nucifera, Maitoa citrifolia, Pandanus tectorius, Clearedon, etc. This has in most places, especially where it is not been disturbed so much that it is hard to tell if any is really primary strand forest.

This whole coastal shelf seems to be a few feet above sea level and is being gradually cut down, as evidenced by the remnants of raised reef left here and there. The cutting may well have been reduced now to that by solution and subaerial erosion because of the development of a fringing reef.

Much of the subsistence agriculture of Guam is on this coastal shelf. Coconuts are abundant, as are breadfruit, yams, mangos, grow spontaneously. Hogs and cattle and chickens are apparently common, though rare now.

In all disturbed areas, of course, weeds are enormously common. The most prominent is Lumaena glabella which forms thickets everywhere and tends to develop into a thick small forest. Triphasia trifolia runs it a close second, forming impenetrable tangles everywhere.
Carica papaya has developed a small-fruited variety which has truly become a ubiquitous weed, especially in disturbed limestone areas.

One of the most distinctive vegetation types in that of the areas of volcanic exposure. It is essentially a grassland which seems to be an early successional stage. The dominant plant is Maearthium japonicum, which forms dense brakzes over much of the area. This is frequently burned off and renews itself as a characteristic feature, in various stages of recovery. On these, and on ridges, rock outcrops, and other places where the sword grass is either absent or sparse, there is a flora similar to that of the volcanic regions of Rota and Saipan, but much richer in species. Several species of Limbristylis, Heteropogon, several other grasses, Gleichenia linearis, Lygodium, comm. U. Blechnum sp., Lygodium scandens,
**Phyllanthus**

From the herbaceous crown, *B. Bieda* (Gomphrena) sp. is rare in rock crevices. Prominent shrubs are a melastone, *Wikstroemia*, a tiny-leaved myrtaceous plant, *Glochidion* sp., *Genistoma*, *Dodonaea* (rare).
July 10. Fassanai Islet
around village in coconut plantation

Centella asiatica (L.) Urb.

40. Vernonia cinerea (L.) Lehm.
common

41. Hibiscus tiliaceus L.
thicket

42. Eugenia
small grove

47. Premna obtusifolia R. Br.
scattered

44. Ocimum basilicum L.
around houses

45. Tacea leontopodium (L.) K.K.
common everywhere

Withithi
soil sandy, even a wetter beach
prostrate form in patches, "pengapem"
flowers purple,
spreading tree "hulifin"
tREE ON inner bank
used for making
"grass" shoots and wreath
wrapped around for women.
tree 15 m. tall, buds
and fruited few, fruit
fleshy rather
fleshy, greenish white,
seed free from pulp
"hanarath," fruit eaten.
small tree, flowers
pale green, aromatic
"yar"
very aromatic, leaf hairs
and calyx purple, filaments
white, "rayungr" erect cauliflorous herb,
"mog mog" some say
tuber is eaten, others say not.
168

254 46

1946 Caroline Is.

Citr

in village

47 Zoyaia matrella (L.) H. & N.,
planted around houses,
forming small patches of lawn,

July 11

48 Alcaasia macrochiza (L.) Schott,
everywhere around village

July 11 - same, outside of village.

49 Encephala chamissonis (Bess.)
common in open grove
under coconuts

50 Lepidus repens (L.) var. cinereus
open ground under coconuts

51 Fimbriostylis cymosa (B.B.)
common

52 Fueriana maritima (L.)
common on outer beach
on sand

53 Pomplic acidula Forsk.
common on outer beach
on sand

Ulithi

small aromatic tree,
odor of lemon oil
"hurum hurum market"
dense turf, "pavil" said to have been brought
by Japanese from Palawan

stem 4 dm. tall, mature
spathes appendage
pendent. "Belle" aboriges
said to be eaten

prostrate, caustiferous.
leaves white beneath,
flowers green.
"marbulang"

prostrate, not at all

52 tufted, forming a thin
mat "fitheh"

3 "fogor"

shrubs up to 2 m. tall,
tree-like, flowers yellow
"nowi"

