

Colombia - 1981

Name _____



AMERICAN PAD & PAPER CO./HOLYOKE, MASS. 01040

Citadel. NOTEBOOK

50 SHEETS 4 X 6 INCHES

NO.1372 END OPEN

NO.1373 SIDE OPEN

NARROW RULED

Colombia
Bogotá 1981
Cali,
Tuluá
Manizales

lluo

last number in Amazonia
was 2986 -

2987. *B. guadua* -

Aug. 6, 1981

2988

Chusquea sp.

Dept. ofaldas
Colombia, Manizales,
La Bocatoma

Forming dense clumps
at the edge of the
road. Plants sending
many new shoots
bulbs erect, solid, ca.
2.5 cm in diameter
and up to 6 m high.

(Base of sheath with a
ring of hairs)

Aug 17, 1981
Went to the
edge of the
forest, looking
for something.

Found a small
at the edge of the
forest. The
ground was
very soft, and
the water was
very clear. I
went up to the
edge of the
forest with a
bag of food.

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Agosto 14, 1981

Chusquea 2989
Colombia: Dept. of
Cundinamarca, Mun.
de Guasca, carretera
a Gachetá, ca. 1.5 hours
by car from Bogotá
alt. 3130 m. s.n.

Common Chusquea
in slopes of hills
near road. It forms
dense ~~at~~ clumps
in a open vegetation
of shrubs ~~and~~ ^{with} trees
arching over and
~~but~~ ^{but} reaching
up to 4-5 m.
leaves solid ca. 2-2.5
cm in diameter

Many secondary branches
below thick 1" branch
Many new shoots seen;
in this culm leaf
with beautiful violet
color and in some
places covered with white
powdery wax?, this last
one also covering sheaths
on branches. ~~last~~ sheath
of culm leaf sealed at
base for about 3-5 cm,
completely fused, open
above. Blade with
cordate base, ~~the~~ persistent
long, narrow and thin,
± obovate ^{petiole} leaves.

We found one clump
almost dry which had
flowered some time
~~ago~~ back

Plots: 5 x w cell #1
color: Kodachrome.

Bulky: bud complement
and internodes

FAA: leaves, buds
and pieces of stem.

Bud complement: one
large central with its
prophyll and many
very small buds below
it on arc,

2990

Aug. 14

Chusquea sp. alt. 3150 m.

Same loc. as before.

Some ^{isolated} ~~isolated~~ clump in ^{rocky} ~~rocky~~ slope not far from another ^{Chusquea} ~~Chusquea~~ (2989).

Erect culms, nodding on top, about 4-5 m tall and 1.5 cm in diameter.

Culm with soft centers, becoming soft with culm leaf with sheath open to the base, with hairs on edge. Blade with ~~the~~ cordate base, some

times caducuous -
branch complement
with 2° branches,
mostly appressed
to the main 1° branch.
Above middle of plant
and in branches of
1° branches, there are
more 2° branches -
Bud complement
with one central
and 2 very small
lateral or independent
prophylls -

Bulky mat: br. compl.
& internodes

FAA: leaves, buds & culms
no photo -

Aug. 14

2991

Phurgesa aff. spenceri

Colombia, Dept. of Cundinamarca,
Mun. de Guasca,
carretera a Gachetá, ca.
1.5 hours by car from
Bogotá.

alt. 3150 m.

Small clumps growing
at edge of rocky, humid
slope near the road.
Over bamboo with
culms nodding at the
top. Culms solid,
hard, ca. 2 cm in
diameters or more, with
smooth surface.

culm sheath persistent,
pubescent with blade
continuing the sheath
without demarcation.
Foliage delicate, with
very narrow leaf
blades.

2992

Aug. 16

Chungara
Bogotá, Dep. Cundinamarca,
carretera de Bogotá a
San Cayetano, ~~by~~ Rio
Neusa, sitio El Borracho
alt. 3050 m -

FAA: buds & stem pieces
Bulky material: inter-
nodes and branch comple-
ments -

Growing in a steep slope
near the road. Erect bam-
boo with just the top
of the culm or the
main lateral branches
bending over and arching

culm strong, solid, ca.
--- cm in diam etc,
smooth, turning orange
yellow at maturity,
in some parts of the
plant.

