

Botanical Notes

no. 3.

Orutepe & Castillo

From

188

To

188



Ornithoglossum

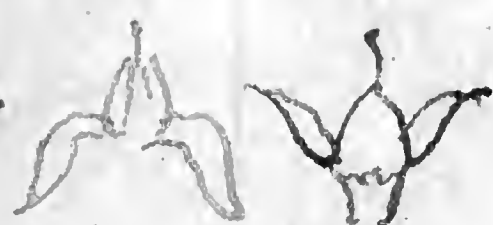
III  
Fruit. no. 287

Chili pepper.

Grows up 2°-6° high - Shrubby

Calyx of 5 lobes, small green.

Ovary superior, smooth, 2-celled, with several ovules in each cell.



Corolla rotate 5 lobes, lobes

white, ovate, acute

Stamen 5, alt, short filament (white) on <sup>short</sup> tube of corolla

Anther bluish, 2 celled, dehiscent, long, pollen white

Style slender, white erect, exserted. Stigma minute, ~~at base of style~~

Cult.

II no. 288. Los in whorls of 4

Yell. flower shrub, cultivated,

reminiscent of the "green propeller"

Calyx monospermous, deeply 5 lobed, lobes lanceolate, green, obtuse, smooth.

Corolla 2 1/2 in long, 2 1/2 across border

yellow, 5 obtuse lobes, tube

inflated above. Stamen great

stamen at base of inflated

part of tube, sessile, pointed



2. celled, throat hairy. The  
throat of this lower part is  
closed by hairs + anthers.

Stigma just reaches  
anthers. Stigma green

Barrel shaped,  
style x1 style white smooth  
Ovary superior smooth,  
yellowish, 2 celled, milky.

Fruit. No. 289.

Very prickly vine. Nettle is  
not <sup>in</sup> it along side of this.

Fruit 3 lobed.

Climbing clay fences.

Fls. (probably only staminate)  
are in little spikes; purple,  
corolla (?) monopet, 3 lobed,  
lobes spreading, tube narrow.

Stamen 3 in throat of corolla,  
yellow, 2-celled. The pistillate  
flowers seem to be on long



pedicels, + solitary.  
Ovary 3-lobed, prickly,

Fruit. No. 290

Climbing parasite on trees.

Perforated leaves.

Flowers in spikes. Very common.

~~Specimen 290~~  
Fruit, No. 291.

Broad, cordate-leaved "Rat-tail"

A spreading, more or less shrubby  
plant 2' - 7' high. Along  
lake, etc.

~~See~~



✓ ~~No. 292.~~ No. 292. Tenerum

Loose, medium ~~Asplenium~~

Last one found at Ornelites

Found along roads in woods east of Mozozalpa. (Hanging over bank)

No. 293.

Very delicate, hairy, blue fl. plant, along roadside

Calyx of 5 lance, acute, green hairy sepals.

Corolla: monopetal, 5 broad lobes each emarginate, blue, throat white. Tubers very short.

Stamens 5 wh, alt. fil. slender, smooth, exserted.

Gynoecium 2 celled ovate  $\rightarrow$  ♀

Styles & stigmas several, white. (could not make out exactly, think 3 or 5)



... ..

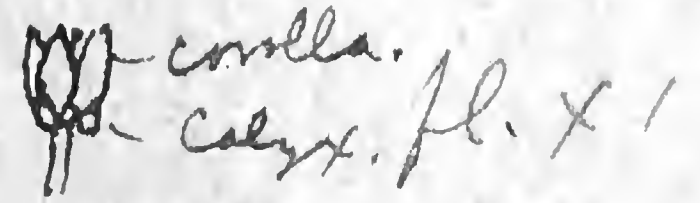
III No. 294,

Yellow composite on road S.E.  
(Same as that from top of Onite?)  
Disc + rays yellow, pappus of  
tawny (slightly plumose) bristles,  
unequal in length. Chaff none  
Receptacle convex.

(III) <sup>what on the</sup> ~~...~~ <sup>...</sup> No. 295.

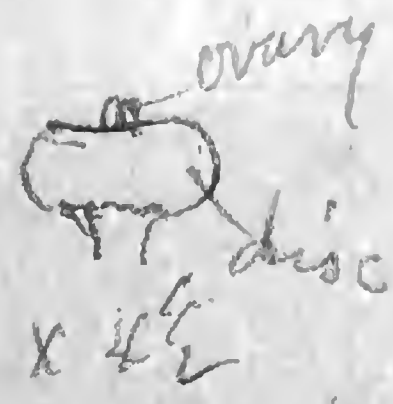
"Ocote" Medium tree with  
comp. <sup>compound</sup> ~~...~~ racemes of red flowers  
(appearing on naked branches.

Smooth, light gray bark. Tree spreading.



Calyx of 5 minute, fleshy, ovate sepals,  
smooth, reddish, <sup>or lance-ovate</sup>  
Corolla of 5 ovate obtuse, red, erect  
smooth petals

Stamens 10, on somewhat incurved,  
smooth, red filaments, Anthers  
short, versatile, 2-celled. Hypog.  
Disc very large, fleshy, with a number  
of rounded lobes. The ovary small  
4 divided (or are there 4?) small. Stigmas  
seriate.



ovary 4 lobed  
disc reddish  
ovary yellow

Fls. fall almost of water



711  
Fruit, No. 296.

3<sup>rd</sup> "Rat-tail" - Herb, or  
Suffrout. Spreading, zig-  
zag stem. Smaller cordate  
leaves.

1  
Fruit & seed

No. 297

2<sup>nd</sup> Anona (rough)

Cult in Mrs. Cantin's yard.  
Bark gray, tree small.

1  
Fruit, No. 298.

A Pom-bearing tree, Bark  
reddish, smooth.

Tree small, Cult  
Fruit somewhat fig-like?



III

Fruit. No. 299.

Small shrub with greenish fls.  
(small) + 3 lobed, hairy fruit.  
1° - 2° high.

fl. x1 Calyx of 5 lance, green, very acute, hairy (white) sepals almost = to corolla.

Corolla of 5 lance acute greenish petals, hairy outside, } shape of corolla

Stamens about 10, united into a white smooth column, = corolla. Free part of filament short (+ at R.L.'s to column) anthers yellow, about 10.

There are 5 orange glands at base of column.  
2 1/2 x = stamens.

The above seems to be only stamens.

The pistil. fl. occurs at base of cluster, + has a hairy green calyx of 5 lance ovate sepals + a corolla of 5 smaller, greenish petals.

Ovary 3 lobed, green, superior, hairy. Styles 3, hairy, each with a two lobed stigma.

x1. Probably rather old. seeds already brown. Ovary 3-celled, one round seed in each.

The stigmas (6) are yellow, granular + capitate.



||  
Seeds. No. 300,

Grape, along fence  
Moyogalpa.

Is probably no. 122  
though fruit (black)  
has only one seed.

See specimen.

||  
No. 301  
The 4<sup>th</sup> Bejuca with  
triple compound (winged)  
leaves. As far as I  
could see flowers as in 6,  
white.

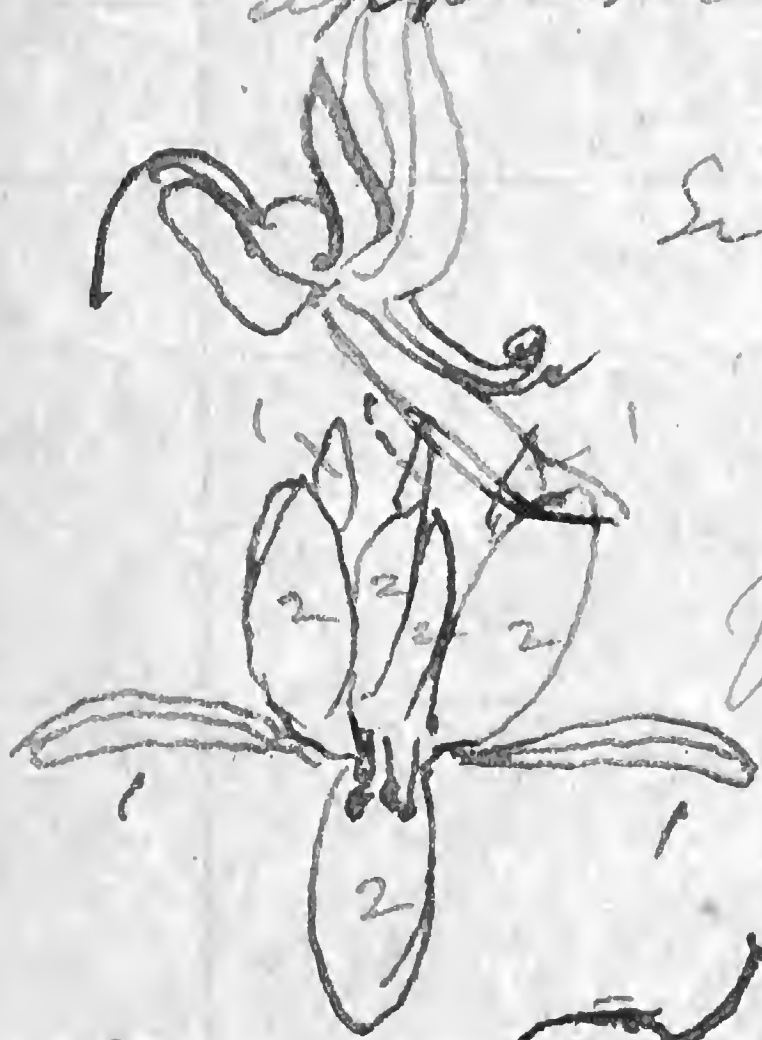
On fence; Moyogalpa.  
Very tough, - like all  
of them.



III  
No. 302,  
 The Spring Pig weed.  
 Along roads, etc.  
 Coarse weed, 1°-3° high.

72-11      Lvs 11.  
No. 303 (~~Paraiso?~~)

Small Tree, lound like in general  
 appearance. Cult. Mayaguez



Side view x1

1-5 white spreading  
 petals, smooth acute

front. 2-5 white petals

4 erect + 1 below

x1 Ovary superior, hairy,  
 green, style white

smooth, stigma 2 lobed.

Stamens filament wh. curved  
 hairy at base + somewhat united  
 anthers yellow, 2-celled, versatile.

The five opposite stamens have  
 anthers, the 5 alt. ones have  
 none (abortive)

Stigma also 3 lobed

Ovary 6 green  
 one celled.



Fruit & seeds.

No. 304.

Plant 10 ft. tall. Cult.  
Seeds & fruit only.

seed & fruit No. 305

Little striped poison  
<sup>Parsnip (flower)</sup>  
~~Cucurbit (gourd)~~.

A climbing vine (12')  
along roads, in woods.

No leaves or flowers,  
only seed & fruit.

|| No. 306

Tree with broad leaves, cordate  
at base, & with spikes of  
mushroom flowers.

Bark gray; somewhat rough  
(bark-wood like) much branched  
& spreading. A number of  
stems from one root.

Along lake shore.

Parsnip fl.?



II

No. 307 (see 114/125)

Yellow mallow - Sym. lobes.

Plant 7' high.

Usually only 4 lobes to fruit,  
but some have 5.

This is same as 114(?)

~~III~~ II

No. 308.

White morning glory - Prostrate  
on mud-flats. Very like <sup>no.</sup> 133

but not with such a big hairy  
calyx.

III

No. 309.

Prostrate yellow-flowered weed.

In swamps on mud flats.

Calyx of 5 spreading, acute, lance,  
hairy, green sepals.

Corolla yellow, broadly obtuse  
(wedge-shaped) smooth, 5.



Stamens 10 on erect filaments  
Anthers yellow, short, 2-celled,  
~~two~~ versatile.

The alt. stamens are coherent  
with very base of petals, the  
others remain on receptacle.

Ovary superior, green, smooth  
W. to stamens.

*Styrax simile* Linn.

Ovary 9-celled (or is it a  
free cent. placenta imbedded  
in fleshy ovary? could  
not make this out.

// No. 310.

Sedge in swamp.  
Probably same as  
preceding edg.



III

No. 311

Nettle. In swamp.  
Some grow 2° or more high.

4 leaf + 1 fl.

No. 312

Native Banana

In swamp north,  
grows (here) 2° - 7° high,  
No good. Ovary 3-celled.

II

No. 313

A shrub 6° - 8° with  
Elder like stem (bark)  
gray, & with clusters of  
fls. (fruits at ends)  
Along road in woods  
S. East.



###

No. 314.

Heavy Pea-like plant from  
Mountain. Seemed to  
have no pods!

1

No. 315

Blue flowered *Sisyrinchium*.  
From Mountain.

1

No. 316

Slender grass from Mountain.

###

No. 317

Small weed with minute  
flowers in axillary whorls.  
Lvs. sp.



1.

No. 318

Very small Aster or Hebe like.  
From  $\frac{1}{2}$  way up volcano.

11

No. 319.

Hoary, yell. fl. Pea, shrubby,  
rather narrow leaves. Hoary roots  
From volcano Jan 24

1

No. 320.

Hoary, spreading plant; mallow-  
like.  
From volcano Jan 24.

~~ground~~

No. 321


Lemma — Pod-Swamp

No. 322

Amaryllis - Cult. but said to  
be native. Deep red flowers.

1

No. 323

Vine with leaves  (like Salisbiana!)  
Found along road. (also at castle)



Sad list - Orystepa

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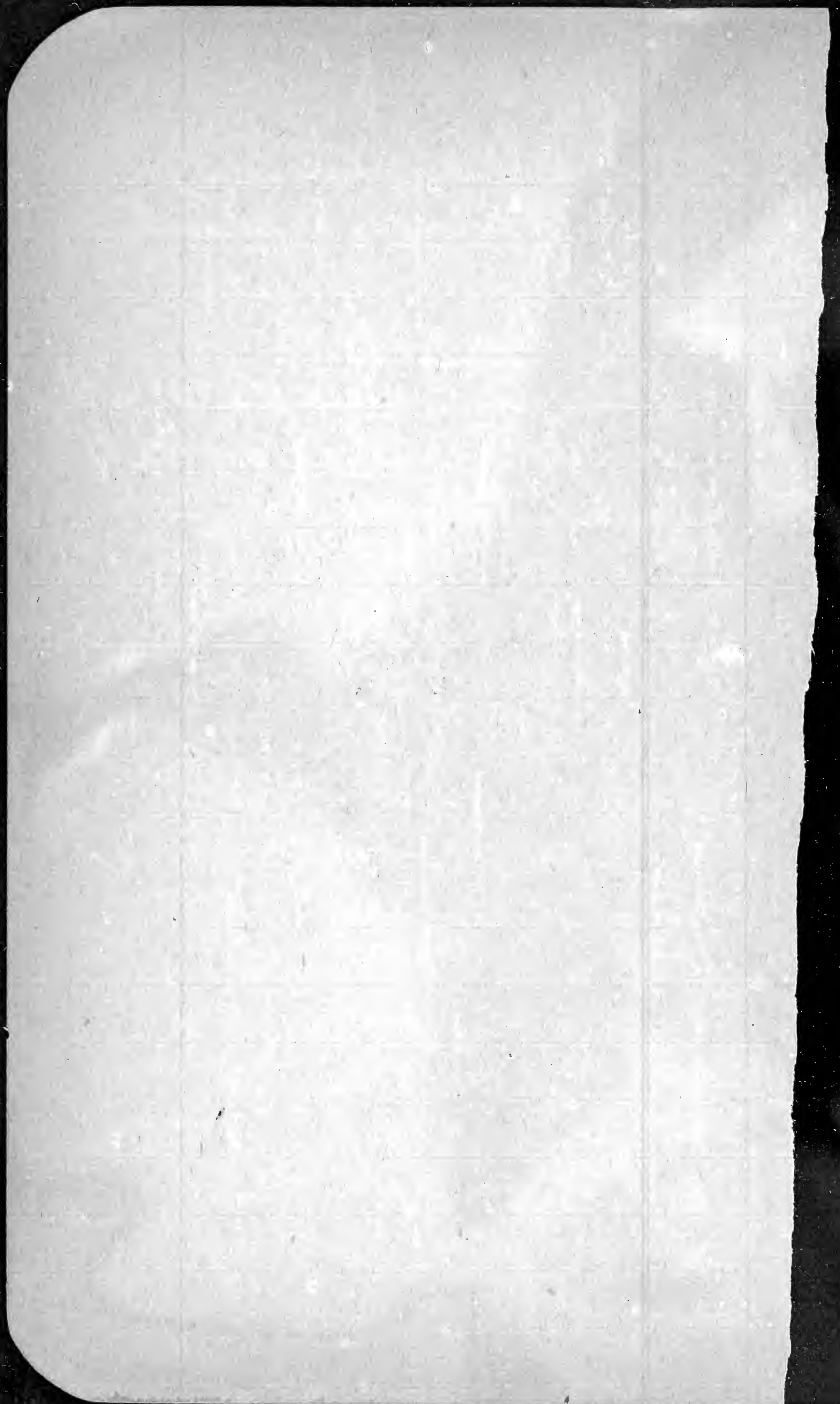
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Castillo (+ Los Savales)  
Flowering plants.

x.

No. 401

Little red. berried plant with  
wh. fls. Same as no 196. of  
Onetepu (?). Calyx purplish  
green, monop. &  $\gamma$  lobes 5, lance,  
acute,

Corolla white, 5 lobed, monop!



1. Fruit, No. 402.

Shrub with alt. obovate  
or oblong thickish,  
dark-green leaves (obtus<sup>2</sup>.)  
Fruit brownish, hard,  
with 3 lines of dehiscence  
shown on it.

In woods west of Castillo.

2

No. 403.

Yellow flowers composite.  
Pappus of 2 or 3 awns  
with retrorse bristles.

No rays, disc yellow.  
Leaves comp., 3 leaflets.  
Plant hairy.

Banks - Castillo, N.C.

Lower leaves ~~entire~~ simple.



2

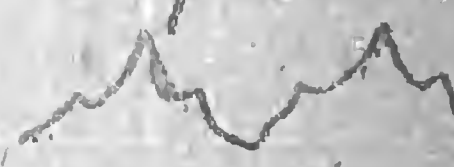
No. 404

Gloxinia-like plant.



Ovary superior, 1 celled,  
4 parietal placentae, hairy,  
greenish.

Calyx yellowish, inflated,  
5 winged (from sinuses)  $\frac{2}{3}$  length  
of corolla. Short-hairy.

Monopet., 5 lobed, lobes = 



Corolla monopet.,

5 lobed, lobes

gl. x 1.

rounded,

irregular funnel-shaped,

tube hairy outside.

Yellow, with red triangular  
spots on lower part (this running  
together on the 3 lower lobes

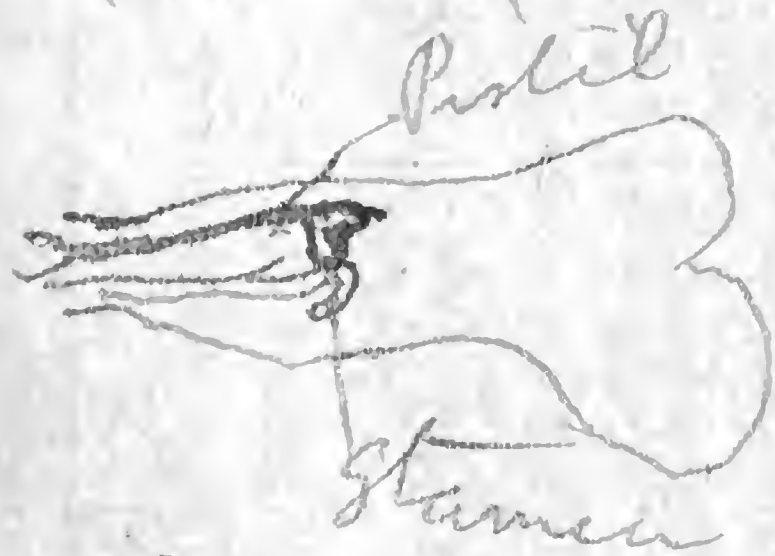



The red on each of  
the two upper lobes is  
in 3 broad lines.

