

HOYA NEW



Oh There it is !

Hoya imbricata photo on Palawan Is., Philippines

A pdf publication devoted to the Genus
Hoya ISSN 2329-7336

Editor:
Dale Kloppenburg
Volume 2 Issue 1

January 2014

Contents

When a species is collected from the wild, I feel it is wise to identify it, propagate it and name it. In this way it will eventually get it into commercial channels, be distributed to all those interested in this genus and thus be preserved. If in the future the species is lost through natural causes or forest destruction it will still be here on earth in your collection.

The following new species are presented in PDF format with ISSN number.

1. **Hoya espaldoniana** Kloppenburg, Siar & Cajano
2. **Hoya pubicenta** Kloppenburg, Mendoza & Ferreras
3. **Dischidia bulacanensis** Kloppenburg, Mendoza & Ferreras
4. **Hoya heuschkeliana subsp. marionii** Kloppenburg & Ferreras
5. **Hoya mindorensis subsp. mendozae** Kloppenburg & Ferreras
6. **Hoya moninae** Kloppenburg & Cajano
7. **Hoya foxii** Kloppenburg
8. **New combination: Hoya blashernaezii** Kloppenburg **subsp. siariae** (Kloppenburg) Kloppenburg *com. nov.*

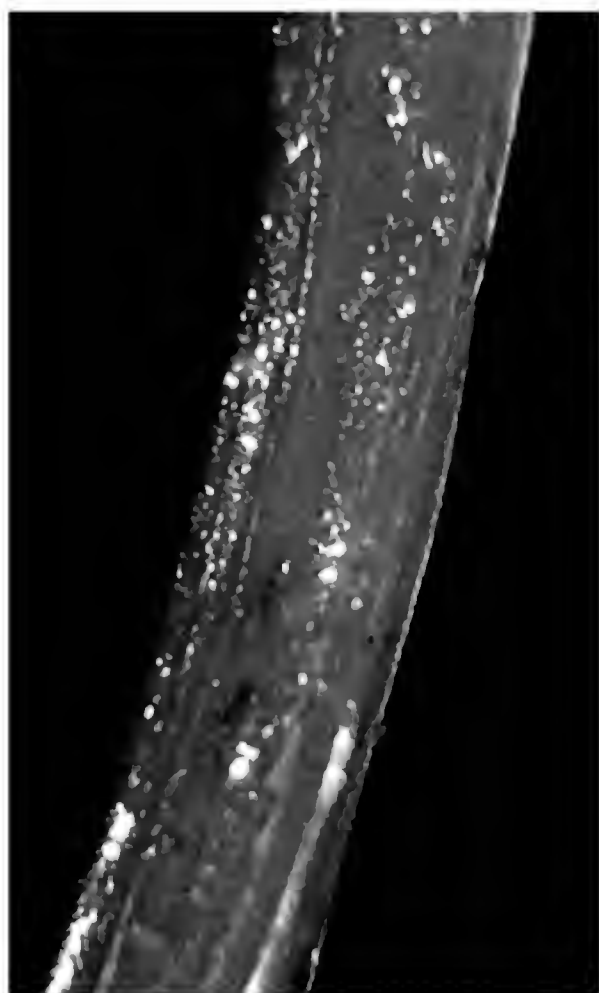
NOTE: please see the Website publication of these species at “www.rare-hoyas.com”. Go to end and click on “publication” to access new species publications.

Hoya espaldoniana Kloppenburg, Siar & Cajano

ISSN 2329-7336

Hoya espaldoniana Kloppenburg, Siar & Cajano sp. nova, holotypus #71861 (CAHUP) hic designatus. Section Acanthostemma (Bl.) Kloppenburg species, similes *Hoya anncajanoae* Kloppenburg & Siar sed differt. Folio similes sed pro more linearis, sepala ovatus ciliatus 0.15 cm x 0.8 cm contrastre 0.15 x 0.17 et corolla diametro complanatus brevior 1.24 cm contrastre 1.70 cm, corolla aliter velut in *Hoya lucyae*; flos diametrem aplanatum grandiolem 1.24 cm contrastre 1.00 cm; coronae lobi longior 0.25 cm contrastre 0.15 cm; pollinium brevior 0.42 mm contrastre 0.55 mm.

This new species seems most similar to *Hoya anncajanoae* Kloppenburg & Siar in having similar leaf structure but more linear. The sepals here are ovate ciliate 0.15 cm x 0.8 cm vs. sepals 0.15 x 0.17 widest, diameter flattened smaller 1.24 cm versus 1.70 cm, the corolla is otherwise as in *Hoya lucyae*; flower diameter flattened is larger and the lobes of the corona are longer 0.25 cm versus 0.15 cm, and the pollinium are shorter 0.42 mm versus 0.55 mm.



Pedicel: curved, terete, glabrous, reddish colored, 2.0 cm long, 0.06 cm in diameter. Enlarged ca. 52x.



Calyx: side view enlarged ca. 25x. Sepals are sub oval, apices obtuse 0.15 cm long and - 0.08 cm wide near the base.

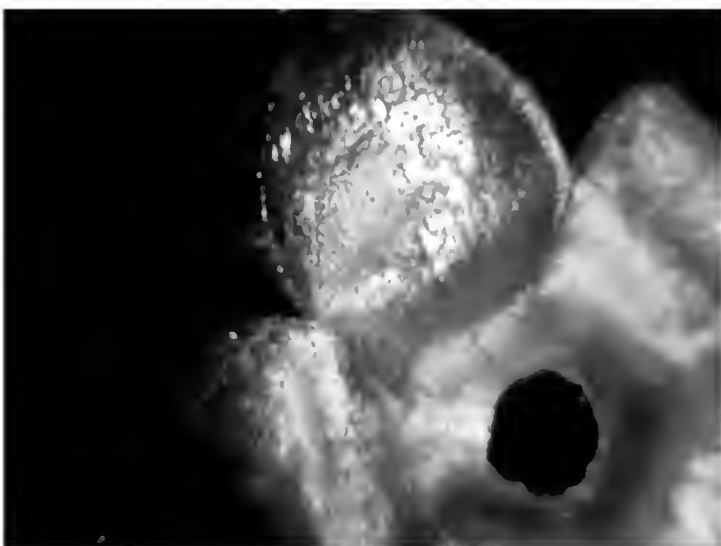
Ovaries: are columnar, glabrous 0.10 cm tall and base pair 0.07 cm wide.



Calyx and ovaries top view, enlarged ca. 18x, sepals are ciliate, cells scattered and relatively long, sepal surfaces are glabrous inside and out, small overlap at base, no ligules observed.



Calyx attached to the flower ventral side, enlarged ca. 12x, corona revolute, glabrous ventral, apices of corolla lobes also glabrous. Cilia visible on sepal edges.



Corolla: outside (ventral) surface, enlarged ca. 15x, this surface is granulate-glabrous.

Sinus – sinus	0.30 cm
Sinus – center	0.25 cm
Sinus – apex	0.42 cm
Apex – center	0.62 cm
Widest	0.35 cm



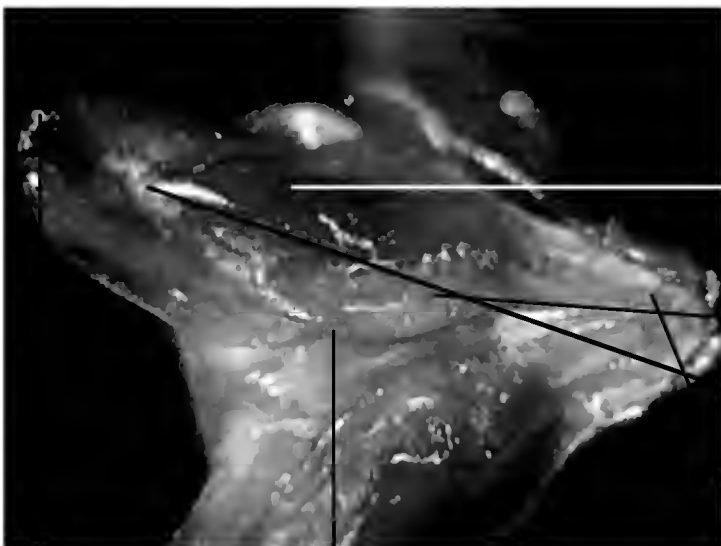
Corolla inside surface (dorsal) enlarged as above, this surface is pubescent except for a small apical area. Note the raised ridges from the center to the anther sinuses.



Corona: ventral view, surfaces are glabrous, lobes are channeled part way toward the central column which is surrounded with bilobed bulbous protrusions, anther wing apices protrude just slightly at sinuses with rounded apices. Enlarged ca. 20x.



Corona dorsal view enlarged as above is bilobed with center raised, inner lobe spatulate reaching and covering the center, dorsal composed of two structures (center portion darker colored and linear convex from base of inner lobe to near outer apex; side shelved along edges, further bilobes start along the sides at the widest portion (about half way) with rounded sides nearing the outer apex and turning sideways to touch at outer apices.



Back of raised darker portion of lobe center.

Lobe side shelf begins here.

Outer apex of the coronal lobe.

Bilobed extension inner end.

Bilobed outer apex.

Spatulate inner lobe.

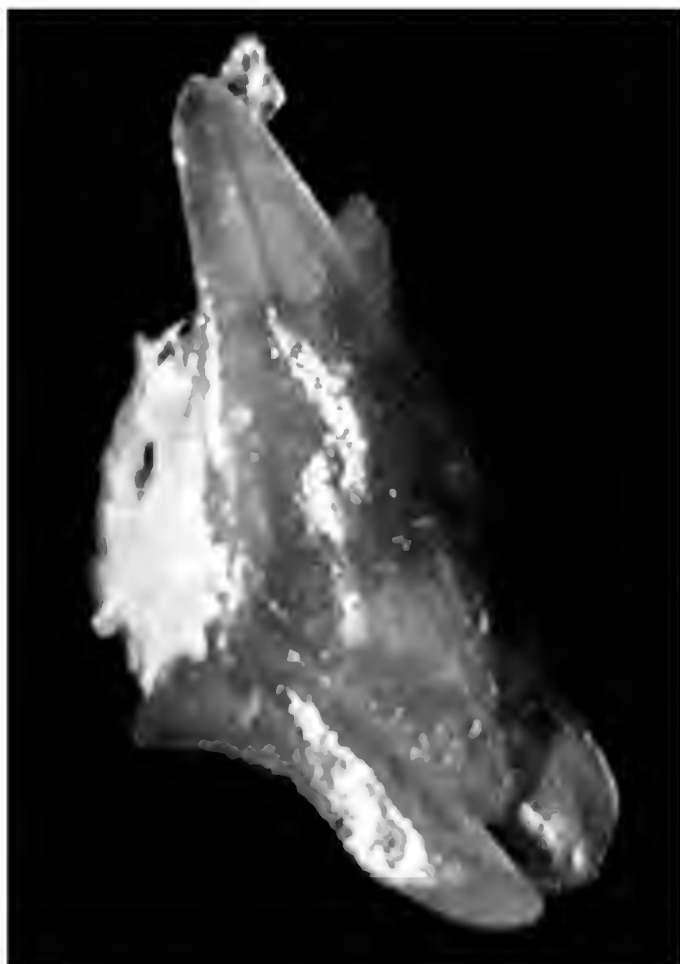


Corona lobe ventral view, channel is open at outer apex, edges rounded and rolled under, channel open toward central column (upper left). Note the bilobed protrusions from the column base pointing outward toward the lobe groove. Enlarged ca. 27x.



Coronal scale side view enlarged as above,

Apex – apex	0.28 cm
Apex – bilobe apex	0.33 cm
Widest	0.10 cm
Ret. – ret.	0.08 cm
Ret. – center	0.07 cm
Aw. – aw.	0.17 cm
Aw – center	0.22 cm



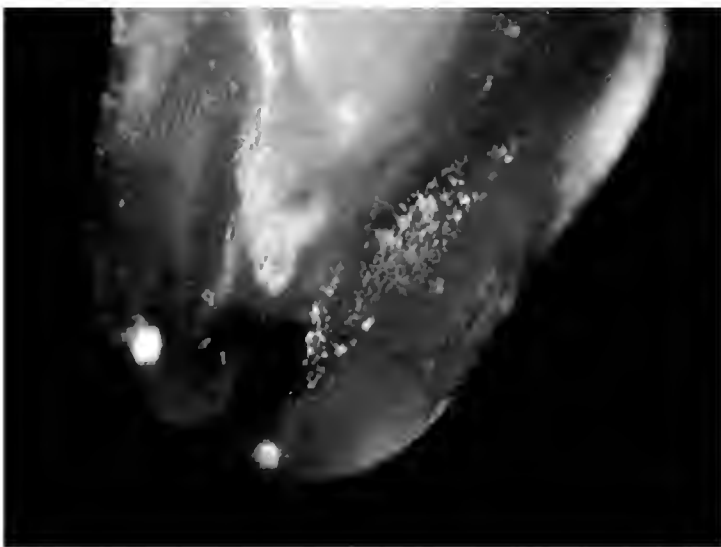
Corona dorsal view enlarged as above, again inner lobe spatulate covering the anthers, dorsal convex with side shelves and further out bilobed extensions. Inner lobe is centrally creased below.