Culm leaves persistent,
rotting in place. When
young, pubescent, covered
by rather stiff hairs
which fall in great
part ~~off~~ in older leaves.
Sheath close for a short
distance at the base, then
with free edges. No demar-
cation ~~between~~ between
sheath and blade.

Branches dropping upright,
intravaginally but ~~the~~
breaking the back of

the sheath in their develop-
ment.

Branch complement!
with 3 orders of branches.
A main, central branch;
one or 2nd branch on each
side, slightly thinner and
several 3rd order branches,
much thinner covering
by the outside these branches.
Bud complement shows
the same pattern: 3
size of buds, in separate
prophylls - 2 medium buds
on both sides of the central,
dominant one

Aug. 16.

2993

Chusquea

Colomb. Dept. of ~~Warr~~ Cundinamarca, road from
Cogua to San Cayetano,
Neusa river, near
"sitio El Borracho"

alt. 3050m.

Growing abundantly in
small creek not far
from the road. Big
clumps with erect culms,
bending and arching
on top. Many new shoots
seen. Culm solid, strong,
ca. 2.5 cm in diameters,
with persistent culm
leaf.

Aug. 19

2994

Neurolepis

Colombia, Dept. of Cundinamarca

Road Bogotá - Fomeque -

Laguna de Chingaza, 18 Km

beyond Fomeque.

alt. 3050 m.

Abundant bamboo growing
in sharp slopes mixed with
small trees, shrubs, ferns, etc.

Very humid area. They look
like giant herbs with huge
lanceolate leaves. Plants

about 4 m tall or over, in dense
clumps. The base of these

clumps cover by a dense
mass of aerial roots,
green and embedded in
abundant mucilage or
jelly.

The rhizome is not in
deep soil but partially
cover by loose top soil.
The bases of the plants are
also cover by the old,
rotten sheath, bulms
woody! short, ^{solid} thick, with
very short internodes
somehow oval in section.
One bud! per node, the
~~margin~~ ^{rim} of the node encircle
by a ring of lignified
roots several layers
thick. 

The new shoot seems
to develop intrarapinally,
pushing the old
sheaths or they may
come from a branch
of the rhizome.

leaves ca. 3.50 - 3.77 m
long, seciduous, ^{with} articu-
lated petiole; the blades
25-30 cm wide.

The sheath persistent, rotten
in place and late seci-
duous. They break off at
the base leaving a thick
border, like a short girdle.
The ligule very big up
to 1.3 cm long.

Bambuse

Aug. 22, 1981

2995

bamboo #1

Colombia, Dept. del Valle del
Cauca, Municipio de Tuluá,
Tuluá, Jardín Botánico
J. M. Espedas.

Alt. 1050 m.

The bamboo collection
planted here at the
garden was brought in
from a private farm.

Many years ago the
owner of that farm,
Mr. Ciro Molina García
got the bamboos from
or with the help of Dr.
McClure in 1943.

Do many years later after
Mr. Molina García's death
Dr. Patiño took a sample

from each bamboo
and planted in Tulua.
Somehow the labels
got ~~lost~~ mixed up and
they lost the name for
each one. Besides, the
bamboos spread out
and at present they
took over the place.
Some probably got lost.
They gave me a list
of names they got when
they transplanted the
bamboo. It is:

Bambusa tulda
" *tuldoides*
" *nulpanis*
" *polymorpha*
" *balcooa*
" *multiplies*
Melocana baccifera.

Forming very dense
clumps, ca 8-10 m high.
culms erect, curved
above, with very thick,
hard walls, about
4.5-6 cm in diameter.
culm leaf caducous,
blade erect.
Sheath with dark hairs
in young leaves, later
they fall.
Branch complement
with 3 or more orders
of branches. One central
dominant branch with
2 or 4 secondary branches
of 2° order on both sides
and several small bran-
ches of 3° order below
all other branches.

young internodes cover
in lower half by white,
powdery wax.
Internodes ca. 46 - 54 cm
long.

FAA: buds and leaves
Bulky; branch complement
and piece of culm.
NO photo.

Bambusa

Aug. 22, 1981

2996

Bambusa #2.