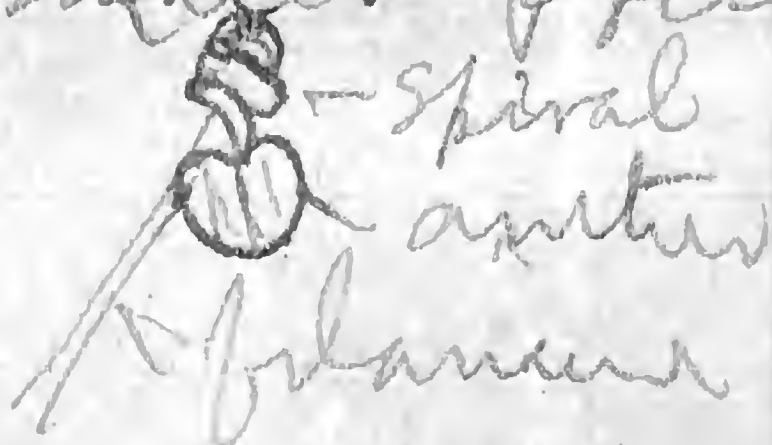




Throat on lower side with  
 two swollen elevations  
 These are reddish & then  
 green yellow, then the  
 red mentioned on other page.



Style thick, white, smooth;  
 Stigma flattish, with 3  
 spreading lobes  (from above)  
 Sigmoid surface on lower side  
 Stamen 4, hypogynous, base of pedicel (?)  
 thick, white, short-hairy  
 filaments, twisted, outer  
 short, brownish, 2-celled,  
 rather small. Pollen  
 white.



Ovules numerous,

On bank - Castille.



2 Fruit no. 405.

The large "Rat-tail" with  
peltate leaves.

Coarse shrub 6-8' high.

Found along paths in  
woods west of Castillo.

1 no. 406

Cotton-like. Fls. yellow,  
then reddish.

Leaves alt. 3 or 5 lobed  
(slightly). Ovary hairy,  
superior, 5-celled, ovules  
numerous.


In field near Castillo.



1. Seeds, No. 407.

A vine (cucumber like)  
twining by tendrils over  
shrubs, etc., in woods  
West of Castillo.


Fruit (shape) 3' long,  
red, 6 lobed (transversely)

 lobes rounded.

Ovary 1-celled, superior,

3 parietal placentae.

Seeds numerous, each in  
a utricle.

Leaves 



x

No. 408

Coarse parasite or epiphyte,  
found on fallen tree in  
deep woods west of Castillo.



Sepals 5 (slightly united  
at base, red, very hairy  
sepal x 1) = to corolla in length.

Forming a large, showy  
cluster (i.e. the 'sepals'.)

Each one white at very base.

Bracts almost exactly like  
Sepals.

Corolla monopet., hairy, red,  
~~but yellow~~, red.



Lobes 5, short,  
yellowish inside,  
each with a new

white



ovary

awn-like scale  
back of apex.



Stamens 4, hypog.,  
filaments white, short, hairy,  
twisted, anthers large,  
2-celled, waxy, yellowish  
and drab in color.

Style white, thick, stigma white 2-lobed.  
Ovary reddish, superior, with appressed  
hairs. 1 celled, 2 parietal placentae.  
Ovules numerous.



2,

No. 409

Plant climbing on tree-trunks in deep woods west of Castillo.


Leaf-stalk jointed.

Flowers in close spike.

~~No perianth.~~

Ovary conical, pink, smooth, stigma sessile.

Stamens - 4, anthers yellow (pollen nearly white), ~~with~~ around base of ovary. extrorse.

Calyx of 4 sepals, each shaped  as part of horn.

top pink, sides whitish, stamens by way. anthers just projecting above sepals. Spike (flowers) closely packed.



1

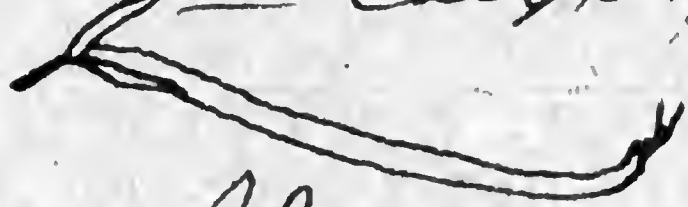
No. 410.

Plant about 2' high, with leaves white-striped.

Flower in panicle (white) tubular.

Deep woods west of Castillo.

Calyx of 2 lance, purple hairy, acute sepals (scarious calyx<sup>17</sup>.)



fl. x 1.

Corolla

slender, tubular

curved, hairy, <sup>Purplish toward apex</sup>

Style just = to corolla, ~~with deep~~

~~(4-6 deep down) white~~

~~stamens~~, small, enclosed in stamen tube, white, smooth, stigma minute, terminal

This so called stamen tube is probably the smooth corolla, & this

flower is only pistillate.

In that case the "calyx" above = bracts, & the "corolla" = calyx.

Other stam. fls. on same branches, Stam. fls. seem to


stamen x have only 2 little "bracts" (or sepals) purplish, lance, acute,



stamens 4<sup>(2)</sup> (at least)  
filaments very slender, white  
smooth & exerted, anthers white, <sup>2-celled</sup> innate,  
(There is a small, inner,  
monopet, whitish, delicate  
corolla.)  $\frac{b}{b}$  The ovary is  
smooth, green, superior, (seemingly  
one-celled & 1-ovuled) very small,  
attached to side of style, (or  
style at base of ovary).

1. No. 411.

Wh. flowering shrub or  
small tree, 7°-12° high.  
Flowers in dense compact cymes.  
Leaves opp., oblong, acutinate  
entire, smooth.

 Calyx monosep,  
fls 1- greenish, hairy,  
scarcely, or not at all,  
lobed.  
Corolla white, salver-shaped?



(or rather funnel form), lobes  
finally somewhat recurved, border  
hairy outside, tube smooth;  
5 lobed, lobes lance, acute.  
each with a sort of midrib.

Stamens 5, alternate, attached  
to throat of corolla, throat hairy  
stamens erect, exserted, filaments  
white, smooth(?) anthers slender,  
elongate, introrse, pollen white.

~~Stigma~~  $\gamma$  XI Stigmas 2, flat  
edges of stigmas rough  
hairy (Cork) <sup>style</sup> filament  
smooth, white, set into center of  
ovary.

Stigma Ovary white, flat on  
indiv. top & slightly 2 lobed.

Ovary superior. 2 celled



Could not make out ovules

One ovule in each cell (?)

(It seems to me that the ovary is  
partly inferior.)

Bark is smoothish, greenish  
(or grayish) with white blotches



Fruit, No. 412, almost a <sup>small</sup> tree.

1+ Shrub, with alt., -ob- (weak) spreading  
lance-ovate leaves, +  
large (2'+) fruit, red with  
8 or 9 wings.

Deep woods west of  
Castillo. Ovary 1 celled  
4 parietal placentae, seeds many.

No. 413

x The little ivy-like  
"rat-tail" creeping on  
trunks of trees in deep  
woods west of Castillo.  
Ovary,

1. Fruit, No. 414

a shrub with oblance  
acum leaves + fruit  
in heads. Leaves  
entire.  
ovary 1 celled, 2 seeds, seeds  
suspended.



x

No. 415,

~~Fl.~~  
Fl. x1



Calyx of 5 linear, green hairy  
sepals.

Corolla irreg. tubular, tube  
greenish, lined with purple, border  
blue, of 5 sub-equal, obtuse (emarginate)  
lobes. Hairy outside.

Throat white, veins purple  
(deeper in blue part also).

Fls. solitary in axils; forming a  
short terminal raceme (leafy)  
ovary superior, green, smooth.

Style smooth, green.  
Stigma flat, curved downward,  
green. Included.



Ovary 2 celled, ovules many.  
Corolla inflated at base of tube,  
yellow in throat. Hairy inside  
of tube at base, & also white hairy  
in throat.

Stamens 4, epipet. anthers  
small included, 2-celled



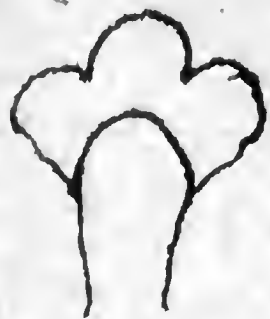
filaments smooth,  
yellowish, included.  
Anthers yellow  
Stamens about equal.  
Throat yellow-bearded on lower  
side. Along R.R. Castillo.

No. 416.

Spreading weed, found along  
R.R. Castillo

Wh. flowers Mint-like (sq. stem)  
Fls. axillary

  fl. x 1.



top view.

Corolla labiate.

Upper lip undivided, obtuse,  
purplish, arched.

Lower of 3 rounded spreading  
lobes, smooth.

Calyx of 5 narrow, acute hairs,  
green (purplish toward apex)  
sepals. The sepals are thickened



(keeled" along middle) + the  
 3 upper have a little tubercle  
 on the keel above middle; the  
 two lower are smaller.

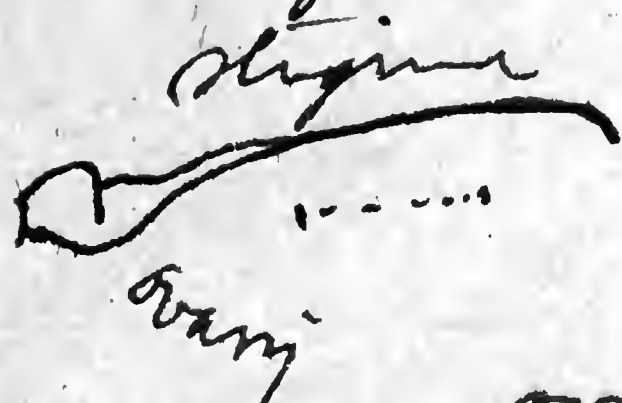
There are two yellow tubercles in throat  
 alternating with lower lobes, to which  
 the bent filaments are attached,  
 the filaments bend so that the  
 small 2-celled anthers come just  
 over tubercle (on it in fact)

There are two smaller  
 stamens on short straight  
 filaments on upper lip.

(These upper have only 1-celled  
 anthers?)

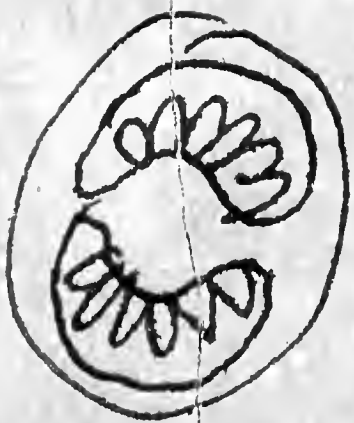


The two bent stamens  
 like on lower lip, the others  
 against upper lip, like the  
 stigma flat, white,  
 curved.




Style smooth  
 ovary green, notched

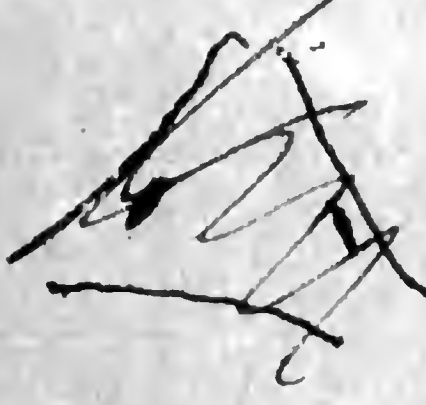

above, smooth, superior,  
 2-celled, axile plac.  
 Ovules many.






No. 417.

Herb with small yellow fls  
Square stem, opp. lvs. =   
Calyx of 3 broad, ovate, leaflike  
acute, sepals (edges turned out, forming  
3 sharp angles) smooth.

veinly = to corolla, and  
  two lines,  
green, smooth  
sepals within  
of these.

Corolla monopet, 2 lipped,  
upper lip 2 rounded lobes, ~~st~~  
somewhat erect, lower of 3  
lobes =  spreading.

All yellow.  

throat bearded above.

Corolla tube inflated at base.

Vein in upper lip dark

(brown?)



Ovary smooth  
superior, elongate

Style short, smooth,

stigma flat, included.

Ovary 2-celled, axile many  
ovules, superior



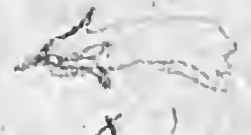
Stamen 4, the two upper allactes  
higher up + longer, & with stamen  
aborted(?) or one celled shape.

The two lower on tube or corolla,  
anthers approx'imate, minute  
filaments smooth, greenish  
A) <sup>lower</sup> stamen

No. 418

White fl. near along RR,  
in Castillo.

(Same as at Moyogalpa?)

  
x'  
Corolla 5 lobed, 3 small below,  
2 larger above. White, hairy  
outside, pinkish streaks.  
Calyx 5, green, hairy, lanceolate  
sepals. Corolla tube  
about 5 angled,  
split 1/2 corolla tube, etc.  
unequally 2 lobes  
style smooth, very green

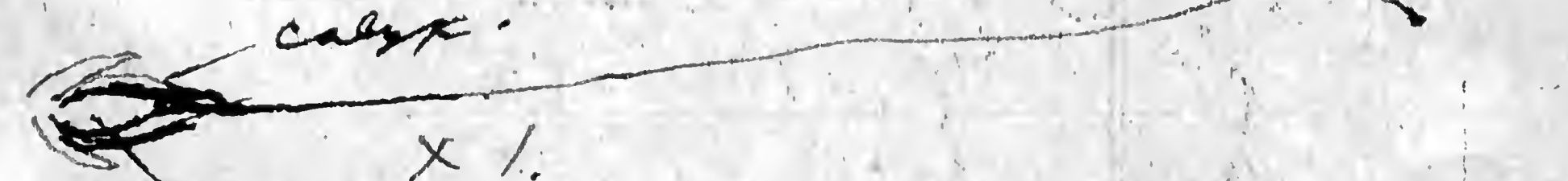



Stamens 4, anthers 2-celled, white, filaments  
 white, hairy. Ovules several.  
 Ovary 2-celled, 2 x 2 place.


No. 419.

Shrub 6°-15° high (almost a small  
 tree). Somewhat resembling  
 (in its flower) the "Red-hot Poker"  
 of Onocetes. Lvs. opp. oblance,  
 acum. obscurely dentate.

Calyx of 5 short, acute, scarious,  
 reddish sepals, ~~with~~ with <sup>2 pairs</sup> of  
 bractioles(?) at base.


 calyx.  
 Ovary smooth, superior,  
 style very slender long, white smooth,  
 stigma minute, terminal


 Ovary 2-celled, 2 parietal placentae,  
 ovules several.


 Anthers flattened laterally, acute  
 2-celled, introrse, adnate,  
 "connective" hairy.  
 Filaments long, epipet-  
 near base, smooth, ~~involuted~~.  
 reddish. Somewhat exserted  
 flowers 4, filaments short-hairy  
 at very base





Corolla x1

Corolla rev, short-hairy, 2 lips,  
upper reflexed, 4 lobes, lower  
with 2 large ones, lance,  
lobes + 2 little ones (x)  
Tube laterally compressed.



Some of the  
flowers are turned  
the other way so  
that what I call  
upper above is lower

No. 420

Calla Lily-like plant  
growing in swamp above  
Castillo.

See flowers in alcohol.



No. 421

A small palm-like plant  
2' high, with leaves cut  
at ends, + fruit 1 celled,  
filled with mucilage,  
Low woods N.W. from Castillo  
See also fruit.

Fruit

No. 422.

Palm? - with interrupted  
leaves, 2'-3' long,  
About 6'-7' high?  
Fruit in spikes, green,  
hard.  
In wet woods N.W. from  
Castillo.



1 No. 423.

Fleshy-leaved, aculecent  
plant growing on trunk  
of tree.

Fls. in a compound spike,  
Rat-tail-like clusters,  
In low woods N.W.  
from Castillo.

Fruit No. 424.

Tree, rather large, with whitish  
bark, smooth, & slender  
prooping branches with 2  
ranked alt. leaves, entire,  
nearly acute, oblong, acute.

Fruit in umbels, long pedicels.

8 celled, with very many  
minute seeds on axile placental.

In low valley west of Castillo



alt. stem + lvs

No. 425

1' or so high

<sup>Epiphyte</sup>  
Parasite on trees. Jointed

stem, leaves lance, short petiole

App. Castillo

Flowers red. <sup>Plant</sup> Drooping from branches of trees.

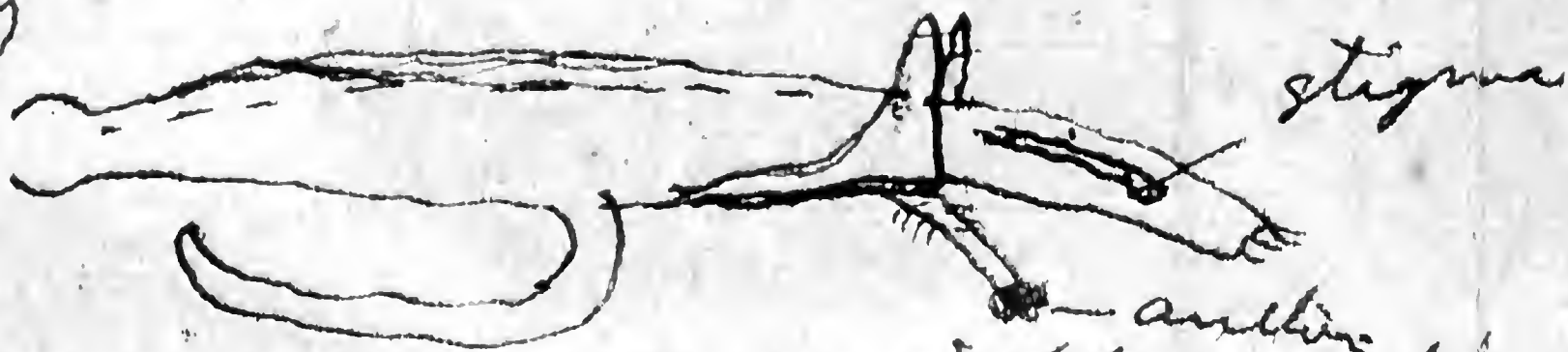
Calyx monosep, lobes 5, long, purple hairy, acute, cordate at base, forming wings at sinuses.

Tube <sup>(?) sort of receptacle</sup> (~~very~~) green, hairy, thick, short.



Ovary 1-celled, 2 (?) partite placenta, ovules small, very many. Calyx hairy inside.

