

Perma Hide®

MEMO BOOK

NO. M46

100 SHEETS

29¢

NEW YORK LOOSE LEAF CORP.



B. d. John a Jones
2179
2185
~~2188~~ Manchester
2201
2206
2207 - [2224]
2227
2239 choo
2249 hoo
2253

↑
These are
missing
HK

2179 Jan Schmanthaus

2185

2224

~~2188~~ Messing

2201

2206

2207

2227

2239

2249

2253

2224

cheo

has


These are
missing
HK

2208 - only 1 label
in pack of

~~2208~~ 3

2224

is in the lab.

V. x ramificae en matorras repit.

O. latifolia Coll. ~~Herb~~ de
Lanitas, Pinaro, 1971

Cryptoboa pinioides.

Paraná, Santa Rita.

R. L. Dressler 4037 - June 26, 71

(an epigynum very broad, from
Paraguay, at least, from
a terminal node of a
strobilus axis.)

March 21. Ubatulo (1)

2181 *Pisic*^{syphatica} soil # 14 (4 vials)

2182 *Panare lanceolata* (3 vials)
soil 13

March 22 soil 15.

2183 - *Roddie portoi* 5

2184 - *Cremite* 4 soil 16

2185 - *Jehusentus* - 1 vial

Terminete portoi die mescole

21, *Porto die ripinita*, 22

minimum 72°F

maximum 78°F (plant

level - (die ant: 68°F, 78

Soil temp: 78 -

March 23 Ubatulo

Temp. ^(die 22) Maxim. 78°F

min. ~~68~~ 66

soil temp 77°F at 10 a.m.

Roddie portoi (black) 5 vials

2186 *Roddiohyre* "

alt. 5 n.m. 90° E.m.

soil sample # 17

note atigues 50-60

Município Aurelino Leal

Fazenda Santa Maria

Francisco Aragão de Lima

12 Km SW de Ubaritaba

going to hoje to banco -

2187

Radiolys monophyle
apendiculata

(fotos color) fl. + negro

soil sample # 18

alt. s. n. m. 100 m.

soil temp. = 76° F.

FRA, 3.1, Bag. 3 vials

Fazenda Santa Luzia

Proprietário Maria Rosa

rocha

Município - Aurelino Leal

4 1/2 km de Banco Central

Olyza filiformis v. *capitata*

Rod. Lamacau - Lananeira

3-30 Km L de Lamacau

Plantação de cacau

Belin et Apuias
1389.

28-7-1965

Pennis leptophylla.

686. 2047. (18-1-68)

Sto Luz Cabralis, km 5 canal
de Sto Luz Cabralis.

Pinho 1706 - ^{Pennis} 4-11-71

Rod. Sto Luz - Camarões,
Canal do Bandeira.

Plantação de cacau e café
Nota litográfica.

Erinite.

686. 2054 (1968)

Camacou, km 19 rod. Camo-
can para Itambé

Olyra nanosissima

S. Ley Cabralia - Reserva
Biologica do pau-brasil

T. J. Santos 1914 - 15-9-71
H.

Red.

Mina x Oliveira, Mata
costeira - Plantação de
passara

Piribem 1552 6-8-71

Oliveira, estrada ao Marim
Mata do Cururupe, próxima
ao litoral, solo arenoso

19 Aug. 1970 - T. Santos 1020.

Rollo 43

ultimo usado

comenzó con

44

Rollo 44: Cerro Itepe - 7 parte
Santa Rita (Texto, 2-3 fotos deses)

Rollo 45: Santa Rita: Ingot-
chiquita, Ingot. Dromedario, Páramo
en flor -

7th *Tectaria* sp. 2188 (L)
at 250 m. s. m. = solo FAA

March 24, 1964
2189 ✓ ~~2188~~

Bambusa sp.
300 m. s. m.
rastrero hasta 44 m.

rigorosa juvenis.
6 ramas x nodos una principal.
jemas por debajo de la raiz
soil sample 19

FAA, raiz, e/ra y set
tallo, nudos = setas, hojas
Photo: color x bar

El Municipio de Elche, Distrito
Pedra Azul, Serra
Tenerosa.

Merostichus -

March 25, 1972

2190

Bo, Municip. Aruguce, Distrito
Federal, Brasil - Fazenda
Pancade Formosa -

Barro -

Alt. S. N. M. 1200 m
situated climbing up to
12-15 m - stems
holer - stem - the
leaves, on the black
reflexed and very soon
falling - midy branches
6) ? by node?

soil sample #20

FAA ① no photo, rain
nat.

2 rollers color - similar (3: in
6 rollers Tux similar (4 at 9) -
since

#3 recolor in Itaboraí

2 rollers (1, 2) in Rio con Tom -

Total recorded Rio: 8 rollers - WMM

Brazil 1972
Bahia: March 5 -
Rio de Janeiro

Co. 14° 50' 20" lat. South
39° 20' 15" long. West

Bahia - ~~near~~ Ferradas
Fazenda Aberte Grande, 14 Km
from Itabuna. (W) 7

Diandryps? biguete

2159

March 8, 1972

← Brazil, Bahia, Mun. Itabuna

Distrito de Ferradas, Fazenda Aberte Grande,
14 Km W of Itabuna.
alt. 1. m. m. - 100 m.

14.15 hrs. Atm. temp.:

Wet: 78° F

Dry: 83° F

Humidity 78%

soil temp. 77° F.

soil sample n° 1 = taken at
0-20 cm, from 3 spots

Flotop: ± 10 from roll # 3

and: from roll n° 9. B&W

FRA: leaves, inflorescences, shoot
apex, seedlings; some leaves
with the white spots (probably
a disease)

Bouquet: inflorescences, ♀ flowers

3:1 : inflores. + staps

4 vials

Photo: color Ektac. roll # 1

In secondary forest with
some ~~some~~ ^{same} ~~some~~ plants.

Small plants in dense
clumps near trail.

Looks like a little *Lobelia*.

It does not look like *Senecio*
because the growth habit
is very dense and compact.

♂ *Sphal*: with stamens and
both sexes. *Senecio* normal except
in the 3 stamens excited.

Mostly all of the infl. in separate
short stout axes by a single
leaf blade.

Leaves with white spot, probably a
disease. Many seedlings were found
(Centrosema) within the clumps.

alt. s. n. under 100 m -
forest.

Dianthus? of grade 2160

at 3.50 p.m.

Wet bulb Temp: ~~84~~ °F 80

Dry bulb Temp: ~~84~~ °F 85

% Rel. Humidity: 82% ~~84~~

Soil Temp.: 77° F (at 4.30)

soil sample n° 2: taken

from 2 places, at 0-20 cm

Photo: roll # 4 bl & w.

with green filter, no tripod (good
light).

~~vials settings~~
F.A.A.: 1 frame *Senecio* leaves, inflores.
with attached leaves

3:1 : 1 inflores.

~~3:1~~ 2
Same area, but in *Senecio*
places - small clumps
started in *Senecio* places,
usually around trees.
Plants much larger than

the first collected but with
the same type of inflorescence.
Few with flowers.

2161

Dianthus? *prostratus*? (small
clim near normal plant.)

Photo: color, Ektachrome slide 1.
~~several shots, some on the Dian-~~
~~thus *prostratus*~~

K 2162

Streptochaeta sprata

seen but not collected:

Pharus (large plants)

Radiolysia monophylla

Dimerisochrysa sp. - (chipmunk)

March 10, 1972

2163

Bn, Ba - ^(Myn. Stabuma) ~~Stabuma~~ Ferrado

Fazenda Ponte Grande, 14 km W
of Stabuma

Spot for for where we collected

Dimerisochrysa - first time

light: at 12.45 p.m.

without filter: 15. + 2 points

red: 14 1/2

blue: (without 15) 14

green (11 ~~15~~) ~~13~~ 14.1

yellow (without 13, 2) = 13.1

light changing rapidly due to
big clouds

Soil temperature:

Atmosphere press. 753

Rel. s.n. m. 110 m

Temperat. at 1 p.m.

Wet bulb 83° F 81

Dry bulb 90° F

% Relat. Humidity ~~80~~ 70%

2164 - *Diad. grande*
2165 - *R. phytolactica*

In dark places, ~~at~~
under taller vegetation.
Another species of *Diad. grande*
the large one (collected 2100)
growing nearby. Here this
sort of *Diad. grande*
was much more abundant
than in the first place.

~~11. San Jacinto~~

2164
Dioscorea frankii

FRA: seedling.

Reddie? Polypodioides

March 13, 1972

Mr. Behre, ^{Miss. Habunha} ~~Miss. Habunha~~ Ferrola,
Fazenda Aberta Grande

C.C. Colter 2165

Alt s. n. m. 80 m.

Abundant ^{along} small creeks,
at the edge or near ^{the water} stream.

In very dark, shady ^{low} place.

It grows in small clumps,
fern-like, under larger
plants or on the banks of
the stream.

It seems that the ♂ inflores.
have finish or so; many
empty, old ones. Female
inflores. still blooming
mostly in smaller culms with
very few leaves.

Very thick and long roots

soil temp. 76-77° F.

light int.: sat 3.45 pm

without: ... 12

yellow = 2°/+°

green: with 0-12

" : 2°/-°

blue: with 0-12

" : 1°/+°

red: between 1/2°/

Temp. ± 83

♀ & ♂ (6)

FAA: 1) leaves, infloresc. ♀

2) ♂ sym flowers, 3) seedlings

Borg: 1 ♀ spkl.

3:1: 1) ♂ spkl. & 2) root tips

K, MO, NY, P, E, B, F, G, W

Caulidrye 2166
Podophyllum monophyllum

Frequent in forest, shady,
humid places.

3 vials

FRA (leaf and flower) B. 3:1

K, MO

O. latifolia 2167

March 19, 1872
br, Br. - Run of 4 stems,
about last of Nov, Fagunda
Santa Rita, Km 4 Protonis
lasted Nov - Feb.

"Mata" Open forest in
slopes, rather dry soil.
Large plants up to 5 m
tall, no branching, large
leaves, few for the purpose
of 2' or 3' orders

no photo

FRA, B. 3:1, 3 vials

3 vials -

2168

Staino ylo-phe?

In open places, along
trail. Plant up to 1.50
m or more.

FAA, Berg. 3:1 no photo

2169

Johnsonia *incorporata*
(Schrad. & Walp.) N. S. Hitchc.

