

Brasil 1976

(2)



NOTEBOOK

45-4298

6 IN. x 4 IN.

50 SHEETS

aMeadProduct

Hulmer Building, Dayton, Ohio 45402

Anomochloa marantoides Brongniart
BAHIA, BRAZIL

Mun. de Una. Elev. 180-190 m. Dark, humid forest on steep, rocky slope of mixed, rich soil. Very large trees and abundant Marantaceae, Rutaceae, and many ferns in the understory. Also common a small Olyra sp. (CFC et al. 2382), Pharus sp., etc. Forming thick, large clumps, mature plants up to 80 cm tall; near the edge of forest, in slightly disturbed areas, plants shorter and in smaller clumps. Graceful dark green, thin leaves with sheath wide open, flat, all in one plane (Iris type). Each new plant develops in right angles to the previous.

21 April 1976

2381

Cleofe E. Calderón, Talmón S. Santos, and Iytselton B. de Oliveira

Collected under the auspices of the Smithsonian Institution, National Geographic Society, and Centro de Pesquisas do Cacau (CEPLAC)

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2381

April 21, 1976

Gramineae & Annonaceae ? n.s.?

Monte de Ouro, 50 Km NW of
Ouro Preto - ^{to} Monte de Ouro
on Strada Velha de Ouro
& Rio Branco 35 Km

³⁾ Strada de São João to
Macuco a Ouro, 9
Km from Br 101 -

(175 - caninus) alt. 1.5 m.

Alt. 180 - 190 m.

Photo on W. roll # 31 (1-20)
with tripod and 5' lens

Photochrome: roll # 32.
pe 1 to 28[±] (1st row, maior de Guadalupe
paisagem silvatica)
with tripod

Humid forest on steep
slope, lower part
next to road with ce-
cum plants, widely open
and shaded with rest
of the native tree of the
forest. Large stones &
rocks afloat on
the slope. Many fern
Marantaceae, much
growing scattered among
these plants, and in
some places with *Olyra*
sp. Rather small to
medium plants under
the coccoloba but a
little farther up on the
forest (unthinned) with

and coccoloba clump layers
and not more
ripes up to .80 cm
(+ ⁶⁰ 70-75. mostly).

In a big, large old
clump we saw a
young in flower. The
rest of the clump with
old, faded inflorescence.
Beautiful dark green
leaves, Marantaceae type
± rounded, cordate at
base, large lanceolate
petiole very long with
a sort of articulation
with the sheath
Sheath flat, opened
wide. Flaves type, thin
edges

May cross vein in the
on leaf blades and
bracts of spikelet.
Flower born in axil?
of one small leaf
blade with small
blade.

Lf. large spine? or
spike? Bracts green
herbaceous, and!
coming out of the
the blade a single
style partially covered
by a kind of tube.
Style free with
very short stigmatic
pores.

Old info a show

very! large bract peristome
of a rock? empty
and with a "woolly"
at the base.

leaves with a thick
elbow or articulation at
base of petiole and
top of stem.
Some have in front
also large membranous
and ~~very~~ common a
large bract (taken
collected). Very large
and tall trees, the
clump with flowers going
near a huge tree.

FRAA: 1 sigl with
leaf blade, petiole
articulation and sheath.

Living plant collected
abundant

April 21, 1976

2382

Olyza sp.
Same loc. as Anemone

In lower part of
slope where wood
in rocky humid
slope under report
with caecum. not
seen but abundant
in this part.
with ferns and
Marantaceae and

April 21

Small Alyce, full
some layers up to
75± in flower, typical
in flower of Alyce, 10
2 - some old with
4 or 5. Growing in
± small tall dunes

Photo: no - late

3 Vials: 2 FAA flowers

2 leaves

1 Docket

2383

April 21

2283

Plants

some low - a date

Scarcely in shade
at rocky slope with
fern, *Manent* (white
vine) and Alyce &
Auricularia.

2 specimens only
I forgot about *Manent*,
no photo no FAA

2384

April 22, 1976

Merontsky

Mun. de ~~Merontsky~~ Merontsky
39 km de Merontsky - strada
San Jose - Merontsky -

SEE DUKE COLLECTION

Alt 200 m.

FAA - 2 vials each +
leaves (1 reg vial)

Photo B. & W. roll 31 - for
20 to end -

Expos. per for roll 32

Kodachrome : roll 33

for 1 to - 22 →

70

in nodes

.48

.34

.30

.32

.35

2 cm. 3 cm

Heretofore, beautiful in
front, behind on
hilly ~~area~~ area. New
cabin on both sides
off road, ± top of
hill where the road
joins.