Ovary green, superior, slightly hairy

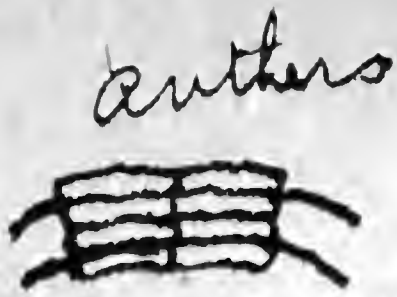
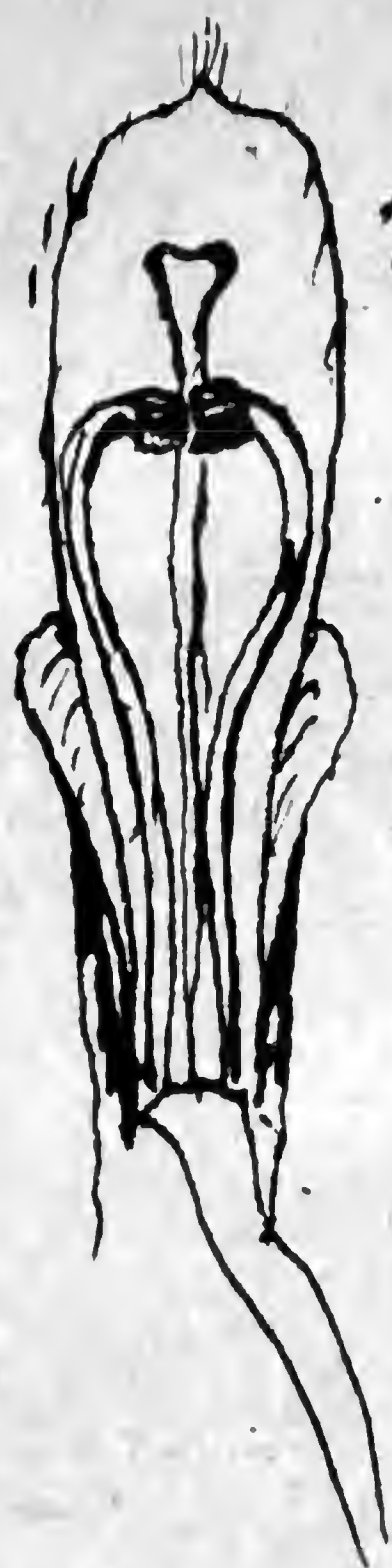


Corolla monopet, 2 lobes, upper of 3 lobes, ~~middle~~ 2 turned up.

Lower upcurved; red, all hairy as are the red filaments + white thickish style.

Stamens in 2 pairs, epipet, anthers adhering. Each 2-celled, yellow.





anthers  
 view of corolla etc. from below  
 stigma green, somewhat 2 lobed.

Corolla etc.  
glandular hairy.

No. 426 10-15" high.

Blue-flowered ("flax-flower")  
 spring weed, growing in low  
 place av. of Castello.

Corolla monopetal, tube short, white,  
 border spreading, of 5, obtuse, ovate

lobes. 1 Petal 1 Ovary x 1, deep  
 blue. Stamens 5, alt. attached

on sinuses of corolla. Filaments blue, smooth,  
 anthers white, verrucate  
 (transverse).

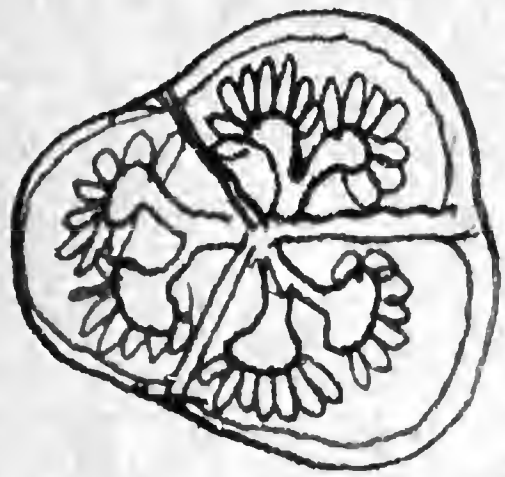
Stamen x  
 Delicence of  
 anther long.

sepal x 1. Calyx of 5 green, erect,  
 (nearly) hairy, acute,  
 lance sepals.



|| x 1+

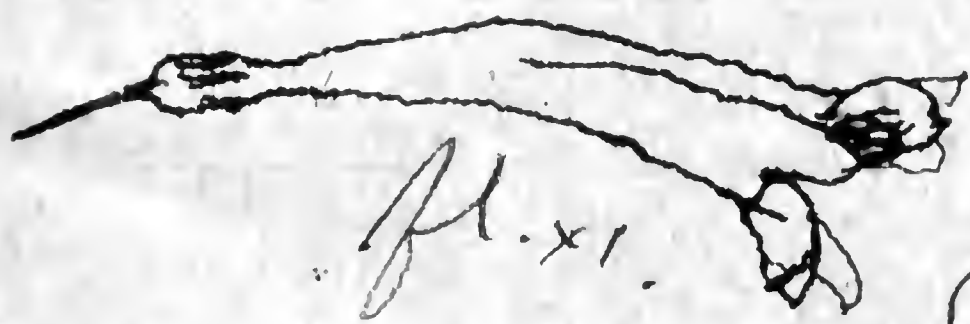
Ovary superior smooth, greenish  
styles 3, smooth, blue, = sepals,  
stigmas minute terminal.



Ovary 3 celled, with  
double axile placentae,  
many ovules.

||

No. 427.



Fls. in spikes,  
bright red.

Plant sub-shrubby  
 $1\frac{1}{2}$  - 3' high. Along creek west  
of Castillo.

Stamen 2, eppet., anther on upper  
side of corolla, 2 celled, introrse light  
yellow (x 1) just barely exerted.  
Corolla smooth, red, 5 lobed,  
lobes acute, ovate, nearly  
equal, 2 above & 3 below (slightly  
2-lobed). Each sinus with  
whitish spot inside, & somewhat  
clammy hairy in throat.





The 2 upper stamens are more  
 ) 1=x1 short rudiments.

Stamens attached  $\frac{1}{2}$  way up  
 tube.

Plant weak, not standing

erect.  
 calyx

Calyx of 5




small acute, narrow

x1

red sepals = to ovary.

Ovary greenish, superior, smooth,  
 pear-shaped  $\curvearrowright$  Style red, slender  
 smooth, included, stigma minute,  
 terminal; whitish.

Ovary fleshy, 4-celled(?) each with  
 one ovule 



Plant sub-shrubby, 3' high, 4-winged, wings & edges of leaves red-hairy.

fruit




lobes

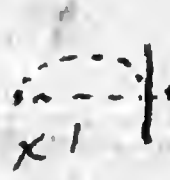
calyx (ovary)

x 1


inferior, green, hairy,

4 lobes, lobes minute,  $\Delta$ .

Ovary 2-celled  with very many ovules on pink placenta.

Style white  smooth, stigma minute terminal.

Corolla of 4 white, ovate  $\Delta \times 1$  smooth, sharp pointed petals, each with midrib on calyx.

Stamens on calyx, 8, fil. smooth, white, erect, anthers minute  purple, seemingly with a terminal pore, 2 celled.



No. 428

Grass, 12'-15' high, not  
branched, slender, short,  
broad-ovate lvs.

7 flowers in spikes running out  
from culm.



In low place west of Castillo.

No. 429.

Grass - somewhat similar  
to 428, but branched, with  
longer leaves, (lance-ovate) &  
spikes looser & more scattered  
Same locality



No. 430.

Sedge - 2°-3°. Black  
seeded (in a sort of calyx)  
edges (wings) of stems with  
retrore spines. Leaves narrow.  
In wet place west of Castillo

No. 431.

Sedge - larger, 6°-8° high  
very similar otherwise to 431,  
Spikes (panicles) greenish.  
Same loc.

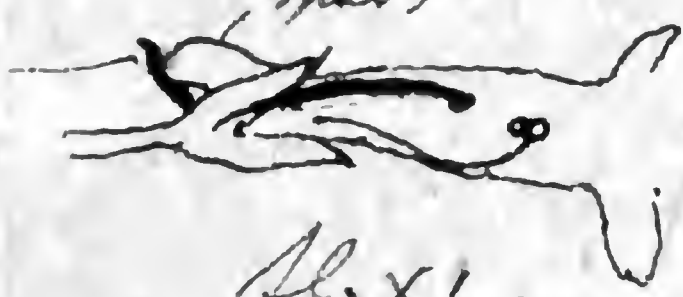


No. 432

Fleshy-leaved plant creeping on trunks  
& branches of trees, Castillo.

Fls. white, lvs. alt. entire  
oblong, acute, smooth, short-pet.

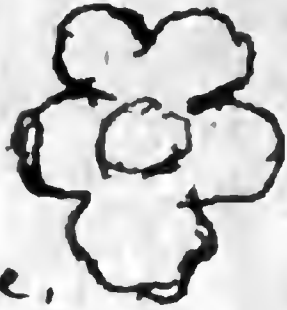
Small  
sepal.



fl. x 1.



Corolla irreg., wh. tube long, base  
5-lobed, lobes obtuse, rounded or  
slightly emarginate. Tube  
spurred above at base.



Calyx - of 5 sepals, reddish green,  
short hairy, lance, acute, the  
one next to spur small & turned back.

Style <sup>wh., smooth</sup> curved, stigma oblique, included.  
greenish.

Stamens 4 in 2 pairs, reaching  
beyond stigma. Upper pair longer, &  
attached a little higher up.

On tube of corolla near base.



Another 2 celled, celled  
far apart, opening by slit,  
connective large, sort of  
versatile.



Anther cells pink & white,  
filaments curved, smooth, white.  
Ovary green, superior, one-celled,  
2 par. placentae. Seeds many,  
red.

"Mangrove" No. 433.

Tree in ~~Sacramento~~ Castillo.  
Lvs. lance-oblong, acum. alt.  
thick shiny.

Fls.



concave

petal X

Petal - concave, very obtuse,  
greenish, spreading, 4. on calyx  
Calyx monop. lobes 4, broad,  
obtuse, spreading, smooth.  
Stamen very many, long exserted,  
filaments drooping, smooth, yellowish  
or greenish-white; anther 1-celled(?) versatile,  
small, brownish; <sup>stam.</sup> on calyx  
Style thick white, smooth, stigma  
small terminal





Medusa sized tree, 8' in diam,  
 brown, much branched (gray  
 mottled with wh.) smooth bark.  
 Ovary 2-celled, 1 seed in each  
 cell; fruit becomes a pome.  
 Fls. in clusters of 3-5 at  
 ends of branches.  
 Petals deciduous.



Palm

434

Paraguay. Plant 8°-9° high  
stem 1 1/4", with short joints, 1/2" long,  
smooth (except scars) cylindrical,  
hard.

Leaves 5°-6° long, leaflets 1 ft long  
lance, or lance-oblong, serrated,  
except at end.



Fls. on sides of stem near top.

~~Stamens~~ in compound spike; spikes.

calyx of 3 green obtuse sepals,  
closing over stamens (hooded!)

Stamens 6, fil. short, anthers  
whitish, 2-celled, each cell 2 lobed.

Pistil green, = to stamens, stigma  
green, style whitish very short hairy ||

No ovary in there?

Filaments white, smooth, hygro.

(11) fl. x. Found along the

"La Guana" river near Castilla

Pistil. fls. in sheath above (just a couple  
of joints) of the stem.



Leaflets, about 2' wide.

The spathe in both kinds is green,  
same water.

(My mistake. - the flowers  
in the 3 spikes on this plant  
are all the same.)

435

Palm, similar to 434, but  
only 4'-5' high, leaflets  
shorter (6'-7') & broader (2½')

Compound spike arising from  
axil of leaf without spathe.  
Leaves 4'-5' long. Stem  
with longer, fewer joints,  
green ½' - ¾' in diam.

Same loc.

436

Utricularia - In the La Guana  
river near Castillo - Along shore



437

Small tree 12-15<sup>o</sup> <sup>3 in diam.</sup> with whitish  
(mottled) smooth bark. Bending  
over the La Guana river.


Fls. in little green catkins in  
axils of lvs. Leaves ovate  
serrate, rather short petiole  
rounded at base, acum. smooth  
alternate.

(See fls. in alcohol)

Fruit

438.

Passim-vine with narrow ovate  
(or oblong) acute, entire leaves?

fruit purple,  <sup>sepal?</sup>  
with persistent large  
green sepals.

Found along the La Guana  
river. A long vine.



Fruit 439

Small ~~shrub~~ tree or shrub.  
with deeply 3 lobed green fruit,  
stigmas 3, each at least 3 lobed,  
(irregular) calyx of 5 narrow, green  
sepals.

Leaves alt, obovate (or oblong)  
entire.

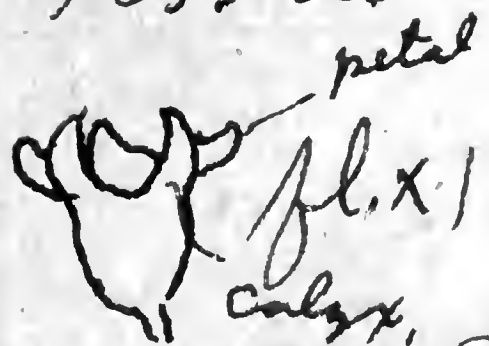
along the La Guama.

Fruit 440

Ornitho

Yellow flowered shrub, bushy,  
3<sup>o</sup>-4<sup>o</sup> high, along banks of  
La Guama. Lvs. alt, very  
short petiole, entire, oblong oval  
acum., or acute.

Fls. in 2's in axils of lvs.



Calyx narrow, 4-  
angled, green, somewhat hairy,  
4 lobed, lobes at first incurved,  
spreading in fruit, acute oval



corolla of 4 yellow, ovate, obtuseish  
petals on calyx,



Stamens 8, on very short filaments,  
anthers = to stigma, elongated,  
2-celled, exserted, on calyx.

a white hairy spot just within each  
stamen at base (not on stamen however)

Style short, thick, stigma large, rounded

The hairy lines within stamen run  
as represented in this top view of

ovary.



Ovary 4-celled, with very many ovules



441

A very brittle, shrubby

Onoclea with yellow fls.

+ alt. somewhat crenulate lvs.

Along San Juan below

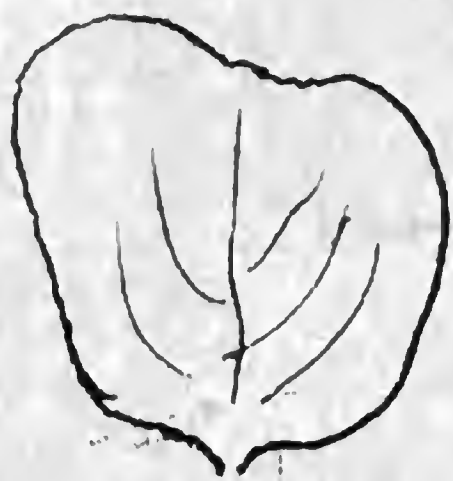
Castillo, - in or near water.





sepal (lobe)

Calyx of 4 lobes,  
somewhat hairy on tube,  
tube with 4 large +  
4 intermediate ribs.



petal x/

Corolla of 4

yellow, smooth petals, spreading  
Petals on calyx:

Stamens 8, filaments smooth, anthers  
long, 2-celled, extrorse.

4 bunches of hairs around base of stam.  
as in preceding.



x/ style thick smooth, stigma  
large, tern.

Ovary inferior, 4-celled, just  
like preceding in cross section  
Plant 4<sup>o</sup> - 6<sup>o</sup> high.



442

Smaller *Oenothera* from

same loc. + hab. as 441.

Calyx ~~same~~ with smaller narrower lobes.

Corolla ~~same~~ but smaller, <sup>+ petals</sup>  
ovate, ~~same~~ thing.

Leaves smaller & ribs

seen more prominent below.

Style & stigma, etc. very similar,  
but all smaller.

443.

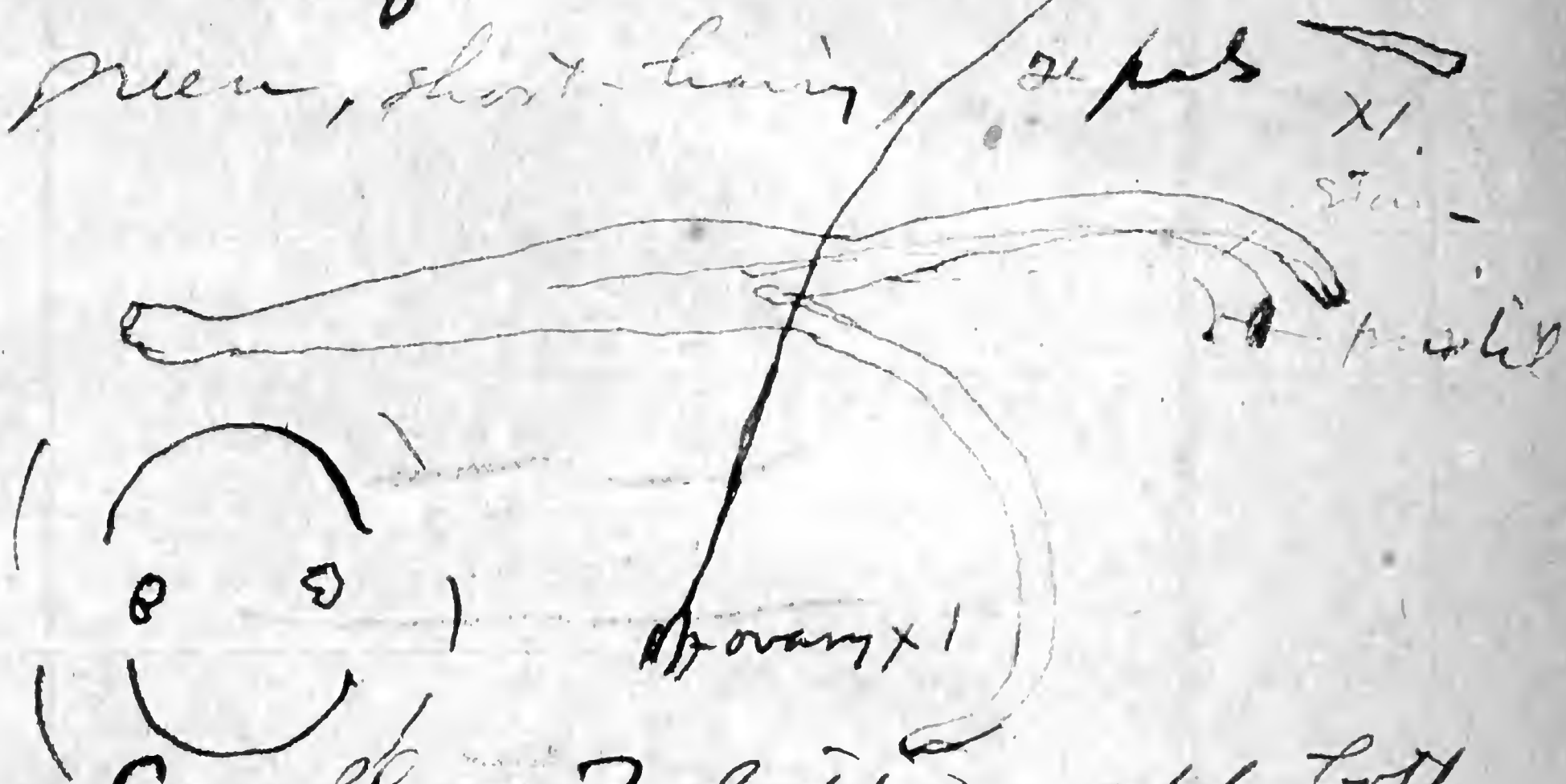
Shrub (or small tree) 15°-18°  
high, 3' in diam, bark gray,  
smooth. Spikes of yellow fls.  
terminal.

Found along the Laguna.  
Each flower with a 3-divided  
bract at base.

The fls. in compound cymes  
(a sort of thyrsus)




Calyx of 5 lance. lvs, acuminate  
green, short-hairy, sepals



Corolla 2 lipped, ~~with~~ both  
lips hairy at tips, + possibly lobed,  
but if so, very slightly.