53 small tree up to 6 m. tall
flowers white "hangi"
170
25454 Calepiflyium implexifolium L. common generally
55 Hernandia armata rare on outer beach
56 Wedelia biflora (L.) DC. common near inner beach
57 Scaveola fruticosa (Mill.) D.C. occasional on outer beach, cathartica Thomas
58 Canavalia microcarpa (DC) Raf. common on outer beach
59 Vigna marina (Burm.) Merr. common
60 Cassytha filipendula L. occasional, parasitic on various plants, especially Wedelia
61 Pandanus tectorius Parl. common
62 Terminalia citralis Linn. (with H. Turner)
63 Trumfettia procumbens Foot sandy beach

Withi
Tree 5 m tall (others up to 10 m.), sterile. "fleh" sterile shrub 3 m tall "hohol" prostrate, branches ascending, flowers yellow "yath pul" shrub 1 m tall, flowers white. "lith" wine climbing in trees, fruit on dead vines. "holi" prostrate, peduncles erect, flowers yellow, "holi" green leafless vine, flowers white. "muli" tree 6 m tall, fruits yellow, fragrant, edible. "fats" tree 3 m tall, flowers white, fruit somewhat immature, slightly heeled "kil" prostrate, sterile "harah"
172 1946 Caroline Dr.

25464 Canavalia microcarpa (DC) Poirin (with H. Townes)

65 Guettarda speciosa L., water, beach, occasional

66 Barringtonia asiatica (L.) Kurz (with H. Macmillan)

67 Ficus tineotricha, F., occasional

173 Within vine sterile "bole"

Fused medinically for stored tree 6 m. tall; flowers white, fragrant, "yuth" large tree, 100 flower and fruit on ground beneath it, stamens pink distally petals white; "kuel" trunk used to make canoes, fruits not used to poison fish.

Slender tree 4 m. tall, fruit orange, yellow "banal" fruit eaten.
July 11 - Mog mog Islet
gravelly substratum
with a line of
bitten coral at outer beach
flat, planted to
coconut except large marsh
in center, planted to
Cryptosemania, this
filled with mud.

69 Allophyllus
rare

70 Guettarda speciosa
common

71 Melochia
occasional on outer beach
on flat that apparently
has been cleared

72 Vigna marina (Linn.) Mem.
common on open
flats near channel edge

73 Lippia angustissima
abundant on flats near
channel and outer beaches
seeding over whole
island.

slender tree 4 m. tall,
flowers white; fruits
green, old ones picked
up under tree

- slender tree 4 m. tall,
- flowers white;
- small tree, ripe
- fruit white, fleshy.
- stem 1 m. tall,
- flowers pink, much
darker in center.

Prostrate, flowers
yellow.

- shrub 1.5 m. tall,
- flowers greenish
1946 Caroline Is.

25474

1. Triumphs a much more abundant in beach
2. Wedelia biflora (L.) DC.
3. common in beach
4. and in edge of forest

76. Diptrix argentea
abundant on flats near channel and outer beach, seedlings on whole island.

77. Terminalia littoralis
rare on open flats

78. Canavalia microcarpa
abundant in patches of forest near outer beach

79. Ficus
common near outer beach

80. Asplenium nidus
occasional in patches of forest

81. Nephrolepis biserrata
occasional in forest and around bases of coconut

82. Clatostemma
common locally in patches of forest on broken coral

Within

prostrate, extensive; flowers yellow
prostrate with ascending branches, strong reminisced when broken; flowers yellow
shrub 1.5 m tall; fruits fleshy, white; achenes superficial

shrub 1.5 m tall; fruits immature somewhat flattened; vine climbing in trees; flowerhead pubescent; fruit or dry vine; tangan type fig; 15 m tall; figs green; rosette, leaves ascending

leaves ascending

stems very fleshy; large leafed plants in shade, small in open.
178  1940 - Caroline Jr.