Behind the last in
front of tall trees
thinning but ± present
in lower & medium.

part, 1.5 up to 3 cm
in all our diameters
but green with white
sand on nodes
W surface smooth
below but appears
lighter up. thin vessel
(note inside)
but next! wood
falling very soon
thick very string inside
light gold color, outside
yellowish, wet, a little
operculum. Blade reflexed
leaves small, narrow
with long, sharp
white and setae
Nodes not prominent



with many, many
branches -

perianth, colored
interior 4

April 22, 1976 2385

Atractanthe cardinals? in
in flower.

Mr & Mrs. - outside

Mrs - San Jose, 34th

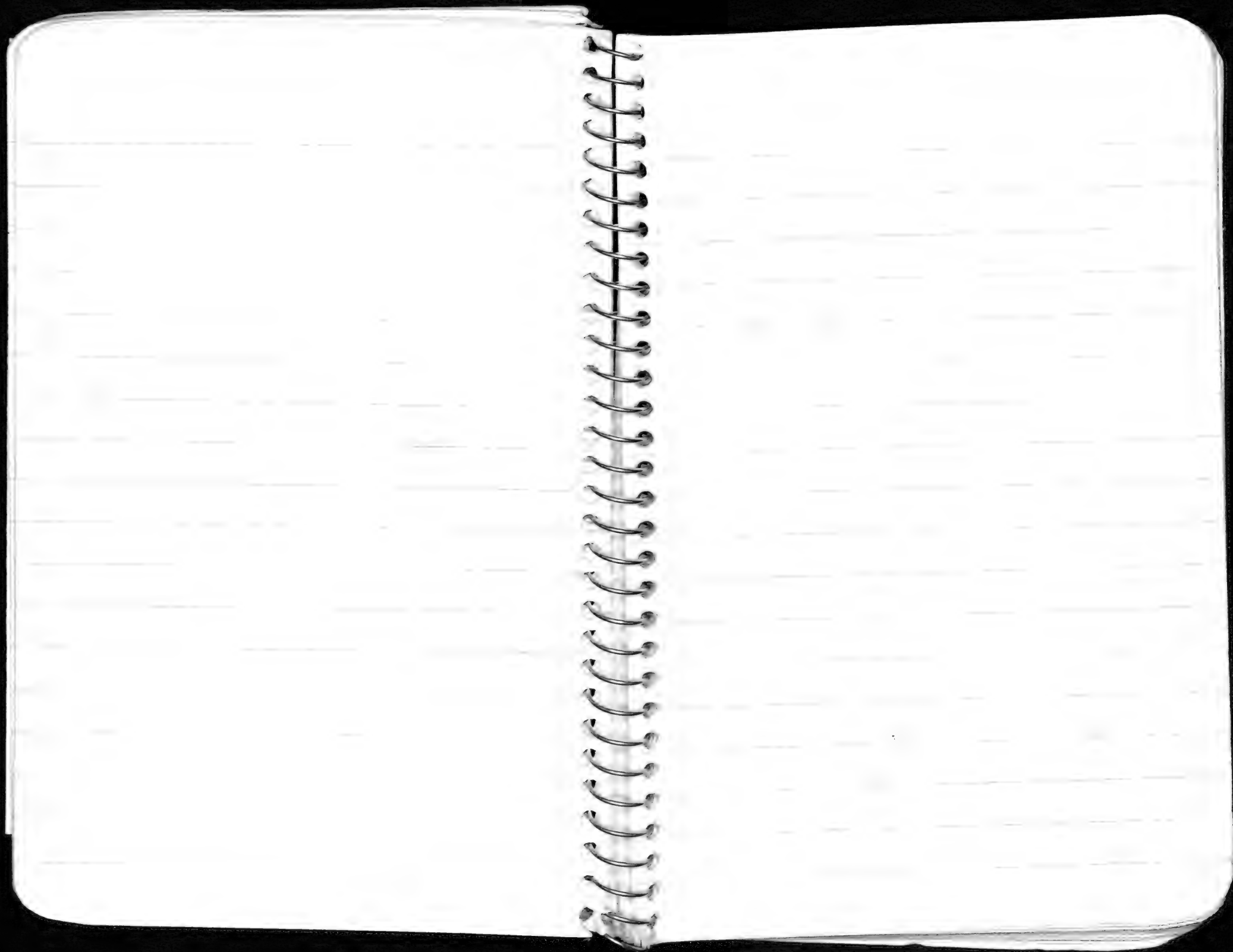
~~J.F.~~ Mrs (N.W.)

Alt. 175 m.

no photo -

Remains of humid forest
partially cut down, with
mixed, rich soil. Colon-
izing bamboo. At present
most of the plants dry
because of past flowering,

still a few shoots with
green leaves and fresh
flowers. Culms solid
surface asperous. Culm
sheath persistent, bracts
and prophylla at base
of branches very well
developed, red or reddish
other color



April 23, 1976

2580

to ...
Uru Uru, estado San José -
Uru. 36 Km ^{N.W.} from Uru
(from connection with road
21 Km)

Act. 200 m. s. m.