Dorsal surface of a coronal inner lobe, the surface is linearly very finely sulcate, there is a channel on the under side that in the photo above appears as a channel. Projection from upper left is the anther apex.



Coronal lobe dorsal section just out from inner apex, here a raised central (convex) portion of lobe extends to outer lobe apex, below you can see the thin shelf that is part of the lobe, the lobe has a granulate-sulcate surface, lighter portions (above and to left) are the beginnings of the bilobed extensions.



Coronal outer dorsal apex, with bilobes extending beyond the blunt (center lighter color) outer apex. Bilobes have rounded edges and flat-cupped in inner sides, touching or nearly so at outer apices.



Pollinarium
enlarged ca. 170x.

The pellucid edge barely extends to the pollinium inner apex and not to the inner apex nor to the caudicle attachment point. The translators are surrounded with irregular ovate non-clear tissue. It appears the translators are linear but also have short perpendicular extensions, are the irregular shaped portions the caudicle or are they hidden by these structures. **A very unusual and rare structural combination.**

Pollinium: length.....0.42 mm and widest..... 0.18 mm widest

Retinaculum: length.....0.10 mm; shoulder.....0.09 mm; wide, hip and waste similar extensions.....0.04 mm.

Translators: 0.15 mm long and 0.02 cm wide. **Caudicle:** bulb diameter ?0.10 mm.

Date of Collection: Unknown
 Place of Collection: Mindoro, Puerto Galeria
 Collector: M.A O. Cajano

Mindoro (tita Anna's collection)

Small leaved; linear elliptic; folded upward
 looks like

Leaf sample	Length (cm)	Width (cm)	Thickness (cm)
1	7.3	1.8	0.190
2	7.6	1.4	0.240
3	9.1	1.7	0.245
4	9.4	1.7	0.235
5	7.1	1.6	0.230
6	7.6	1.6	0.190
7	12.5	1.6	0.170
8	8.9	1.7	0.180
9	7.5	2.0	0.200
10	8.5	1.9	0.180
Mean	8.55	1.7	0.206
Range	7.1-12.5	1.4 -2.0	0.170-0.245



This new species is named for Dr. Maria Victoria O. Espaldon, an environmental scientist and geographer, former Dean of the School of Environmental Science and Management and currently the Vice-Chancellor for Research and Extension of the University of the Philippines, Los Banos.

References:

1. **Hoya lucyae** Kloppenburg & Siar in *Fraterna* 19 #4, 8-10, 2010
2. *Hoya* Section *Acanthostemma* (Blume) Kloppenburg 2003, 160 pages.

Contributors:

Ms. Mary Ann Cajano is the Herbarium Associate at (UPLB) University of the Philippines, Los Banos, Laguna, Philippines.

Dale Kloppenburg retired: graduate of UC Berkeley, Plant genetics, Lt. USNR, Plant Breeder, Research Agronomist, now taxonomy of Genus *Hoya*.

Dr. Simeona “Monina” V. Siar was head of the Plant Breeding Department at UPLB helped me (Dale Kloppenburg) greatly for years with *hoya* species, we will all miss her, She died 19 December 2011.

Reduced copy of the herbarium type sheet:



71861

FLORA OF THE PHILIPPINES
College of Agriculture Herbarium
University of the Philippines (CAHUP)
College, Los Baños, Laguna

APOCYNACEAE HOLOTYPE
Hoya espadoniana Kloppenburg, Siar & Cajano

MINDORO: Oriental Mindoro Province. Municipality
of Puerto Galera

Inflorescence a flat umbel composed of 10-28
purplish-red flowers. Pedicel light pink in
color. Corolla hairy, reflexed. Corona sloping
with inner end raised; lobes spaced far apart.

S.V. Siar & M.A.O. Cajano 6421 March 20, 2007
Det.: D. Kloppenburg, S.V. Siar & M.A.O. Cajano

Hoya pubicenta Kloppenburg, Mendoza & Ferreras
ISSN 2329-7336

Hoya pubicenta Kloppenburg, Mendoza & Ferreras sp. nova. Holotypus 14619 (PUH) hic designatus. Frutex scandens, inflorescentiis exceptis glaber, ramis sub teretibus, foliis carnosis, in siccitate coriaceis, ovatis, usque ad 6.4-15.5 cm longis et 4.7-6.6 cm latus, nitidis dorsalis ventralis tristis, basi obtusis, apice apicuatis, pinnatinerviis, nervis utrinque circiter 6, utrinque valde obscuris; pedicellis tenuibus, leviter sub-pubescentibus, 2.9 cm longis; floribus rotatis, in siccitate brunneis, circiter 1.8 cm diametro, sepalis oblongis, subacutis, extus leviter pubescentibus, 0.35 cm longis; corollae lobis late triangularibus, acuminatis, circiter 0.43 cm longis, diametro complanatus 1.94 cm alte connatis, indus dense pubescentosis, apice leviter reflexis; coronae lobis coriaceis, oblongo-ovatis, 0.5 cm longis, acuminatis vel acutis, patentibus, apice leviter retusis, subplanis.

Twining shrub, glabrous except for the inflorescence, leaves fleshy, ovate, 6.4-15.5 cm long and 4.7-6.6 cm wide, shiny on dorsal surface, pale below, base obtuse, apex apiculate, pinnately nerved, nerves on both sides of midrib about 6, both decidedly obscure; pedicles very thin, slightly pubescent, 2.9 cm long; flowers rotate, brown when dry, about 1.8 cm in diameter, sepals oblong, somewhat acute, outside lightly pubescent, 0.35 cm long; lobes of the corolla broadly triangular, acuminate, about 0.43 cm long, highly fused, on the inside densely pubescent, apex slightly reflexed; lobes of the corona leathery, oblong-ovate, 0.5 cm long, acuminate or acute, spreading, apex slightly retuse, somewhat flat. The inner and outer corona lobe apices here are modified with curved short finger like projections. Named for the pubescent corolla (dorsal side).

Micro-photos of parts and measurements below.



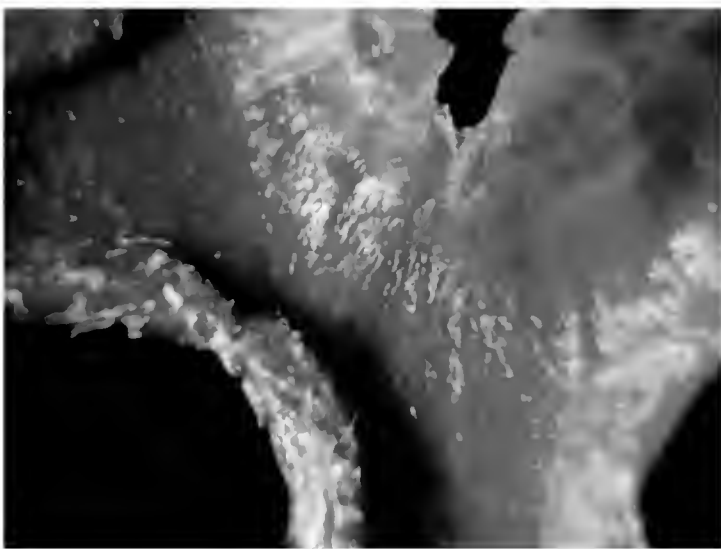
Calyx: side view on pedicle with ovaries enlarged ca. 10x. The sepals are triangular with a narrow rounded apex, 0.35 cm long and 0.20 cm at the widest, base overlap ca. 1/3, ligules are present. Outside with scattered indumentum, inside slick and glabrous.

Ovaries: domed with narrowing apices, glabrous 0.13 cm tall and base pair 0.18 cm wide

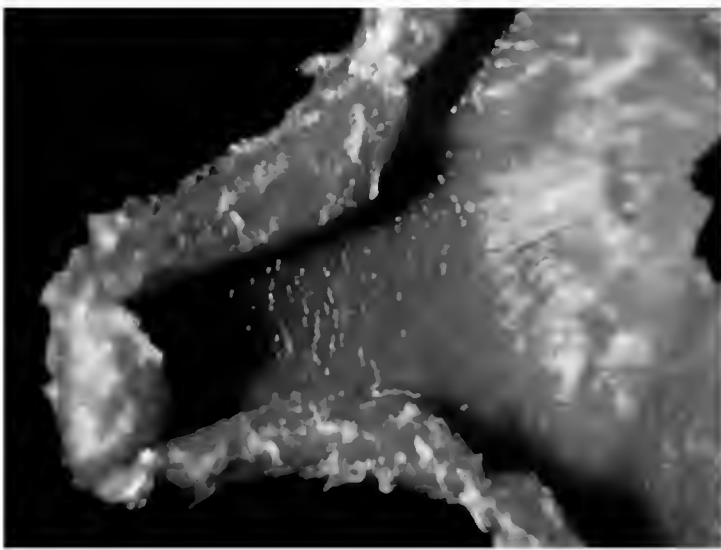
Pedicel: curved, terete a few scattered hair cells mostly near the calyx. 2.9 cm long and 0.11 cm in diameter.



Two sepals enlarged ca. 14x, details as above. Here showing the basal overlap and the slick dorsal surface.

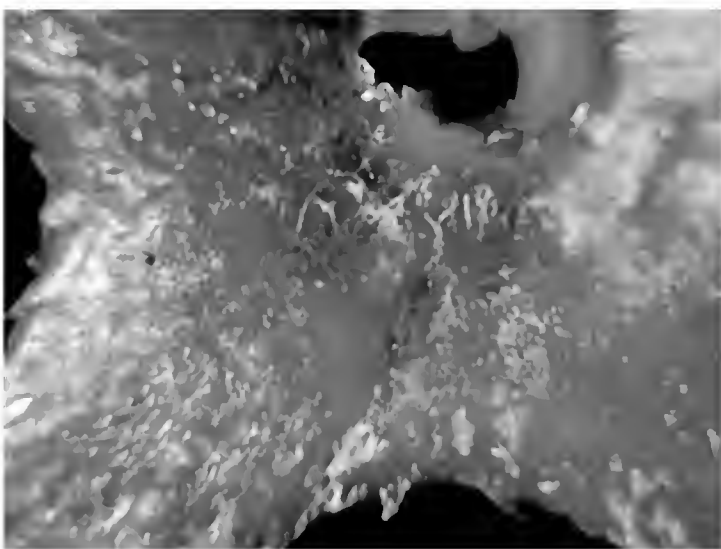


Corolla: ventral surface enlarged ca. 10x, this surface is glabrous, some granulations and striate lines from the center outward. The sinuses are conduplicate and the lobe sides and apex turn under from above.

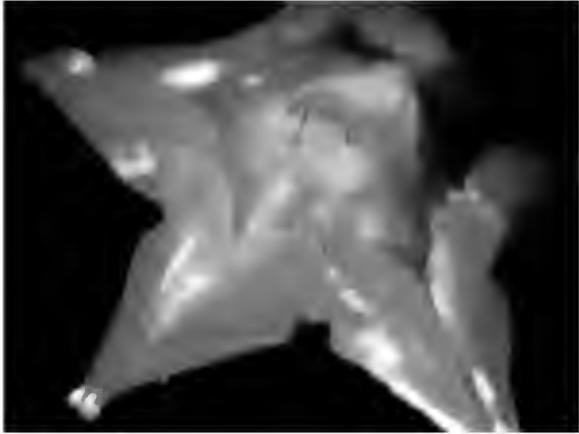


Corolla lobe ventral side enlarged as above showing the rolled edges and apex, the obvious pubescent upper surface.

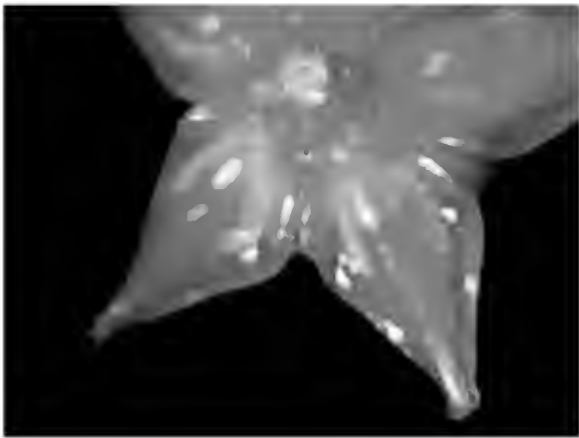
Sinus – sinus	0.65 cm
Sinus – center	0.54 cm
Sinus – apex	0.67 cm
Apex – center	0.97 cm
Widest	0.70 cm



Corolla: dorsal surface enlarged as above, the surface is densely and evenly pubescent, around the center there are longer hirsute cells mostly pointing outward. Around the center slightly sunken, central collar not much thickened.