Corolla hairy outside,  
tube 3 or 4 angled.

Style slender, white, smooth =  
stam. stig minute terminal -  
stamens 4, long, in upper  
lip. Lower lip with several  
scale-like lobes on ~~lower~~ ~~lip~~ in  
throat, directed back.

Anth 2 cells, acute, imbricate,  $\rho$   
fil. thick, yellow, smooth.  
Ovary smooth, green, superior  
surrounded at base by a grayish  
gland(?) -  Ovary 2-celled  
separated only



444

Tree, good sized, overhanging  
the La Guana. Flat long  
pods (vs fls.) leaves shiny,  
rather small, in tufts, oblong  
lance, entire, acutish.  
Wood, branching,

"Gualcho." 445. (yellowish)

Sweet scented, whitish-fl.  
vine, growing over a sugar  
in water of San Juan.  
(odor of grape?)

♂ x1. ♀ Calyx monop. hairy,  
purplish, lobes 4, acute, each with rib.  
Corolla of 4 rounded, clawed, small,  
yellow petals; concave. spreading,  
on calyx tube.

Stamens 8, on calyx, exserted, filaments  
yellowish, smooth, erect,



Anther small, 2-celled, each <sup>cell</sup> deeply  
deeply 2-lobed, yellowish,  
style smooth, slender, brownish,  
stigma minute, terminal.  
ovary inferior, brown-hairy (calyx tube)  
ovary 1-celled, about 2 (at  
least 2) ovules.

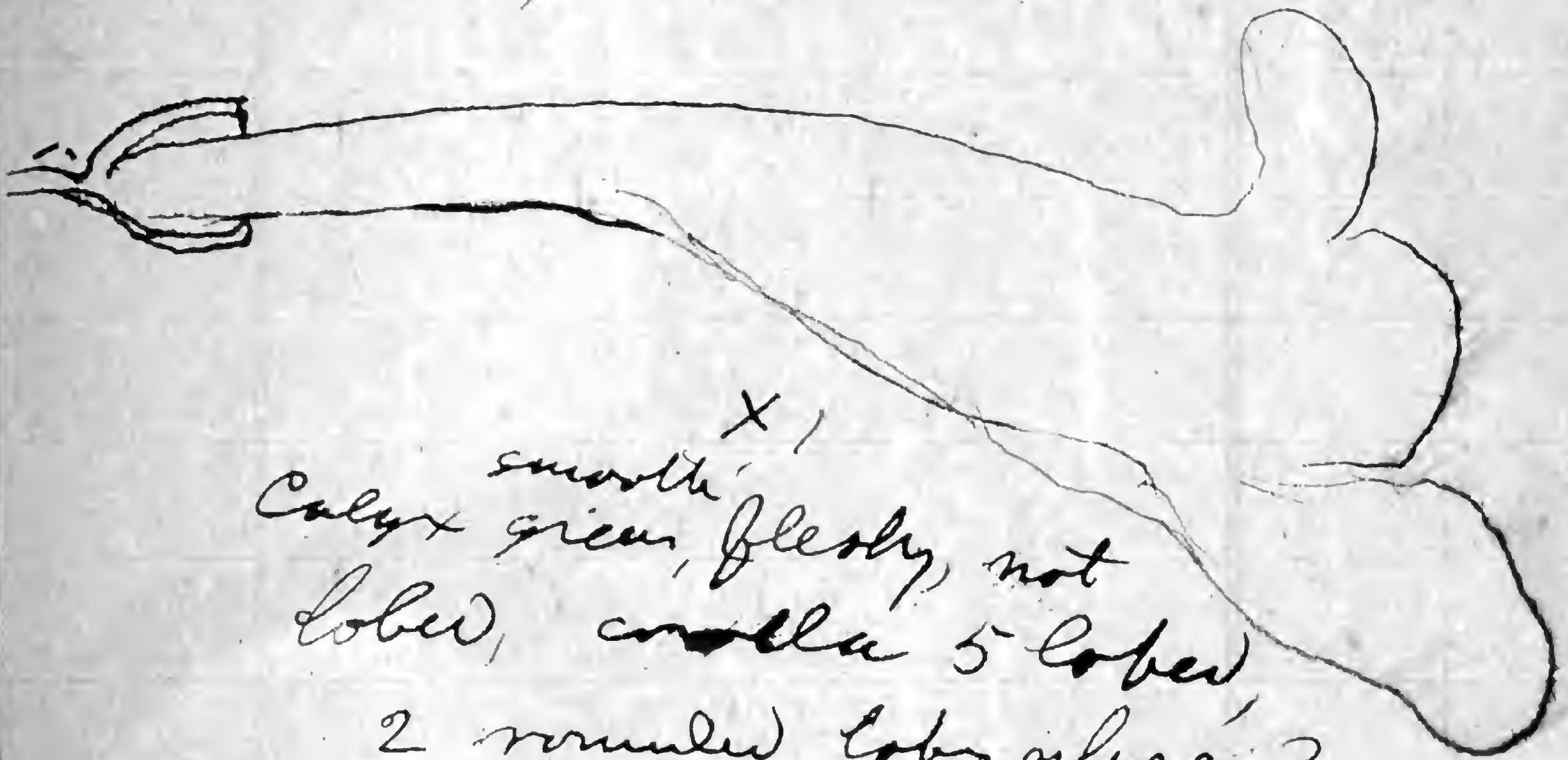
446.

The coarse, tall grass so  
common along San Juan  
& the Laguna.  
Has loose panicle.

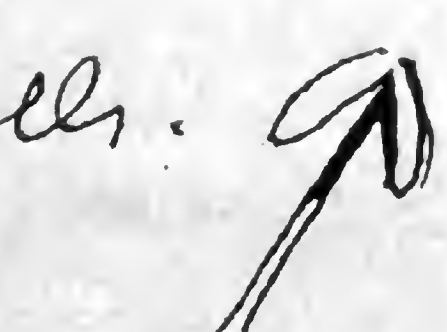


447

A woody, very tough vine  
overhanging the La Grana.  
yellowish.



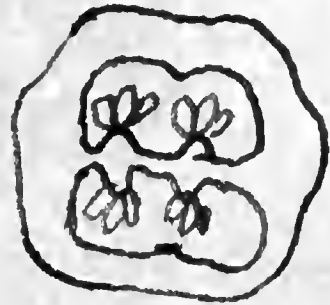
<sup>x1</sup>  
smooth  
Calyx green, fleshy, not  
lobed, corolla 5 lobed,  
2 rounded lobes above, 3  
below. smooth, yellowish  
& white.  
Stamens included, 4 fertile,  
uppermost a  
short sterile filament.

4 fil. long, thickish, hairy at base  
(+ also tube of corolla) otherwise smooth  
anthers large, with diverging  
cells.  dehisc long; anther  
almost white.





Ovary superior, smooth,  
greenish, style smooth,  
stigma flat, 2 lobed, lobes  
lobe longer.



Ovary 2-celled,  
each with double  
placenta.

Ovules many,

ovule has yellow bands  
(long.) in throat, one for  
each lobe.

Fruit large, green, smooth



shape:



448

Yellow shrub-pea, 4°-8°  
high, growing in water  
along the San Juan.



XI

Fls uniform  
yellow.

Keel coherent below,  
inclosing stam + pist.

Stam 1+9, anthers 2-celled, yellow

filaments small

Ovary elong. smooth, style  
short, green, stigma minute.

Lev. comp.



Fruit "Chilio"

449

ovary 3-celled  
each 1-seeded.

Small tree 3' in diam, whitish  
bark, smooth, drooping branches  
over the Laguna, racemes,  
fls. livid, in drooping ~~spikes~~  
Fruit deeply 3 lobed, purplish,  
hard; calyx of 5 persistent  
ovate, acum. purplish  
sepals.

Lvs. cherry-like, finely serrate  
Juice milky



style x 1+  
Corolla short, heavy 3 lobed,  
tube bulbous at base, lobes narrow,

livid - These are pistillate  
(fls. + what I call corolla is  
the style + stigmas.)

The staminate fls are borne in  
upper part of cluster in groups  
of 3 + are purple.

The pistillate fls. are single  
(not in groups) (see also  
material)



450

Shrub overhanging the La  
Guana. Stem coarse,  
leaves oblong-ovate, sharply  
(rather finely serrate) flo. in very  
slender & very long catkins.  
Plant 6°-8° high.

451

A composite, woody vine,  
overhanging the La Guana,  
Found only in fruit.  
Lvs. broadly oblong ovate



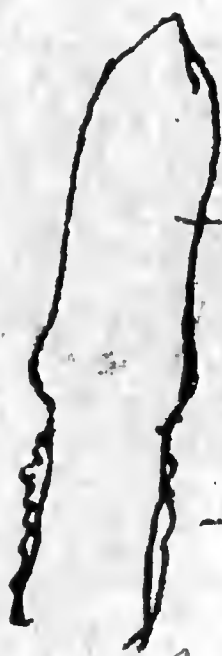
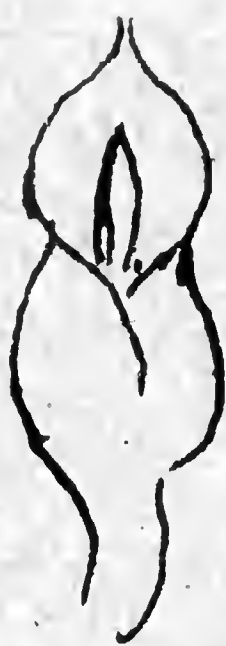
"Bentania"

452

A parasite, found on small tree, had crept up by simple rootstock. Lvs. 3°-4°;

Fls. in spadix. Spathe

4' long, red at base, whitish above



pistillate

stam fls.



Stigmas white, flat, spreading.

See also specimen.

Along La Grana



453.

Small plant 8' high, somewhat  
shrubby at base, found along  
La Guana riv. calyx 3 cored,  
(3-keeled) monosp; pink, 5 linear  
lobes,  x 1  Petals  
oblong ovate, obtuse? smooth, pink  
Stamens <sup>10</sup> yell, fil. smooth, anthers  
2 celled, yellow. Petals 5.

Stamens in-curved in bud,

stamens & petals both on calyx.

stigma green, tern, style thickish,  
whitish, exserted when flower  
is open(?) deciduous.

454

Grass with rather broad, lance.

axis  
dia  
de  
pennis  
leaf, & loose panicle on long  
slender peduncles.

Found on wet bank along


the La Guana.  3-4°



455.

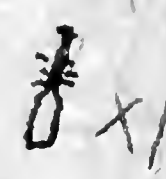
Little shrub, 10-15' high.  
Along wet bank of La Grana.

Purple flower.

 Calyx 6 lobed, lobes  $\Delta$ ,  
greenish with purple veins,

12 ribbed,

Petals in calyx, 6, all, obovate  
(narrow) purple, edges crumpled,  
bases narrow; Calyx tube white  
hairy inside.

Stamens 6<sup>(?)</sup>, almost sessile<sup>(?)</sup>  
at top of tube of calyx.  x1

Ovary smooth, greenish, style hairy,  
stigma red, small, term, about =  
to tube of calyx.

Ovary 1-celled, axile placentae  
(looked like free central) ovules  
several.



456

Sassaparilla - A spring  
vine with alt. smooth  
leaves + tendrils

No fls.

See stem + root.

~~457~~

Minute sedge, growing in  
tufts on mudflat along the  
La Guana.

3'-5' high.

458.

Little parrot-like yellow orchid  
leaves in a screw-propeller form.



Front

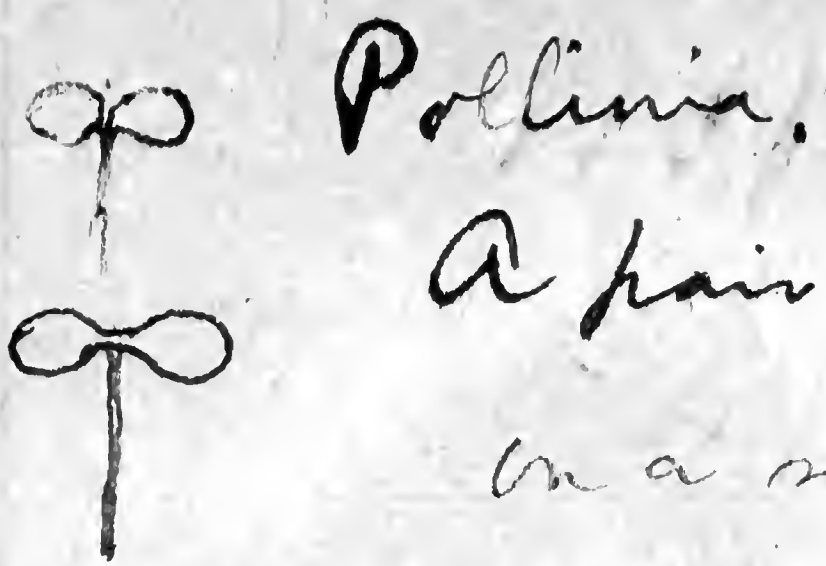


Side view

x 1  
x 2 little crenulate  
wings.

Fls. yellow,  
spots red-  
orange.





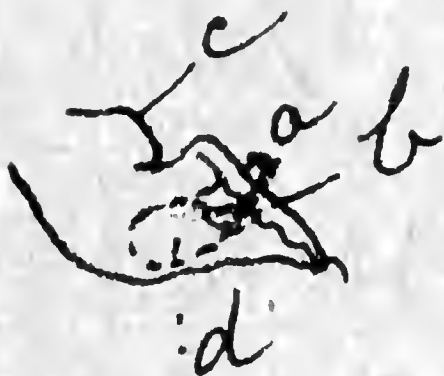
Pollinia.

A pair of round, smooth pollen  
on a smooth stalk.

The part at (x) on larger scale =



Fruit.



a = sticky disc.

The pollen sacs are below  
this & on the sides of the  
wings b.

c = stigma.

d = pollen sacs.


Plant on tree; 2' high.

In woods along the La Grana

459

Little succulent Begonia



Fls. pink, ovary  stem  
reddish, succulent, leaves all.


Fruit 3 winged.

Calyx inferior, 4 lobes, lobes  
greenish (reddish) spreading; ~~stamens~~







orange) - colored berries  X1  
5-~~alled~~ (?) 5 needed.

Cluster terminal, a sort of  
stiff thyrse (?)

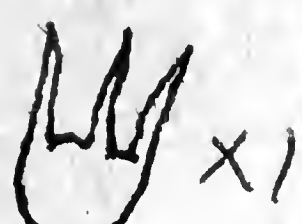
Along the La Guana

461.

Shrub 5' high, <sup>very</sup> shiny, oblong  
ovate leaves, acum, sp. &  
a term. "screw-popples" (smaller)  
white flower.

Very sweet-scented.

Found along the La Guana.

Calyx 4 lobed, green, lobes acute,  
linear,  X1 smooth.

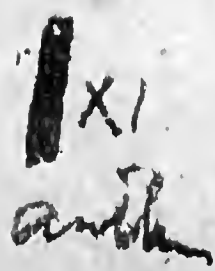


lobe of corolla  
(should be livido)



Corolla

X1



Style X1

Style white, thick,

smooth, = to tube of corolla.

Stigmas 2, (style 2 lobed

white



Stamen alt.  $\frac{1}{2}$  way on tube  
of corolla, anther long,  
2-celled, sessile, introrse  
ovary superior, whitish  
style set into middle.  $\text{H}$

© top view.

Odor like tuberose.

~~Slender, long, narrow~~

~~Polypodium~~

~~Fronds 20 long, 2 wide.~~

~~1 pinnae, pinnate entire,~~

~~fruit dots medium sized, in one~~

~~row on each side and~~

~~6 to 10 in a row.~~

~~Stipe dark brown, short hairy.~~

~~On log near the La Guana.~~



Called balala.

462.

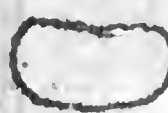
"Lizard Tail" - 3-5' high.  
Found in low place along  
the La Guana.



Ovary has many ovules.

Counted 17 in a circle

A free central placenta,  
though the ovules are imbedded.

Ovary green, depressed  fruit.

Styles wh. several, broadly tipped

(stigmas)

Calyx of 5 white, or pink, acute,  
small sepals.

Stamens 15 or 20, hypog. white  
fil. smooth, anthers small, 2-celled  
versatile? Pericarp +



Fl. stem red.



463

Dioscorea

~~Menispermum~~ — ovate

lvs. Pistillate only found.

~~calyx~~

2x1

ovary smooth,  
bract 3 winged, inferior, green

calyx lobes 6, small,

ovate, yellowish, smooth,

stigmas 3, green, spreading,

stamens 6, minute, a little shorter

than styles, anthers small

2-celled.

Along the San Juan

Trailing



ovary 3-celled.

1 seed in each (2)



Pavan 464

Large coarse Begonia.

Found along San Juan on bluffs.



Sepals of Stam. fl.

stem fls. 2 broad, rounded, pink. Stam many, flat, anthers 2-celled, fil, short, all yellow.

Stems pink or red.

Pistil. fl. Sepals 2, broad,



Pist. x1

rounded, pink.

ovary inferior,

3 winged, lower wing the largest, styles

3, each 2 lobed, stigmas 6, term. rough.