Collected: coll. 34

to end ...
2 35 - from 1 to 10 ± coll 32: 3 to 6 -
Kiddichow: coll 33

to end

Ente chow 36 - (1 to - 5 ±)

blow to 35 from 1 to - 10 ±

FAA: 1 large w.m. subs.

1 var. w.m. & 1 w.m.: flowers

1 succ. leaves. (4 FAA)

→

1 (120) long flowers

1 (120) 3:1

farinaceous - culms, trees
living plant.

diam: 3.5 ^{or} ~~more~~ near base

22 --- 3cm - 2cm

ropper farther up.

up to 1.5 near the top.

1.30

11.30 m. for a


new culm.


Beautiful grasses?

Some clumps at
edge of forest where
they were clearing
the flowers, many

flowers and also many
new culms. Not seen
very tall, but plants
short of them, grasses
new culm seedling
or sprouting, probably
because trees were
cut?

Thick culms, all one
up to 3.5, ~~very~~ smooth
or slightly rough below
node. Culm solid or
almost so in lower
part of culm and
in upper thin branches
otherwise very thick
well, small hole in
center.

culm sheath thick, strong
band, shiny white. For
light beige, outside - base
& little ^{short} ~~apex~~ ^{or} ~~apex~~
blade large \pm half or
short of whole sheath
no separation from blade
& sheath.  - for outside

Very strong marked
nodal zone with
2 ridge  and back
prominent. One
bud x node well
above lower ridge
in the middle of 2 -
back give one bud
repeated (very noticeable)

at base and one spine
usually (sometimes 2)
in upper nodes -
can never be seen same
no spine
prophylls very well develop
leaf complete large,
large, ~~white~~ ^{reddish} glaucous
top white ~~with~~ ^{with} narrow
obol retic. -
May, many pseudopod
lph. very thick and
long, May in antlers
6 large purple antlers
thinner \pm the sturdy part
also purple -
cul sheath deciduous
easily -

It does not look like
Gyneros from here -
more of the type
of *Almnia* -
culms green with not
wide white bands at
the nodes
Many branches per flower
were tried and lost.

2387

April 23

Merwatahy, Y.
Mun. de Mue, road from
Mue to San José de
Mecuco 19 km NW
of ^{Colonia de} Mue of 30 from Mue

Alt.: 125 m.

Abundant in forest not
very humid? on smooth
slopes. and at edge
of forest.

± large clumps, ± thin
culms and more than
1.5m ± height,
thin walls. very

smooth, bluish green
Not ridge at node
not hairy, small
line of vent of
sheath.

Sheath of median
no of bands, not
many and rather
thick (relatively)

11.45 one
1.45 removed
but can be
tolled.

2
2
2
2
x removed
2
2

leaves very dark green
glabrous, recumbent on
edges. No oral setae
or inconspicuous
but sheath very
few feet distal
± small, very smooth
when seen, with three
lines, darker above.
rather large blade
wide and reflexed
Very short oral setae.
A little of white pinnules
on median column.
Warts minute, antero-lateral
fragile, hollow
Living plant not
collected

FAA, 2 vials
few small leaves

Photo: D. & W. roll 2-35
from 10[±] to 16-14

Ektachrome roll n^o 36

from 6⁶ to 10¹³ ± ?

garrulous. colat
being plant no

April 23

2388

Pharus

Mr. Mura, road from
Mura to São José do Mearim
co., 12. km N.W. of

Mura -

Alt. 1250m

Few clumps noted
near edge of forest
trail on forest on
smooth slope.

to a few photos D. & W
& Ektachrome, rolls 35
& 36 -

2389. *Atractodes* ?
 2390. *Mentha* sp.
 2391. *Bromelias*, orange flower
 2392. " long soft - white
 2393. " papery or fruit -
 2394. " long ribbed leaves
 2395. *Foliosus*

Criciuma aspera 2389

April 24, 1976

~~Atractodes~~ ? or *Atractodes* ?

aspera -

Mun. de Muna, Estrada Muna

Pontal, 12 km N of

Muna city - (Route 21 a d

Fazenda de Muna, Muna

Alt. 75 m

Criciuma sp. no name

Bl. & W. roll 35 for 16 & 17 to
 end.

Extr. schwa: roll 36 for 10 to ?

(do. + next) come stop start
 ± at 20 -

roll. 37: branches average

of 1" black flower clusters

3rd leaf layer (plus outside)

- Very abundant, found
in some places in the
forest, in other places
in association with
Moro-takuy (broad leaf)
climbing, wrapping all
over the tree or ground.
Culm curved, dentate
or secundate, erect
only when climbing
with thin or reddish
very hard wood.