Along trail in open places
several inflorescences from
most of the nodes.

Plants growing under
other vegetation

no fixed material or photo

~~*Johnsonia* *incorporata* 2168~~
~~Johnsonia~~

March 14, 1972 K 2170

Bosch, Bahia, Mam. Thera
6 km ^{South} ~~from~~ Urucuca → Thera

Johnsonia *incorporata*

~~Johnsonia~~

In secondary forest on the
edges around cocoa planta-
tion. ~~Open~~ Frequent in open,
shady
places.

FAA: ① leaves, ② inflorescence
1 base of culm.

Berg: branches of inflorescence

seeds

no photo

Soil sample: n° 6

2171 *Pharus, vicia*

2172 *O. frumosa* + *flaccida*?

2173 *Dryas latifolia* *remifera*

- main axis with
"end blike" -

K, MO, NY, F, LE, B

2171

March 15, 1972

Pharus sp. (vicia)

Tr. Bar, Municipio de Toluca,
6 Km ^{south} from Orizaba.

In secondary forest with
cocoa plantation.

Growing in open place,
shady, large group of
plants, forming a clump
of about 3.5m long x
2-3 m wide. Plants
growing vigorously, in
all stages of flowering
seedling and small plants
around clumps.

Many plants with
main axis of inflorescence
ending in a "terminal
spikelet"; some very large
and well developed.

A few with more than one spikelet or pair of spk. developed, 2-3 or more pairs like the rest of the population. All of them or so, fixed in FAA in a separate vial, cut below joint of ~~an~~ emerging of uppermost pseudostem. The main axis becomes thinner after the last pseudostem but like in the normal case of the ferns but buds with the production of a spikelet or pair? Many seedlings seen around plants.

Photo: in color of the groups and some plants.

Black & white: the whole groups, individual, close ups of inflores. and main axis terminates with spk.

FAA: 3 vials: sec. leaves, root, spk in 7 stages, shoot apex? termination of main axis with spk.

(3) seedlings

Borg: spk in 7 stages, 3:1 young spk.

Seeds: abundant

soil: sample # 5

Temp: ± 10 cm: 77

soil temp: 76.5° F.

5 vials.

soil sample # 7

3 vials Alvimia

2172

Ba, Lagoa Encantada
at 1 km from the
lake and 25 km from
Urugua - Municip. Ilheus

Olyra filiformis ?

K, M, J, R, L, E, B, F, G, W, I, S, S, W, I, S

In primary forest,
growing in open, shady
places. Frequent.

Beautiful, delicate plants
with rather weak culms.

Inflorescence of several panicle-
cladia. Each panicle-cladia
ending in a large white
♀ spike, several small ♂
spikelets below.

~~1/2~~

Nov 46

2173

Ulex sp (hololepis)

aspin.

~~Large~~ clump along trail.

No flowers but knotted
the inflorescence prostrate,

Many branches ending in
small repetitive buds.

photographs:

soil sample 9

March 16

2174

Bremia ~~rossii~~ *halimifolia*

(det.)

Umuco's Station, ~~State~~ Rio Grande

Fazenda do Almeida - 19 Km

SE of Ubatuba

Soil temp. 75° F

Temp: 2-4 pm 72° F.

Altitude 5 m. or 100/110 m.

Plant: branched, a lot of basal

FPA: 1 (2nd) leaf inf. spikelets, taller,
interminous.

base: from spikelets,

5-11 leaf spikelets

Soil sample: # 9

3 vials

~~2175~~ ~~Bremia~~ ~~rossii~~ ~~soil 8~~

~~2176~~ ~~Bremia~~ ~~rossii~~

Bremia

In shady place, very humid,
near stream, in small

clumps associated with
Cathula polyphylla.

Plant of 1/2 m -

Leaves dark green and base
white below. Many plants

all plants blooming from
the main culm (apical)

No basal infl. found.

Very long (up to 50-60 cm)
subterranean stem, thin,

white in the short sheath
and sometimes reds to slate

purple color (wine).

Main culm of the plant
purple wine in lower part

(± 1/2 m culm).

Stamens (base of infl.) 10/10

8 nals $\left\{ \begin{array}{l} 2 \text{ FAA} \\ 1 \text{ seedling FAA p.} \\ 3 \text{ 3:1} \\ 2 \text{ back} \end{array} \right.$

2175 \rightarrow

Coccoloba ~~sp.~~ (pauca)
 growing in very humid
 places, near or at edge of
 stream, shade and cool
 place. Very vigorous plant
 up to 2 m, between
 rocks, and ^{under logs} ~~on~~ ~~plant~~
 blossoming well from both
 apical ends and at the
 base. The basal inflores. with
~~short~~ short stems (not so
 long like the other *Coccoloba*).
 Most of them covered ~~with~~
 or clothed by foliar leaves.
 The well developed ones ema-
 nating from the leaf axils.
 Plant with light green leaves
 basal in fl. The lvs. large and
 green.

60, Municipio de Hualar, Depto. de Pinar del Rio, Pinar del Rio. 19 km S of Hualar.

Alt. S. m. m.: 100-110 m.

Photo: 5 v in the, color 2

Soil sample # 8

FAA: 3-nal: one in the apical infl & leaf, 2 basal infl., 3 seedling

Backed: 2 incl apical & basal infl.

3:1 ^{3-nal} (1) apical & basal infl. (2)

Seedling: collected in FAA. Found only large plants in the "hage" area, some smaller, seedling with small, normal size fruit.

long style with 2 short stigmas, papillose. More than 1 infl (apical) 2-3 seen in some plants

emerging from the apex
and 1 or 2 nodes below.
Buds, each one with
two perianth inflorescences.
At maturity upper part
of inflorescence (with ♀)
falling.

No extremely large ones
seen on the plant to explain
the large size, like a
cherry, of the seedling.
There one collected toward
large clump gum-garden
tree. Plant extremely
sensitive to ~~light~~ direct light.
We chopped the small tree to
photograph and about 1/2 a
minute the whole plant, the
leaves a minute later rolling
and looking so bad.

~~the tree~~ ~~collected~~ ~~in~~ ~~the~~ ~~area~~ 3 mls.
Hank 17, 1972 2176
Co., Mu. Itasca, Distr. Agave
Finca, Foz de los Andes, 19
km. S. of E. of Varadero
- Alt. 100 m., ~~near~~ ~~at~~ ~~edge~~
Fls: color a bl. a white
FRP: (1) top inf. ~~in~~ ~~the~~
buds (1) inf. ♀
3:1: inf. ♂
Soil sample: # 10
Very abundant along edge
or near stream, in very
humid and dark place
between rocks.
Form: small clump
~~very~~ like ferns.
In some places associated
with *Ceanothus* and not (*Ulex*)
blooming very well.
Development of depth of ♀ inf.
blooming just.

Picesia macrophylla

March 18, 1972

2177

Bo, Munic. Itacaré, 7 km SW of
Itacaré city.

Picesia ~~macrophylla~~? Olyreid?

In 1st forest, scrub, rather
dry, and with a semi-
deciduous bamboo.

Ground cover by two dense
layers of ~~old~~ old bamboo
leaves. Not many small
herbaceous plants growing.

Collected ~~by~~ between.

~~FAA~~ fixed material, with
photograph on soil.

1 vial

March 18-19, 1972

Be 2178

Be, Muc. Flacare, 12 km
SW of Flacare, Abasco of
Flacare, Rio Jeribucassu

Piresia sp. (Gottsch.)
rhiz. & sph. 1/2

Light at 12 noon
without filter 13

Green f. = 12"

Yellow = 13"

Blue = 12 - 1/2"

Red = 12"

(Sky cloudy but not very
sunny)

Alt 5. m. m. 0

Temp. at plant level:

min. = 72°F

max. = 78°F

Soil temp = 78 (at noon)

Soil sample = # 11 red clay

4 vials -

FAA: 2 vials, one with ¹ leaf,
with sph. and some in flower
2) long basal flowering shoot
and some large typical
symplocaenae.

Box: 1 sph. and some
whole in flower.

3:1: 1 whole symplocaenae

Photo: 6 x 9, each of one
cell and about 15 of 2nd
some in this cell with black
color ^{red?} some in die 18 but

I think estrupado by 19: some
of same cell but correct
setting of 7 m. lens.

No time for seedling

Growing in bank along
river, between rocks,
in very humid and dark
places. Very abundant,

growing in small clumps,
in some places, almost
dominant vegetation.

Associated ~~and~~ with ferns,
many growing under the
protection of larger ferns.
Almost all plant with
flowers or fruits?

Most of them with
apical inflorescence
and basal rosette as
well. Some with
axillary inflorescence
with very reduced leaf
and emerging axillary

"these are not underground
shoot" - lots partially
by fallen leaves.

Many simple seen
with ~~more~~ the two or
more partial inflorescence

Partial inflorescence seems to be
the same type in both
apical and basal ~~shoots~~.

Each of split with one
very small δ below.
These one ~~shoot~~
very rapidly - hard to
follow.

Plants variable in ~~shape~~
and position of the ~~leaf~~
base in the leaf compartment.
Many leaves in each leaf compartment
sometimes overlapping
each other than the
axillary.

They plant \pm 20-30 cm
many small others seen
by there were young plant
beautiful plant of light
bright green color split


♀ + ♂ - red, dark rufous color.

This creek is in the
area of the bamboo
forest. No *Olyrias* seen
in that forest (several sites
and 4 alt.) only a few
Olyria latifolia in poor
shape and one *Plan*
isolated. ?


March 18, 1972 2179
Schizanthus *insignis* *gibber* *gibber*
Bo, Mun. Itacore - 1/4 km SW
of Itacore.

In a clear spot along
trail of bamboo forest
only few plants seen -
no fixed material, no
photo.

March 19, 1972 2180
Leptotheca *Maackia* *gibber* *gibber*
Bamboo
Bo, Mun. Itacore, 10 km
SW of Itacore, in dense
forest,
climbing bamboo, very
abundant all over the
forest for about 10 km or
more.

Slender culms (up to
10-15 cm high, from roots
as well as trees or other
plants, in some places
forming dense masses
of branches and culms
Culms of about 1-1.5
cm in diameter -
solid but with some
holes in a circle near the
epidermis 

Slender culm sheath persistent
and very thick and hard
at the base; very difficult
to remove - blades of these
leaves deciduous, falling
very early even in young
near culms. Blade narrow-
acute and bent downward.