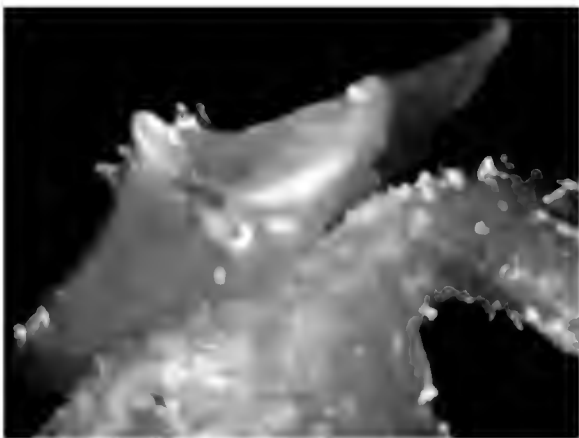


Corona: ventral view enlarged ca. 10x, the surfaces are glabrous, lobes are channeled inward but much open space around the central column. Anther wing apices do not protrude, there are low bulbous protrusions around the column directed toward the sinus area (lobe center). Column itself is thin walled.

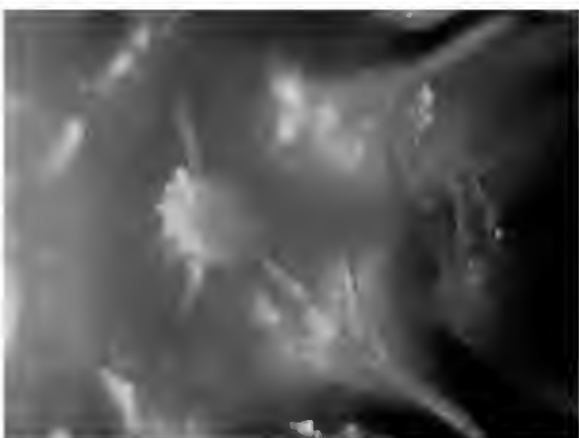


Corona dorsal view enlarged as above, inner lobe are unusual with terete turned outward apices not quite reaching the center, dorsal sloping down toward a short bifid outer apex with a broad central rise and sharp outer edges.

Apex – apex	0.50 cm
Apex – center	0.53 cm
Widest	0.25 cm
Ret – ret./center	0.12 cm
Aw. – aw./ center	0.32 cm



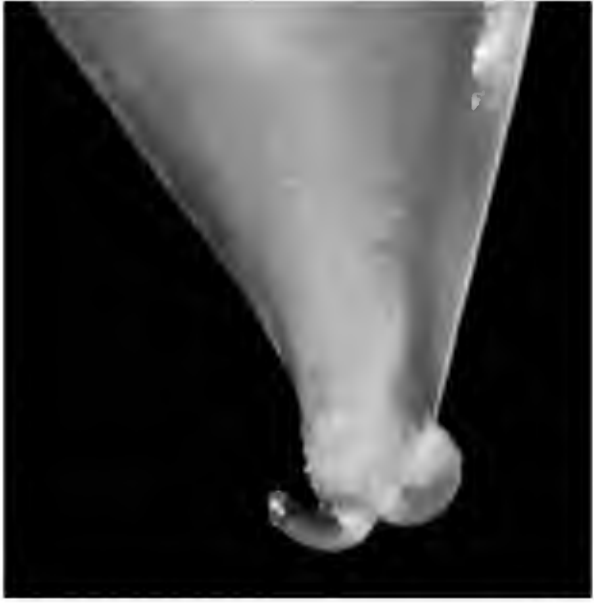
Corona side view on corolla enlarged ca. 6x. Inner lobes raised and lobes sloping downward toward outer apex, that turns up slightly. Anthers exceed inner lobes.



Dorsal view of the stylar crown (coronal lobes removed) it is sub-capitate with an expanded short fingered rounded apex. Radiating out from the table to the right are the vary narrow anther wings.



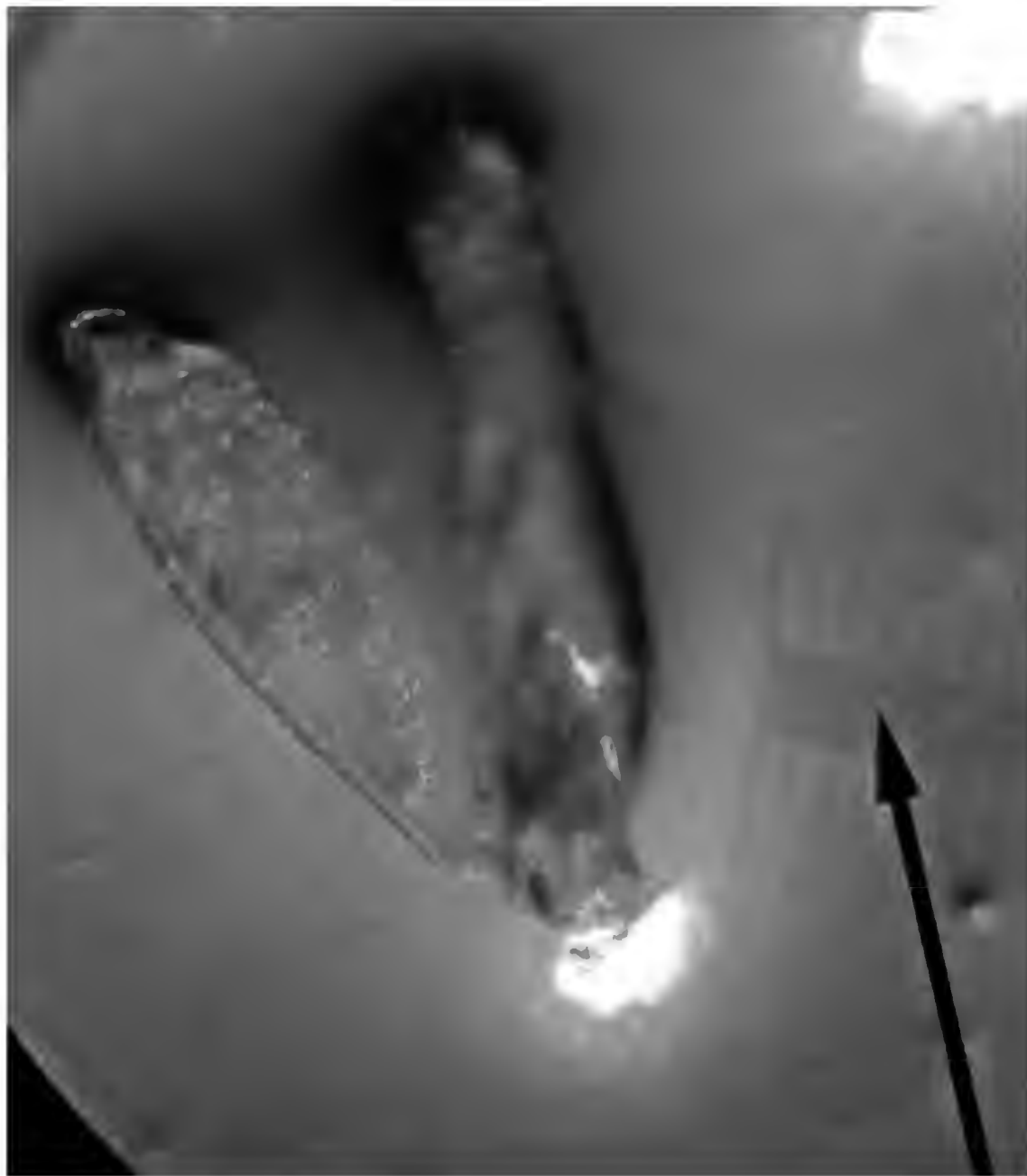
Corona center dorsal showing the unusual inner lobe apices turning outward visible on the two right side ones. In the center are the white anthers.



Corona outer apex greatly enlarged to show the bifid terete rounded lobes turning inward. The second unusual character of this flower, mimicking the inner lobe yet smaller in structure.



Corona lobe side view enlarged ca. 14x, the inner and outer lobe structures are shown here as well as the sharp dorsal edge.



Pollinarium above enlarged
ca. 95x; below ca. 90x.

Pollinarium

length 0.72 mm
widest 0.20 mm

Retinaculum

length 0.22 mm
shoulder 0.20 mm
waist 0.10 mm
hip 0.15 mm
ext. 0.05 mm

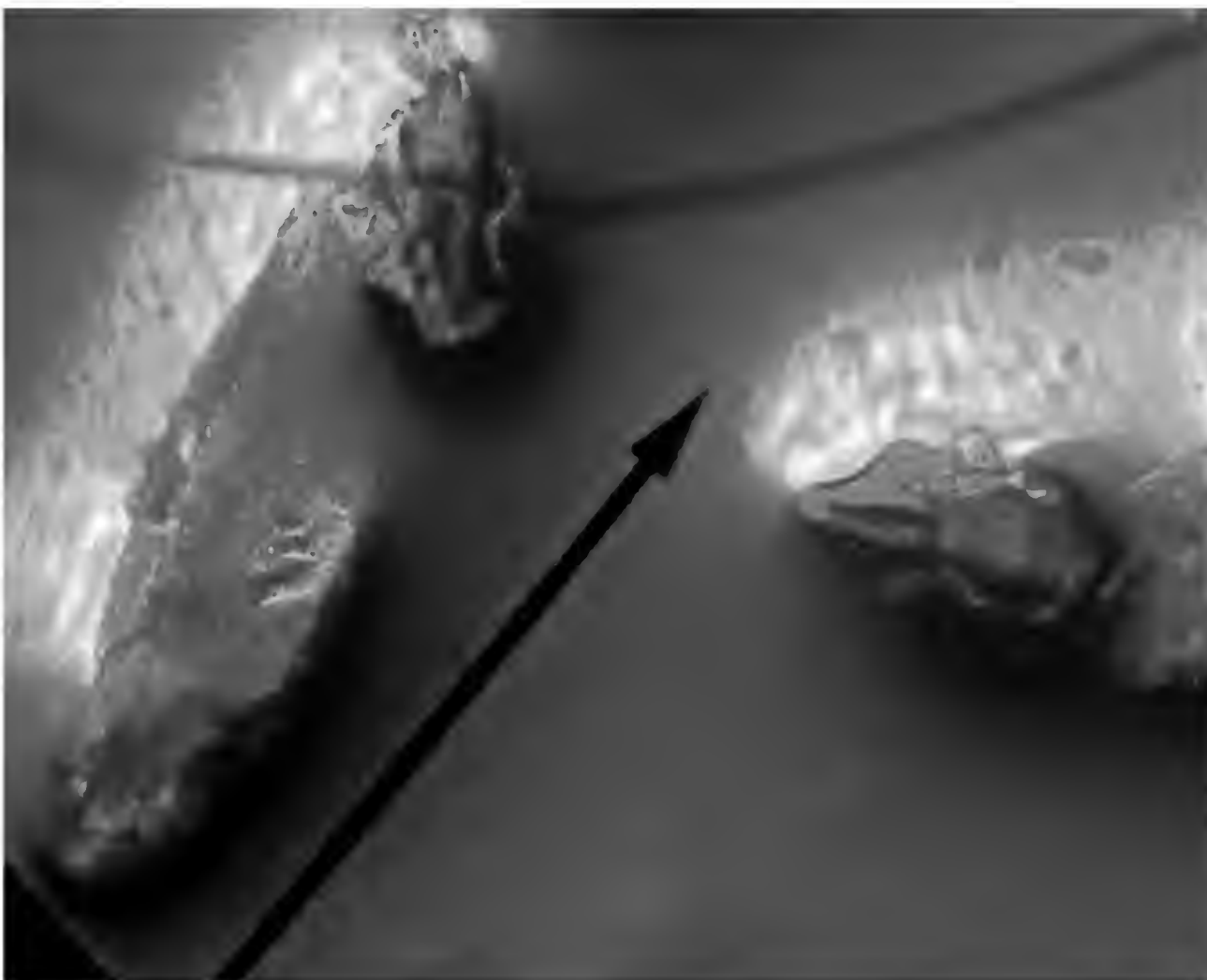
Translator

length 0.10 mm
depth 0.02 mm

Caudicle

bulb d. 0.10 mm

Translator/ Caudicle type: ls/o



Leaves: opposite,
petiolate, glabrous
with surface
blotches, ovate base
obtuse, apex
apiculate, nerves
pinnate, visible
surface above
(dorsal) not below
ventral).

Stems with
adventitious
rooting.