Flexible, round, very
hard, (low str. struc-
ture) L. node

young culms can be seen
all over the hillsides
In some main branches
high up in plants
a little tall seen in
the middle.

Very smooth
surface all the way
over top -

Does not produce
branches very low
and when it starts to
produce, ~~it is not~~ ^{it is not} ~~it is not~~
in very simple nodes →

27-38 cm length
of internode
transverse culms 1 cm

of banks -
but beneath my mouth
per oval retae
no hairs, no collars
but leaf blade reflexed
rather long and
± persistent falling
rather late (red
or several in place
even dry -
leaf with plant matter,
waxy. blades long
narrow, flattened
with sinuate
mids. rib.

Dist. retae ± long, white
but not very dense

We did not find
but in developing state
may thin or thick
new culms or new
terminal branches
extremely hard to
break through and
only 1 bud well
felt about node
when growing - ?

This bamboo is estimated
by abundance for seed
than in bestful
note tolerance of
shady soil ~~with~~ with
many palms "pisalo"
Atelata? Juniper
Tutor also seen among

bro stems very pretty -
In some places, strata
The cardinalis and
2 Menotechys, one
thin leaves and other
thick leaves -
It is hard to say
what it is. It does
not look really like
Atractanthe - more
Athroostachys?

FAA: 2 vials: bud and
piece of culm and
leaves in vials
Garrardus and piece
of culm -
Living part: colored

2380
Some notes
Menotechys not found

2381

Bro stems

Vriesea set. bud
Some notes - a note
Very common on trees,
close to ground, not
very large plants - in
open or low altitude
of trees - leaves rather
thin and soft.
Beautiful large infl
bright red orange - red
color -
Living part colored -
VE kitchen - pots table
roll # 37

Guzmania ^{LT. B.S.}
Brodiaeaceae 2392
same loc. & date

On trees like the other
boy in fl. with
small white flowers
(Elatoc. 1956) roll 37
(tiny plant collected)
also very small of it

2393

Another pretty Brodiaeaceae
rather small with
fruits.
no photo
tiny plant collected

2394

Brodiaeaceae

rather large, long leaves
with stripes, green
violet, and white
beautiful big infls.
bracts original color -

Elatoc. - Tula, roll 37
big plant.

2385

Fernandina depauperata
det M. Stieser

~~to be~~

lower on edge
of trail in forest
shady soil. note
retrogression. Forest of
piñales and balsa
(*Albizia*?)

FAA: 2 vol. plates
2 leaves
no photo

2390

April 25, 1976

Mentzelia

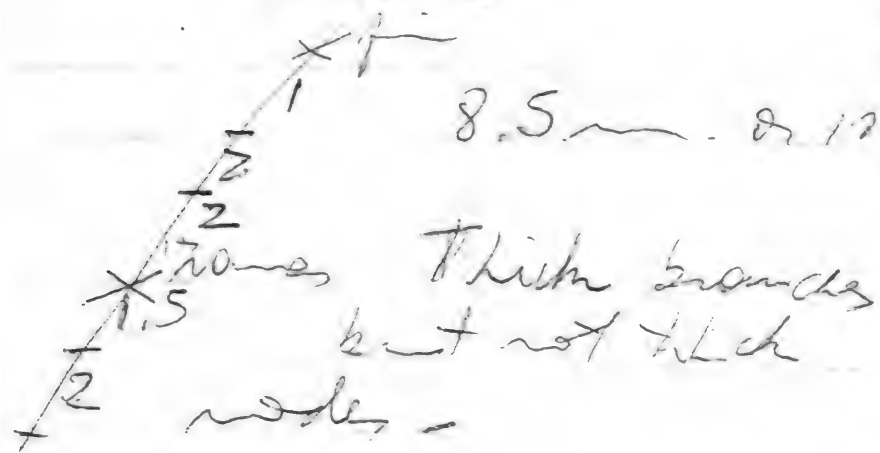
Mon. de Mesa, 37 km NW
of Uru, 3.5 km from
entrance to fazenda São
João on road Uru-São
João to Macuco.

Alt.: 2000 m.
lower on edge of
forest, humid forest
on smooth slope of
hilly ~~steep~~ region,
beautiful *Mentzelia*, of
bright dark green and
purple. Culms white

this not more than
1.5 cm in diameter,
very smooth, green.
very papil when young,
thin wall at maturity
nodes not prominent
at all, a ridge at
axillary region, a little
left side of branch at
node. Bud compl.
at x 3 or probably 1
at the very beginning
but not seen. 3 buds
develop 3 branches, 4-5
only in very old
seen some with
retraced but not many
branches thick, with

several buds at base
3, 5 - or more
Buds, and branch
at initiation of
dark violet color,
There is a "wart" at
base of each branch on
the "sheath" \pm
A few are seen where
branches retrace.
They give a bud a branch
near base of 1st branch.
 $\searrow \swarrow$ (colored).
but also the
green with striations
and purple on top
with reflexed leaf

Pole being when dried
 falling - now -
 leaf blades of foliage
 large, thick, ^{very} Myrsine
 type with petiole and
 some pretty violet, tank
 color -
 ± dense but small clump
 when drying and being
 over repetition



FAA: 2 vols bar. a
 buds -
 parvula, violet
 alba, fine, violet
 Pto: small
 B & W. roll 38 - enter
 Ekto. roll 37 - 1/2" for
 16 ± to end -
 internode: ± 29 - 38 cm
 long.