♀ = 1 style + 2 stigmas

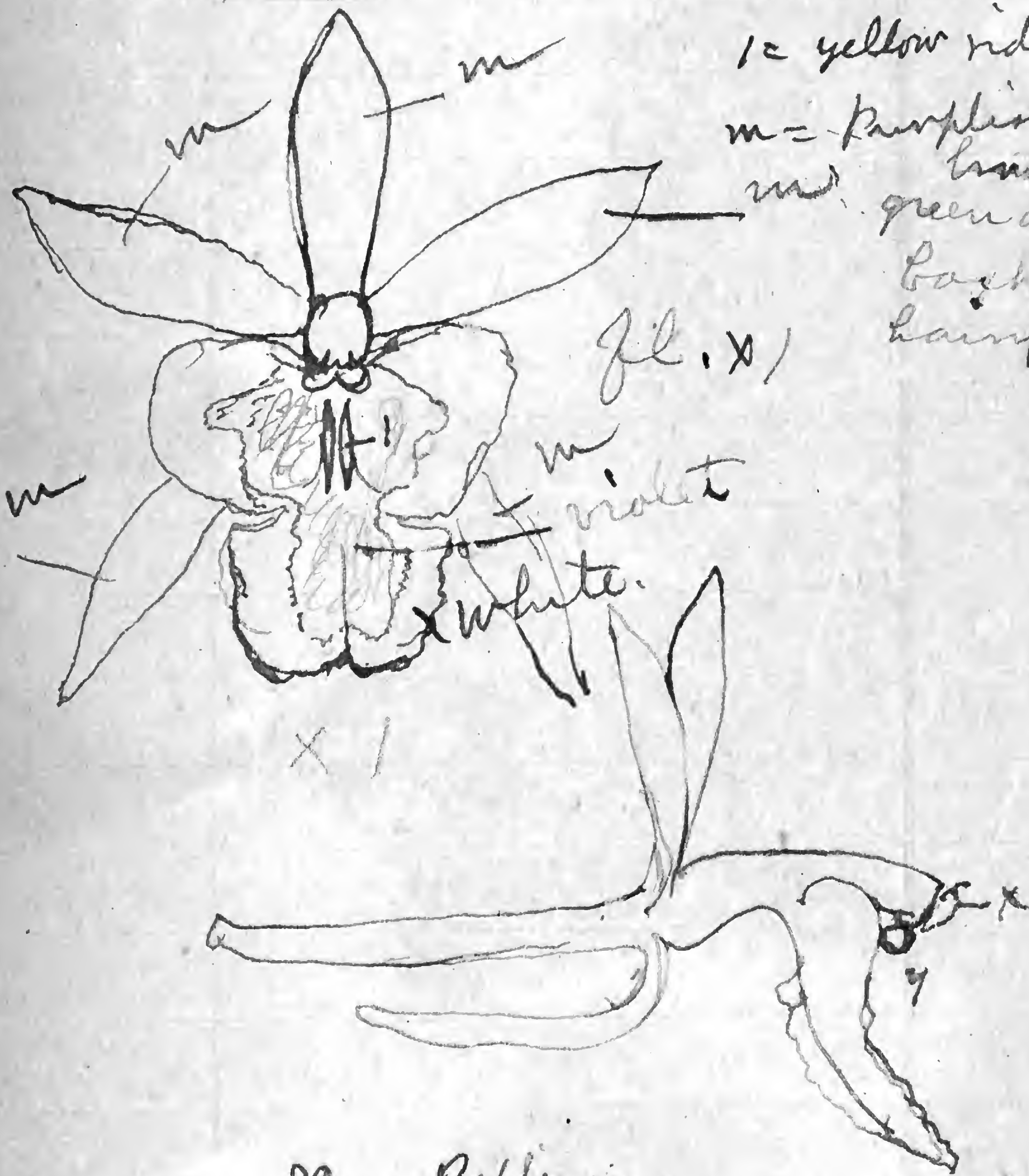
ovary 3-celled, seeds very many, minute





465

White flowered, sweet-scented  
Orchid.



l = yellow ridges  
m = purplish  
brown  
green on  
back.  
hairy (short)

violet

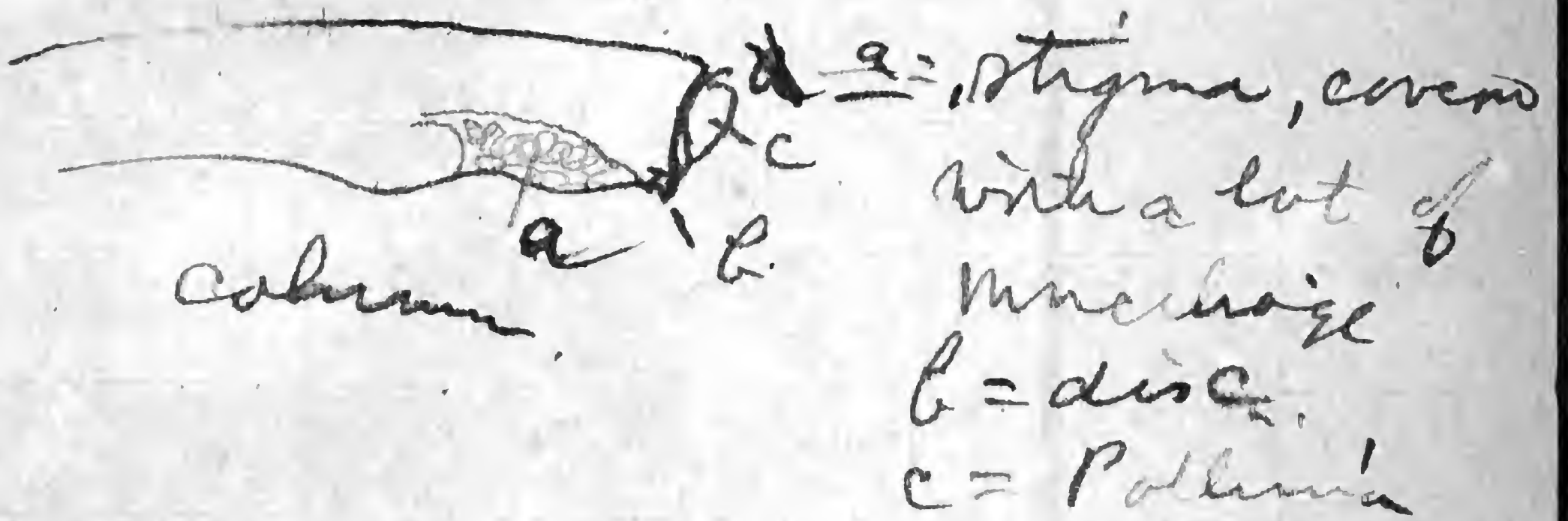
white.

♀ x1 Pollinium

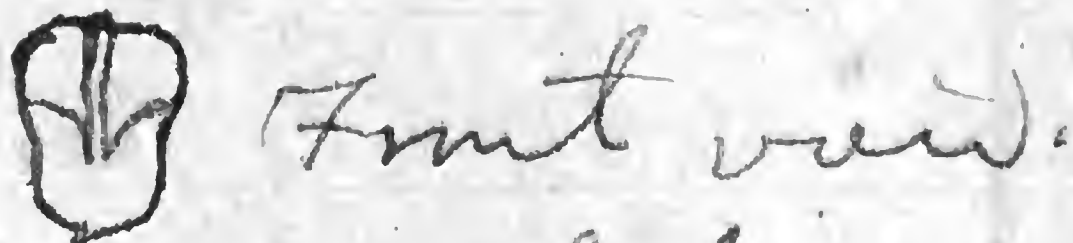
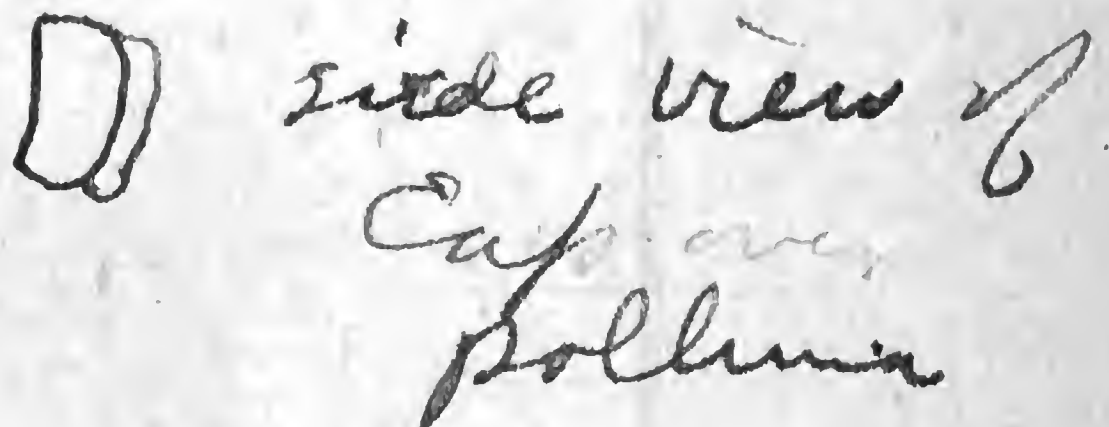
♂ stigma yellow, 2, attached  
to a slender, elastic  
stalk  
x = position of pollen masses,  
bitting into shallow



pits at end of column.  
 y = depressed pollinia,



Fls. in spikes of about 6 fls. Leaves with flat at base.



Column white

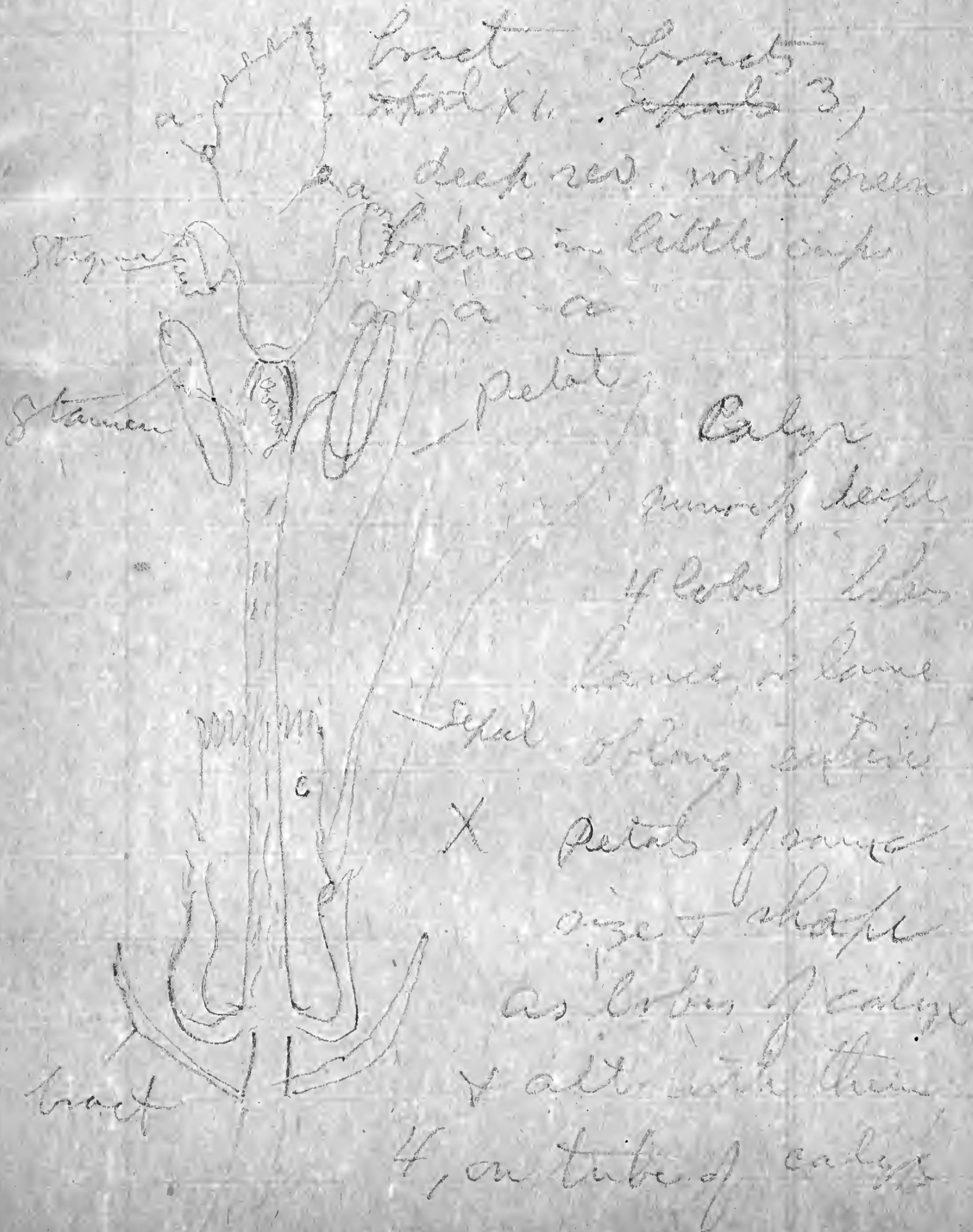
See fls in abc.

Parasite on trees. Swatara  
 C. ...



466

Leafless vine with large  
bright red flowers, woody,  
stem  $\frac{3}{4}$ " in diam + hairy,  
~~stem~~ (climbing by roots)  
stem grooved, irregularly





all red, ovary & recept. (column)  
 yellowish, the latter  
 long spotted with red  
~~obovate~~ drab, 4, filaments  
 smooth, short, anther  
 large 2-celled, vesiculate  
 slightly rough, large  
 grayish. style 3, 10 pointed  
 there is a circle (C) a sort  
 of project on throat of calyx  
 red with little yellowish  
 tipped.

Deep woods S. W. of castle



ovary 1-celled

3 per. plac.

ovules small

erect



467

Tall orchid (4-5')  
In trees - Castilla

Woods - wet

Spikes short (cyme-like)

Fls. bright red



XI



Lower lip

Pollen mass

yellowish small

plant 4



at a the pollen mass  
 (A) is a green, 2 green  
 (or color) cap fitting over  
 the pollen mass. The disc  
 is on its lower side

pollen mass  
 long, rect.  
 hollow  
 of end of  
 column

All bright red.



Pollen masses 4, in  
 2 pairs, 2 longer,

side view.

Lvs. alt, obtuse, 2 ranked

side view Each pollen  
 mass double,

there are only 2.

Pollen masses are  
 bright yellow.



468

Wh. fl. plant, 10'-12'  
high. In clearing

S.W. from Castillo.

Lev. alt., ovate, entire,  
smooth, dark green  
above.

only partly open

(x) Calyx of 5 green,  
narrow, acute lobes.

Corolla 5 lobed, smooth like  
the lines forming down from  
summit, <sup>high</sup> remainder of  
corolla white.

Stamens 5, alt. attached at  
top of narrow part of  
tube.

Filaments slender, granitic  
& anthers intense, ovate  
small, white, 2-celled  
included.

Style just a little longer  
than sepals (short).



erect, green, smooth, stem  
small terminal  
Ovary 2-celled (axillary) (\*)  
axile plac  
(\*) Ovary half superior

(The fruit of "Hombre  
grande" is an  
indehiscent, 1-seeded, hollow  
fruit. The tree is  
small, 15' high, 3" in dia  
& grows in deep woods  
S.W. of Cast.  
small suspended from top  
of ovary.



469.

Low coarse shrub, with  
tuft of obovate  
large (long) leaves,  
acute, a distinct  
scalloped vein running  
near margin.

Red-berryed in a  
sort of compound raceme.  
Calyx monop., 5 lobed,  
lobes small rounded,  
reddish.

Fruit a one seeded  
(large, bony) seed  
berry.

In deep woods S.W.

from Castillo.




470

Shrub, 5<sup>0</sup>-6<sup>5</sup> high, like  
a small tree; branches  
spreading, bushy.

lvs. obovate, a few in  
tufts, at ends of branches.

alt. fl. yg. corolla

 white, monopit  
tube curved, lobes

spreading, 5 ovate lobes

calyx white, monopit, with  
5 linear lobes.

anther with 2-lobed, white, 1/2

1/2 inserted, 5, alt, filaments

short, white, attached near

upper end of corolla tube

→ style white, tapering

downward, ovary, stigma

white, 2 lobed.

ovary superior, greenish,

smooth, 2 celled, 1 seed each

fruit an elongate O red berry



Seeds & fruit 471

"Chokoya" apple.

Orange or yellow fruit

1 in in diam.

Ovary 1-celled, basal

Placenta, several

Pulp <sup>covered</sup> seeds.

Sepals 4, rounded, spreading

green; pedicels short,

thick.

A shrub 10-12 ft high,

stem erect with clusters

of long (1<sup>0</sup>+) oblong

ovate leaves, short

petioles, & the fruit


at upper end.

In deep woods of

Castillo.



472

 ovary

A field fl. x1.

Plant 3'-4' high, stem covered  
with little tufts of brown hairs  
spike, terete. Leaves lance  
ovate, yellow & hairy at  
tip. fls. (pistillate) sessile  
in the axils of these bracts,  
ovary smooth, stigma white  
hairy. Lvs. oblong, lance  
ovate, 2-ranked.

In deep woods S. W. from  
Crest.

Abundant fls. in rich spray



Same loc.  
 Longitudinally  
 with long  
 leaves  
 number to 493, but  
474

On deck near 3:45

(A) 493  
 493  
 strongly  
 leaves  
 493  
473



475.

Branch-like *Arctium* on fruit  
Found on tree near Castello  
Plant 6" high.



476.

"*Cacao del monte*"

Small tree-like 7" high,

Distalt. comp. of  
5 opposite leaflets.

Fruit on side of

Stem 3' long with

5 larger & 5 smaller long  
ridges.

Bark gray, smooth.

Stem erect

In deep woods S W



Small tree 12 ft high  
in clearing - low trunk  
leaves of opposite nodes  
not like ash

---

479

leaves  
some not set apart  
opposite - black  
gray bark. Fruit  
large tree with

---

Fruit 478

13 ft high, young stems  
for all - young stems  
leaving (contact) at  
base of

---

477



Spreading branches,  
fruit 3 lobed, hard,  
1 celled. 3 per placenta  
several (see 3) seeds  
In deep woods S.W.

480

Small shrub  $2\frac{1}{2}$  high,  
root tap root, stem  
greenish erect.

Low hairy & pubescent  
Flowers long peduncles  
ovoid white  
In deep woods S.W.


Calyx of 12 linear, green,  
very hairy, sepals.



Corolla white  
of 5 lobes  
lobes short linear  
Like a mallow, white  
It is the same as 10  
exhibits 10



Flowers white  
(anthers & all) united  
into a column.

Fruit somewhat 10-lobed,  
each lobe with a sharp  
projection with a  
hook.  X just a little

Vine 481, woody,  
~~herb~~ ~~woody~~

with compact stem  
(in branches) <sup>2</sup> of fls.  
with Red. fleshy, woody  
lobes (or not at all) calyx  
Corolla white (border  
red) in tube pale  
white. Anthers, 5,

 5, obtuse  
bud (whole flower  
shown)



Number 3, on tube of cord  
pale white, smooth, granular  
yellowish, 2-celled, cells

slanting  
from each side

each 2 lobes

Style short (rather low)

smooth, granular, yellowish

Style - Ovary, purple

smooth, granular, 2-celled

yellowish, granular,  
lower part of ovary

is yellowish,

ovules very many

ovules very many





482

"Elmendo" (Almond)

A large tree with  
smooth gray bark,  
comp. leaves, & some  
elongated fruit with  
a stone. Shaped a little  
like almond.

In deep woods

S.W.

Wood very ~~light~~ hard.

Leaves alternate

483.

Rather slender long






vine, with lvs

like "Pignia" tree

(?) opp smooth





conical juice (same)  
greenish white  
lobes oblong, obtuse  
stamens 5, sessile, around  
upper end of contracted  
part of tube, anthers adhering  
to each other ~~by~~ 2 cells,  
yellow. Closely cohering  
around the green, basal  
part of style.   
Style slender, whitish   
(XIV) calyx of 5 green lobes   
ovary superior, surrounded  
by 5 yellow glands   
deeply 2-lobed, 2-celled,  
axile placentae with numerous  
ovules.   
Tube of corolla purplish



484

Very resembling my  
"cordate lower hairy"  
plant of *Onocleaceae*.  
Leaves peltate,  
pinnulate fls. in  
rounded bracts  
3 styles & stigma  
No calyx or corolla  
Fls. several in compact  
cluster on short  
peduncle in each  
bract  
Ovary hairy, 2 celled.



485

Bread-fruit tree  
Fls. white, much  
branched, leaves very  
quite 20 in length, alt,  
juice milky.  
Cult.

486. 4' high.

Very small Orchid on Jacaranda  
tree opp. Castle.

Leaves purple, 1' long, with a  
bulbous green part at base (small)  
(only some have it)



The spots & lines are purple, the  
greenish yellow



a = cap over  
pollin.



Fig 4 - Cap  
removed

c = Pollin  
d = disc

Pollinia yellow, both in same white  
stalk  $\infty$  spherical



c. is hollowed out above, &  
the green stigmatic  
surface is in this hollow.  
The 5 parts outside of upper  
lip are about equal, ovate,  
acute, densely dotted  
with purple (large) spots,  
principally along mid-vein  
& edges.

Opp. Castillo (up the river)

487.

Medium sized tree with  
smooth, gray (reddish)  
bark, leaves oblong  
ovate, cherry-like, entire,  
acum., opp.

Fls. white, lobes of corolla  
screw-potillo-like



Calyx narrow, green  
XI smooth, with 5  
small  $\Delta$  lobes



Corolla 5 lobed lobes oblique,  
lance, acute, tube greenish.  
swollen below (just above  
calyx, throat quite closed  
by little folds.