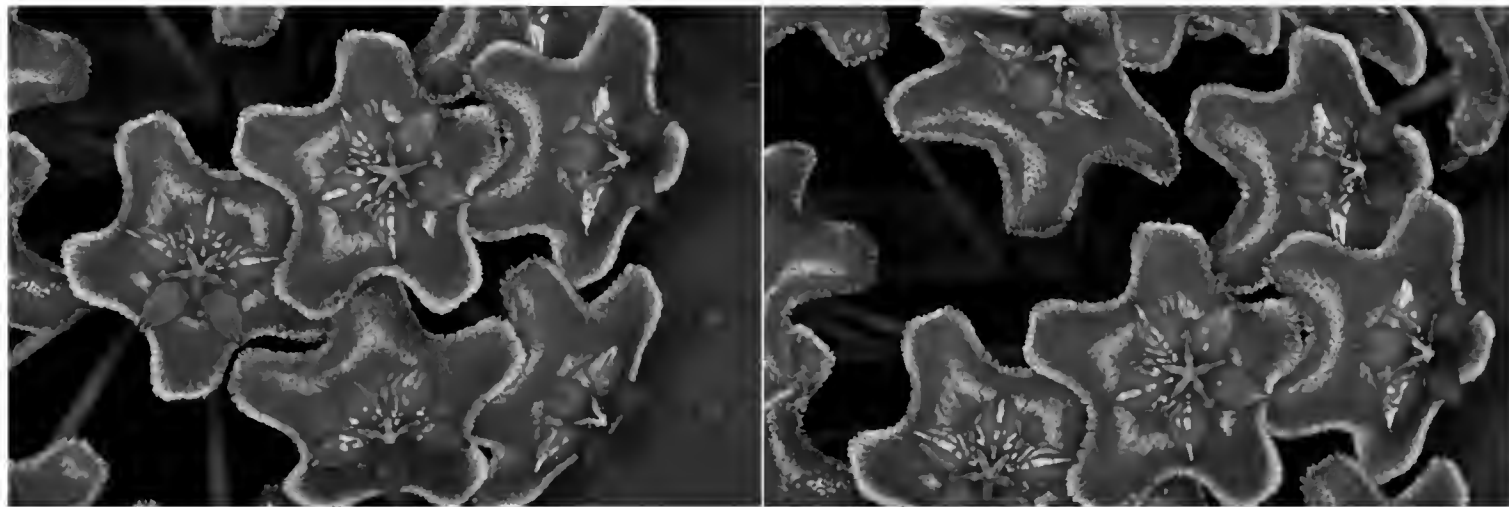
Leaf measurements: in centimeters

	length	width	petiole length
1)	15.5	6.6	4.0
2)	14.4	6.3	3.2
3)	13.5	5.3	2.4
4)	13.0	5.1	2.1
5)	12.5	5.1	2.2
6)	12.1	4.8	3.5
7)	10.5	5.1	3.9
8)	9.8	5.3	2.5
9)	8.2	4.9	2.6
10)	6.4	4.7	2.2

Range: 6.4-15.5 4.7-6.6 2.1 - 4.0

Pictures of the live flowers and leaves by George Mendoza, taken in the Philippines.



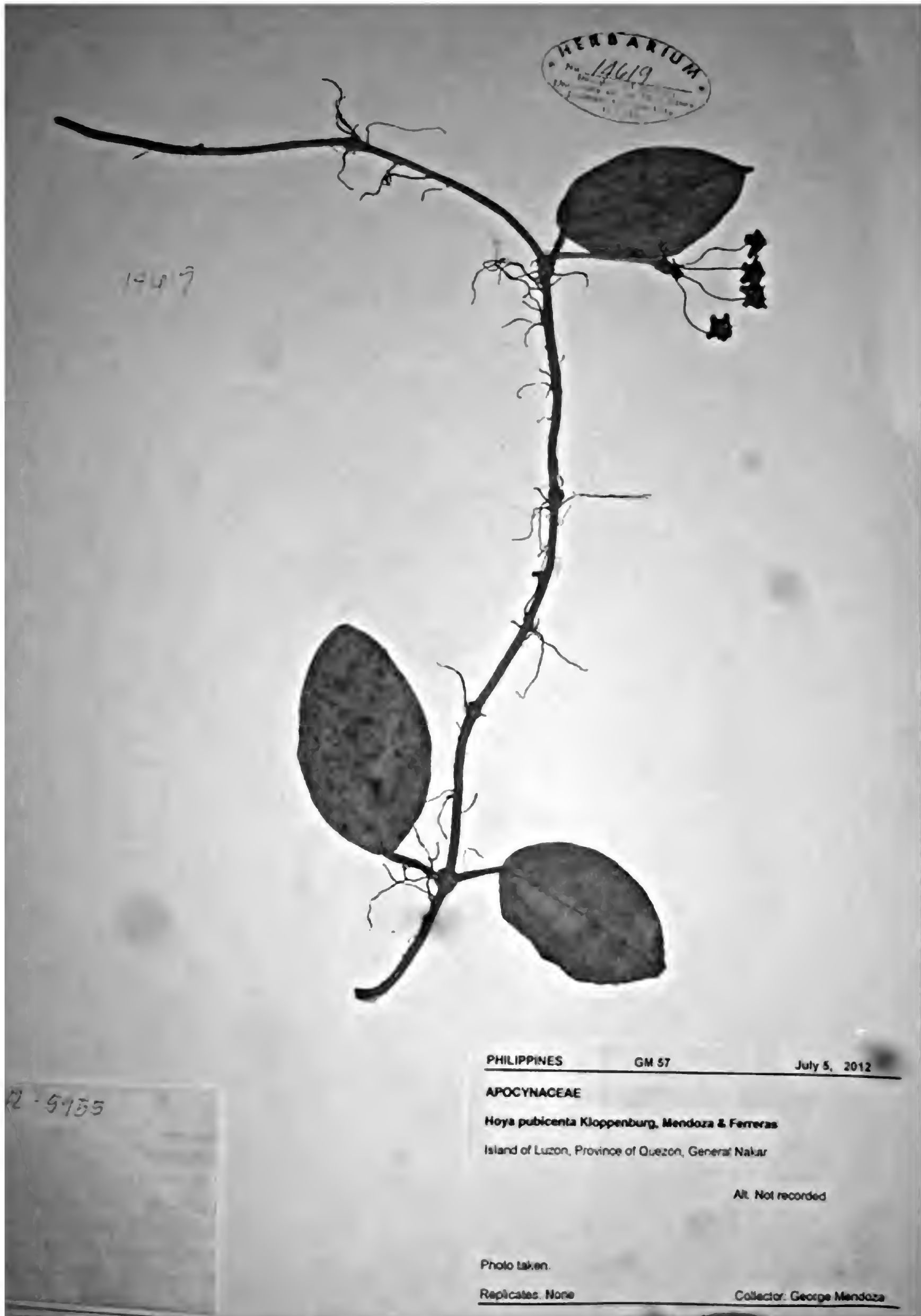


Here the outer shortly bilobed coronal apex is visible, inner lobes here do not show the turned outward apex.



Collection number GM # 57. Collected by George Mendoza et al. at General Nakar, Quezon Province, Philippines. DSC 9425-9457

Reduced copy of the Holotype sheet:



Dischidia bulacanensis Kloppenburg, Mendoza & Ferreras
ISSN 2329-7336

Dischidia bulacanensis Kloppenburg, Mendoza & Ferreras sp nova, holotypus 14618 (PUH) hic designatus. Collected by George Mendoza at Bulacan Province, 100-200asl from Angat, Bulacan, Province, Philippines. This new Dischidia species appears to be closest to *Dischidiopsis philippinensis* Schlechter (*Dischidia parasitica* (Blanco) Merrill, originally collected at Island of Lubang, E. D. Merrill April 1903, Isotype #972. The tube of our new species is continuous (there is usually no distinct bulbous base); the sepals here are round not linear with acute apices. This new species has the inflorescence axillary, of 4 – 12 flowers not all opening at once, flowers are red exterior and white inside the continuous tube. The foliage is opposite, pointing apically on curved round petioles, with an occasional basal gland at blade attachment, the leaves are linear, enervis concave dorsal surface, deep green colored lighter on the undersurface, both petioles and blade surface are marked with lighter surface roughness, base is cuneate, apex acute. Most distinct feature differences are the long silky white hair cells in the corolla column interior, beginning in the area just above the coronal to top.



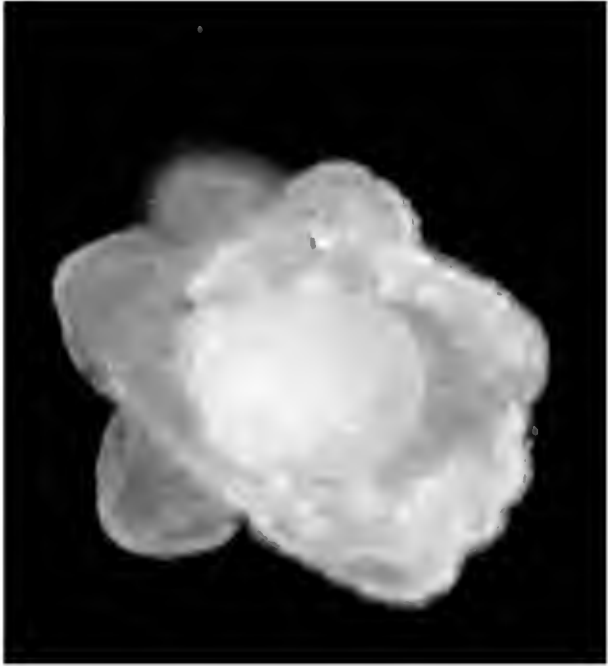
Rachis tip: pedicel and flower base enlarged ca. 29x, the rachis has circular scars from past pedicels, rough surface, 0.26 cm in diameter, pedicel is short 0.17 cm long 0.07 cm in diameter but enlarging slightly as it approaches the flower base (calyx).



Flower: enlarged ca. 20x, is tubular, actually red except inside apical lobes white, base enlarged and tapering

smaller apically, calyx is very small.

Base – apex	0.64 cm
Widest portion	0.36 cm
Narrowest	0.24 cm
Apical lobes	0.13 cm



Calyx: dorsal view enlarged ca. 20x, sepals are round, glabrous on both surfaces, 0.10 cm long and wide.

Ovaries: are short domed, 0.11 cm tall and base pair 0.11 cm wide.



Corolla: tube cut in half, exposing the corona at the base and near it's a apex on the column are a ring of 5 tongue like lobes pointing basally and just above this a sheath of long hair cells pointing apically not quite reaching the corolla apical lobes. Cell wall 0.03 cm thick, tongue protrusions 0.19 cm up from the base, fine long hair cells 0.22 cm long and end 0.12 cm from the corolla apical lobes that are 0.13 cm long.

Corolla wall protrusion shown in next photo.



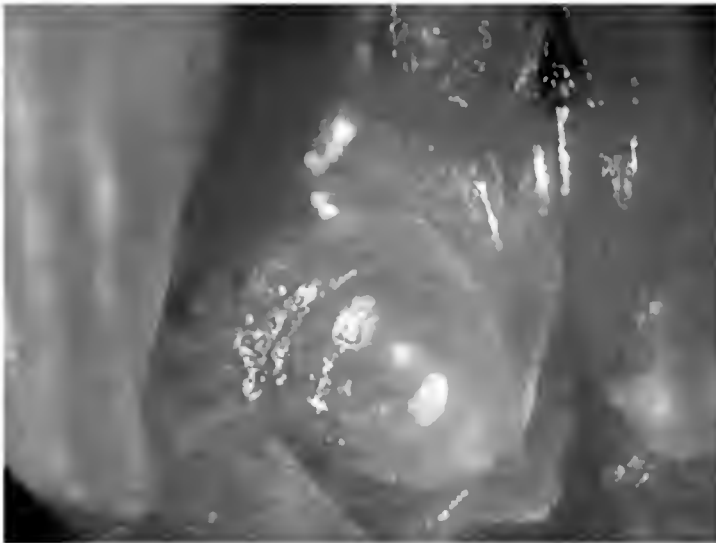
Corolla wall protrusions (one of 5) with lip like structure pointing basally, lip is 0.09 cm long and ca. 0.37 cm wide, surface is slick glabrous where as wall surface below is granulate.



Corolla column inner surface showing the net of hair cells pointing apically, beginning at a point on the column above the coronal apex and slightly above the lip like column protrusions which are about even with the coronal inner lobe apices.