April 25

²³⁹⁶
Tatara - *Homocentrus* *hippinus* (the fish -
white)

Marina, 41 km N.
W of Manaus, Foz de São
José, ± 2 km from road
Manaus to Manaus

Alt. 160-170 m

In forest and fern
along cut made for
small road to Foz de
São José. *Tatara*
probably up to 20-25
meters. *Tatara*

forming water upon
± between 1 to 2 m.

spiral. One ridge
collected out from
2 "dove" together.

Thick cut. Lower
thick rolls green
with white wax or
various -

leather sheath! in
scales old new

cut (thick one)
start with black
up and then
bent downwards

The young short and
maintain air up
cut born on side
of when they are
straight. *Tatara* by

brown hairs, spiny
when young, they
fall as they mature
In mature culm
sheath persist long
look bad, thick
shrink, fibrous at
base, and blade
reflexed, showing
long white angle
reflex.

One thick main
axis, segmented at
base. On sides of it
or very low? on main
one 1, 2 or 3 very
thin branches are borne.
Very prominent central

extend long, on very
node -

Branch pinnadia
intraxillary, bases
by long bracts and
prophylls, persistent
long.

Leaves thin, delicate
narrow glaucous -
below sheath.

green and white
(wax)? pretty and
good looking on
top branch.

The Nodes well marked,
black or dark red of
band ~~pos~~ on lower
ridge (\pm like *Perotis* work)

Culm sheath very thick
to wood, they are thick
fibrous below epidermis.
Flowers thick, mature
ones \pm up 4 cm? no
meris

Photo B & W: roll 39 from 1 to

end (rhizome on road also)

Ekloch: roll 40 from 1 to end

(rhizome on road also)

FAA: 2 v. One bud (per)

two leaf pieces - 1 culm + sheath

Rhizome collected; dig one

interior with 2 culms.

Living plant? -

culm very erect when broken

view, bending on top -

shriving when fully developed.

April 26

1397

Atractantia radiata

Mar de Monte, ~~Parque de~~
Pantel, ^{on the 1st Avenue} 28 km N of
New city,

Alt. 55 m. s.m.

Rhizome collected 2.

Culm section - broken ^{with} ~~leaf~~

living plant

FAA: 2 large flowers -

1 leaf & culm.

1 Bud - large - 1 med

with 3:1

1 FAA - Buds (6 vials!)

1 45° alc. + 1 leaf + culm

Flowers

16.77
 17
 2

St. Plant measured 16.77
 —, 1.50 up to 20

See below the, 1.1 on
 97
 L. 98, 62, 63

87.
 some logs at base

Abundant in forest
 "white limestone", low
 low type of forest in
 with white sand soil
 near the ocean (Pigeon
 it's very near from here
 *Not very tall trees, some
 big glomeral ones, terminal
 climbing scandent,
 level ± decumbent
 at lower part, then
 climbing or over report

If I notice large ones
 but "clean", and added
 Culms solid
 at rather




hard, firm, no nodes
 from base in stem
 at base

surface very smooth -
light green at lower
vertices, light mottled
with dark green -
cylindrical (not oval
like the other *H. stracheyi*)
base of culm, (old ones
without sheath? not
seen. Very node with
a bud. ^{something like leaf} ~~not develop~~
in lower part, ± for
4 to 5 m starts
producing bracts -
3 but complement
of 3, some with
clear central ligament
In other, upper, thin
bracts not, only

3 or 4 ± equal -

Culm sheath falling from
young culm with developing
braches rather easy
Culm leaf on new
culm very smooth
fine, thin, glabrous
no hairs at base?
no collars on back
No leaf blade develop!
only a rudiment
erect sometimes
seen hard to see.
But developing interstitial
Nodal region; lower
ridge not prominent
or marked conspicuously

but culm narrowing
at base and expanding
on back of bud upon
in several directions
bulge &  marking

a sort of upper ridge,
branch complete
quite more complete
than other A's.

Start in mid culm
one very prominent
with very clear, they
repeated base and
2 on each side.