 Several branches
from a node
but one seen to
be dominant, larger
and very thick -

Phytome not removed.
F.A.A.: leaves, culm,
nodes with buds, some
over sheath young with
blade, shoot apex of
leaf complement; nodes
with small young branches

Photo: to aw, none in
1st roll, rest in 2nd roll -
color: one of algae on
roll # 2 (extrajoints?)

Soil sample # 12

Soil Temp. = 78°

A. Atm. Temp. = (lower level
at 3.45 p.m. 74° F. (But
outside very hot) cloudy

Alt. s. m. m. = 100 m.

March 21, 1972

2181

Ba, Municipio Aurelino Leal,
Fazenda Santa Maria, Rodovia
Abaitaba - Lago do Banco,
12 Km SW of Abaitaba.

Pirenia ~~sp.~~ ^{sp. n.}

^{7/16} Triplaris bahiana

Temperature (48 hours)

High - 78°F | 78°F

Low - 72°F | 68°F plant

level

Soil temp. 78°F

Light - not measured

Alt. s. m. m. - 90-100 m.

Plants: 6 x w. - dead color

F.A.A.: 2 vials: 1) leaves, aphid.

2) Symbiosis of
caterpillar shoot -

Body: 1 ♀ aphid.

3:1: whole partial inflorescence

(total: 4 vial)

soil sample : # 14

soil sandy, rather loose
but covered by a thick
cover of organic material,
dark color.

Plant common in
secondary forest of cacao
plantation. Old plants
tree, ± 60 years old, with
rather tall cacao plant.
Native tree very big -
Open forest, in a
sandy slope with
rocks.

Growing very well in
scattered clumps around
trees, or rocks, some
also in open places.
Associated with *Pithecellobium*
pithecellobium & *Pariana lanceolata*.

All plants blooming, and
with special in flowers.
leaves dark green, sheath
looking inflated and
with long pubescence.
Growing in the shady
places, not in opening
or near road. Mostly
in the lower part of
the slope.
leaf-complement with
few 2-4 leaves.

March 21, 1972

2182

Bo. Munc. Ruelius Seal,
Fazenda Santa Maria, Po-
dona, Ubatuba - large
to Banco, 12 Km S.W.
of Ubatuba.

Panicum lauroclata
alt. 5 m. - 90-100 m.
temp.

high - 78-78° F (2 days)

low - 72-68° F

Soil temp: 78°

Soil sample # 13

Fixed material: 3 vials

FRA - leaves, inflores.

Boys. inf.

3:1 - inf.

Photo: same in color

6 x w, next with tripod

(8-15)

Not very abundant,
growing in some
spots of the area
usually near rocks.
Associated with *Panicum*
and *Panicum* -
beautiful, elegant plant
with very long oval
retae forming a ring
around the

Inflores. thin, all terminal
to the culms, no one
plant seen with basal
inf. Plant about 40 ~~cm~~

March 22, 1972

2183

Brazil, Bahia, Município de
Aurelino Leal, Rodovia
Ubatuba - Lagoa do Banco,
12 km S.W. of Ubatuba,
Fazenda Santa Maria -
Raddia (pitoei)

(The owner of this fazenda
is Mr Francisco Aragão de
Lima).

Alt: 90-100 m

Temperature (4m) (24 hours record)

high: 78° F / 78° (at plant level)

low: 72° F / 66°

Soil temp. 78° F / 77° F (mid day)

light: not measured

Soil sample: # 15

Fixed material: 5 vials.

FAA: 3 vials: 2) leaves, ♀ flowers

b) synchronous (♂ & ♀)

c) seedlings

Bouquet: ♀ aphyll. & flowers

3:1: ♂ flowers

Photo: bl & w = red #, aerial

of plants for the whole observation

close up of ♂ & ♀ aphyllous

In some places associated with

Redolobos minusphylla

Notes: red?

Secondary forest, old

cacao plantation. Open

type of forest with very

big native trees and

cacao plants planted in

between, but not many)

cacao plants very robust,

big old trees. It is an

old cacao plantation,
probably more than 60
years old.

The forest is in an
slope with a very smooth
inclination - with big
rocks. Shady and very
humid place. Very sunny
and also very near the
"Rio das Contas", I think
this place is in the valley
of the Rio das Contas.
Soil rather loose, sandy
with a thick layer of
organic material.

Plant very abundant,
in some places forming
continuous carpet.
The robust plants grow in
large clumps, rather

stiff culms. Plants very
pubescent.

Many female flowers
in inflorescences from
 $\frac{1}{2}$ the plant and
down. Several partial
inflorescences from each
node.

In many places growing
together with *Panicum*
Panicum laevigatum,
Panicum laevigatum,
Panicum laevigatum
Many seedlings around
parental clumps (Many
fixed in F.A.R.)

March 22, 1972

2184

Crematos monothalamie

Brasil, Bahia, Municipio de
Aurelino Leal, Rodovia
Ubatuba - Laje do Banco,
12 km SW of Ubatuba,
Faz. Santa Maria

alt: 90-100 m. S. m.

Temperature (Atmosf.) 2-~~4~~ days record

high 78° F | 78° F

low 68° F | 72° F

Soil temp: 78°

soil sample: # 15

Height: not measured

Fixed material: 4 vials

F.A.A. readings: 1 +)

b) leaves, & inflorescences

Bougainvillea; subterranean inflorescence.
5:1: infl.

Photo: bl & w. with a
plant with long subterranean
near shoot & just up
but not ~~not~~ moved
below. Unknown: the same,
plant with the subterranean
in flower. and also basal (or in flower?)

This specimen is from the same
locality where I collected it
4 years ago for the first
time.

Plant ~~is~~ not very tall, ±
up to 50-60 cm tall in
dark & humid places of
the ship. Inflorescences from
the base of the plant
the apex of the culm.

and at the end of
the white subterranean
shoot. The infl. are large
like a cherry, and
grow bent towards the
ground! These shoot
are long (we measured
one 1.20 m) and run
parallel to the ground
some rather deep, ± 10 cm.
All of them with
inflorescence at the end
(need to dig up without
breaking).

Many seedlings found
from both, normal and
clustopaceous seeds.
Seedlings of large clustopaceous
seeds larger than
the ones from normal
seeds.

March 22, 1972

2185

Dr. de Mun de Rueda
Real, Fajenda Santa Maria,
Rd. Abaitata - hope to
be back, 12 km SW of
Abaitata

Lehmannanthus nemoralis
(Schrad. ex Schultze) A. S. Hitchc.
Frequent in the slope
with *Protilia* sp.
and the other *Olyra*
of the area.

FRA. 1. 1. 1. 1.
no herb sample, no photo

K.MO

March 23, 1972

2186

On the plain of the Kuniyama
near Kodoria. Matias -
Kaji to Banco. Fog. Sainte
Marie. 12 km S of Matias -
the ~~Platyphylloides~~
~~Platyphylloides~~ *monophylloides*

alt. 90 m. s. m.

soil sample # 17

soil temp 77°F (at 10 am)

Temp (air) = 3 days

high: 78° 78° 78°

low: 72° 68° 66°

Photo: b & w only - add #

Fixed material to mats

S: 1 =

FAA

done

Not very abundant in
Herb. It grows
a little way from the
road, & in the back of
the area with some
copper plants. It grows
between a lot of rocks
& in rather open
places.

K.M.N.Y., P., E., F., G., W., I., S.C.

March 23, 1972

~~Pardalinia~~ 2187
Pardalinia monophylla

Dr. Sr. Man. de Aureliano
Local: 4.5 km North of
Banco Central; Fazenda
Santa Luzia.
(The owner of the fazenda
is Mrs Maria Rocha)

alt: 100 m s.m.m.

soil sample: # 18

soil temp.: 76° F

Fixed material: 3 vials

FAA. leaves, & a part

boog: 2 vials

3:1: 3 vials

Photo: b & w: all #

color: ektachrome

at some in the good light.

Very abundant in
humid and high places
of forest. Almost to ^{max}
vegetation. It grows all
over the place. Tall and
and most riparian
plant in the darkest
places.
It grows in large clumps

March 24, 1972

2188

Tchnanthus nemoralis

Br. Bc. Municipio de
Uruçacema (or Ilheus?), Distrito de
Pedra Branca, Serra
Temerosa

Found on steep slope of
hill. Shady place, between
rocks.

FRA. leafy (pl?)
no soil - no photo

Chusquea (sp: inversa)
Retbergia)

March 24 1989
Bambusa

Dr. Bahia, Mun. de Ilheus ^{Si}
Distrito Pedra Azul ^{in Ilheus}
Serra Temerosa

Alt:
300 m. s. m.
soil temp # 19

Fixed material

FRA: roots, shoot apex, buds
in + stages leaves

Photo: b & w, roll #
color - black & white - all
most of the photo with
tripode.

Herbarium: collected.

Very abundant on tops
of the Serra in cutback

Forest, up to 240 m +
 the forest was cut and
 there is a dense stratum
 of plants and ferns
 creeping all over the forest
 floor, making it difficult
 to walk. Curious
 looking at snails over
 the ground for long
 distances but they
 climb and lean
 on a tree and start
 branching.



Forest floor -

We measured one bamboo
 culm from rhizome to
 top branch 9.7 meters!
 Rather small rhizome
 Internodes of culm

not very long
 culm nodal or the persistent
 sheath. Both blade
 very transparent not reflexed
 buds! below sheath
 they do not break through
 the sheath. Probably
 they are covered by a thin
 membrane the nodal region
 or so.

Buds developing in
 opposite direction of the
 tip of the blade.



One main bud in the center
 with smaller buds on the
 sides.

In branches they develop in
 6 branches per node

Grass-like culms + erect
or leaning on repetitive
± 10 m or more

This bamboo grows only
on the top of hill.
The mountain range
seen below.

No Oryza seen in this
series.

Nero Lachy

March 25, 1972

2190

Bamboo

Boyal, Bahia, Municipio de
Atlixco, Distrito Pedro
Duménil, Foz de
Rincón Forense

Alt. 5 m. or 120 m

Abundant in forest
Beautiful forest, in places
cut they are about cutting
trees, in some places all
trees cut.