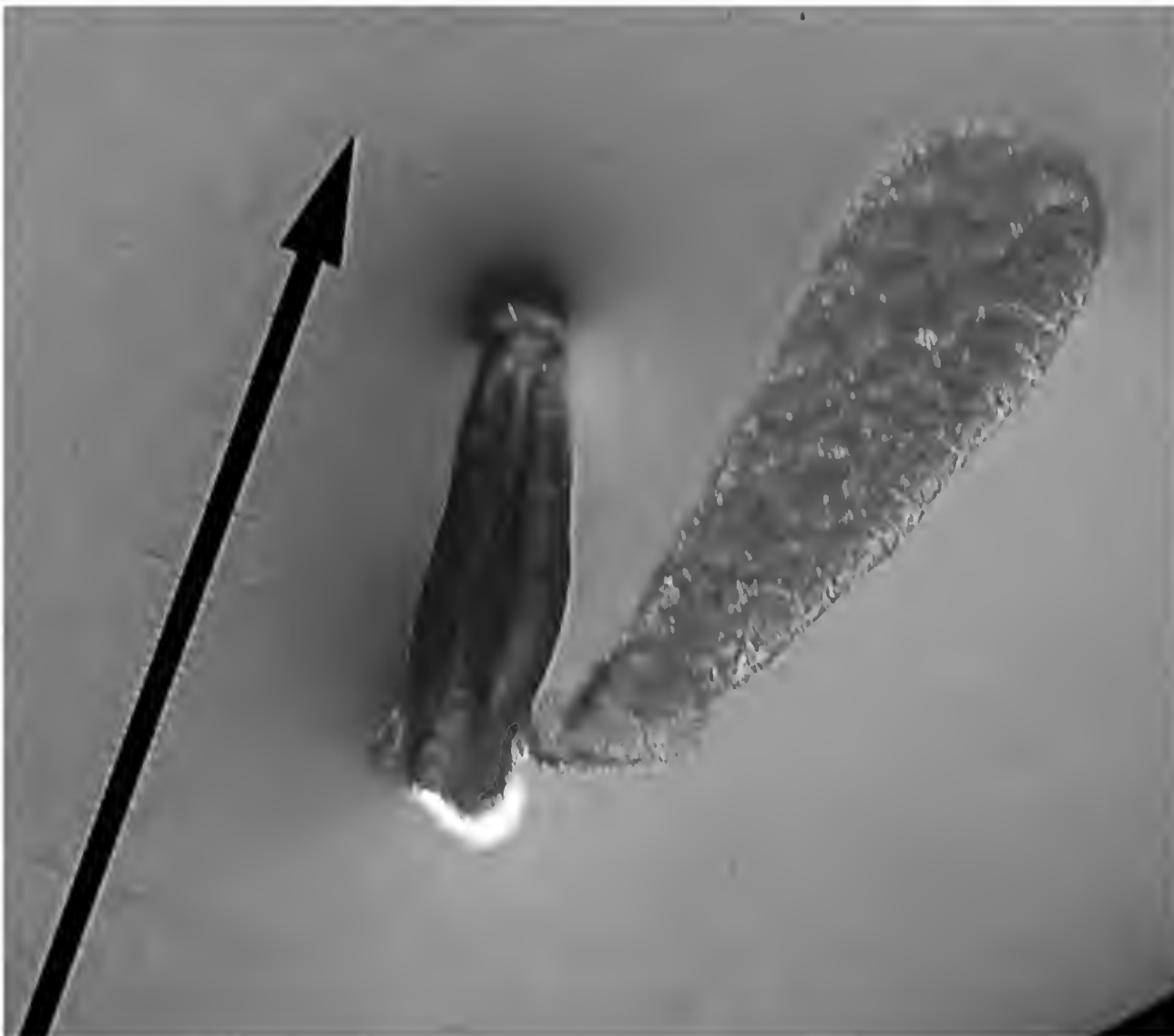
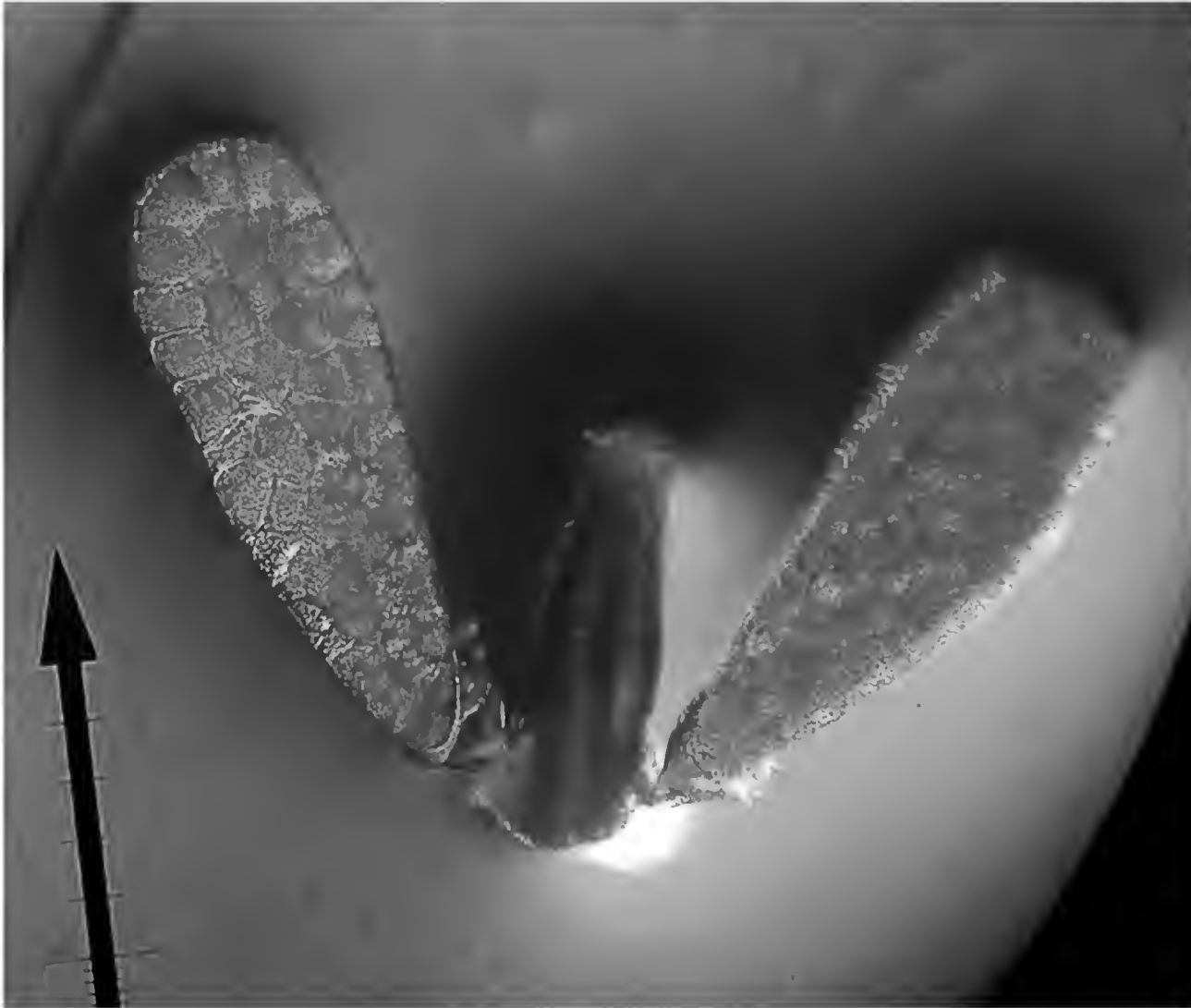
Corona: enlarged ca. 18x, here the corolla is peeled back (upper right revealing just the edge of the lip like protrusions). The corona has a bulbous base 0.11 cm wide rounding to the inner lobes where it is 0.07 cm in diameter, inner lobes (5) are 0.11 cm long with anthers (extend 0.04 cm) slightly above inner rounded apex.



Corona base, dark spot at top is the retinaculum with channel of the anther wings leading downward, on both sides are the basal bulbous protrusions of a coronal lobe, surface is slick and smooth, darkening in color as it proceeds upward (actually centrally) toward the apex.



Corona apex, lobes are vertical, with rounded granulate surfaces, anthers exceed inner apices, in center below is the dark retinaculum, just above the basal protrusions (5). Inner lobe apices extend slightly inward toward the center into a sub acute apex.



Pollinarium
enlarged ca. 130x

Pollinarium:
length 0.51 mm
widest 0.10 mm

Retinaculum:
length 0.37 mm
widest 0.10 mm

Translator:
length 0.13 mm
wide 0.01 mm

Caudicle:
Bulb end 0.09 mm

Translators and
caudicle appear to
be connected to the

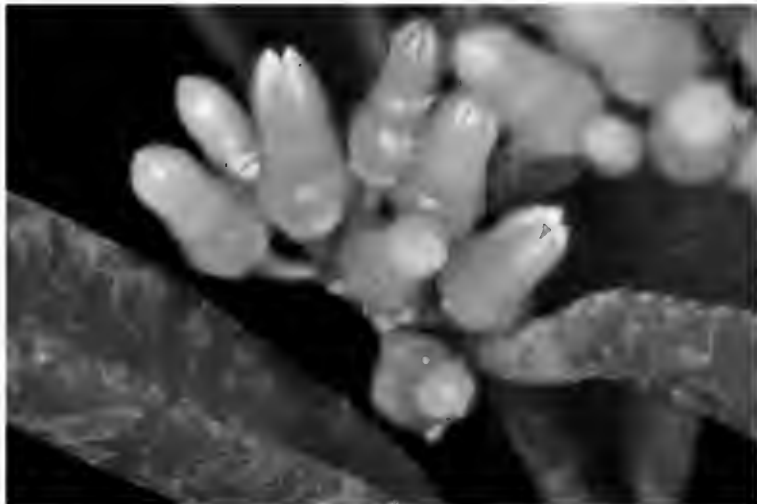
center rectinacular wall.

Leaves: opposite, petiolate, linear, thick, enervis, channeled on dorsal surface, edges are rounded, base cuneate, apex acute, surface scruffy, internodes short.

Leaf Measurements: in centimeters

	length	widest	petiole
1)	6.9	1.4	1.2
2)	6.8	1.4	0.9
3)	5.4	0.9	0.6
4)	5.3	1.3	0.7
5)	4.9	0.9	0.5
Range	4.9-6.9	0.9-1.4	0.5-1.2

Pictures taken by George Mendoza, DSC 6908, 19, 21, 29, 32, 47.



Vial # 31

References:

1. **Dischidiopsis parasitica** (Blanco) Merrill Sp. Blancoanae (1018)217. *Marsdenia parasitica* Blanco Fl. Filip. (1837) 120 (pariasita), ed, 2 (1845) 86, ed. 2, 1 (1877) 156.
2. **Dischidiopsis philippinensis** Schlte. In Perk. Fragm. Fl. Philip. (1904) 128.

Contributors:

Ulysses Ferreras, Plant Explorer collector & Plant Taxonomist.

Dale Kloppenburg retired: Graduate UC Berkeley, plant genetics, Lt. USNR, Plant Breeder and Research Agronomist, now taxonomist of Genus Hoya.

George Mendoza, Landscape Artist, Nurseryman and Plant Explorer from Quezon City, Philippines, visit his web site www.forest-treasures.com.

Holotype sheet copy:



Hoya heuschkeliana subsp. marionii Kloppenburg & Ferreras ISSN 2329-7336

Hoya heuschkeliana subsp. marionii Kloppenburg & Ferreras subspecies nova holotypus 14647 (PUH) hic designatus. Epiphyticis vel terrestribus, ramosa, ramis filiformibus, flexuosis. Folia enervia, petiolatis, obovata-ellipticis, obtusis, basi ovata, carnosis, dorso glabris utrinque-punctata, (or pusticulata vel granulata) 1.5-3.5 cm longis, medio 1.3-2.0 cm latis supra convexis. Petiolo curvis granulates 0.3-0.6 cm. longis, carnosus. Pedicellis 0.42-0.50 cm longis. Cymis umbelliformibus 2-7 floris. Calyx parvus fere ad basin in lobos 5 anguste triangulares partitus, lobis 0.12 cm longis et 0.07 cm latus, punctate. Corolla urceolato-campanulata recurva apice revoluta, extus glabra et punctata, lobis ovatus acutis intus apice excepto velutinus-puberulis, recurva apice glabra, usque ad 1/3 fere 5 lobata, 0.23 cm. longis, cum complaratis circ 1.06 cm. diam. complinatus. Coronae lobis compressis apiculata, apice externo bifidis, obtuso, apice intus spatulatus, inferiore convexus superiore, basi ad apicem 0.06 cm longa, angulo dorso 45 degrees. Anthera appendiculatus excedente. Pollinius oblique-oblongodius 0.33 mm longis et 0.17 latis, translatoribum brevissimis, retinaculo minuto anguste rhomboideo.

This new subspecies is not as deep in color as the species, coronal bilobes are more extended beyond the outer lobe apex. The coronal inner lobe is more broadly spatulate and the dorsal is convex not concave and does not exhibit a central keel, the bilobes extend beyond the outer apex much further 0.06 cm versus 0.02 cm. The sepals are smaller 0.12 cm x 0.07 cm versus 0.13 cm x 0.10 cm, ovaries are much shorter 0.10 cm versus 0.18 cm, also the coronal lobes are much shorter 0.19 cm versus 0.23 cm long and the pollinia are here longer and wider 0.31 mm x 0.17 mm versus 0.30 mm x 0.15 mm. Retinacular head intermediate between *Hoya heuschkeliana* and the subspecies *mendozai*.



Pedicels: Are curved, terete, glabrous, 0.42-0.50 cm long. Enlarged about 54x.