Then each start produ-
cing branches but not
very many. Secondary

branches rather thick
2-5? ± on each side
each ~~stem~~ with a
leaf complete -
bud and bracts with
purple and bracts
~~well~~ developed but short
folly at maturity of
plant. Branch
complete near clean
of bracts on plant
~~with~~ seen with light
line of ~~side~~ nodes.
leaf complete rather
large with large
leaf blade 15-17 cm +
x 3.5 cm diam
+ thick smooth, glabrous

Petiole in new leaf?
± yellow, with ⁺ marked.
Plant showing beautiful
every where I read
in April and then
In flower, *Spentolobos*
forming big balls
or heads as were
really big. Plants
look like a chestnut
tree. Infl. at
end of leafy part
also seen at nodes
again, on new
branches giving only
heads, not of
branches. Also seen
in lower nodes of

culm just above
ground and in a
young plant about
.50m tall -
leaf looks best fit
for trial or finger
like in other plants.
Infl. keep growing
forming perfect spikes.
Stems red-violet
and yellow - Not
sure if they become
red after. Buttons
or otherwise -
leaf filaments, long;
^{anther} with opening on
top - looks like 6
stamens? probably 3

Many bees and flies?
in the flowers.
No fruit seen
Spikelets dark violet
at maturity? ~~or brown~~
small ones up to green
Plants but look
like hairy yet?

Photo.

B. & W. roll. 41 stems
& 43 up to 28.

Photo - 4⁴¹ stems - 10
of 44?

some with broken & broken
tubers.

They are and look as
typical of R. very short
in this one, pretty
colored, violet or coffee
color. They do not
grow with buds as
usual.

Leaf blades with bright
- large hot on center
of cross-veins? or
above veins. They
be seen early with
hard leaves and
against a lamp -
(at table) -

A. rostrata duplicate sent to:
CERPLAC, INPA, in Brazil

SI, Argentina.

Kew, Kew Gardens, Paris
Berlin, Ganssere (Australia)

Natalia, South Africa, Tokyo
and New York.

2398

April 26

Ichnananthus laucifolius var. *lan-*
cifolius Mey. det M. T. Hickler.

Mr & Mrs

In low type of coastal
forest, (in the mountains)

Very sandy, white soil.

In shade, in Atractatle
forest, in that spot, many
terrestrial bromeliads

seen.

April 27, 1976 2399
Atractantia (log. wood looks)

Mu. de Nura 19 Km
N of Nura on Nura
Olivera road.

Alt. 50 m. s. m.

Abundant in the part
of the road, short
herm. at roadside to
front. At or near
edge mixed with
asymetrical and in
some spots with
Hermetia (large leaf)
Soil sandy, mixed.

top layer sandy (but
no so much like
the Rhent. of yesterday -
blinding sun too -
possibly rather mixed
clubs, scattered
cubs or curved
or lower part, then
blending, cloudy,
in Atract. part.

1.00 1.30
1.46 m
1.63-67 m inter
nodes, rather
short but some
and in most of part

Branche overhanging and
hanging from trees,
very pretty like curtains
of leaves -

bulb solid ^{up to} ~~at~~ base and
in diameter, surface
green, pubescent, in
almost all the
length from base to
end of branches -

bulb sheath smooth
green or dried beige like
old with small teeth
yet blade, narrower
top, reflexed - (all
little cut at top
of new shoots - Peri-
thet at base of outer

date sections when
bracte develop - callosities
developed at base of
sheath (or back -

sheath smooth with
fringe of golden hairs
all along edge, \pm long
oral setae.

Node ridge is quite
prominent, with
ring of stiff hairs,
golden, all around, like
eyelashes - They fall
when herb is very
old. \therefore Part of
sheath remain on
lower ridge of nodal
zone, as a "fiddle"

Bud complement: one
prophyll seen in
lower part of
culm - Total seen
3. Inds inside -

Branch complement:
a central summit
repeated at base of
2 lateral nodes or
less thick, (3 brachy-
mously) or 2- (3? on
each side, or each
2nd branch abundant
(wound) - ~~the~~

Branches pinnodias
~~with~~ with very well
developed prophylls
and brach. Growing with

them and peristoma
only when very old
leaf is rotten -
leaf region + large
with quite large
leaf blades, wide &
long lanceolate leaf
= Olyra type - very
similar to the
Husht. in flower (2398)
but here seem to be
thinner, not so thick
they are glabrous -
No flowers seen -

Living plant collected
garnishes, culm pieces
FAA. 2 vials: buds
culm and leaves

Photo B & W, roll # 43 (for
29 and 4) roll 45 (1 to 12?)

Black and white = roll # 44 for
11 or 12 to 30 ± ?
~~roll # 47. forest to 1/2 ±~~

April 27, 1976

2400

Meru, Kenya

Meru, Kenya, 20 km N of
Olivero, 20 km N of
Meru city

Alt: 70 m. s. m.