Bamboo of 12-15 m tall
leaning against trees and
repetitive culms below
culm sheath seen
deciduous with glaucous
reflexed and very young

foliage.
Many branches per node
(6-8)

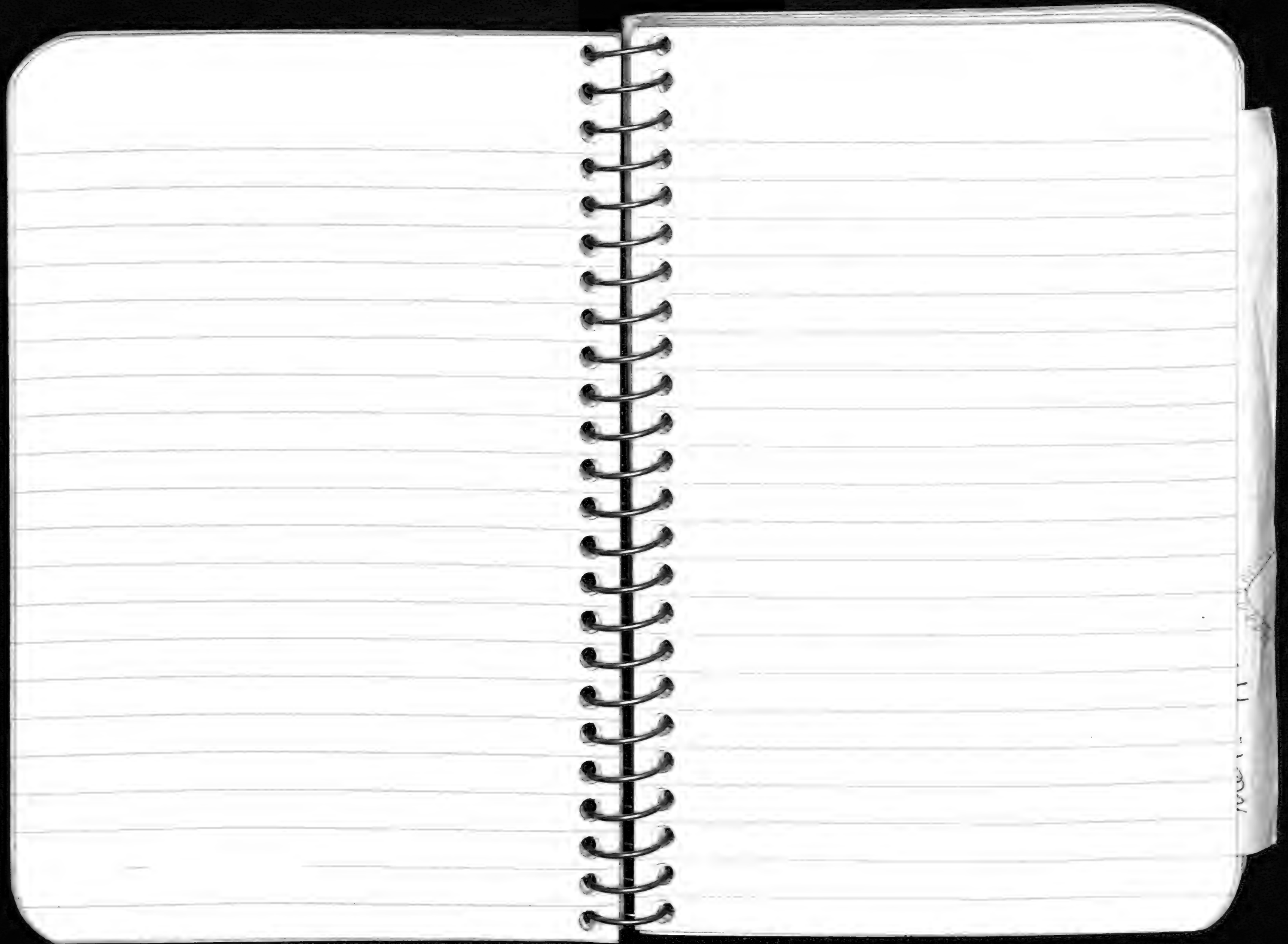
soil sample # 20
FAA - 1 rat with leaves
& buds in # steps
no photo (rain!)

cut with the netter thin
walk, along to break

2 rolls color sent to R. / Ben
(anand)

6 rolls of Tri-X sent (4 to 9)
3 developed at Fortune, OK!
2 rolls (1 & 2) in Rio with Ten
Total color Rio: 8 rolls

both forming + severe,
stages sleep, many
new shoots seen



Disagree !! day - horrible -
March 31, 1972

K, MO, NY, P, LE, B, F

2191

Johnanthus niedelii (Trin) Doell

Bahia, Municipio Santa
Cruz do Sul, Reserva
Biologica ~~Pau Brasil~~ ^{Pau Brasil}
(CEPLAC). 1/4 Km W ~~of~~ of
Porto Seguro.

Beak in 1st joint,
probably unhooked
from the time of
the Portuguese.

In shady place, near
the trail.

FAA - leaves, inflorescences.

2192

Pharus sp.

Small plant with narrow
leaves. Inflorescence
with a terminal
spike (small) ending
the main axis. This is
thin, thread-like as in
other *Pharus* but terminate
in a dense spike.

Very few plants, only
one collected, the one
blooming.

no soil sample, not F.A.P.,
no photo (distance long)

K. MO. NY, P

2193

Dryobasia spicata

soil sample # 21

soil temp. = 77°F

Atm. temp. at 1.30 p.m.

at plant level: 76°F.

Rht. s. n. m. 100 m

soil sample # 21

Photo: color a B & W:

for rolls # 10 (black & white) - ~~10~~

In rather open place,
along a trail, in shade.
Inflorescences: 2-3 per-
til in flower forming
the symplocosone.

Very few plants
with flowers.

Fixed mat: F.A.P.


Material: leaves, roots, and
spike.

2194

Bambusa

Climbing bamboo, culms
weak, wood thin, branches
up to 6-7 m. Most plants
lower. 3-4 leaves ^{per}
node; in ~~small~~ ^{thick} branches
2 ^{per} node.

Culms hollow,
culm sheath falling.
culm leaf blade deciduous,
bent downward.



Leaf large, oblong type
with oral setae in leaf, white
rigor: collected
Rather small clumps, not dense
FAA: base, buds + steep
roots - petiole with setae
soil sample: # 22

temp. high = 82° F. ? not sure

at 5 p.m. = 72° F.

soil temp =

alt. s. n. n. = 100 mm. n. n.

Photos: b & w: 18 photo rolls

11.

color = photo 23 rolls also,

n° 3

Abundant in the
forest but not forming
dense clumps or being
dominant vegetation

2251X *Merostachys?*

2241X *Atrostachya*

1812X 785 *Merostachys?*

Mar. 11

- 2265^v: *Merostachys*
- 2264^x: *Chusquea* Alcoba the
- 2265^x: ~~*Agave*~~ *beet*
Andropogon *f*
(syn. ...)
- 2257^v: *Merostachys*
- 2256^f: *Andropogon* *(...)*
- 2252^v: *Merostachys*
- 2251^x: ~~*Merostachys*~~ ³ *Merostachys*
- 2250^x: ~~*Merostachys*~~ *Merostachys* ||
- 2252^x: ~~*Merostachys*~~ *(...)*
- 2185^x: *(...)*
- 2184^x: ~~*Merostachys*~~ *Atractantha?*
- 2183^x: ~~*Merostachys*~~ *Merostachys ternate*
- 2202^v: *Merostachys*
- 2199^v: *Merostachys*
- 2229^x: *Bambusa?* (same as 2234)
- 2228^f: *Bambusa*
- 2235^x: *Atractantha (Tungia spiculata)*
- 2232^x: *Merostachys*
- 2231^x: *Bambusa*
- 2236^f: *Merostachys?*
- 2240^x: *Merostachys* - (same as 2236)
- 2194^x: *Merostachys?* *Merostachys*
- 2190^x: *Merostachys?*

22517 *Mentzelia*

22417 *Asclepias*

1812/585 *Asclepias*

Mar. 11

temp. high = 82° F. ? not sure

at 5 p.m. = 72° F.

soil temp =

alt. S. n. road = 100 m. S. n. road

Photo: 6 x 4 W 18 photo rolls

11.

color = photo 23 rolls color

n° 3

Abundant in the
forest but not forming
dense clumps or being
dominant vegetation

X, 5' tall redwood, very 2' diameter at
base of 2' diameter trunk

April 1, 1972

Cryptantha

2195

Thysan? capillata

Ba. Hum. ^{to} *Cryptantha* ^{to} *Thysan*
~~Red ^{to} *Cryptantha* ^{to} *Thysan*~~

Cruz Labralia, 8 km north from
the road to Santa Cruz Labralia

Photo Ba W: rolls 11 & 12

19 = all fruit, unexploded

photo 2 O. *recondensata*

rolls 12: 1-12

col. : roll 3 - 24 - 34

seed sample: = 22

F.A.P. = 2, seedlings, 2) leaf. spk.

root

leaf. 1 ♀ spk. 3:1 = 1 row

Soil temp = 77°

Atom. temp = high - 80°F.

alt. 2 m. m. = 80 m.

In primary forest, not
very dense type. Near
open places. Forming
clumps of large plants
up to 2 m. high.

Apical inflorescence "paniculate"
of ♀ & ♂ in the lower
part of the branches. From
the nodes below, ♀ inflo.
only. Both, terminal
and lateral, sometimes
with 2 panicles.

No very young terminal
paniculation yet found.
Plants with more light
near the opening of the
forest bloom well. In the darker
areas no flowers.

Long, yellow stipes out
of the ♀ spike for the sides.

2196

Ichnanthus sp. japonicus

Same place that *O. capillate*

FAA = 1 leaf, 2 flowers
Near the edge of forest
in open places but not
direct light.

→ soil relatively dry (not
muddy) sandy. In the
edge of the forest road is
white, grayish sand.
Large terrestrial bromelias seen
O. capillate growing well
in many places with *O.*
remotissima

2197 - *Pirenia* lito -
soil # 23

April 2, 1972

2197

Pirenia leptophylla

Col. Man Santa Cruz tobacco.
Rd. to Santa Cruz, 8 km from
the road to Cortés Selva

Photo box = roll (12) frames 13 -
to 28.

end of colony roll 3-end (1 or 2)
soil sample # 23
living plant = collected

FAA = 1 leaf, 2 flowers
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

Student

About 100 m further up from
the area of *O. capillate* (probably
the same place or near where I
found it in 1968). Beautiful
primary forest, open type

with sandy soil.