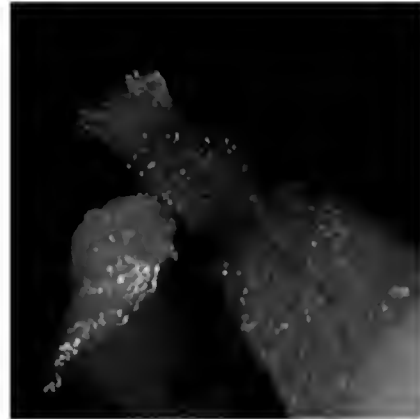
Rachis on peduncle: enlarged ca. 18x. The peduncle is terete, tapering slightly larger as it approaches the rachis, 1 cm long and 0.11 cm in diameter. Rachis is bracteate (2nd blooming) with a diameter of 0.30 cm.



Calyx: enlarged ca. 25x, the sepals are glabrous, semi linear with rounded apices, they are 0.12 cm long and 0.02 cm at the widest. No ligules seen.



Calyx and ovaries on pedicel: the ovaries are long tapering, glabrous, apex with lip like structures: 0.10 cm long and base pair 0.03 cm wide.



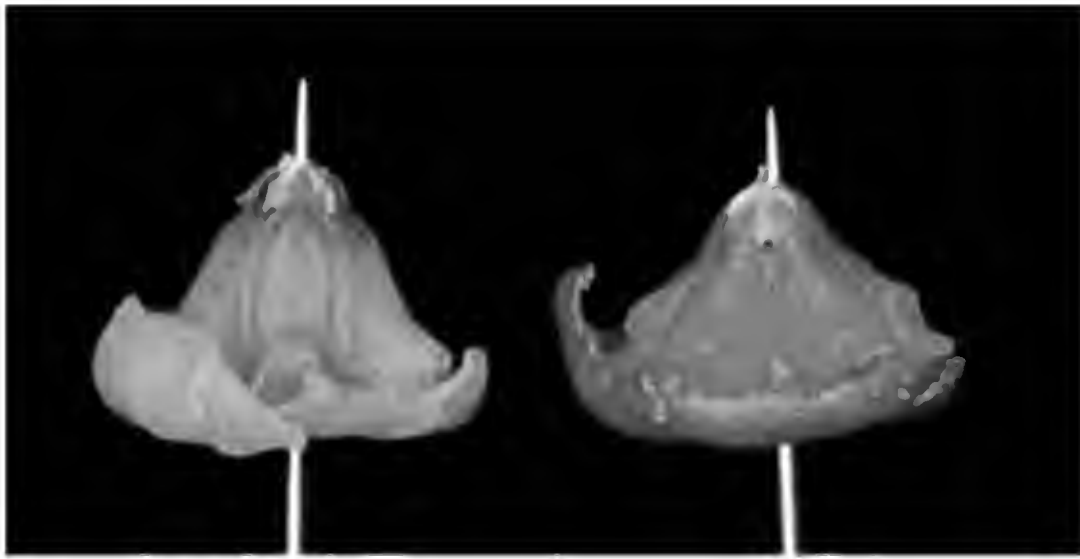
Ovary apex greatly enlarged to show the modifications (short extensions possibly 5 on each apex).



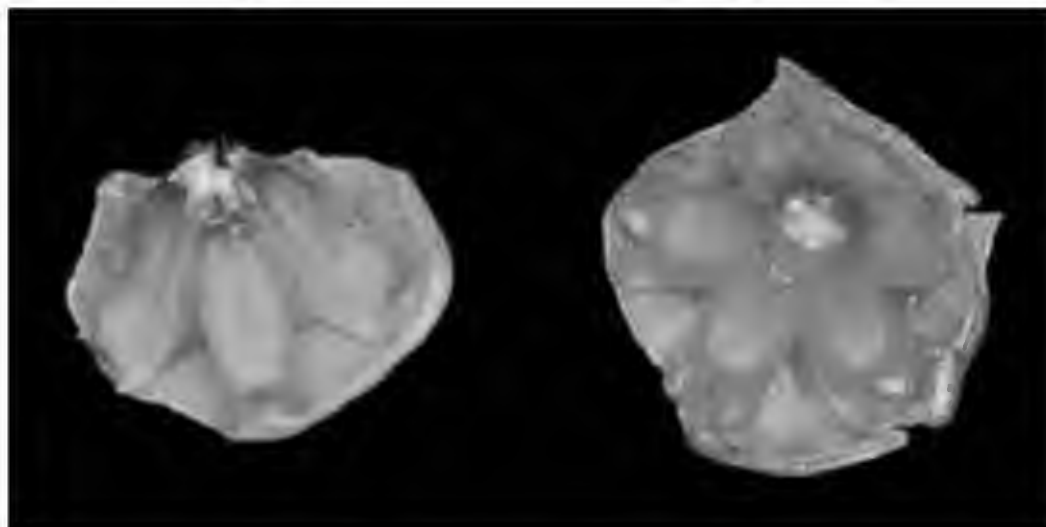
Corolla: pictures of live flowers by George Mendoza. The outer surface is glabrous, campanulate.

Sinus – sinus	0.25 cm
Sinus – center	0.23 cm
Sinus – apex	0.40 cm
Apex – center	0.53 cm
Widest	0.30 cm

Corolla inner surface is glabrous on the lobes and pubescent on the inner edges and major portions of this surface.



Corona: has a raised center inner lobes are spatulate turning inward toward the center but not exceeding the thin anthers (5). Dorsal is convex, outer apex is broadly rounded, bilobes are tongue like not curving centrally. Enlarged ca. 17x.



Dorsal view of the corona enlarged as above, note here the apical end of the corona lobe is plump with rounded apex and also with plump tongue like bilobes, sticking straight out

Apex – apex	0.19 cm
Widest	0.12 cm

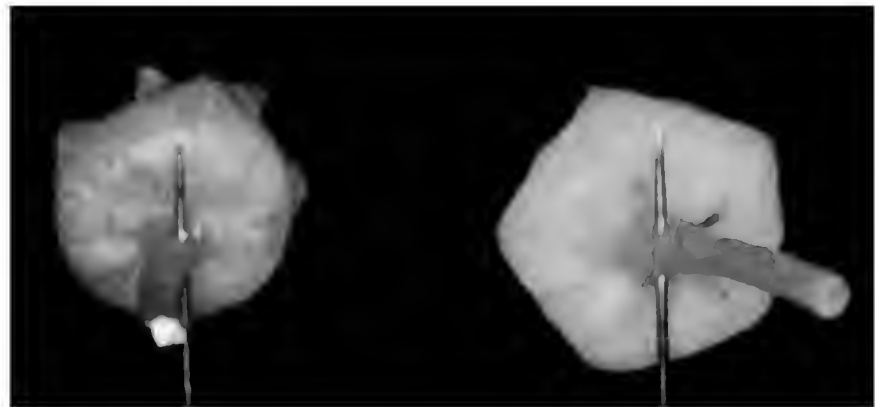
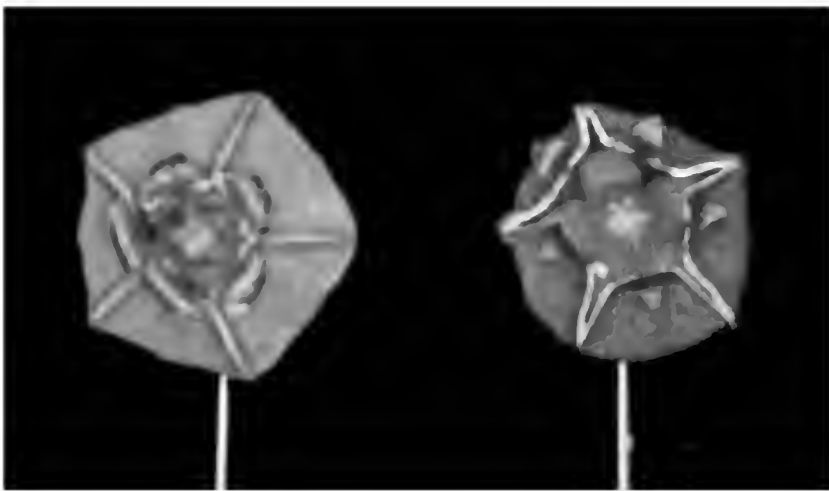
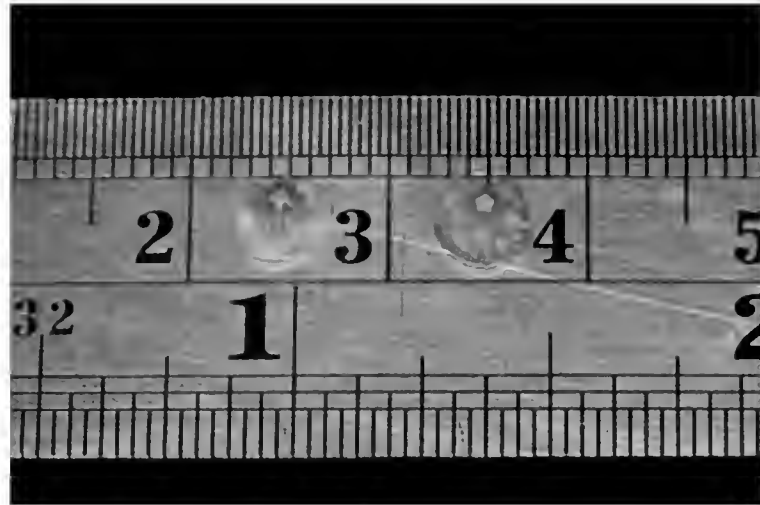
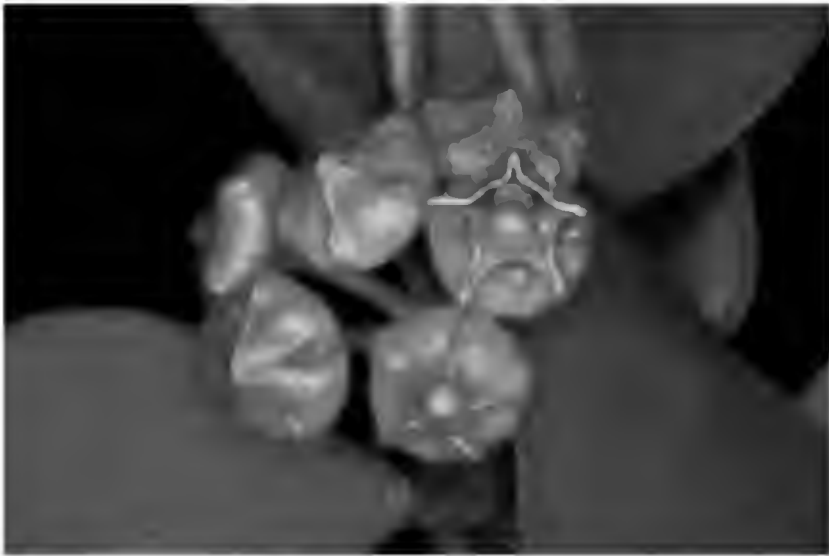
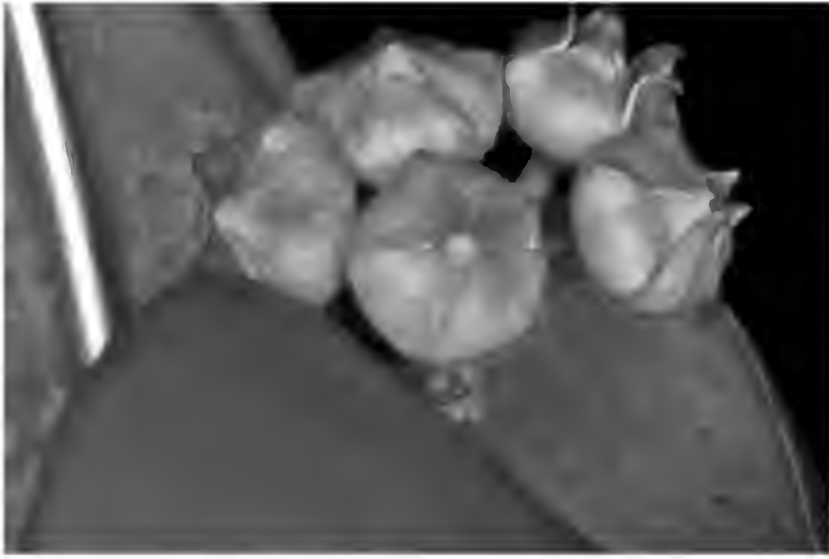
Bi-lobe extensions 0.06 cm



Corona ventral (bottom) view. The lobes are channeled with central sulcate surfaces to the central column that has ruffled edges, all surfaces are glabrous.



Corona scale enlarged ca. 31x, there is some variations in the bilobed extensions, here they are short but normally extend 0.06 cm beyond the lobe outer apex. The anthers are long, most anthers fold over the center and thus do not appear to be as long as showing in this photo. None of the upper surfaces are visibly sulcate. All ends are well rounded even the spatulate inner apex.