29/4/73  *Marinda citrifolia*  
  occasional

34  *Ficus tinctoria*  
  Fort.  
  common

35  *Canna*  
  occasional in Cyperus marsh

36  *Achyranthes aspera*  
  occasional in open
  under coconuts

37  *Cyperus*  
  common around edges
  of marsh just above
  wet ground

38  *Carabpea*  
  in much of marsh in
  channels between
  Cyperus marsh plant.

39  *Astrocarnus altiflorus*  
  (Natl.)  
  Fork.
  common

40  *Astrocarnus*  
  common

41  *Portulaca quadrigera*  
  common, especially
  near dwellings

42  *Alocasia macrorhiza*  (P) Schott
  very common, especially
  around village

Ulithi

small tree 4 m. tall,
  flowers white
  shrub 2 m. tall,
  fruit fruit orange-yellow,
  erect, 2 m. tall; leaves
  brissle-green;
  flower scarlet
  erect herb, up to
  1 m. tall, flowers
  bright white within anthocaulis
  small tufts

stirps, very weak,
  finds strongly dimorphic
  tree 20 m. tall
  fruit eaten
  tree 15 m. tall
  fruit eaten, also by bats
  plant flat
  flowers yellow

plant 1.5 m. tall, stem
0.5 m. tall; spathe
appendage long-purple,
pendent
25497  Ipomoea per-capitae
open flat back of beach.

94  Fucianum maritimum
open flat back of
channel beach.

95  Carica papaya
common everywhere.

96  Euphorbia characias
common on gravel ridge
back of rain beach and
on gravel flat.

97  Euphorbia thyrsifolia
common, especially around
dwellings.

98  Echinochloa
one plant seen

99  Phyllanthus
rare in edge of patches
of forest.

25500  Echinochloa
common locally.

01  Paspalum conjugatum
bare in edge of patches
of forest.

02  Themistylei eymoza
common.

03  Acalypha
occasional in open under
cocoanut.
05 Eclaysia indica (L.) Ganti
common

06 Colocasia esculenta (L.) Schott
cultivated in marsh

07 Cyrtosperma chamissonii (Schott) Mom.
cultivated in marsh
Cyrtosperma meikusi (Roshkov) Schott
det D.M. 6/6/98

08 Lagerstroemia

09 Euphorbia vitellina
weed around base of coconut

10 Phyllanthus niruri
common

11 Vernonia cinerea (L.) Less.
common

12 Catalpa speciosa Volk.
common, planted

17 Cucumis
common, planted

15 Blechnum penna-marieanum
occasional, local

16 Eclipta alba (L.) Hassk.
occasional near marsh

14 Ophiopappus compositus (L.) Pauw.

within
prostrate, forming a loose mat.

leaf dull above, petals green, corn eatable
plants more or less racemose, leaves up to 1 m. tall,
petiole more or less prickly, slightly eaten

prostrate

erect

flowers simple, small tree, fruit eaten

prostrate, flowers deep yellow, fruit a whole-node
prostrate to ascending
25517  * Fleurya underales Gaud.  
      common
5  18  Passalum  
      common locally near masts
1  *17  Cyperus brevifolius  
      occasional
1  20  Polypodium reptependium  
      common, especially on bases of trees
3  21  Potulaca ulteracea L.  
      common in forest districts
1  22  Ipomea batata L.  
      cultivated extensively
5  23  Eragrostis amabilis (L.) Willd.  
      common
5  24  Pilea microphylla (L.) Lube  
      common locally
5  25  Hedypogon biflora  
      abundant in open places and under cement
4  26  Oximum sanctum L.  
      dodgand
5  *19a  Jussieae suffruticosa Mig.