Stamens just above bulbous  
part of corolla,

Style smooth, greenish, 2-lobed,  
stigmas capitate, just  
between stamens, which cluster  
around.

ovary sessile elong,  
bilocular, 2-celled & III &

III: united, around stigma.

(I) ovary enclosed by  
a green, fleshy, glandular

2-lobed, papery, persistent  
2 parts are separate, each  
one being broader at mouth

Superior.

Form of the Corolla

above shown



488

Coarse tall grass  
with a compound  
cyme (compact)  
of fls.  
Leaves large, lance  
(rather broad base)

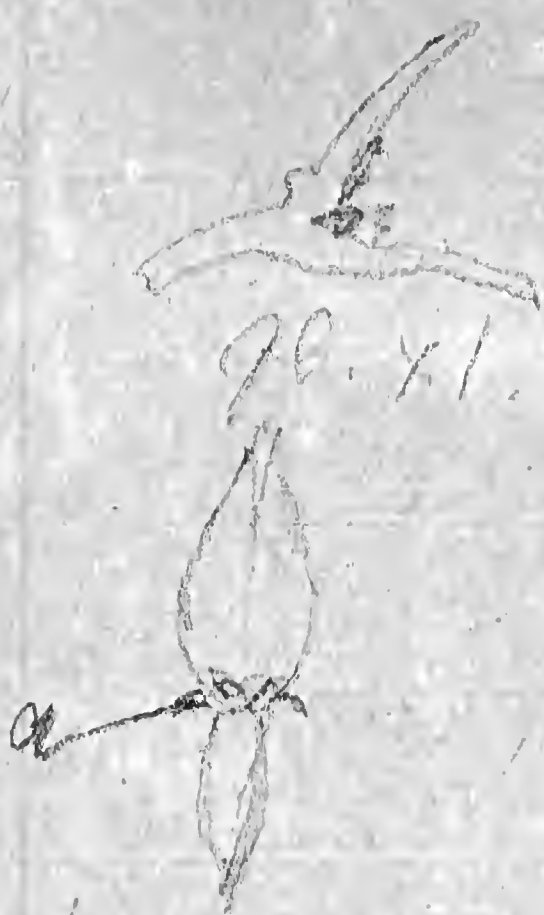
Plant 3<sup>o</sup> - 4<sup>o</sup>  
Along river off  
Castillo

489

Orchid with small spike of  
purple (livid) flowers, arising  
from base of blade of the  
long-petioled leaf.  
Leaves round, thick, from  
slender rootstock  
Grows on ficus tree off  
Castillo.



3 petals



Fl. uniformly purple

Upper lip 2 lobed,

lobes edge to edge;

an indication of dorsal

base. (3 veins on each lobe <sup>on back</sup>)

lobes, lobe entire acute.

with 3 vein on back.

There are two very small petals (1 ribbed)

between the lips. The 3 petals

<sup>step</sup> <sup>disc</sup> <sup>cap</sup> <sup>column</sup> <sup>x</sup> off. middle of upper lip.

All purple.

at base a little cap which

fits over the ~~the~~ pollinifer

which is yellow, with a

disc above <sup>orange</sup> disc yellow.

Stigma seems to be at base

of 3 petals.

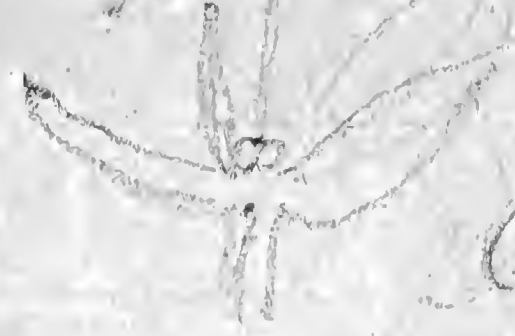


490

ever



The ovary 5 parted, becoming  
 5 separate, one-seeded,  
 stone fruits on a thickened  
 pear-shaped receptacle -  
 Fls. in term, racemes.  
 A tall shrub of loosely  
 spreading.



petals 5, yell.  
 sepals 5, brownish,  
 spreading, obtuse  
 lobes 5, greenish, acute,  
 lance, spreading.  
 stamens 10, anthers small,  
 acute, long. filaments  
 thick. flesh outside yellow  
 inside & toward tip, which  
 is brown. style erect  
 stigma small



terminal

On river-bottom, opp. Castillo

491

Coarse vine (herb.) with  
deeply 3 lobed (or somewhat 5)  
leaves, all hairy (soft)



Calyx narrow,  
tube hairy

(white-hairy) green,  
5 red, linear fleshy  
lobes hairy below (outside)  
(A) a column of stamens (2)  
suspended, (It really looks  
as if the lodicules (a) there  
are 5 white fleshy lodicules  
there, were the stamens, &  
there is a central (?) plac.  
suspended, with many ovules.  
I guess there are only 2 ovules



fls. (see alcoholic)  
after all these are  
petals. the column of  
stamen is supported

so:  The stamens  
are simple,  
& 2-celled

I suppose there are  
5 — This is  
strange — Small ants  
were noted.

On river bottom opp.  
Castillo.

492

White morning glory, found  
over shrubs, trees along  
river above Castillo (opp.)  
leaves cordate, opp.  
anthers



Fls. in many flowered clusters  
Calyx of 5 unequal, whitish acute  
ovate (or obovate) sepals.

Corolla tube broad, border

narrow, crenulate

lobes 5, each with

a cluster of orange

gland-hairs covering

base of filament

stam. Anthers white

2-celled, unilate

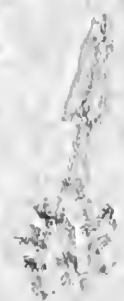
style slender, stigma

minute, terminal

bract ~~small~~ 4-celled (?)

of disc (yellow) smooth green, up

See also spec.





493

Pea with ~~long~~  
~~stem~~ stem. Herb.

Fls yellow,

 x1 back somewhat apical  
wings loose

Standard golden,  
over other parts, deeply  
emarginate.

Leaves ovate, 3,

Fruit

494.


Fine leaved, yell. fl.

Leg. shrub, erect,

branching, 8' high.

In swamp along river

above Castell (Cuba)

 fls x1

Fls yellow, standard entire,

rounded, back somewhat

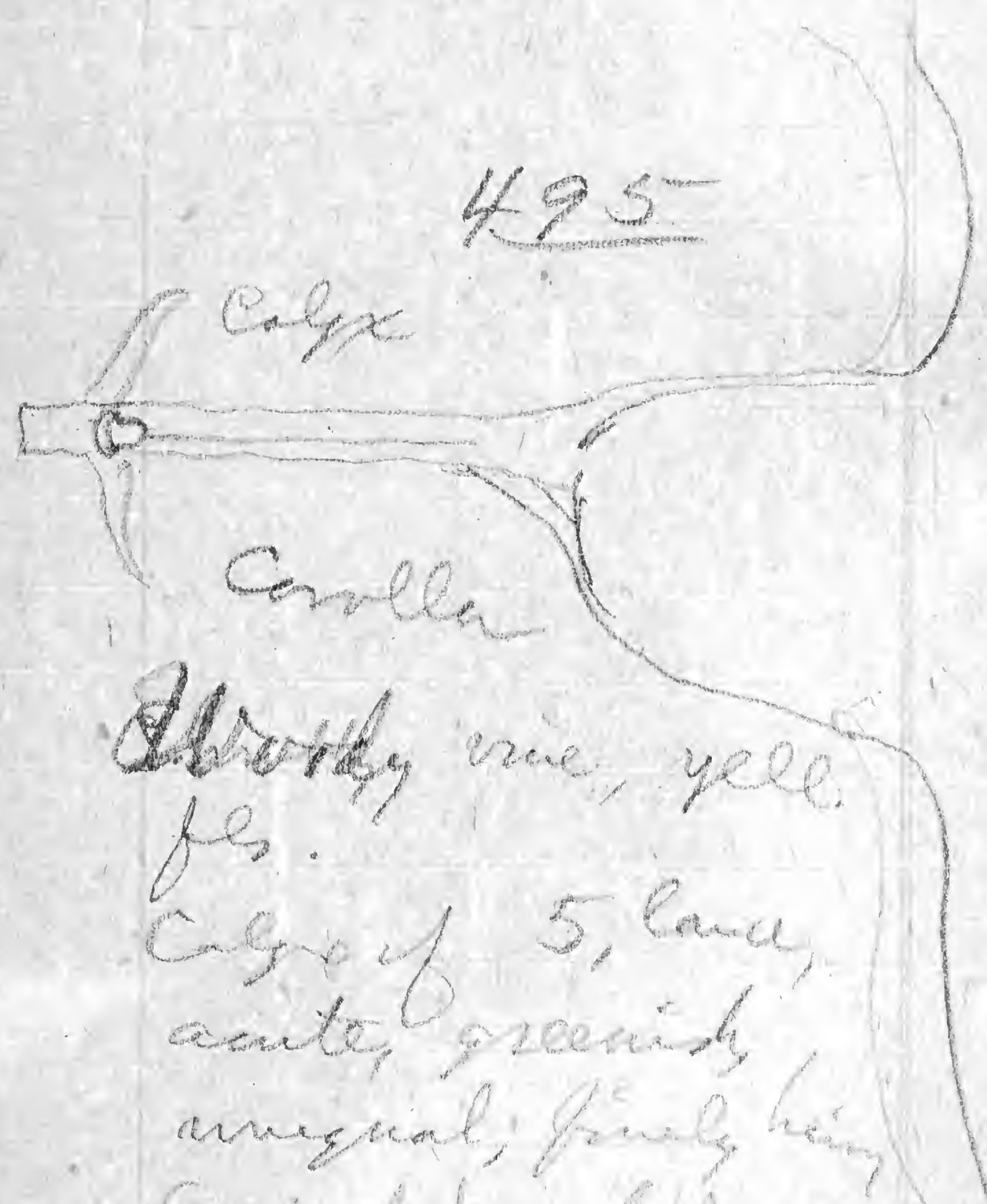
covering. 3 ped

very green, smooth



style short, stigma  
 small, brown  
 stamens 2, lateral, sets  
 5 hairs each, anthers  
 yellow, small, 2-celled

495

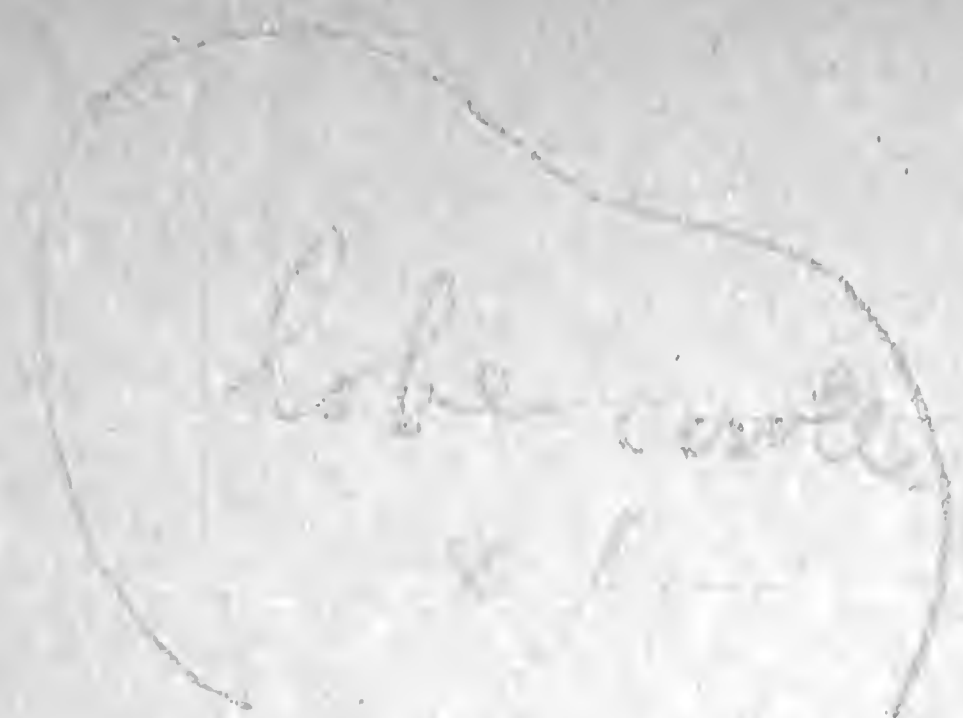


Calyx

Corolla

Shrubby vine, yell.  
 fls.  
 Calyx of 5, lance,  
 acute, greenish,  
 unequal; finely hairy  
 (outside) outside  
 Corolla 5-lobed, lobes oblong





lobe could be larger  
upper part  
lined long  
with reddish, & tube reddish  
outside, all smooth  
Upper part of narrow part  
closed by tufts of hairs  
white & by the sessile  
pointed, 2-celled, another  
style very slender = to diameter  
the narrowest diameter  
cherry like  
Ovary 2-celled, greenish smooth  
whorled, on a yellow  
disc.  
Lvs. in whorls of 4



496

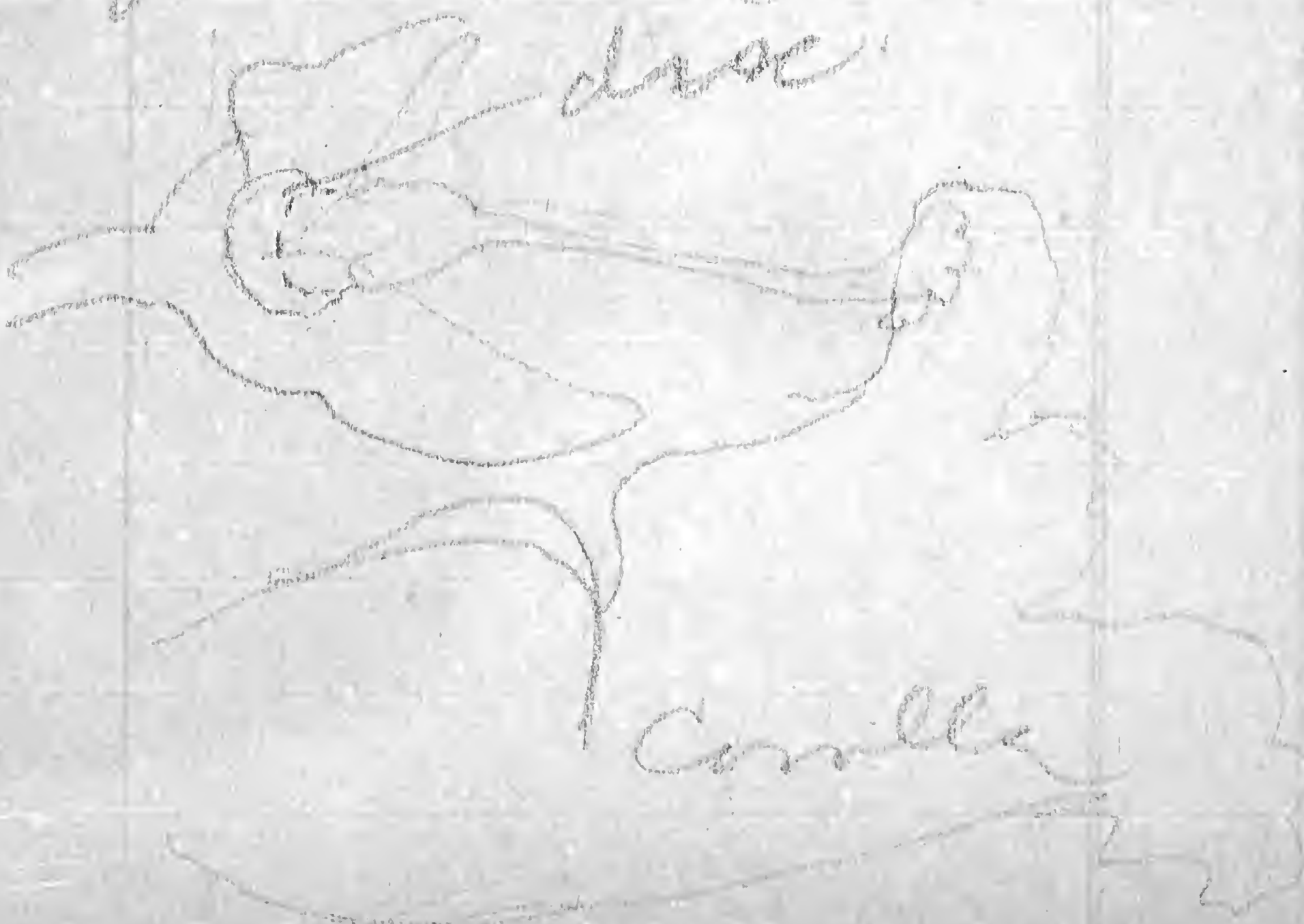
Cordate, serrate leaves  
grape, same as the  
'double-stemmed' of  
Coccoloba?

On river bank opp.  
Castilla

497

~~Juncus~~

drac.





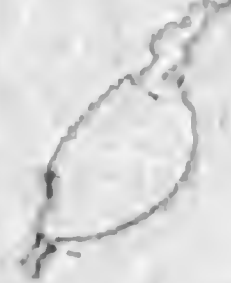
Stamens 4, on corolla,  
all on lower (2) side,  
with style. ♀  
Anther large, 2 diverging  
cells.  
Corolla 5 crumpled  
lobes, greenish.  
Ovary 2-celled  
many ovules  
Stigma large, 2  
feet crenulate  
lobes.  
Fruit very large,  
spherical.



Fruit 498

Small (4'-5') shrub,  
with stem, alt. lvs  
lance, entire, ~~midrib~~  
Spike short, term.

Fruit obscurely ribbed,  
3 angled (oblong)



On Jicora tree opp.  
Castillo.

499.

Fronds with narrow,  
(lance) cordate-base, serrate  
flat leaves.