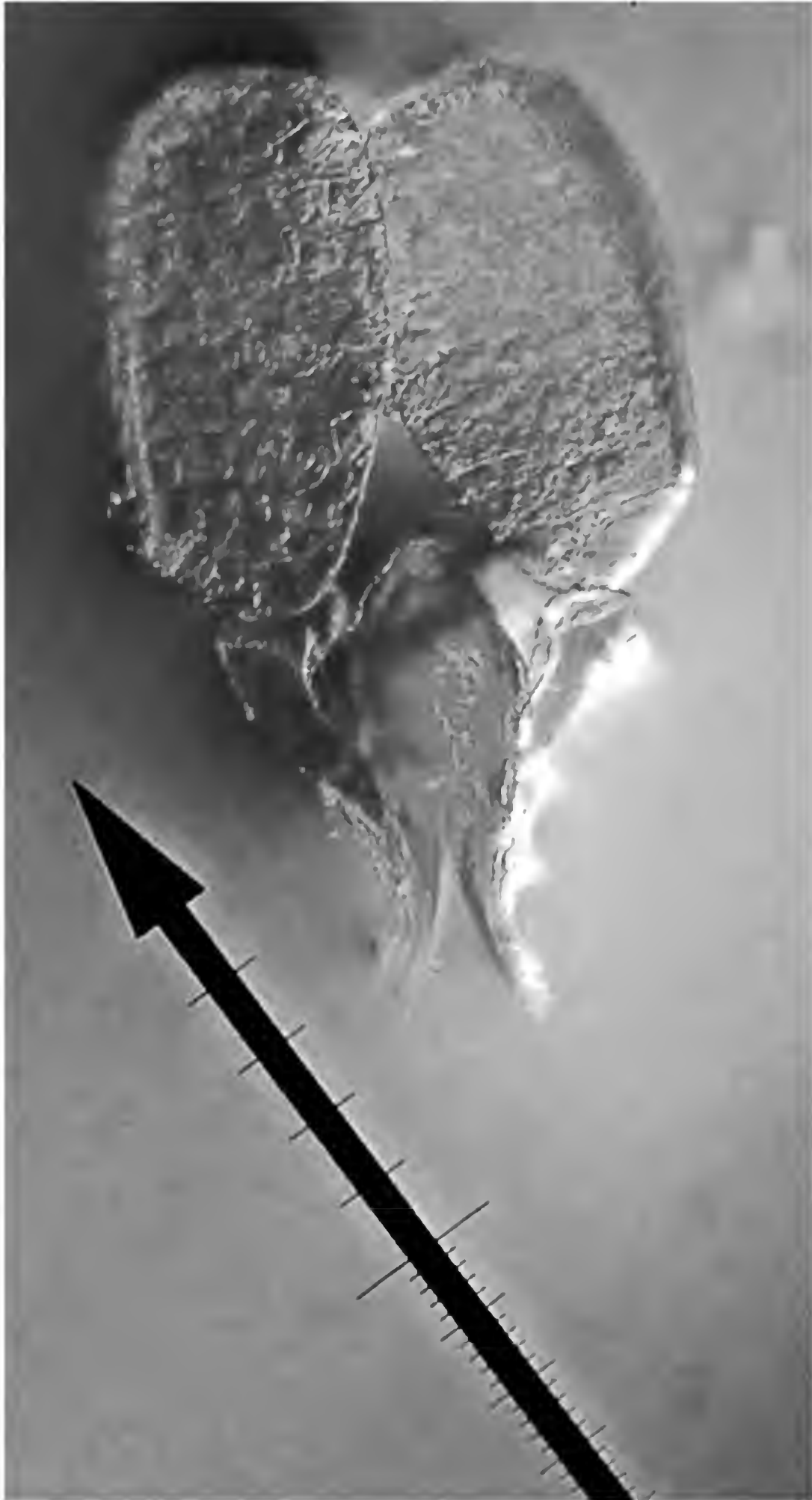


Contributors:

Ulysses Ferreras, Plant Explorer collector & Plant Taxonomist.

Dale Kloppenburg retired: Graduate UC Berkeley, plant genetics, Lt. USNR, Plant Breeder and Research Agronomist, now taxonomist of Genus Hoya.

George Mendoza, Landscape Artist, Nurseryman and Plant Explorer from Quezon City, Philippines, visit his web site www.forest-treasures.com.



Pollinarium enlarged ca. 200x

Pollinium

length 0.31 mm
widest 0.17 mm

Retinaculum

length 0.18 mm
shoulder 0.13 mm
waist 0.09 mm
hip 0.10 mm
ext. 0.09 mm

Translator

length 0.12 mm
depth 0.05 mm

Caudicle

bulb diam. 0.06 mm

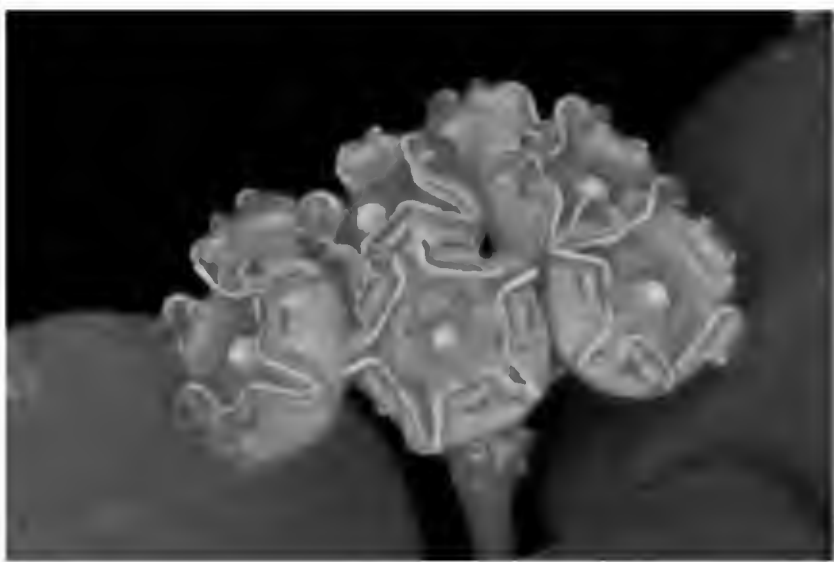
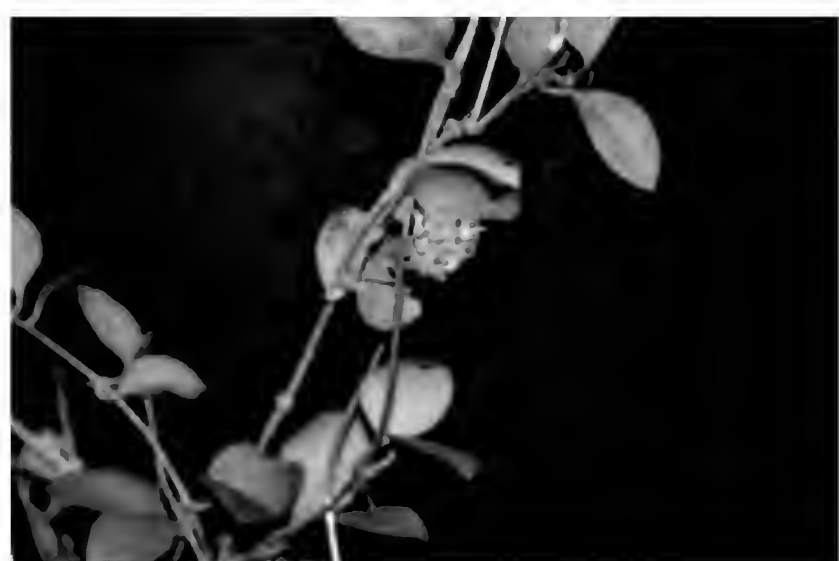
Translator/caudicle type ls/o

Collected by Marion Mendoza et al at Catanduanes, Bicol Province, Philippines.
Collection Number GM #60. DSC 8573-8592

Leaves: opposite, petiolate, glabrous, enervis but pinnate, up to 6 leaves to a node (or compact nodes) occasionally, base obtuse, apex sub-acute, edges rolled under and rounded, surfaces rugose. Some petioles grooved.

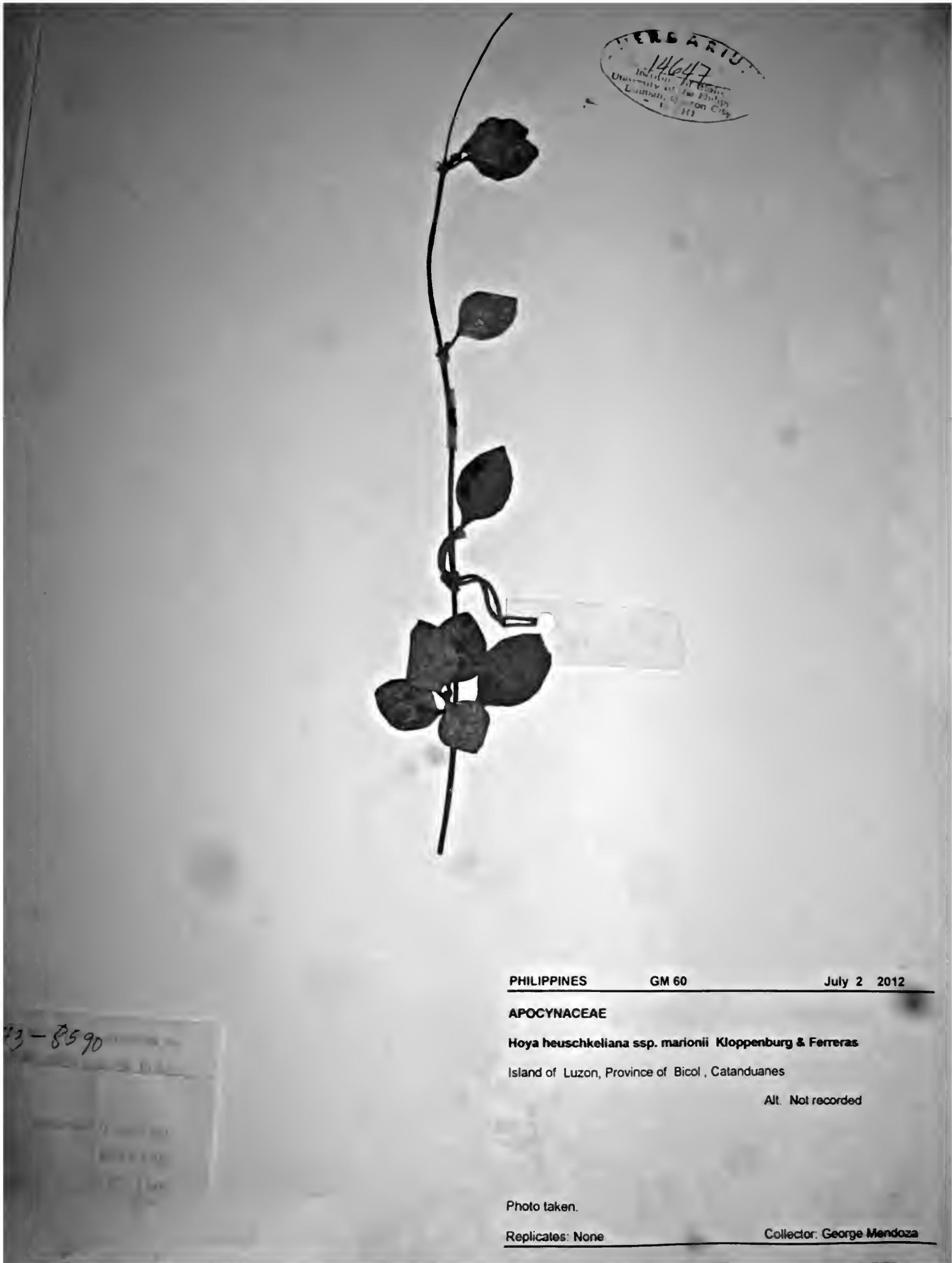
Leaf measurement: in centimeters

	length	width	petiole length	
1.	3.5	1.9	0.5	peduncle length 8.7 cm
2.	3.2	2.0	0.6	
3.	2.9	1.9	0.5	
4.	2.3	1.7	0.3	
5.	1.5	1.3	0.5	
Range	1.5-3.5	1.3-2.0	0.3-0.6	





Reduced copy of the Holotype sheet:



Hoya mindorensis subsp. mendozae Kloppenburg & Ferreras ISSN 2329-7336

Hoya mindorensis subsp. mendozae Kloppenburg & Ferreras subsp. nova, holotypus 14650 (PUH) hid designatus. In respect to the species (*Hoya mindorensis* Schltr. 1906) is alike in pedicels, similar in the corolla being reflexed and with the tufts of hispid hair cells on the dorsal surface, and the conduplicate lobes at the sinuses (Dr. Schlechter's comment: This species is very remarkable in the two auricles that exist between the corolla lobes.) and the corona being horizontal with the dorsal keeled and the same outer apex, dorsal divided keel and crease, the anther wings shaped like a sickle. It differs in not having ovate calyx lobes, having a larger corolla 1.10 cm contrastre 0.90 cm, with the anther wings not extended and the pollinaria shorter 0.50 mm contrastre 0.57 mm.