Same loc. as before.

It forms large, dense clumps,
ca. 3-4 m in diameter
and 10-12 m high.
Bulms very thick and
very hard, difficult to
cut. internodes ca.
40 cm long.

bulm leaves cover by
dark hairs when
young, and lost when
old. leaf blade broad
triangular with broad,
undulate auricles.
When dry, both blade
and auricles with

undulate edge.

In new shoots culm
leaf with blade very
large, broad,  with
red hairs

Culms start branching
almost from basal
nodes. Branches spreading
widely in right angle of
older angle.

Branch complement
with 3 orders of
branches or more -
(one central one, on both
sides, 2^o order and then
smaller ones of 3^o or
even 4^o order around.

No spines seen -
leaf complement of
2^o secondary branches

very long with
widely spaced leaves -
and these leaves with
long blades.

leaf complement of
other branches ~~same~~
much reduced.

FAA: culm pieces, 1 bud
and leaves.

Bulky: branch comple-
ment and pieces of
culm.

Aug. 23, 1981

2997

Chusquea (*Platysectis*)

Colombia, Departamento
del Valle, ~~Main~~ Road Cali-
Buenaventura, 17 Km
NW from Cali, villa
Monica - El Rancho de Yo

Going from Cali to Buena-
ventura is on the left
side of the road, long
before the bifurcation
between the old road
and the new one.

It is a small patch
of forest still not com-
pletely destroyed. Across
the road from it there
is a nice house,

probably a summer house and next to it a restaurant.

Common bamboo on a sharp, forested, humid, slope along the road.

The plants climbing and leaning on the trees or creeping above ground or getting underground when an obstacle and coming out again. They keep trailing above or below ground for long distances making difficult to walk.

This bamboo looks exactly as the *Berberia* I collected in Bahia.

Almost impossible to find a deep rhizome, they are just culms rooting at the nodes.

The underground portions of culm with no demarcation of nodal region. The upper nodal ridge or band not present and only one bud present. This bud develops in one branch. Culms solid, strong with rather short internodes ca. 25-40 cm long and up to a little more than 1.5 cm in diameter.

The nodal region well marked by a difference in the tissues. The whole region is rugose, with

a distinct wrinkled
band above.

Culm leaf very exserted,
with blade glaucous cadu-
cous, this small, narrow.
There is a line of hairs
as demarcation on the
outside, between blade
and sheath.

Branch complement: one
large central bud (in
many places not developed)
and two smaller ones
below and in many
cases one root primor-
dium on each side.

When branch complement
is more developed, below
the two second order branches
there are 2 or 3 smaller ones

 Not sure yet if these
are produced from the 2
second order branches or if
they come from independent
buds. After this stage
the increase number of
branches don't come from
independent buds as in
Chusquea. The branches
rebranch and in turn
rebranch again. The
total branch complement
might have from 5 to 11
branches. The 2° order bran-
ches start developing in
almost right angle with
culm, spreading out
for a while and then
they curve up or down.
All branches covered
at the base by short

bracts. The branches have
a series of short inter-
nodes in the proximal
end.

leaf complement of
few leaves with very
large, broad blades

Bulky mat: 1 rhizome and
3 pieces of culm and
branch complements.

Bambusa

Aug. 24, 1981

2998

Bamboo sample # 3

Colombia, Dept. del Valle del
Cauca, Municipio de Tuluá,
Tuluá, Jardín Botánico
J. M. Céspedes.

Alt. 1050 m

Large bamboo forming
compact, ~~stand~~ dense
clumps of about 1.50 meters
in diameter at base.

Bulms erect, arching
above, 10-12 m high
and 7 cm in diameter.
Bulms start branching
± above middle.

Bulm leaf rather large
with dark hairs on the
sheath. Blade lanceolate,

cordate at base, rather small and more or less reflexed and scabrous later.

Culm nodes with two ridges, both with hairs.

Leaf with rather large blade.

FAA: culm pieces, buds and apical meristems, and leaves.

Bulky material - internodes, branch complements.

Bamboo

Aug. 24

2999

Bamboo # 4

Same loc. as before -

Bamboo forming or more or less open clumps no too dense like the others culms start bending and arching from near base.