Delicate plant in discrete clumps ~~is~~ growing in dark places. ~~Two~~ Mostly all inflorescences from the base of the plant in a separate shoot, decumbent partially covered by dry leaves. Only a few plants found with inflorescence at the apex of the main culm.

Few clumps exposed to light in ~~shade~~ ^{penumbra} at the edge of trail very ~~short~~ short, almost dwarf, very light green or yellowish and with few flowers ~~or~~ none.

Spikes purple red.

Plants growing in the

sharkest areas are the most vigorous, tall and with many inflorescences. It seems that light inhibit growth and flowering of plant. Also leaves turn yellow. Abundant ~~at~~ ^{all} over an area of ± 200 m from the road, deeper in the forest not found.

April 3, 1972 2198

Olyra nanusisiana

Bo, Maricop. Santa Cruz Wildlife
Reserve Biologica Pôrto Velho
16 km w of Pôrto Seguro

soil temp. 76

soil sample = 23

FRA = logs, spks, foliate

and 1 diatom-system

log = para. spk.

3:1 = mud

Photo = color 2-3

h + w = rolls 12 of 28-28

to end - (Alpina just con)

O. capillata on roll # 11

Growing near stream and

at edge of forest.

~~at~~ climbing or leaning

over vegetation, very ramified
looks exactly like *O.*

lateralis from Manaus
but is much robust than
most in flora. part.

Bamboo

April 4, 1972

2199

Ba, Mun. Santa Cruz Sabana,
8 km W of Pöta Seguro.

Chusquea? Munroa chrys

Photo: color, series = 6 or 8?

6 or 8 = rolls 13 : 1 - 22 -
for rolls 12-?

soil sample # (24 = 20 cm)
25 = 40 cm.

soil temp = 78 °F.

Atm. temp. 78 °F at 11 a.m.

Alt. S. m. max = 70 m

climbing bamboo, very abundant
dominant plant in the forest
under the canopy, up to
15 or more m. tall.

culms hollow, up to 3 cm
in diameter.

culm sheath deciduous,
edges by a pale line, white
pubescence. Culm blade
small, narrow, bent toward
ward, falling very soon.
Culms, apex, green,
near the base, internodes
short.

Many branches for wood
borne from a ^{single} node.

Branches over arching and
hanging over other, reptan-
tion, with leafy branches
in a puff from the node.
Forming rather small
clumps scattered through
the forest.

New shoot sometimes
very tall, ± 10 m
without branching.

FAA = leaves, base of leaves
with petiole, buds in seed
stage - roots.

Rhizome : collected, 2,
one from old, thick
culms, other from
small, thin culms.

April 5, 1972

2200

Breweria

60. Municip. Põto Sepuro ~~Parque~~
~~Forest~~ Parque Nacional
Monte Pascoal.

Alt. s. n. mar. = 260 m.

soil sample # 26

soil temp = 78

temp. at \pm 1 p.m. 82° F

FAA - leaf, root?, basal inf (2 yrs)

leaf - basal infl. & subt. inf

3:1 = seed

"seeds" = collected!

seedlings = in herbarium (4-2)

one the seed felt

sandy-mirellous soil, stones
at \pm 45 cm depth

Plots: 6 x w = soil 13 - 23 to 28"

leaving plant collected
Frequent in forest on
gentle slope of the mountain
growing in \pm sand or
fine silty clumps scattered
throughout the forest.
Most in flower in separate
stems \pm stout, woody.
Also many subterranean
stems with "detached"
Anat.: large, rounded, white.
In shady places.
Other plants growing with
Breweria: Phoradendron and
one small *Olyra*, super-
fluently not collected.

2201 - *Schinanthus* Fl -
2202 Bamboo. soil = 27

April 5, 1972

2201

Schinanthus pallens (Sw.) Munz & Benth
Dr. Jéhu, Municipio Pórtu
Leyre. Parque Nacional de
Monte Pasqual,
Schinanthus

Frequent near crests
in the lower part of the
mountain.

No roots, no soil
FAA: leaves.

75°F (diurnal day !!)

April 6, 1972

Musa sapientum 2202
Dr. Jéhu, Municipio Pórtu Leyre, Parque
Nacional Monte Pasqual.
Bamboo (Chusquea?)

In primary forest, not very
high trees, dominant part
climbing and leaning against
other plants, trees, and
many palms. Very few
terrestrial plants growing
in the area.

Alt. s. m. m. = 210 m - 75°F
soil temp = # 27

FAA = root, leaves, culm,
buds in 7 stages

rhizome: collected. (2)
culms: hollow, fragile, breaks
very easily, about 1-1.5 m
fracture at the base of

old canes.

Form not very large clumps. Branches up to 10 cm high.

Many branches from a node, in thin branches very few, 3, 4 or 6; in old or thicker culms many branches forming a wide line of thin branches with the leaf complement.

Leaf thin, small - culms rather smooth but in very thin branches or

Asperula ("lija")

Culm sheath deciduous, with blade Δ , reflexed, falling very soon.

Soil & areolar - orillora

Photo: b & w = 2013 vol 13

color = 2013

9.11.1978

2203

Pharusia sp. (grass)
In dark place, in small clumps, airtolerant.

Very dark green leaves, broad,

Near the trail, where the bamboo grows -

Alt: 210 m.

Soil temp = 75°F.

FAA = leaves, roots, petiole, few spikes.

3:1 = few root tips -
& no photo

Streptopogon americanus

Monte Peral - (see page +
 hoja que el bambú)
 no altitud, heavy rain

soil sample = 28

no temperature

FAA = 2 vials: a) leaves, spk.
 b) seedlings

Boq. = 1 vial, spk.

3:1 = few spk, probably too old.
fruits = collected, few

In a very humid patch of
 the forest. In ± open place.
 In the same area known to
 (narrow leaves) very abundant
Streptopogon grows in clumps.
 Many Heliconias, ferns, and
 no bamboo. All plants
 in flower.

soil = very red color,

No photos yet (rain!)

Next day: an other area of
 the park at 80 m. S.N.M.

photo: color, 3±

b.x.w. = ± 6 fine with 13,

soil sample (2° level at 80 m.) #29

collected a few more specimens
 with the same number.

In a secondary forest, humid
 and dark.

seed: collected.

Boq. during plant = collected

~~Chloranthus 2206. Soil # 31~~

April 7, 1972

v 2205

Pharus sp. (narrow and long leaves)

soil sample 30

In forest, near trail in sink place.

leaves long lanceolate, narrow. In some

plant seems to be a "little sp. at the end of the inflo. axis termination. Most of the inflo. + young.

Photo: no (same)

F.A.A.: leaf, petiole, sp. l.

Soil: sp. l. S:1 = no

Parque Nacional, Monte Paranal

Path of forest near the entrance

re. alt: ± 80 m.

red soil

2206

2206

~~Chloranthus~~

Parque Nacional, Monte Paranal

along shady trail

before the good forest.

Soil sample # 31

F.A.A. = leaf, petiole, sp. l.

S:1 = sp. l.

alt. S. m. m. ± 80 m.

April 8, 1972

2208

Guemite monsthalensis
Be, Rodons Tamaraçu -
São Paulinho, 4 Km W
of Tamaraçu - Município
Tamaraçu

In ~~the~~ secondary forest
near trail, under other
plants. Pl. of 70-80 cm
high.

Narrow, thin leaves, waxy
in the leaf complement.
No apical infl. found.

Basal infl. with two
to 20 leaf blades developed.

Photo: box w = roll 14 p
1 to 10:

Color: 6 end of roll 4

soil sample: # 32

fruit ~~transp.~~ =

Also found "white ball" ~~at~~ multi-
branched at the end of log
or more or less short white
shoots - No apical flowers.
~~fruit~~ 2 seedlings of
"normal seed" collected
for herbarium.

FRA = basal leaf, inf
scale "normal" type and
white ball.

Box = basal inf (normal)
3:1 = " " normal type
and white ball.

Leaving plant: collected

Alt: 5 m water = 120 m

Schizanthus 2207

In same place? Along trail in
herb. place.

Schizanthus nemoralis

W

Athrostachys capitata
KAMUNU C. BF. 11
2209
Same place as 2208

Bamboo

In a very disturbed area
rest of forest.

Only few patches of the
bamboo in good shape

Alt. s. m. m. = 110 m

Culms = solid; in small
branches with a little
hollow in the center.

Climbing, culms \pm 1-1.5
m diameters.

3 branches x nodes

no spines, culms smooth
sheath persistent but blade

deciduous - blades all

long & downed.

Plants up to 8 m tall.

red soil

seed sample # 33

FAA = leaves, petiole on the
base of leaf; roots, culms
but in \neq stage

3:1 = root tips -

alt. s. m. m. 130 m

Photo: b & w - roll 14 from 11.

color: Kodachrome from 1 to



Arundinaceae *capitata*
~~Arundinaceae~~

April 9, 1972 K, MO, NY P, LE

~~Paraná~~ or *Bambusa* 2210
Riviera de Fere, 4 km S of
Itamaraju - Teixeira de Freitas
Município Itamaraju

Near stream in a very
disturbed area. No
flowers, probably a small
bamboo or *P. leucostachya*?
No photo.

FRA = leaves, roots, petiole
3:1 = root tips

Soil sample # 34 (red clay)

Alt. s. m. area = 25 mm
Long old roots

K, MO, NY

2211

Pharus of (good leaves)
Same place. near stream
shady place.

Small plants of the
common tall, good base
Pharus?

no photo and soil

FRA = leaves, petiole, root
spike.

Bois = spike.

Main axis of infl. in
a normal fashion
"simple inflorescence"

red soil

check specimens - there is
one with terminal
spike.

K 2212

Pharus sp. (narrow leaves)

Few plants under higher
moss in a very disturbed
area. ~~See~~

Inflores. are ending in
a terminal spike

few plants, only in
herbarium. no photo was
taken.

in the same place we
saw many Berula (ma-
rrow, thin leaves, medium +
small size. up to 60 ± 0.50 cm

K

2213

O. micrantha

✓ a very disturbed,
horrible place, with
Scleria and other
weeds.

old plants, thick
culms and very
large leaves. Only
old infl.