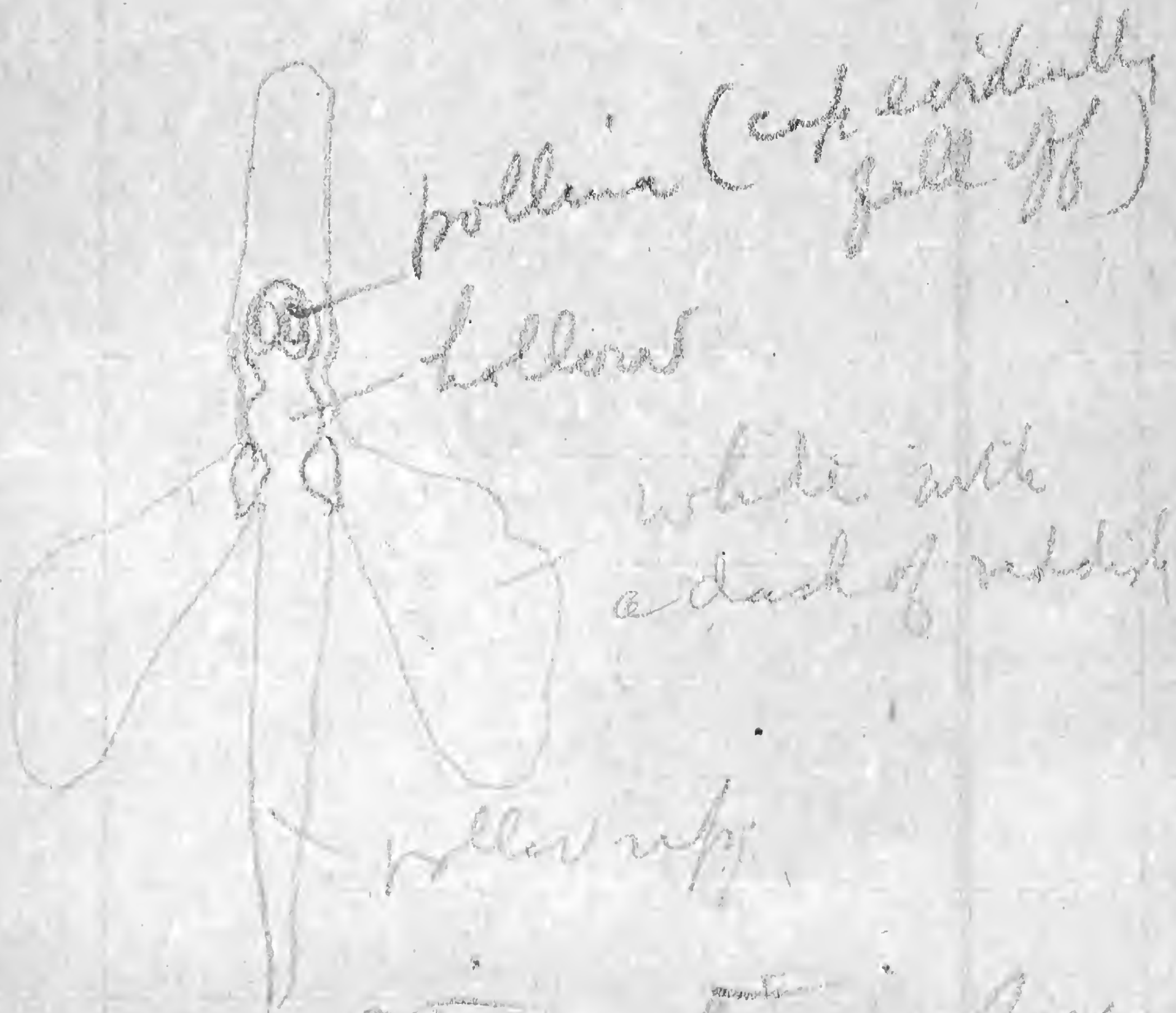
All hairy.

Along river opp. Castillo.



500

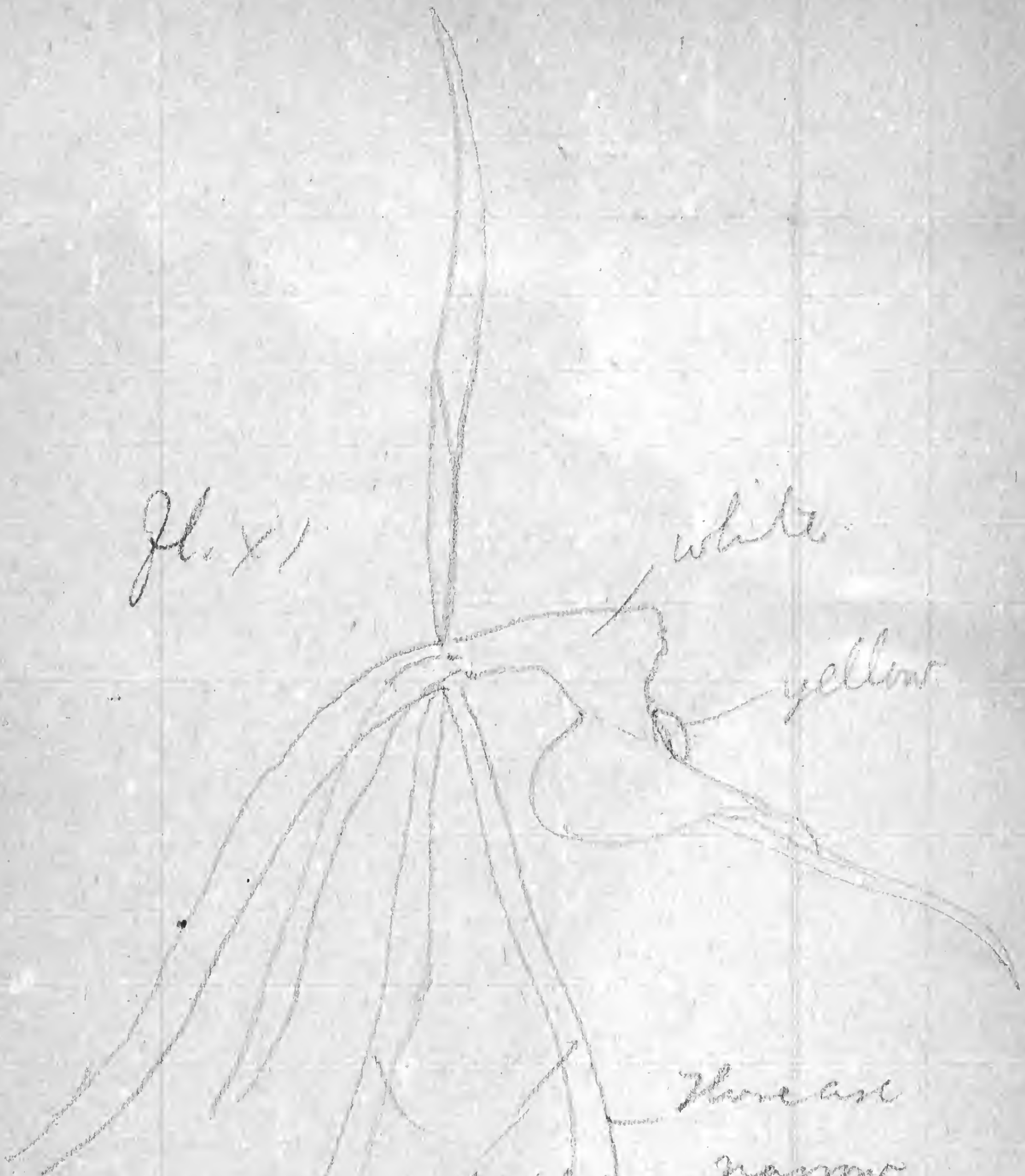
Orchid, 12"-15", on  
granite opp. Castle  
Leaves fleshy, all  
on the long stem  
(reddish + green) entire,  
above emarginate  
Fls large term.



Stigma surface

seems to be inside of  
the hollow.





Fl. X/1

white

yellow

reddish  
crisp

thence

narrow  
linear

acute

rolled up long,



501

Carex (like exulscina)

in swamp, opp.

Castillo.

Hollow.

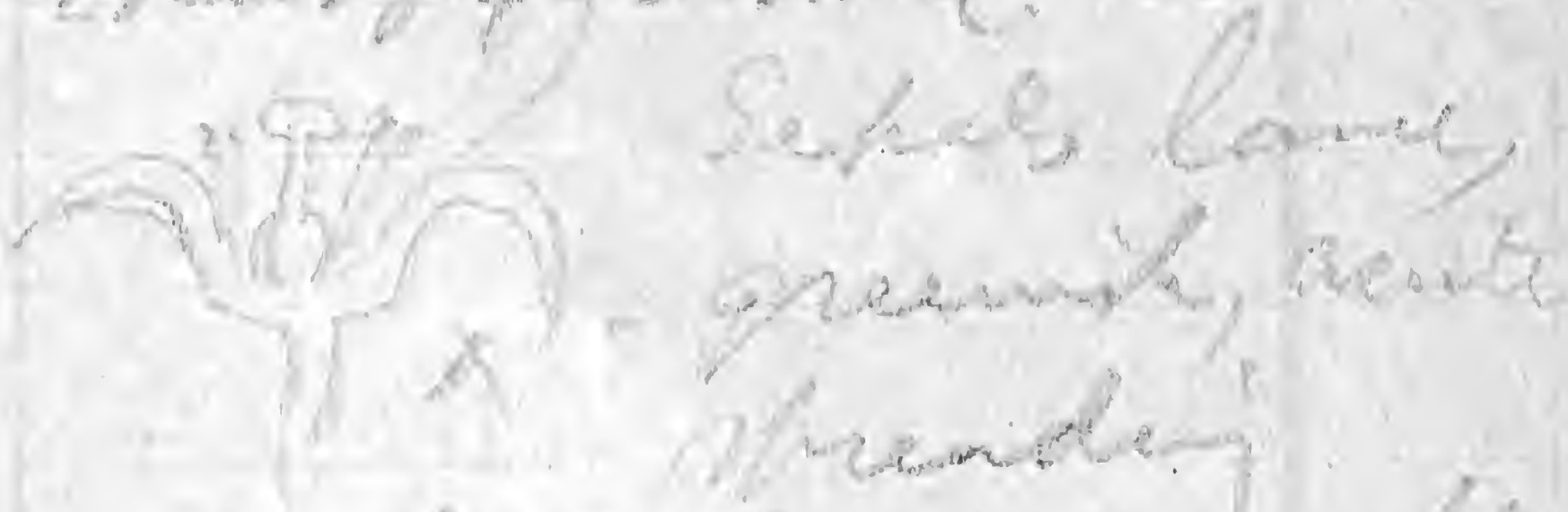
502

Tree on river bank

opp. Castillo

(Lower surface of lvs.

scabrous)



sepals lance,

greenish, acute

spreading

petals narrow, obtuse,

whitish, spreading, and

crenulated inward in bud

(+ valvate) Stamens

very many, imbricate, anthers

white, small, 2-celled.

filaments white, smooth



ovary <sup>hairy</sup> ~~small~~ hairy, green,  
style thick, short, stigma  
very large, capitate  
Ovary 5 lobed, 5 celled,  
ovules numerous.

Stamens & petals  
partially spreading out

503

Tree with compound &  
racemes of <sup>small</sup> ~~small~~ flowers,  
flowers.

Leaves alternate

Flowers really in a narrow  
thyrsus.

Fl. X. (M)

Standard broad, emarginate,  
deep purple with a whitish  
spot in middle.

Wings small, narrow, nearly free,  
ends lower, obtuse. Keel coherent



Edges of standard reddish  
all level  
in closing than 1 foot  
Calyx purplish 5 lobed.  
(obscurely)



Ovary elongated,  
style short,  
stigma capitate, not  
large, with a  
slight brush below.

Stamens 10, monodelphous  
anthers short, crenulate,  
2-celled.

504


Calyx monosep, reddish,  
slightly 5 lobed  
5<sup>th</sup> small, white, ovate, obtuse  
short clawed, crenulate,  
on tube of calyx.  
Stamens 10, exserted, anthers  
filament, anthers 2-celled,  
elongated,  
Style exserted, smooth, stigma (white)



small, terminal,  
fls. in a thyrse (terminal)  
large leaved shrub with  
reddish fruit.  
Ovary 5-celled, style set into  
top in  
Along river opp. La Cumbre,  
Los opp.

Mich. 1<sup>st</sup> coll.

505

Medium-sized tree hanging over  
water along the San Juan.  
Fls. white in cymose clusters,  
Lvs. cherry-like, entire, oblong broad  
(rather narrow), bark smooth,  
mottled whitish.  
 Sepals 3, <sup>oblong</sup> ovate, acute white  
spreading. Petals a little smaller,  
otherwise same, erect & united by  
tips over the stamens.  
Stamens 3 in inner set & 6 in outer set,  
short. Also not the 6 outer podia



little petals? I think so. They  
are white, or o shaped so, erect.  
The 3 inner bodies have much the  
same shape & size, but seem to  
be extreme outliers, with fleshy connect.  
& short ped. There is a little  
white gland-like body ~~between~~  
~~the 3 stamens~~ on each side of  
base of the 3 stamens, making  
6 in all. These 3 stamens<sup>10</sup> are  
united at base by a greenish  
ridge, forming a sort of cup in  
which the ovary rests.

Ovary superior, white, smooth,  
style short, stigma small, 2-lobed slightly  
but distinctly. Ovary slightly 2-lobed.

○ 1-celled (1 or few ovules)

Les. alt. Branches  
drooping.

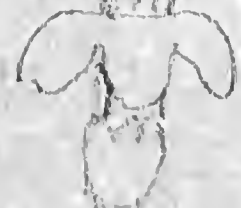
Flowers sweet-scented



506

White flowered, white-stemmed  
small tree, overhanging water  
along the San Juan  
Order of Dodecatheon meadia.

Fls. in term. cymes.



x1 resemble.

Fls. greenish wh. 5 lobed, lobes  
obtus, erect. Corolla 5 lobed, white  
lobes obtus, smooth.

Stamen 5, all exserted: fil. wh.  
smooth, anthers yellow, 2 celled, versatile

✓ dehisc. long. Stam. on tube of  
corolla near base.

✓ x. Style wh. thick smooth

x stigma large, 2 lobed.

Ovary <sup>inferior</sup> ~~superior~~ (flat)

whitish - ② ovary 2-celled, one  
ovule in each, imbedded.

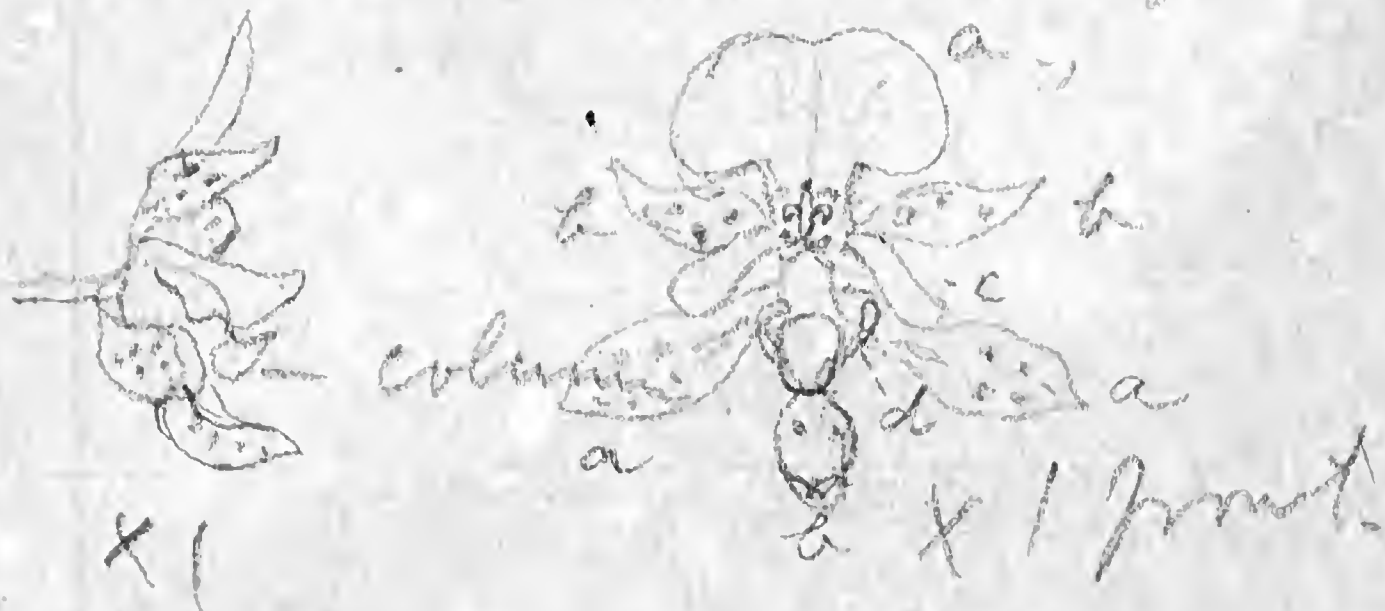
(✓) Anthers introrse in position,  
dehiscence along edges.



507

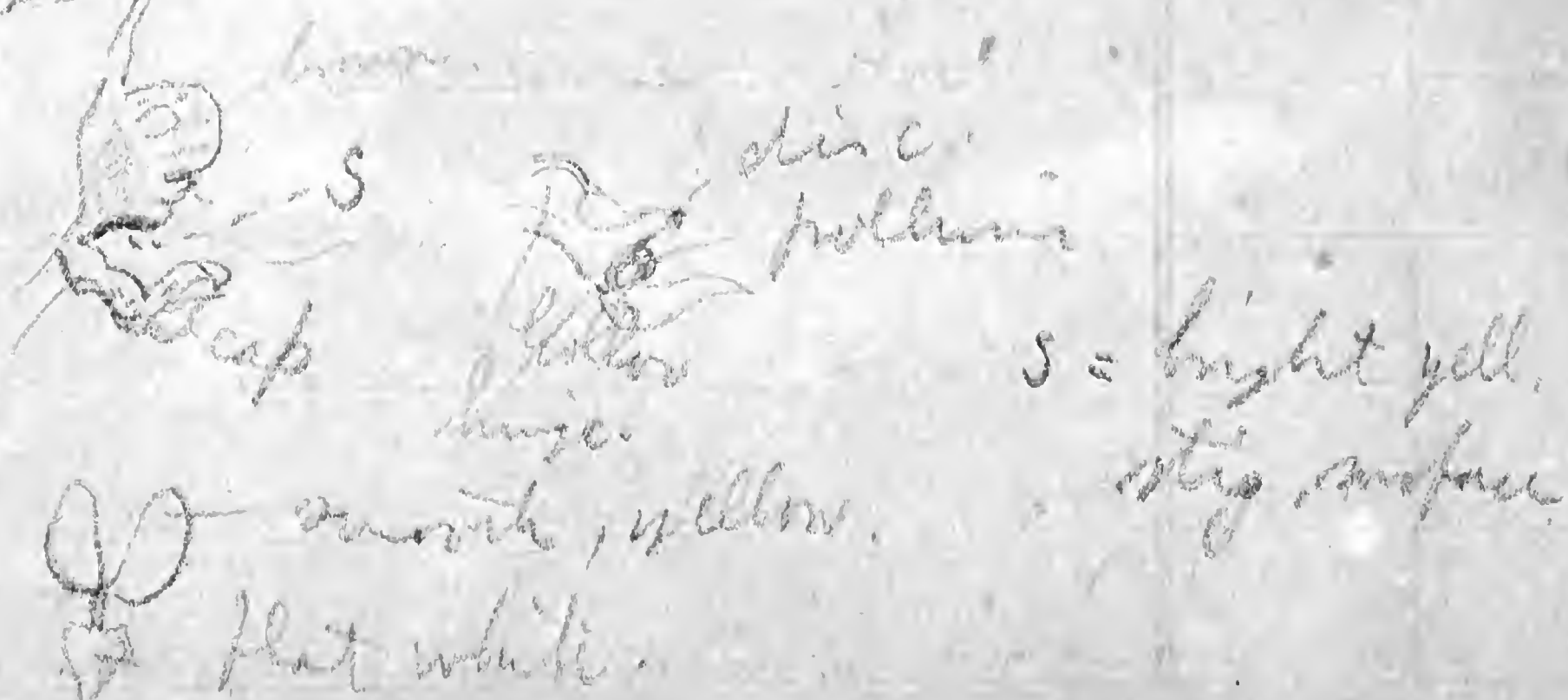
Yellow medium orchid, with long cylind. fleshy leaves (narrow) fl. stalk very slender.

On tree along Savalos.



x1 cap over pollin.  
 side  
 On " " "  
 front.

a are the petals, a., uniform yellow as are the appendages c, v, d. others yellow with red brown spots. sepals lance, acute, clawed.