Ulithi
stem fleshy, reddish; does nototing.

culms spreading - ascending

heads green

fonds erect; rhizome extensively creeping.

plant fleshy, purplish green.

prostrate, root eale; "canele" spreading tufts

prostrate, fleshy

prostrate; flower white, corolla tube swollen

very aromatic

flowers white

flower, yellow
Plants collected by Kafi J. Pelger

1. *Ixora coccinea*
   "achéu"

2. *Polyscia canadensis* var. *velata* "achene cha" Wöna (Moen)

3. *Opuntia microcorma* Deux. "afá la fi"

4. *Glochidion*
   "aféri"

5. *Curcuma*
   "afíin"

6. *Parinaria globifera*
   "afir"

7. *Parinaria globifera*
   "afr" (afr) Tol

8. *Hernandia ovigera*
   "akurang"

9. *Cordia subcordata*
   "alou" Toloas (Dublon)

10. *Cordia subcordata*
    "afí" Tol "alou" Moen

11. *Mesembryanthemum argenteum*
    "amalose" *Wöna* (Moen)

12. *Nephrorhopis*
    "amare" *Wöna* (Moen)

13. *Mesembryanthemum argenteum*
    "amalose"

14. *Cyperus javonicus*
    "emóle" "emele"

15. *Nephrorhopis*
    "amáre"

16. *Glochidion*
    "amas" *Wöna* (Moen)

17. *Glechoma linearis*
    "órécha"

18. *Ano* Wöna (Moen)

19. *Acrostichum aureum*
    "apotse" (Tol)

20. *Acrostichum aureum*
    "apaseu"

21. *Eugenia*
    "apeli" Tol

22. "apó" Wöna (Moen) "sofian aka" "safian sakt"

23. "apuap"

24. "apuap"

25. *Chirochaetaeum eneeme*
    "apupei", afo

26. *Ficus tinctoria var. neo-chardaeum* (summ.) Fok.
    "aou", "apupei" fruits are eaten

27. *Russia alba*
    "arakak" Tol (Tol)

28. *Terminalia catappa*
    "asas"

29. *Miscanthus floridulus*
    "asat"

30. *Pandéca Carolinensis* (Kal.)
    "asepet" Tol, asepar Moen
1. *Wedgeia biflora* "atua" 
2. *Wedgeia biflora* "atua" 
3. *Jassidea suffrutescens* L. "aunuipuin" Wina (Mo)  
4. *Erucaea agallocha* "ansus" mangrove 
5. *Eucus triandra* var. neo-ehدا (Eum) Fock. "mauk" Mo, "auol" Tolu (Tel) 
6. *Psychotria carolineensis* Cheime 
7. *Psychotria carolineensis* var. Cheime Wina (Mo) 
8. *Solanum* "chi" yellow fruit apples 
9. *Pilopeium scolopenderia* "chichi" 
10. *Colocasia esculenta* "chimok" Tolu (Tel) 
11. *Colocasia esculenta* "Chimok" Mo  
12. *Randia carolinensia* "chomis" - Toloa (Dubon) 
13. *Pittosporum* "erenges" Tel, "omeput" Mo; small white flowers 
14. *Ipomoea digitata* "Emechimech" Tel; Mechimach Mo  
15. *Gelsemium* "aoure" 

40. *Pomphus acutula* engi Wina (Mo)  
47. *Piper* "Ennes"  
48. *Piper* "Ennes" Wina (Mo)  
49. *Discorea* "ep" Wina (Mo)  
50. *Chrodactyon merme* 

53. 60 77 
112 

Duplicate number 62. 
One is registered in the other is Cypers (Mo)
Check on these notes
names
53
60
77
112