FRA = leaves, base of globe
with reticulate

K.M.D. H.Y.P.

April 9, 1972 2214

Bo, Mun. Itambacuri, ca. 4 km,
North of Itambacuri city.

Cardinalis

Orchidaceae
Orchidaceae monophylla

In a secondary forest,
near the road - shady
place. (Very disturbed, seems
that have been cut very
near, recently.)

Many plants in the old
symposium, = 3 partial
infl. each -

Fls = 2 sphl, leaves

Boys = 0 "

3:1 = 5" and 1 not tall
no photo -

soil sample: # 35

Mount! N

10, 1972

Itambacuri 2215
a sp. (disjuncte)

Itapebi, Fazenda

Santana - ± 15 km North
of Itapebi (at ± 3 km of the side of the
Stream (beautiful!) ^{Fazenda} with
rocks.

Soil sample 36

FNA - leaves, roots & 1 infl.

Alt. S.M. was 90-100 m.

At the edge of stream,
rocky and shady. (stream
with small "cascades". They
called this kind of small
stream "ribeirão".

Very delicate plant
most of them small,
looking like *Piresia*
Goeldii or small *panamian*

K.M.D. H.Y.F.

April 9, 1972 2214

Bo, Mun. Itapetibi, ca. 4 km
North of Itapetibi city.

Cardinalis

Raddia monophylla

In a secondary forest,
near the road - shady
place. (Very disturbed, trees
that have been cut very
near, recently.)

Many plants with old
symptoms, ± 3 partial
infl. each -

Fls = 2 spk, leaves

Boys = 0 "

3:1 = 5" and 1 not tip
no photo

soil sample: # 35

April 9, 1972 W

April 10, 1972

Streptocarpus sp. 2215
Raddia sp. (chiquete)

Bo - Mun. Itapetibi, Fazenda
Bom Ventania ± 15 km North
of Itapetibi (at ± 3 km of the side of the
Stream (beautiful!) ^{Fazenda} with
rocks.

Soil sample 36

FRA - leaves, roots & 19 infl.

Alt. S.M. was 90-100 m

At the edge of stream,
rocky and shady. (stream
with small "cascades". They
called this kind of small
stream "ribeiros".

Very delicate plant
most of them small,
looking like *Piresia*
Goeldii or small *pana* - *ian*

2216 - *Raddia brasiliensis* (soil 37)

2217 - " *sterni* *decausata*

2218 - *soix* *become* *histi*

FAA 1 ♀ inf, leaf, root

2217 - Radd. sp. FAA leaf,

18 - *soix* FAA y *soix*

lystichia. Most of the plant stem, but probably for ~~some~~ *soix* algae, no rain in many days.

Few ♀ inf. seen, sp. very small.

Grows with ferns at the edge of the waste on the rocks, (seems to be very little soil there).

FAA: leaf, roots & 1 ♀ inf. no body seen 3:1

~~soil sample~~: Photo: b & w end (+ col) of roll 14 - no color.

2216

Raddia brasiliensis?

Same place, not far from the 1st *Raddia* site.

In a little higher place on top of shady, big rocky masses.

Abundant, forming a cover. ~~then~~ (very dry season, soil dry & hard)

Plant looking bad, "mutilated". Few in the flowers, most of them old.

Leaves thin, glabrous or little pubescent under the base.

Many plants, rooting at the nodes, like stolons.

Look like the Raddie we
collected in Torcarro's
Tonsi.

FAA = ^{only} leaves, 1 ♀ inf. - root
Photo = no (or) at end of root (14)

Soil sample # 37

Very long and thick root
some of them up to 50 cm
long.

In this place, with the Raddie,
we saw some small plant
looking like *Panicum* *lanceolatum*
to, small plant with
long oval leaves. Podium in tank
and some ferns - *Panama*
Ferns at summit - *Panama*
Raddie for collection and photo
to all.

See Mrs Chase 7959 from
Bobie, sterile, with ~~long~~ stolons
but 7 sp.

stolonifera 2217

Raddie? (*Dryas* *venusta*
stolon)

(Same area, near the
other *R. position*)

In a small patch,
very dark. Plants

under 50 cm high.
Leaves about 1 cm

purple (red) on the
abaxial surface.

Very thick roots,
Raddie type.

Plant, (some of them)
rooting at the nodes.

FAA = leaves & roots -
no Photo, no soil.

Cox laevigata K 2218
Same place - at the
edge of the stream
~~with~~ in open place,
with other weed.

FAA = leaves, simpl.
Boj = simpl. + uterque,
no soil, no photo.

The forest along the stream
along cut, 20m, with
cacao plants, best.

April 11, 1972 2219
En. Co., Municipio Laureles,
Cajon Dorado, 30 Km ^E of
Guamucan, Rd. Laureles -
Laureles, -

Diandrya (francula)
In open forest, and ~~at~~
near long forest, not far
from the "cacao" ± 200 m.
Abundant, ~~in~~ ~~the~~
forming small clumps
rather dense.
Variable in size, usually
the smallest plants in
exposed, open places, trail,
etc. light green leaves, "underside"
The ~~most~~ plants growing
in the shade looking
beautiful, tall and
blooming but flowers in
very few plants, probably

because no rain in
many days, soil very dry -
Most of the plants with
white-fairy spots, like
genus *Trichostema*.

In *Trichostema*, most of
them in short-one-leaf
column, hidden under
the whole in a *Trichostema*-
like fashion. But
frequent also inflorescence
at the terminal on the
main column. Infl. small
several, compound. Infl. small
as the large (like *Trichostema*
from Ferrada.)

That forest was cut
here and there to plant
cocoa plant, many years
ago but later abandoned.
Now looks like a

1st forest, and forest woods
seen; open, low type of
forest, with more or less
thin trees and some
big, very thick trees -

Alt 3. m. elev. = 100 m.
Soil = ~~shaly~~ temp = 77°F
Temp at 1 p.m. = 80°F
Flora = leaves, few simple.
Flora = few simple
Photo: 6 or 7 only with 15 from
1 to 15 - most of them with
tripod ^{at 8' 15'} A few
without on the trail in the sun -
Soil sample: 38 -

same place, but a little further

2220

Crematos grande

In a disturbed area near the edge of the forest, ^(other plants from same locality) ~~with~~ ⁱⁿ shade places, under other plants.

Tall, upright plant with large leaf blades, root on the ataxial surface. Many plants with apical inf. Some with two, probably from the two upper nodes of the culm. basal inf. of the two types. The nodal superficial and the subterranean ones. Some seedlings seen and collected in FRA. Large seedlings from subterr. seeds.

Plant tall, 120-150 cm ~~height~~ with thick culms.

One apical inf I think I saw the tip of a thick nodal or inflores. upward. It was fixed in the FRA soil.

FRA: 2 nodes: a) basal, inflores. Apical & basal a nodal. b) seedling

Gouan: basal inf.

3:1 = Apical inf. (note:)

Soil sample 39, sandy soil.

Photo: 5 x w. only few of soil 15. herbs 17

Le papave a piquete pero muy linda. Le apave transparente, apave 7 con piquete, volvinos en el fondo, se ven como los conos y el apave estubo hervido

Dicen que son copias de rivas
en Huerfano, basta una
pequeña extracción, dicen
que esto a 20 m de po-
ndido y bastante grande

~~1st day~~

April 10

2221

Ce, Municipio Huamantla

3 km North of Tpan?

Panicum sp

Side road from Huamantla
to Tpan. Very
abundant all over. Habitat
large plants 130-160 cm +
collected only few specimens
for botanical purposes.

FAA = in flower - leaves

Boys = "

2 vials

União

2222

Diandrysa grande

Bo. Hum. Thirataia, Fazenda
Boa União; 20 Km North of
Ipiau.

Photo's on roll 15 from
18 - 31 -

Color: Kodachrome roll =

± 506 can fixate -

F.A.A. (2nd?) a) leaves, base of leaf
v-th petiole, one short apex
in pro-cune.

b) seedlings

Body: imprinted -

3" h. flower -

Living plant collected.

seed: one cup with
mature ♀.

Soil sample # 40

4 rats

Alt. 3. m. over. 175 m

Soil temp = 76° F

Air temp = high in the day, 76° F
at 4:15 pm, 72° F

In a 2000 ha forest, under
cocoa plantation.


Smooth slope, shrubby
with many Pterocarpus.

Very open type of forest
with tall fruit trees and tall
cocoa trees.

Scattered all over the place,
but not forming carpet.

± Variable in size, two growing
in dark places, taller. Found
culms with ~~leaf~~ leaf comple-
ment of many leaves, decreasing
in size from the top of the
culm downward. Other culms
with larger leaves, fewer in
number.

Most of the inflorescence very short,
some very little culms in the
one blade. The infl. is obovate
in older ones, the blade in a
pseudoculm position. The inflorescence
culms, sometimes covered by
long leaves, some of them are
in decumbent position.

 Very few infl. seen at the
top of the inflorescence,
most of them old, without sp. σ
sp. seen to mature first and
fall very soon. Absence of the
sp. below the glume, the complete
sp. falls. σ sp. with 3 stigmas
and (one) glume.

April 17, 1932

MINNESOTA FORESTS 2233
~~Colony (C. ...)~~
soil sample = 41

Co., Minn. de Lirataia,
Pd. B. 2, a 7 km North
of Lirataia, Fajuda
Sulth. Rutorio.

Very old part of forest at the
edge of an "coveiro". (It is
a very small stream,
probably accumulation of water
in a low, open depression
near the edge of the forest
in open or more or less open
places. Huge plants in
large clumps forming a
big mass; the plants tall,
erect, up to 2.50 m.
4 m


2224 - Arberia soil 42

2225 Paepan 5/10/1951 - soil

2226 Pichia soil 43

Culms with a few leaves
at the top like a few
large blades, hard and
rigid leaves along culm
with small or reduced
blades. Many few plants
with flowers and some old.
Leaves a panicle (large)
growing directly from
the edge of the culm.
Some without leaves (young)
Variable in height, some
short (20-30 cm) others up
to 1.20 m. Some old
flowering culms with the
diameter of 2" and 3" partial
infr. In one plant the
infr. culm ^{has} few
leaves with small blades,
some infr. a little more
and rising at an angle

the rest of the culm, with
a very short axis
but some flattened?
Most of the plants in
the area young or in bud
shape, with leaves
covered by fungus or moss
leaves.