Photo B & W, roll # 45 for

1/2 to 1/2. roll 46 to 45 ± up

Black and white roll # 44 for 10 m. up
to 19 ± forest

47 (1 to 15 ± up to 18 ± forest)

FAA: 2 vials 1 bud

1 culm piece a bushy
garnishes - culm piece
living plant collect.

Delicate stems on foot
of coral type "male
Urtica" - soil sandy
but not completely white
low type of forest, low
and + thin on medium
trees but dense, with
many Pteris palm,
leaves dark thin, paper
rolled, thin walls
When very young and
in lower part of forest
smooth, in upper part
part and in nature
leaves appear, various
~~the~~ nodes not prominent
at all. and white
ring of leaflets dark.

Young when seen and
middle part with
white wax
but complement of
many ^{leaves} when very
small, broad weight!
many branches, ~~from~~
forming a well marked
shield, long Δ
very distinct rows, one
on the front and
one on the back of the
leaves small, delicate
narrow with quite
abundant white, only
one row -
leaf short a little

superior when long
barbarus ca. 82 70 mm

2401

Arctostaphylos
(seedling)

Mr. Mues, Entomologist
Mrs. - Oliveira, 3 km
N of Mue city.

Adapted around forest
plant, in \pm cut and
disturbed forest.

Bamboo in plot, but
seed, it seems to have died
long ago.
Seedling in all stages
but not large

2402

Attractantia caduata

in flowers!

Mar de Muro, Estrada Mar-
Olivera, 5 km N. of Muro

Alt. 55 m. s.m.

Found in a state of flower-
ing, with type of post-
erous soil, also type
of trees, lot of *Picea*
mixed in association with
big *Menisperm* and

In other places with
asymmetrical

Few patches with
bark still fresh

and alive. This one
showing and some in
a thin, beautiful!
Many already tried
to extract the seeds after
flowering. No fruit found
?

Flowers terminal to
branches with leaf whorls
vent, some also
axillary to terminal
leaves of complete
blade of great develop-
ment in a flat. Nodes
in cones like normal
leaves. Usually 5-6
spikelets in each pseudospike-
let. In cones last

distichous? or very pith
When very well developed
look scorpioid.
Very young or in old
stems, look
detached like the
~~stem~~ internodes of
1 yph like stems -
but separate, like
solid when some are
cut - stems taste
persistent foliage or
remain quite fresh
by buds.
Cut stem with very
thick collar at base
of each leaf, open
side like fan ear

tooth, with leaf
blade spread very widely,
bracts and pappus
at base of bracts
red! beautiful pink
color on one color -
Sp. green, long hairs
seems thin, narrow
and small.
Delicate so too, dirty
like "Trepadina" and
hanging like large
fruit trees -
FAA Very thick roots
also showing air canals -

FAA: 2 incl flowers,
1 roots on culm
1: leaves - long - 1,
3: 1 = 1 (6 total)

rhizome collected
germination of culm pieces
Photo B+W, roll 46
Jan 18 ± to end of
roll 48 - for 1 to 22 ±
Eklodn: roll 47. Jan 18 ±
to end, and roll 49
for 1 to 27 ±.

April 28

2403

Parianella

Mu & Mu - (30 Km. S. of Mu)

Fazenda Dendroica.
Dendroica.

Alt. 100 ~

Scattered on ^{with} slope in
primary forest, (no
rocks) - ferns but not
many herbaceous.

Plant in clump up to
75-80 cm - large, ripens
plant. large leaf
Also oval sites or very
few !? 2. Inf. as

und. stems long, 2
with short stipe-like
pross.

FAA: 2 vials leaving
no photo -

(Specimens with very good
rhizome!)

April 28

2304

Chama

some loc.

scarce on pinney
front, in the
Panicumella -
(2 spec)

no photo, and FAA

April 29, 1976

2405

Mentzelia (grass)

Man de Mend, Estado More
San Jose + Mexico, 18 km
de More, 3 km to
entroncadero

Act. 110 m. S. m.

Very common up through
the area, by robust
bamboo, arid soil
bending over repeatedly.
Bulb = up to 2 cm
diameters. Hollow
but thick walls
surface thin, spongy

rather, "lip", mottled
green, was into long
by white wax?

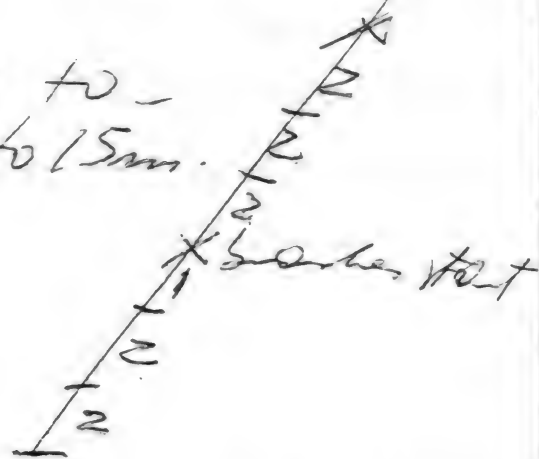
Bulb sheath very thick
hard, smooth on the
back, a little spongy
near the apex - leaf blade
not reflected, broad
lanceolate with very
thick cartilaginous
margin.