S = bright yell. stig surface

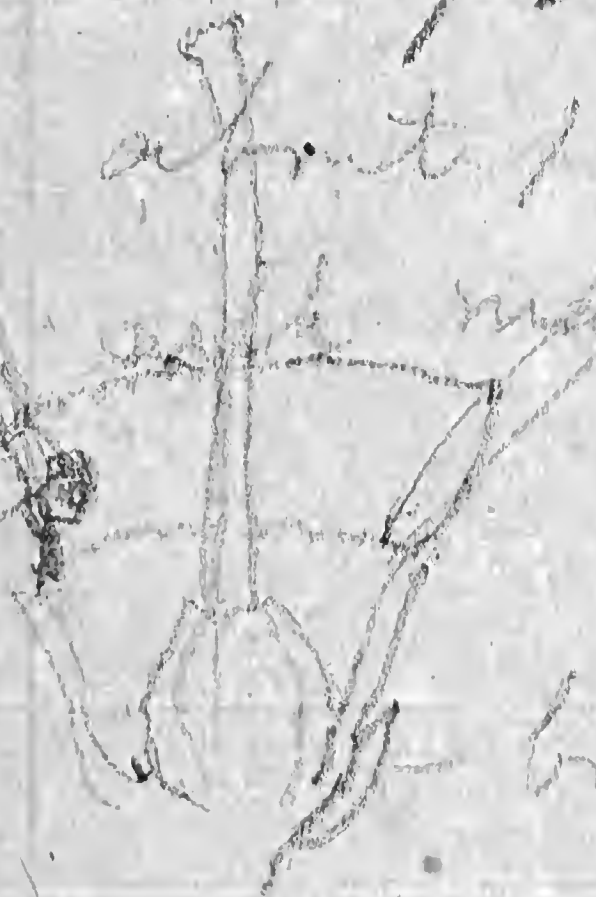
Pollinia



688

Tree with pink flowers & open  
square, strongly 5 ribbed oblong leaves  
(a vein or rib near each margin)  
ovary Superior (really only  $\frac{1}{2}$  sup.)  
about 12 long, ribbed, 5 cells

petals  
anthers  
cells.



style smooth, thick, curved  
pink

bractlets 2 2 stigma cap.  
yellow

Calyx monop., green, obscurely  
6 lobed. 4 emarginate, broad  
bractlets at base.



petals 6 thick  
pink, oblique  
(somewhat) slightly concave

on calyx, inner

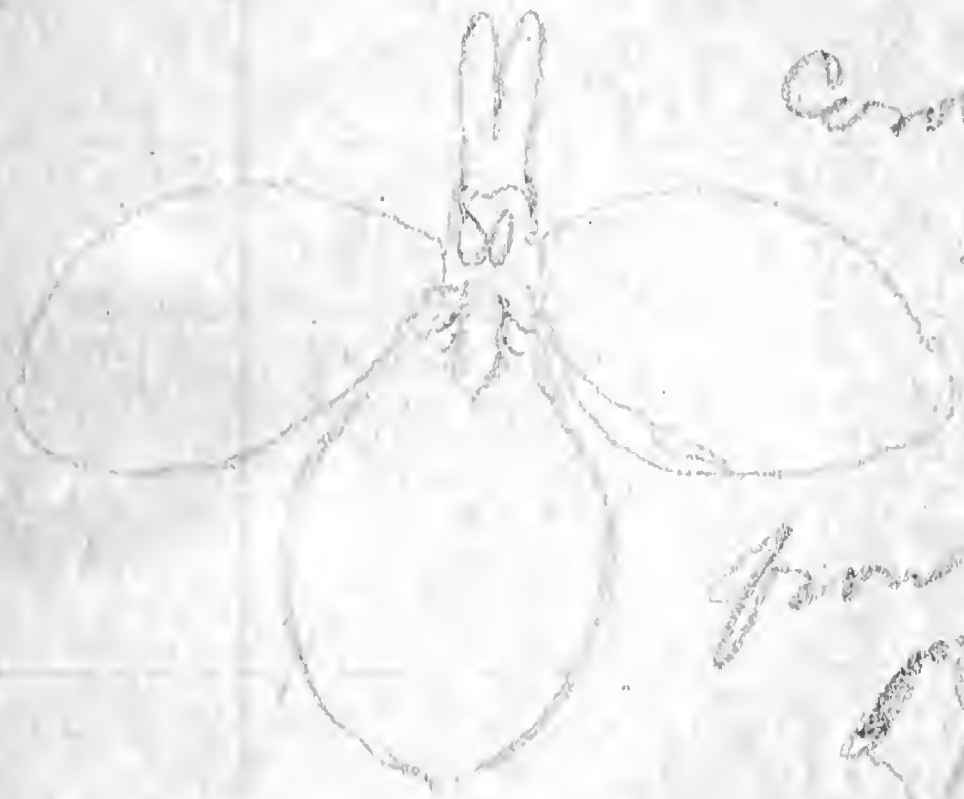
stamen 12 on short smooth pedicel,  
on calyx. anthers rudimentary,  
2 celled, acute, yellow.

Overhanging river, Los Savalos.  
Bark smooth light gray.



509

Shrubby "Monkey-flower", *S. liza* (var. *hista*)



Corolla all violet (reddish) except white spot on base of middle lobe. lobes 5 front view  
stamens 2 alt.



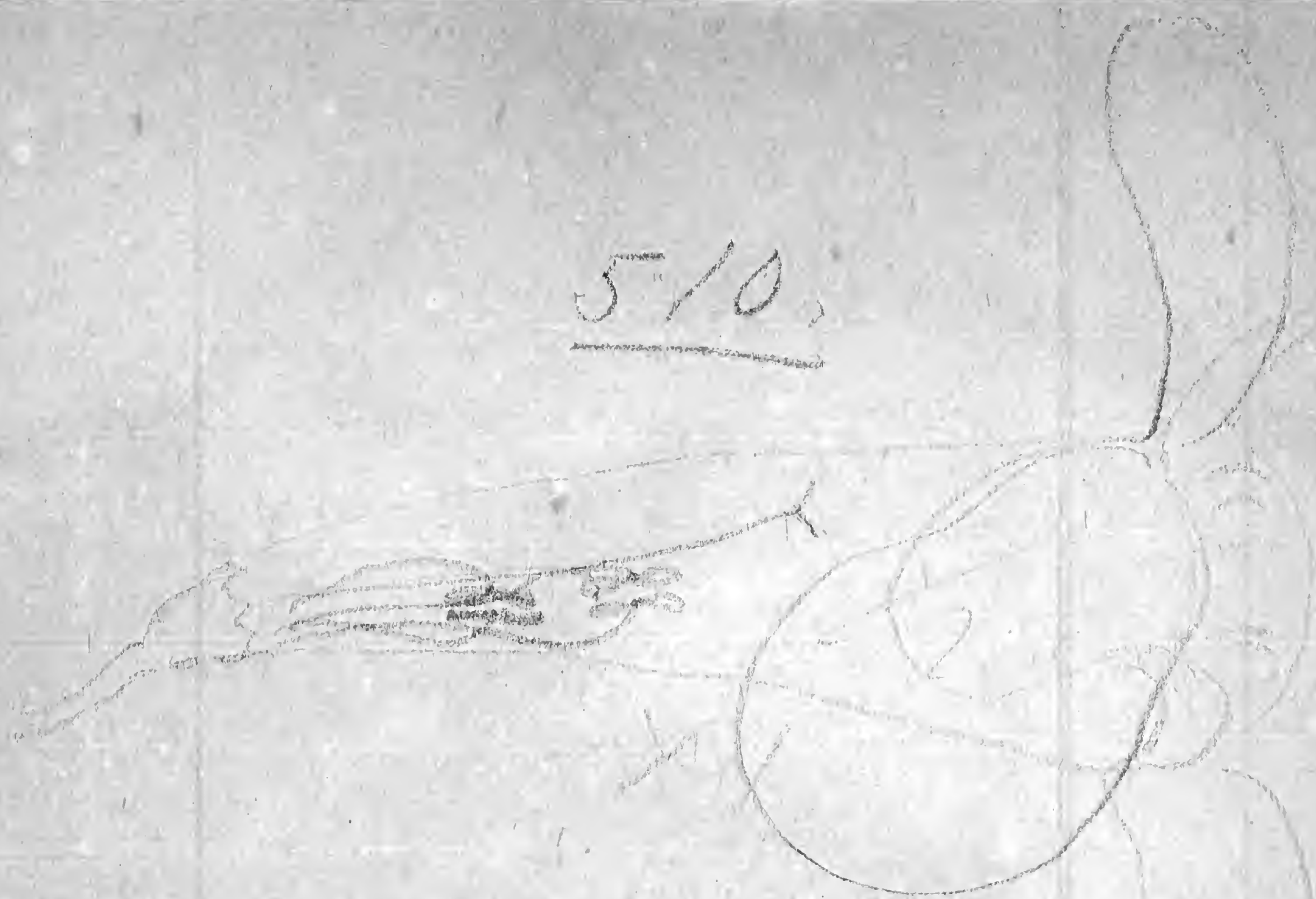
with the 2 lips  
anther unequal, broad connate,  
2 cells, dehis. long.  
style long slender, white  
smooth, sty. capitate, not  
large. ovary 2-celled,  
smooth, sup. green, several  
ovules.

Calyx of 5 ciliate green  
lower lobe sepals.

Woody shrubs.



5/0,



Corolla 5 lobes

The middle lower one  
terminal, all

5th & 6th

2 below 2 above

Double white in throat with  
red violet line.

Corolla reddish white

calyx small green, 5 lobes

Stamens 4. lower pair large

anthers 2 cells

↓ cells in 1 line,  
all white.

Tube with 2 folds running down  
from base, lobes of lower lip.

Stamens attached to corolla



at very base.  
Style white, slender, mouth  
obovate with 2 broad flat  
lobes, white  
Ovary 2-celled, green (fleshy,  
leimy?) superior. ovules  
several.

511.

Tree (medium) with spreading  
branches, heads of fls. (white)  
of stem. Lvs. compound  
(fine) venation

Fig. x1


Calyx of 5 lobes greenish,  
obovate. Corolla somewhat  
5 lanceolate, acute greenish-  
white lobes. Stamens many,  
filaments very long, slender,  
much exerted, inserted into a  
short tube at base.



Style very long slender, ovary  
ovary elongated, narrow, greenish  
unevenly square. 3-celled  
Along Savaloo Pod flat  
several seeded.

---

512

Ovary 4 fl. ov. superior, green   
3-celled, each with 2 seeds(?)

stigmas (or short styles) 3, each 2 lobed,  
sepals 3, greenish (interior of each green,  
acute, lance.

Fls. on slender, rather short pedicels along  
lower side of stem, the small lvs.  
bent down over them.

Along the Savaloo - 8' high  
I found no flowers.

512 above

---







♂ same fl. & l.

sepals green to brown acute,  
stichy, 5 (3)

stamens united in a column,  
small, whitish anthers

Along Sarcobatus.

Long herb. vine growing over  
trees & shrubs.



514

x a little.

A vine (herb.) over low  
branches. Calyx of 5 green  
unequal, acute, lance or linear  
lobes, corolla with red border (day)

5 reflexed ovate, acute lobes  
with fringe of long beards (cells)  
white hairs around throat.

Stamens - 5 alt, anthers

small, clavate, acute, 2-celled  
just reaching out of tube.



ovary inferior, slightly  
2-lobed, 2-celled, 1 seed in each  
style white, smooth, slender,  
stigma large, ternate, slightly  
2-lobed.

Along Savanah.



515

leaf Vine  
creeping by tendrils  
fls. greenish, with  
fleshy lobes, acute +  
spreading to greenish-  
whitish 5 lobes.



stamen united in  
a column on long  
green stalk.  
no pistil(?)



Plant

Prolate fls. ~~in~~ in  
axils, shiny, granular of  
cucurbit.



Ovary with 2 placental,  
but whether for 2 celled  
I could not see.

Notes!

516

Cylindrical, green stem (Equisetum  
like!) plant hanging in  
clusters from trees along  
Jacales. <sup>white</sup>  
fls. axile, ovaries 1-celled  
with several (numerous) small ovules.  
Per. black. Ovary superior.  
Stam. fls. with denture of  
many very delicate white  
stamens. (Are the fruit &  
stam. fls. really distinct?  
I think so.)

See also, spec.



517

Fleshy, leaved, parasitic  
"rat tail", the leaves are  
hanging in clusters from  
branches of trees along  
Los Saculos.

Cathin 6 in long,  
hor. oblong ovate, entire, acute.  
See also, cathin



 Corolla tube  
white inside.

x)

Fl. a beautiful deep red  
(violet tinge?).


A woody vine with lvs,  
in pairs, hanging over  
San Juan from trees.  
Lvs 5, rounded, the  
middle one below emarginate.  
Pinnate like flower.  
Corolla clammy. Calyx green,  
almost undivided.

Stamens in 2 pairs, lower  
larger, anthers 2 cells of  
yellow (light) fil. white smooth.  
Style white, stigma flat,  
bram when in.

Tufts of white hairs at base of  
filaments, or anthers opening  
above (long.)

The bram is surrounded by a red



membranous gland (?)  
base is a large disc (brun)  
at base of ovary.  
Stigma 2 lobed flat,  
ovary 2 celled  


519

Shrubby Composite

Along San Juan

Involucres of 2 red brown  
scales, chaff of scarious  
scales, fringed at top.

+ 2 small  
ones:

|| chaff x 1

Leaves opp.

Plant 70 high

90 Corolla yellow, 4 lobed  
accented, 1, stigma 2 lobed



520

Small white-barked tree, 15<sup>ft</sup>  
high. Bark of Saval.



Fls white.

Fls

Petals 4, narrow, obtuse white.

Sepals 4, small, green  $\Delta$ . Stamens 2

Anthers 2, celled, renate, yellowish.

Fil. short, white red gland(?) at base.

Ovary green, superior, smooth, style

divert none, stigma white, 2 lobed  
(concentric) Ovary 2-celled.

(P)

Leaves opp.

oblong ovate, acuminate, obtuse



521

Cephalanthus-like vine (woody)  
Hanging over the San Juan.



position in older flower

Corolla with 5, yellowish,  
spreading, ovate, acute lobes,

Calyx green, with 5 narrow lobes.

Whole flower clammy outside.

Style slender, exserted, stigma  
small, 2-lobed.

Stamen 5, alt. anthers almost  
acute or upper part of tube,  
interior (anther) yellow.

Young leaves, etc. etc.

white hairs on etc.

Stems 2-ribbed (?), several

angular.



522

San Blas, Mexico

Cordall, alt. Laurel tree  
with gray fruit.

Along Savalos.

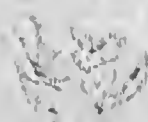
523

Small flowering tree, with short spikes  
along branches, leaves oblong, acute,  
acum, obtuse. Along Los Savalos  
Ovary 2-celled, superior, meiose  
in each cell, fruit warty.

♂ fl. Anthers 2-celled, filaments  
white, exserted, about 10

The above is the stamens

Flowers. Hair is along upper part  
of cluster. At base are the



Peristyle fls.

Small white petals (anthers)

lobes of calyx 5

Stigmas 3, much branched, spreading



524

*Scrophularia* *Coarctata* (small) flowered  
mint along the San Juan

30-40 high. Leaves lance,  
oblong, crenulate, acum.

Corolla 1 - pure white, 2  
lobes, upper 2 short lobes,  
(one longer with 2 little lobes at end)

lower of 3. 2 distinct, equal.

All white, smooth.

Stamens 4, upper pair shorter,  
all white, anthers rather

small, elongate, 2 cells, cells  
parallel, acute, included

epipet.

Corolla 1 - green,  
5 angled (ribbed), with 5  
lobes, 2 was above lobes,  
5, linear acute.

Ovary elongated, equicard,  
2-celled, with a number of  
ovules included.

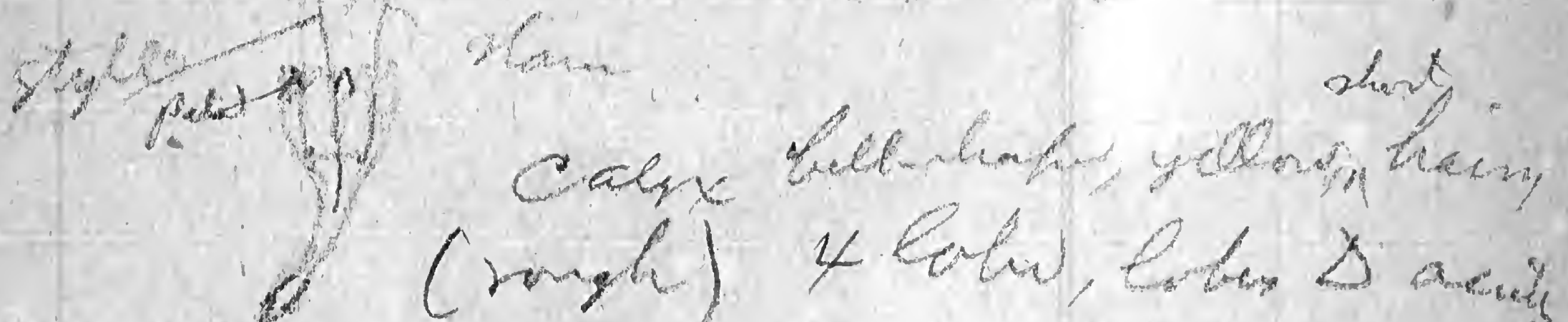


stem greenish, purple  
fil. slender, elongated, stigma  
small, terminal.

525

Yellow fl. shrub (vine really)  
hanging over San Juan Mt.  
Below East.

Orange & lobes, inferior, brownish  
(calyx) short hairy, rough, one  
cell, with several scales



Style <sup>short</sup> stem <sup>short</sup>  
Calyx bell-shaped, yellow, hairy  
(rough) 4 lobes, lobes 3 acute  
Petals 4 alt. on calyx  
erect, yellow, 0.21

Stamens on calyx, above a fringed  
fold which closes throat, 8, exserted,  
fil. smooth, yellow, anther small  
brown, 2-celled versatile,  
Style like one of the Yelamites,  
stigma small, terminal  
a drop of honey at bottom of calyx



Ometepe - this book.

~~Notes~~

- |   |                                  |
|---|----------------------------------|
| 287- Chili pepper                           | 307 Yell. mallow. sym.           |
| 288 Cult. <sup>shrub.</sup> "Screw-popples" | 308 Wh. Morn. fl. - small calyx  |
| 289 Very prickly del. vine                  | 309 Prostrate, yell. weed.       |
| 290 Climb. <sup>per fruit</sup> parasite    | 310 Sedge (swamp)                |
| 291 Broad "rat. tail."                      | 311 Nettle.                      |
| 292 Loose Adiantum.                         | 312 Native Banana                |
| 293 Very del. blue fl. plant.               | 313 Compos. wh. Elder-like       |
| 294 Yell. Compos.                           | 314 Hoary pea - volc.            |
| 295 "Ocote" - naked tree.                   | 315 Lysyrrhynchium - volc.       |
| 296 3 <sup>rd</sup> "Rat. tail"             | 316 Slender grass - volc.        |
| 297 2 <sup>nd</sup> Anona                   | 317 weed - ax. whorls - wh. volc |
| 298 Pine-bearing tree.                      | 318 Small Fleabane volc.         |
| 299 Small shrub - 3 lob. fruit.             | 319 Hoary yell. pea "            |
| 300 Grape - Cult.                           | 320 " , mallow-like "            |
| 301 4 <sup>th</sup> Bejuca                  | 321 Lemna                        |
| 302 Spiny pig weed.                         | 322 Amaryllis                    |
| 303 Louse-like tree.                        | 323. Parsim-vine                 |
| 304 Cult. pl. (swords<br>gr.)               |                                  |
| 305 Striped "cucumbers"                     |                                  |
| 306 Broad-lev. tree<br>(lake-shore)         |                                  |



287-306  
 307-323  
 287-306  
 307-323