 Dark green
leaves, a little
soft, but not
pubescent, (like
a bamboo leaf)

F.A.A.: leaf, base of leaf
with petiole, a few of infl.,
partially old. 2 vials
Borg.: few of infl.
soil sample: # 41
Alt. 1. m. m. 170 m.
Soil temp. = 75° F.

Photos: 6 were roll 15 (from) from
31[±] - to end of Roll 16 from
1 to 15[±] (some at the end
of the Arbores's photos - in the flower
also in) taken with flash
some smaller matches (2.5)
flash at 8!

Notes: none

Leaves present: collected

Arborescens!

2324

Arborescens? of mid.
Camp No. 130, Municipio
Tehuacan, Rd. No. 2, at
7 Km North of Tehuacan City.
Fogueda Santa Antonia -

Alt. 4 m. 175'

Soil temp. 75'

~~Humidity 78% F temp~~
83%

~~Arborescens~~ Frequent, in
small clumps, all over the
place, about 200 m from
the entrance to one of the
forest. In a little higher
place than *D. campicola*
Dense and humid place
growing in an anorthic
slope. A few plants near
the edge of the forest.

under *P. amplicauda* All
plants bloom up!

Small, lobed plant, up
to ± 30 cm. Blade *Asplenium*
tried, almost *truncifolium*
at the base, ^{widely} flat.

The plant looks like a

little *Pellaea pumila*
because of the broad base,

but the parts of the

Symphlocos is *Asplenium* *gigas*

in *Pellaea* *latifolia*.

Symphlocos complete, within

under the lower *Asplenium*

in the lower side of the

leaf-complement or in the

plant, from several sides

of the leaf-complement

but not from the

terminal one.

Symphlocos: like a small

plant, with very partial

leaf, each one on the

long, well developed

Asplenium. Each *Asplenium*

very close to each other, so

that the inflorescence is

very short (like in *Pellaea*).

Flower: one large,

deltate, white female

spore; small, white ♂

spore below.

The production of *Asplenium*

seems to be very large

and fast. I can see

the last *Asplenium* with still

young spore and a new one

arising. *Asplenium*

in the stems (no *Asplenium*

seen at the base?

In some places *Asplenium*

associated with *Pellaea*.

In the same area we saw
a few clumps (clumps and
patches) of Dicentra.
In some a single stem
with a single stem
2, long plumose, arising
from the sides, near
the tip of the antherium.
Seedlings collected, "beaked"
Type with first seedling,
developed blade longer
broad, asymmetrical at
base.

Plots: 6 rows - all 16 ft
+ 15 to 31 - at new ~~area~~
long exposure, lat 26.30 - 3
almost impossible to take
photos (sun but some
clouds, not very bright day)
with tripod at 8 and 40'
away without filter.

4/1/62

Notes: ~~see~~ see on plant ~~status~~
noted above next day (p. 1)
F.H. 2 v. al. 2) base, base of
blade with plumose, roots,
one short stem - ~~arising~~
and a single - to seedling -
young plant at more
young plant at more
30 ft: young 7 stage plants.
Soil sample: # 42

Notes brought: collected

In this patch of forest
grows: O. umbellata,
Dicentra (most
collected) and Liriodendron
pubescens, Hesperis of mid.
One pretty common (the
time we collected in
near Pedro A. in side, just
in the same). Also a big,

pretty Schizanthus. Phaseolus of
seed Streptocarpus (very young)
only one with fruit (collected)
also of course O. tuberosus, at
the edge of forest.
Forest with large Ficus trees
many palms

2225
Rapanea o. baccata 2
Secundum staff
60, Mm. Thunbergia, R. b. b.
2, at 7 km from Thio-
torica city.

Very steep to top, narrow
at side road open
with other seeds.

Herb plant up to
1.20 m
F.P.F. = leaves, inf in 7 steps
1.50 m = inf
3.11 = inf.
no soil, no photo.

3 vials

Johnston = 2227

April 12, 1973 2226
Perezia sp. *rhizophylla*

Cd. Municipio Skirataia, Rd.
Bar La, at 7 Km North of
Skirataia City. Fajencas
Santa Antonia.

- Small patch of forest
in a smooth slope at the
edge of a "carrizo".
Frequent in ~~the~~ ~~the~~
shade, and shady places.
in rather open of vegeta-
tion. (About 200 m from
the edge of the forest.
growing in more or less
dense shrubland. Beautiful.
Plants of bush, ~~height~~
green. Hb - 20-30 cm tall
Plants with a leaf complement

terminal infl = basal infl
well developed!
of several ones. leaves at
top of succul. Herms
number of basal pubescence.
sheath with long pubescence.
Infl mostly basal but
remains at the top of
the stem when. Not
many flowers? Flowers
red-pink. 9 5' infl
hermaphrodite, 3 stamens
and a pistil on the
way along 1 the same

Ht = 170 cm s.m. m.
soil temp. 75°
soil = rather loose, sandy
Photo = box with 16 fl
color = red-pink with pink
F.P.H. = 2 rows, 2 leaves, infl
5' resting
1800. Infl. 4 rays

2228 Do. do. in open 1900/44
2229 " " (150+ m) 45
19 April

April 20

2230 Parvula 1

alt. ~~180~~ m - 5 m. wide.

4 nubs (ready)

Soil 46 living plant.

Soil temp 75.

max temp 76° F at 2 pm

min temp 70° F at 8 am

7 Km north of San Juan, Foz de

Parvula 2231

Soil 47

Parvula de Foz de Parvula

Suba Secyos, 7 Km north
of San Juan

4 nubs -

alt. 200 m -

seeds - living plant

3.1 m wide -

living plant - collected -

ready to use - 4 nubs -

Soil sample # 43

Same place

2227

Schizanthus pedicellatus (Trin) Small

in open place, with Parvula

large plants at 2 sides with

low, large leaves. Only few

old infl. and flowers.

FAR = seeds -

1 trial

(Bambusa)

April 19, 1952, K. H. H. P.
Spang, Bamboo 2228
No. 101, Minif-Garden, 3 Km
North of Jendai City, Rd. No.
101, Foy. Santa Antonina

In forest and at the
edge of forest in the woods.
Plantation -
Large, huge bamboo, up to
12 or 5 m. culms
overarching over vegetation
culms thick, 4-5 cm
diameters, hollow, but
the inner wall, firm,
smooth like on vein
(white dent). Spines
and nodules common.
Spine as much as usually
2 species at edge of
of bank or 2-6

+

in the middle and
the main one.
The young branches from
the main, thick, culm,
usually the lower ones
the branches, more spiny,
and then, at the end
forming the leaves -
Culm - smooth, less hairy
with very small, short
hairs. In the leaf
sheath nodules ~~to be seen!~~
(~~to be seen!~~)
New shoot very thick
not very hairy.
Bryonia thick, isolated
leaf - 10-15 cm in
branches from thick
culm very, in the
branches, nodules.
Large, thick blades

2 vol.
FRA = leaf, base of stalk
with petiole, roots, rhizome
Photo: 5 x v roll 17
color (Dikeg Katakata -
b x v = young shoot with
rhizome)

(Next day, at 7 km to of
Janda, seen in other
forest much more shaded
and beautiful (photo graph)
Soil sample 44
right - collected

Monoculture
~~Rubus~~ Salween affinis

2729

Bamboo 1 m wide, by each
side mostly

In forest, about 5 m
over vegetation -
bamboo with about
2 m one for each
side. (Pigeon hole
with a thick stone
interference from one
column to another -
bamboo 4.5 m diameter,
below, 2 m diameter
with black hairy, pinkish
spines on leaf
bamboo some large 11 cm
diameter, all sections
one main branch, 2 or
more smaller from the
side - leaf blade

long, narrow
soil temp. 76
soil sample = 45
F.A.S. = leaves, buds
young = collected
Plate = H.A. in = roll 17
color = chocolate

1-21

April 22 2230
On. Blume. W. ...
Found the ...
From north of ...
Oriental -
Pisum sp. ...
Abundant in open forest
& shady, ...
forest - easy to walk through
no ...
Beautiful plants of about
25-40 cm, light bright
green. All plants showing
from the base of the stump
and from the tip of
the ...
leaves smooth pubescent
on the ...
pubescent. The ...
in the top ...
like P. goethii, but plants

much more robust.
In many plants one or
3 in flower, at the end
of the main culm

Flowers - small, compact
red or pink, sometimes
green - one ♂ below the
♀ spike but the terminal
♀ spike with several ♂ below
flowers start to open from
the top to ~~bottom~~ base
seen that ♀ open first
but it's almost equal.

near. At South Africa ♀
flowers ~~are~~ are inserted only from
the sides of the tip.

♂ spike is compact
in the axillary, long style
and is long, plumose
the young - This flower

opens completely at the
top and the 3 stamens with
stigma out of the ~~flower~~
antherium. It is very thin

open and very thin
plumose around.
♂ spike full of
stamens, in most cases

the flowers are only
the ♀ remain.

usually a single
antherium. In some
in the middle

of the inflorescence, abundant
and branched, brought
downward, some almost

over the top leaves, but
usually the end of the
shoot with the flowers

coming out through
the leaves.

Soil: sandy (sands) rather
loose rocks by small
dry leaves but not so
much as in beach part
of zip leaves tree part.
Plants very to full - (Kara
seen as and beautiful
flowers with 20 cm
in flower) Many
plants with terminal
umbelliferous.

Alt. 5.180 m - 5. m. m.
Soil temp. 75°F
Air temp. 76°F at 2 p.m.
Wind 70°F at 8 a.m.
Soil sample # 46
Many plants collected
roads = few
FAH = 2 m. 11 leaves, 1 petal
stems, 2 petals, 2 sepals.
Seedlings -

4 vials

Young - flowers - 7 stages
3-1 - flower
Photo: brown - roll 7 at 18
also: Entostemon (no flower)
and in the temp. part in fruit
roll - 76:

Seedling - umbelliferous type
fruit completely developed
blade, broad umbelliferous.

In the same area, a little
before the phase we had a
lot of the spring beach and
also the thin leaves and collected
the 1 day in ground.

2231

Pinus strobus, *laevis*?
Some flowers small, but
± 300 to 400 flowers, and
the little higher.
alt: 200 m. s. w.