Node region very
prominent. Node
a thick, white ring
black on very dark
but complement very
big, start 3? or 1 very
big? The central one

leaf

looks dominant,
 in many complement
 seen lower on thickets
 Bud developing at base
 and at the top.
 They break through
 the thicket through
 the bottom and later
 when growing push
 the thicket away
 and until they fall
 break complement
 up to many and
 on very thick branches
 leaf complement
 quite large, branches
 very long, more than
 a meter, seeds very

wood, Rhynchospora type
 thick, tight.
 Branches very at base
 by several thick
 shoots.
 Plant up to
 11 meters up to 15m.



FRA: 2 vial. 1 dry large
 leaf, 1 leaf & culm
 Plot: BAW - vol 48 for 23 to
 end & vol # 50. (1 to 13A.)
 Ektoch: vol 49 for 28 to end
 and 51 (for 1 to 9)
 jarrovia & culm pieces -
 no long shot, no abigone

.76 cm - .80 cm, long
internodes.

± 2 cm wide diamete
bud also not conspicuous
few, - petiole thick -

R. MO, NY

April 29

2406

Merostachy terreste

Mun. de Mue, stroke blue-
tan zone to Mueus, 34 km
on N.W. of Mue (7 19 km
to entrenchments)

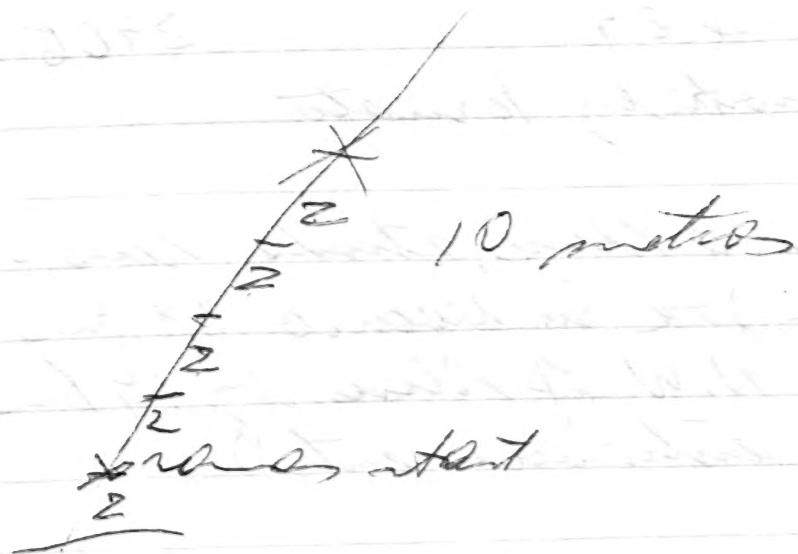
Alt. 150 m s.m.

Plot B & W roll # 50 from 14 to
end

Epitachron, roll # 51 from 10 to

end ^{textured} forest
In a ~~textured~~ forest
at ~~the~~ road side
(port cut to make the
road) -

Very new ~~stems~~ shoots



internodes: 69, 64, 66-62
 diameter 1.5-2 cm.
 probably a little taller.

New culms with bud
 developing.
 banded thick wall, but
 hollow. cylindrical,
 asperous, mottled green

Quite long internodes.
 bluish over repeat forming
 a dense mass of
 liana, bamboo, hepatic
 etc. ~~Plants~~

Buds start with 1?
 looks like it. Some

prophylls, with wings,
 open in center.

3 buds clearly starting
 Part of the joint breaks
 with or top of culm
 with 3 branches

Many old ones rebranch
 in complicated fashion

No root seen -

Nodes region very pretty
 with white white band

of soft silky hairs
~~along sheath node~~
quite prominent
along sheath with
reflexed blade.

They break
open through the
side, the opening
of sheath
long, long silky
white, white
new shoot reddish -
FAA - 2 vols - generally
cylindrical,
very broad, long hairs

May 1st. 2407

April Dianthus pinnatifidus
M. Habuma -

K. de Rodovic Jher -
Habuma - Ave to CEPAC.

under areas plantation

5 km N of Mrs. Annette
in flower (fresh.)

A. Clavis² Mato Pires
dueto de big fazenda
in the region - 11¹² km
N of Mrs. El venturoso
le estrada de - Oliveira
Penteado até a la Ponte

"ganchos" N. de Juazeiro
in the region of
area