More or less same type of branch complement as in the previous bamboo.

No new shoot seen.

The bamboo is flowering and practically covered by flowers. Very large pseudospikelets.

Already a lot of seedling

growing under the
plants.

Bambusa

Aug. 24

3000

Bamboo #5

Same locality as before.

Small clump with slim
culms not too adjoined
to each other, clump rather
open, about 1.20 m in
diameter at base.

Few new shoots seen
and these rather thin.

Plants start branching
rather low but branches
are not so spread out
as in the other bamboos.

Culms, when mature, ca.
3 cm in diameter.

Culm leaf very pretty with
large, undulate auricles,
long oral setae and

narrow, erect, blade;
the whole leaf smooth
with not hairs.

Leaf complement rather
medium size with
more or less large leaves
with long oval setae
(cf. this bamboo growing next
to the one flowering.)

Bambuse

Aug. 24

3001

Bamboo # 6

Same locality as before.

3, 4 or more clumps of
apparently the same bamboo.
They form large, open
clumps about 1.5 m or
more in diameter.
Culms erect, arching
above, branching from
near base; the branches
spreading out.

Branch complement with
3 or 4 orders of branches
more or less as in the
other bamboos.

Culm leaf cover by
dark hairs. with broad,
lanceolate blade and

Ondulate auricles -

no FAA-

Aug. 26

3002

Neurolepis

Colombia, Dept. of Cundinamarca, Páramo de Sumapaz, Road to Usme to San Juan, 3 Km on side road to Nazareth
alt. ~~3200~~ 3200 m.

Growing on a sharp slope in a very humid area, by a stream.

Growing in the same area and next to this *Neurolepis* was another bamboo, a *Chusquea*.

Forming very dense clumps with shoots very close to each other, at

base.

Plants ~~erect~~ erect, about 3 - 3.80 m high.

Rhizome very short, thin, curving up in densest curved with very short internodes. They form a thick, ~~area~~ dense mass covered by roots.

Above ground and coming from basal nodes we saw some aerial roots green in color and covered by a mucilage but not as much as in the other species collected before.

Leaves erect and arching above with blades about 1.37 to 1.70 m. long

and 11-12 cm wide, with petioles of 0.65 to 0.83 m long.

Blade narrowing at base and extending on petiole leaf articulated; petiole articulated with sheath and breaking and falling when blade is old. Sheath is persistent; ligule very large.

Bulky material: 1 rhizome.

Aug. 26

3003

Chusquea tesellata Munro
~~Swatlandia~~

Colombia, Dept. of Cundinamarca, Paramo de Sumapaz, Road Usme to San Juan, near side road to Nazareth
alt. 3200 m.

Plants forming dense clumps scattered in shrubby or low tree paramo vegetation. Soil very humid, in some areas swampy. Very bad, strong smell around the plant, especially when digging to remove the rhizome, like mierde.

Probably another fungus,
~~as a large association~~
with the bamboo.

Stems thin, up to 1.85 m or
so, with short internodes
and a very, very, very
short internode at the
base.

Rhizome very dense,
compact, polymorph
culm leaf: blade falls
very fast. Sheath persis-
tent or deciduous late.
in many places split in
the back by the pressure
of the branches coming
intravaginally.

Branch complement from
3 to many branches.
They originate from 3
main ones, the

central dominant. They
increase the number by
bifurcation. Each branch
divides and then again
each one divides.

One of the branches of the
pair is segmented at
the base, with a series
of 3-4 very short inter-
nodes, the other no.

The internodes of the bran-
ches are rather short
therefore the whole
branch complement
looks like a compact
group of branches.

The branches don't
spread out like
in *Chusquea* or *Rettgeria*.
They are appressed to each
other and to the



culms. This is probably why small-headed plants look so dense and upright.

~~Many~~ leaves are also stiff, thick with very marked tessellate venation.

We found many new shoots around the plants, they were rather short.

Bird complement:

In lower nodes of culms only one bud, higher up 2 or 3, I am not ~~that~~ sure if they are in separate prophylls or they ~~are~~ are produced by the central one -

21234 - Melrose sp
of Buenos -

La Bonatome, Manizales,
1988 - 8/6/81

Small - 4/8 -