When done, the forest
meets the edge.
The forest is tall,
up to 70 m. ± some
smaller young in
a cut area, supposed
to be light. All plants
in bloom.

Few very old trees
but in 100-200 years,
small plant wood
In fl. large, thin, a ♀ ♀
spiral ending the axis, but
repeated but on other

long antlers of a
the rest of the forest.
B. 1st small in the 3rd row,
small flowers but
contains 2 large, long
thin stipes seen from
I also saw seeds in
the wall, mature stage of
leaves young plants and
seedling seen around plants.
Had to find many small
brakes and full of
by only seen in the
of the forest in the
camp ♀.
It would look like
P. canadensis & *laevis*
This one is not with
white and soft on the
leaves.
All leaves terminal

April

to the main center
F.A.A. - 2 vials, 3 leaves,
base of blade, single
root, 5 needles,
bud - inf + leaf
3:1 = inf

But similar to sample
of mature inf with
caryopses in the F.A.A. vial!

Soil sample: 47

seeds: few

Timing plant: collected
(New House)

Seedling: beautiful! first
leaf with colored blade
1st lateral blade very pale
narrow lanceolate, etc.

Photo: box = roll 17
color: Ektachrome # 6 -

2. 2233-49
3. 2234

April 21, 1972 2232

Eleocharis acicularis

New Riverbank (Guinness),
Km 10.4 Rd 62 E, at 14 Km
North of Quito City.

Photo: color Ektachrome roll # 6
from 18-25.

box no: roll 17. To end (110)

Soil sample # 48

alt - 175 m s.w. side

Common in forest forming
discrete clumps, but
very dense. Tall, ca. 15 m,
shrublike. Culms hollow
about 3-3.5 cm in diameter,
the larger ones. Culms
green, a little woody (bamboo
type). Culm sheath deciduous,
very fatty, inside bright,

2° low. alt. - 180

3° " alt - 140

1/2 m

smooth and glaucous.
occultate venation. Sheath
± small, thick-furred,
occasional. (Leaf sheath
very thick, like leather,
breaking branches from a
node. All branches thin,
about same thickness.
More joints in those
from younger, old culms.
Leaf sheath not very
large. Sheath pubescent
above, long, decurrent,
narrow below, thin,
much not persistent.

Rizome - very hard, colored

F.A.A. = 1/2 m, base, base
of blade, with buds & stems.

Soil temp = 74°F (soil temp)

In many places of the
forest this bamboo grows

aggregated with other bamboos
(B&B. 2233) of this, small
leaves which is growing.
It grows from 170 m -
to 200 m or more. Habitat

We saw people (women) cutting
the culms of this bamboo
for making roof poles.
They gather the culms at base
of the bamboo.

Height of culm was about measured
10 m with a measuring
rod.

Hydrocotyle (plant)

2233

same locality but higher,
(on steep, incline slope
of a hill)

alt. 500 m

It is the side
road between Rio - Palmar
It comes out from the main
road "Br 101" - 10 km north
of Granada to the west
(it is very bad slope)

It is in the forest
in some open ground
with other plants (B&B
2232) Tall 10-15 m
climber, over other, repet-
itive, solid, rather thin
and flexible about 1.5
cm in diameter, forming
a small net like

leaves, the lower leaves
persistent or semi-
persistent, small, 4-5
cm

One main, thick branch
from a node, with
several other, thin
from the node.
Culm and branches with
pubescent.

Leaf sheath of culm
small, narrow leaf
It seems to start to grow
at node, seen in flower
spike long, the culm
cylindrical, thin, small-
to large, repeated at
the end of leaf sheath
wait or in young plants
about 10 cm the node
The "bracts" (to flowers)

in the lower part of the
spike with the redness.
leaves developed.
Many spike were empty
(red of tissue 3 entire)

Soil sample = 49
response = collected
FAA = large (250) not clear
heads = tips, symmetrical
spike

600g = large (30) not clear
321 = " " " "

Plots = 5 rows, with 18 from
1 to 15

Colony of *Leptochloa* - 2 not clear
and in seeds - not clear
not in a week, total and
win come

3x2

~~Unidentified~~
Unidentified 2234
Unidentified (2° in fruit)

found heavily but at time
not, about 1000
alt. 140 m. s. m. m.

Some samples collected
on April 19 at 2 km. N. of
Si Yanda, alt. 2232

At the edge of forest, in
disturbed area -
One main, thick branch
from middle several small
thin one from the v. top,
leaves + branched, not
forming clump - leaves
medium, some lanceolate
flowering 1 lower, 1 ind.
spike hanging like a
reverse from the id

2/25

of the main one of the
leaf complement -
some seem to be soft
pens were seen in
anthesis, open under
3 stages and 3 to -
and out.

Spikes of different sizes,
some small, other
large, about 10 cm or
more long. (7 stages)

Photo taken only for
16 to 22 - all 18

FAA - large vol (2500), with
spike - 1st of leaves, one white
small apices, very late, no
light and rain coming

Bond = 5000 vol spike

3/1 - " " "

and soil no signs -
collected remains only flowering
date -

April 22
Admission

2.235

2 vol

Very common road side
weeds, growing all along
the road between Jambh
and Hubera.

22.37

Merostachys

April 23, 1953

2236

Be. rubra (var. sp.)

Bed, *Merostachys* *Strobilacea*;

Ran 43 Rd. Yonkers - Putnam

at 21th of Putnam

1400-1500 - Putnam rd. 1953

Alt. 300 m. s. w. m.

Plots begin with 18 to 23

to each

cold - *Entoloma* with 4 to 6 fr.

30+ to each -

Abundant throughout the forest

(*Pinus strobus* forest) *Polypodium*

up to 15 cm tall or more

in clumps. Culms below

ground, *Stachys* spp. *Sparganium*

in *Stachys* very elongated

22 - 37 inches. Culms

up to 5 cm diameter.

Soil *Stachys*, thick *Stachys*

2 yal.

to 10 cm from a node
in a white line under
ground to node.

Culm sheath very thick,
deciduous, with a blade
vent downward, recurved
also - *Stachys* large, *Stachys*
like *Stachys* *Stachys* in
a leaf angle of 1/2 *Stachys*
or more.

Plant *Stachys* seems to be of
forest and *Stachys* *Stachys*
in the *Stachys*.

F.A.A. - 2 yal., 2) *Stachys* in the
under, 3) *Stachys* in the *Stachys*, *Stachys*
Stachys *Stachys* in the *Stachys* of *Stachys* in
soil sample = 50

Soil *Stachys*, red-yellow
Stachys = collected

8 sp. in the long pasture
in the lower part of
the succession.
feeding abundant as
usual, some seem to
recess a long distance
of great grass, usually
by: show the sp. in the
in some part. They are
well developed sp. in

Photo: 6 w. roll 19 from 1
to 10. These are a few in nests
in some (white)
colds: E. tuberosa, roll #7
from 1 to 5.

FPA 3rd: 2 w. sp. in
b) red line, c) 3 w. sp. in (with
lower)

Body: sp. in
3:1: 8 sp. in

5 w. sp.

The sp. in pasture
along the front section
between - sp. in range
in part on 30 km. but
none in any other part.
Usually grows on edge
of part or near it,
and also in "transition" at
road side.

Picea macrocarpa

April 25, 1977 2230
Pine off ~~sample~~ (Pine off)

W. Kemp. Nido Pindaba
Fay Bona Pindaba 14 km
North of Tabara (2.5 km)

Went to the road, W. Kemp
alt 500 m. a.s.l. 140 m.

Soil temp: 74°
Air temp: high 74° at 3.15 p.m.
low = 74°

Photos: 6 & 11 with 19 photos
11 to 25

color photograph all 7
from 6 to 19

soil sample # 52
bump plant = identified

EAA = 2 vols, 2 seedlings (many)
d) leaves, inflores. base of branch

Boys = infl -
3:1 = " 11 m

Remnant in lower part
of upper forest (Pine
off forest) was not
in the forest. In an old
clump scattered all
over from W. 200 m
from the edge of the forest
all parts up to 60 cm
but some were up,
these specimens in
and mostly cut up
and also fruit small
in the forest, probably
for the plant from
jardens several feet, about
well.

Station where Pindaba
is little scattered but
not heavy like the
one like Pindaba of
(W. Kemp) large glade

W. Kemp

* Stiff, glabrous, internal
surface white-green yellow

~~2238~~ ~~Teladanta~~
~~2240~~ ~~teladanta~~ ~~teladanta~~ ~~per~~
~~collected in~~ ~~the~~ ~~area~~

2239

Teladanta ^{membranacea} aff.
- in area of ~~the~~ ~~area~~ ~~2238~~
Abundant in open
places and along trail
(~~the~~ ~~area~~ ~~of~~ ~~the~~ ~~park~~)
Plant up to 1 m
tall.

F.A. = leaves, upper
- soil, no photo

incl

Heritages

2370

Body numbers

When the trail on the
river bank
fell into a
clump looking like
Sidastris.

But, further south that
trail led over to
a plant of the same
in full size. From the
side numbers we collected
between Sidastris - Flinders
We also note that
numbers in the road
for *Commersonia* gave
us it.

From between of our
collected

31 = few root tips

1201

no photo, no soil

2370-2371

John F. [unclear]

Ass. Librarian

Ref. & Inf.

DH 18259

1725 I St.

Off. of Regional Level.

Cartographic Sect.

Lawrence Fahey

Tel. DU 1-8477 Premier Bldg. 706 D.

ptograpia
D. fig - roll 3, 4

D. 2219 - 16

D 2222 16

Pineae infl - 9

" leptophylla

13, 22 (60)

" *Harosii* (2178)

7-8 -

" *Harosii* (2226)

Harosii

17

" 2230 -

18, 19

" *Harosii* 2238

21

Evantis *chico* - 2174

" *gale* 2175

6 - 7

" *Abantote* 2184

6 - 7

" *M. borealis* 2200

10 -

" *Hanarayu* 2208

14 -

" *gale* 2220

15 -

16 -

Rd B. 101

"From north of Granada, Mar. Granada"
"Ejército Secreto Anónimo"

No. 32

from 23

From Talluca rd 10 Ca 101

from north side, 2 feet to 4 ft.

55 inches

|||||

Lucas c

JUNE CALDERON

photosynthesis