Duplicating number
62.
One is registered in
the # book, the other
is Cyperus
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<td>engi Wōna (Moen)</td>
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<td>32 Wedelia biflora</td>
<td>45 <em>Piper</em></td>
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<td>&quot;atua&quot;</td>
<td>Ennes</td>
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<td>46 <em>Piper</em></td>
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<td>&quot;Ennes&quot; Wōna (Moen)</td>
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<td>34 Erocaria agallocha</td>
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<td>&quot;ansus&quot; Mangrove</td>
<td>&quot;ef&quot; Wōna (Moen)</td>
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<tr>
<td>35 *Ficus&quot; victoriae var. neo-chuanduam (Sumna) Foh</td>
<td>48 <em>Clerodendron inermis</em></td>
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<td>&quot;maul&quot; Moon, &quot;auöl&quot; Tou (Tel)</td>
<td>pucheriik (ast), etin (ost)</td>
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<td>36 <em>Psychotria carolinensis</em></td>
<td>49 <em>Eugenia</em></td>
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<td>&quot;chi&quot; yellow fruit apples</td>
<td>&quot;imineriru&quot; enffaiten</td>
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<td>52 <em>Acrocris pendunculata</em></td>
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<td>&quot;kimuit&quot; Tou (Tel)</td>
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<td>40 <em>Colocasia esculenta</em></td>
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<td>&quot;Chimok&quot; Tou (Tel)</td>
<td>&quot;Kotom an Tapan Wōna (Moen)</td>
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<td>&quot;Kotom an Tapan&quot; Wōna (Moen)</td>
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<td>42 <em>Randia carolinensis</em></td>
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<td>&quot;Chörni&quot; - Tolas (Dublin)</td>
<td>&quot;kuchun(s)&quot; (flowers in dez.)</td>
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<td>&quot;zirenges&quot; Tou, &quot;oneput&quot; Wōna; small white flowers</td>
<td>&quot;kon&quot;</td>
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<td>44 <em>Ipomoea digitata</em></td>
<td>57 <em>Jussiaea suffruticeosa</em></td>
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<td>&quot;emchiemeh&quot; Tou, nechimch Moon</td>
<td>&quot;hikainapal&quot; Tou (Tel)</td>
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<td>45 <em>Gladiolus</em></td>
<td>58 <em>Centaurea frutescens</em> (L.) B. D.</td>
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</tbody>
</table>
61 Hibiscus moschatus

62 "Likgek-" Tou (Tel)

63 "Maras" Moon "pwo"nu"- Tel

64 Ficus tinctoria var. neo-ebudanum (Bunn) Forb.

65 "Mok" "Wena" (Moon)

66 "Mechenkato"

67 "Pisonia grandis"

68 "Mou" "Wena" (Moon)

69 "Nonphophallus"

70 Kleinhovia hospita

71 Luffa cylindrica

72 Guettardia speciosa

73 Allaphylus

74 "Ngo" "Wena" (Moon)

75 "Niko shopu shopu" Wena (Moon); Comes on Mai, Ju, Vu, Vich
91. *Thebesia populnea* "pōlo"

92. *Thebesia populnea* "pōlo"

93. *Cynosperma*
   "pula" *Tou* (Tel)

94. *Xylocarpus*
   "munukum" (Ton)

95. *Calophyllum inophyllum*
   "rākīch" *Wena* (Moen)

96. *Sonneratia caseolaris* alba
   "saras" *Tou* (Tel)

97. *Sonneratia caseolaris* alba
   "saras"

98. *Hedychium coronarium*
   "singei" "singei"

99. *Sid acuta*
   "siohen" *Tou* (Tel)

100. *Zannichellia racemosa*
    "son" *Tou* (Tel)

101. *Hibiscus moschatus*
    "sūtumo" *Wena* (Moen)

102. *Fagraea*
    "sour" *Uman"

103. *Cordyline terminalis* (L.)
    "finehol" *Tou* (Tel)

104. *Cordyline terminalis*
    "finepor" *Tou* (Tel)

105. *Calosia argentea*
    "Tol's chako"; *Uman* is

106. *Hedychium coronarium*
    "fumun en wan"; introduced

107. *Commersonia bartoniae*
    "typkhol" *Tel"

108. *Macaranga*
    "typununwul" *Tou* (Tel)

109. *Pemna integrifolia*
    "umei" *Ulena* (Bun)

110. *Pemna integrifolia*
    "umakau" *Ulena* (Moen)

111. *Pemna integrifolia*
    "umakau" *Wena* (Moen) Tongačhau

112. *Eugenia*

113. *Schofflera*
    "ūrūsa" *Tou* (Tel)

114. *Ceyson* or *Ocimum*
    "warung"

115. *Kumini serana* *Horea*
    "wei" "Wena* (Moen)

116. *Ochna candel∗*
    "wengā" *Tou* (Tel)

117. *Hibiscus schizopetalus*
    No native name; introduced *Wena* (Moen)

118. *Lycaenium cernuum*
    "dava did not know the name, grows only on Mt. *Tānā*"