It differs from the subspecies *H. mindorensis subsp. superba* Kloppenburg 2005, in having the coronal lobes reaching the center and being horizontal not curving downward at the outer apex, again the sepals are not ovate, the corolla is much smaller 1.10 cm in diameter versus 1.60 cm and the pollinia are shorter 0.50 mm versus 68 mm.

This new subspecies is named for the collector George Mendoza who collected this plant on Mt. Mabilog, Nagcarlan, Laguna Province, Philippines.

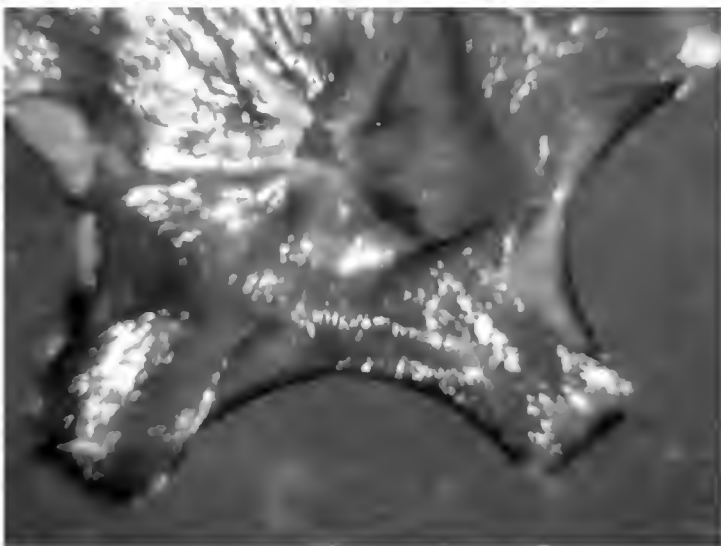
Photos and details below:



Calyx, ovaries on pedicel: enlarged ca.17x. Pedicels are strict, glabrous terete, grooved, when dry 1.6 cm long and 0.08 cm in diameter. The sepals are long triangular, with ciliate edges, granulate glabrous outside and glabrous slick inside, 0.14 cm long and 0.06 cm at the widest near the slight basal overlap, ligules are present. Ovaries are columnar, glabrous 0.13 cm tall and base pair 0.10 cm wide

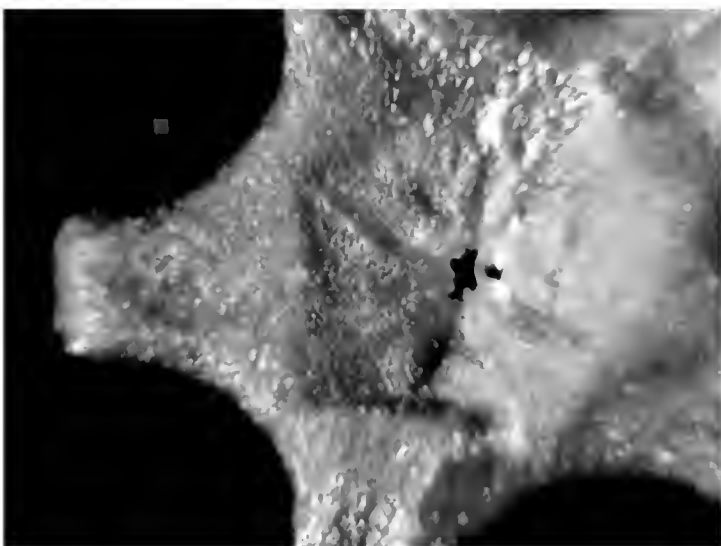


Calyx on pedicel enlarged as above showing the central thickening of the sepals its apex shape narrowing to a round tip, the granulate outer surface, a slight basal overlap and fine ciliated edges. Pedicel little expanded as it approaches the calyx base.

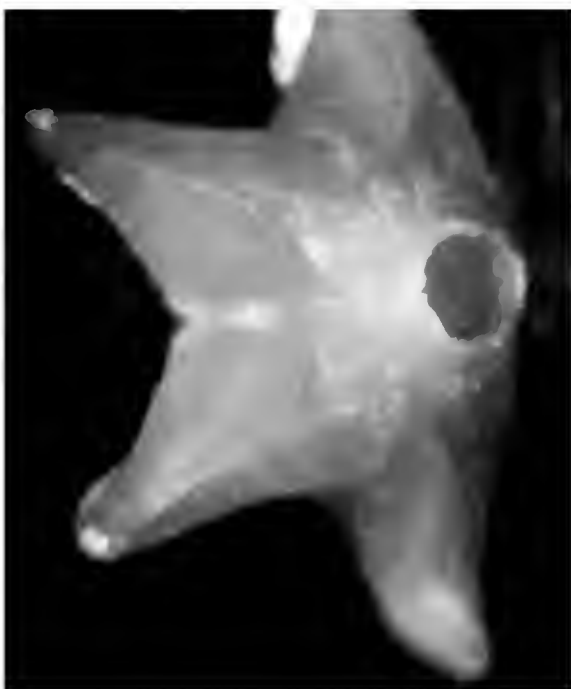


Corolla: ventral surface enlarged ca.10x. This surface is glabrous, the corolla is reflexed with the apices turned inward, the corolla lobes at the sinuses are rolled under (conduplicate).

Sinus – sinus	0.35 cm
Sinus – center	0.30 cm
Sinus – apex	0.33 cm
Apex – center	0.55 cm
Widest	0.40 cm



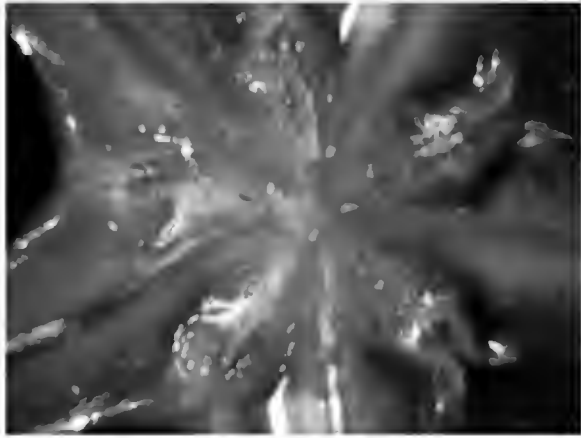
Corolla dorsal surface enlarged as above, at anthesis the corolla is reflexed, this surface is finely puberulent and granulate, the central region is sunken a little. Live pictures below show hirsute clumps of hair cells in from edge of corolla but I do not see them here ?



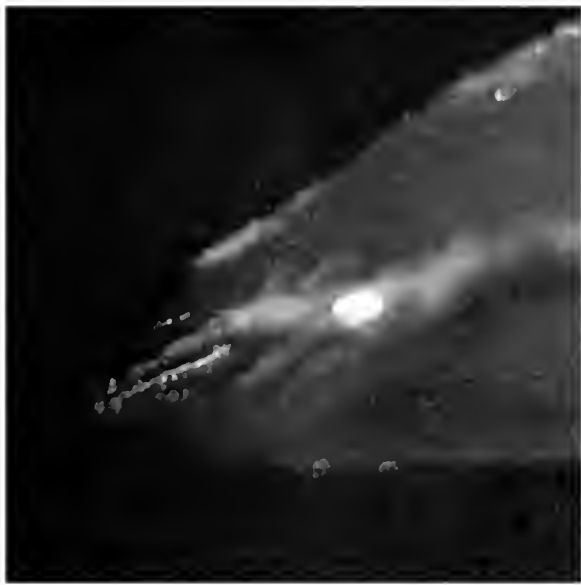
Corona: ventral surface enlarged ca. 17x. The lobes are channelled evenly opening at a point even with the sinuses, outer apex sub-acute, central column thin and sharp edge at top sloping outward and thus thickening outside surface granulate. Central collar 0.08 x 0.11 cm.



Corona dorsal view enlarged ca. 9x. The inner lobes tough in the center are dentate the dorsal surface has a sharp keel from the inner apex to near the outer apex where it spreads slightly forming a V shape at outer apex which is nearly acute. The anthers are creped, the anther wing sides have a coter key shape starting just above the retinacula and spreading ends at the corolla sinuses.



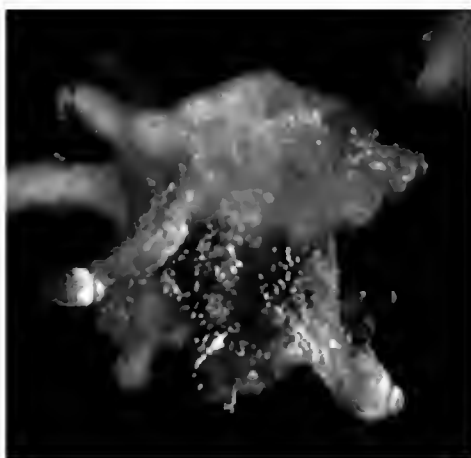
Center view of coronal dorsal enlarged ca. 17x, note here the creped anthers, showing inwardly from the anther wings which I described a "coter Key shaped" a rounded inner portion from the darker retinacula, then narrowing as they proceed outward and down and finally curving outward at the sinus, the edged are rounder.



Dorsal surface of a the corona lobe apex enlarged to show the unusual way the keel spreads slightly outward leaving a central crease and the sides forming a narrow V shape.

Measurements of the corona:

Apex – apex	0.38 cm
Center keeled but widest below this is	0.15 cm
Ret. – ret./center	0.14 cm
Aw. – aw.	0.20 cm
Aw. – center	0.18 cm



The style head greatly enlarged, it is sub-capitate with rounded protrusions. Unusual in structure.



Coronal scale side view enlarged ca. 24x, the inner lobe; left is surrounded by the creped anther, left below is the scythe shaped anther wing. Outer apex right is bent downward slightly with a narrow bulbous end at this point the (lighter colored) bulbous sides of the divided keel are visible.



Pollinarium enlarged ca. 140x

Pollinarium

length 0.50 mm
widest 0.25 mm

Retinaculum

length 0.38 mm
widest 0.19 mm

Translators

length 0.15 mm
depth 0.03 mm

Caudicle

bulb diam. 0.09 mm

Translator/caudicle Type:

ls/o

Retinacula apex end may have extensions fused or tight together here.

Leaves: opposite, petiolate, glabrous, elliptic, base obtuse to sub-cuneate, apex acute, considerable anthocyanin pigmentation. Pinnate nervation, not prominent on dorsal not visible on ventral surface. Dorsal surface convex.

Stems with adventitious roots.

Leaf measurements by George Mendoza:

	Leaf length	leaf widest	petiole length
1.	14.5	4.5	3.1
2.	13.1	5.1	2.3
3.	12.0	5.8	1.9
4.	10.6	4.3	2.1
5.	9.1	3.1	1.7

Range: 9.1-14.5 3.1-5.8 1.7-3.1



Photos by George Mendoza



References:

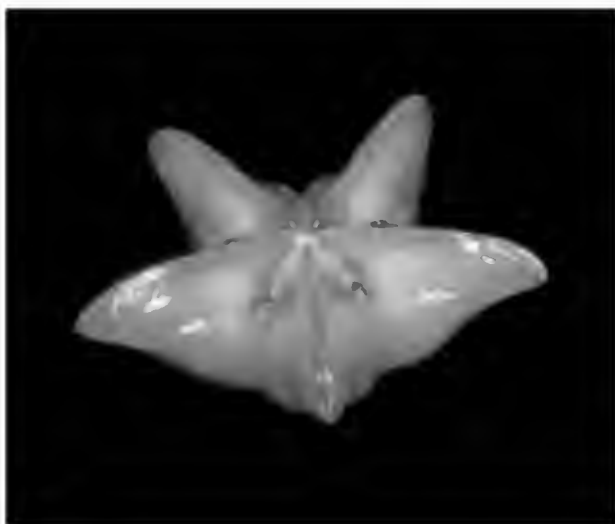
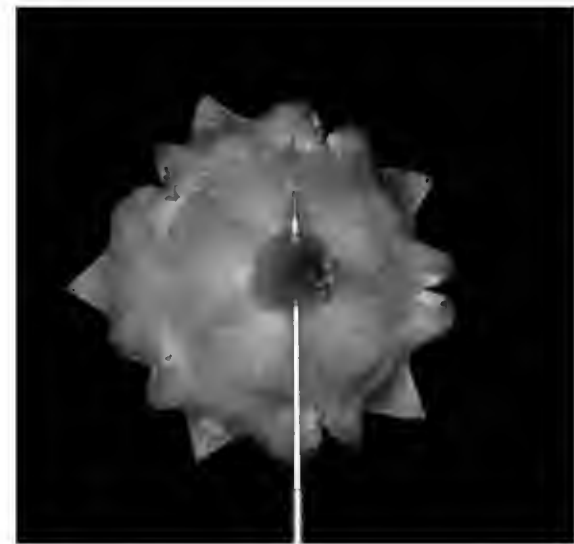
1. In Philippine Journal of Science 1 (1906) 302. R. Schlechter. *Hoya mindorensis* Schlechter.
2. In Fraterna 18-3. 2005, *Hoya mindorensis subsp. superba* Kloppenburg

Contributors:

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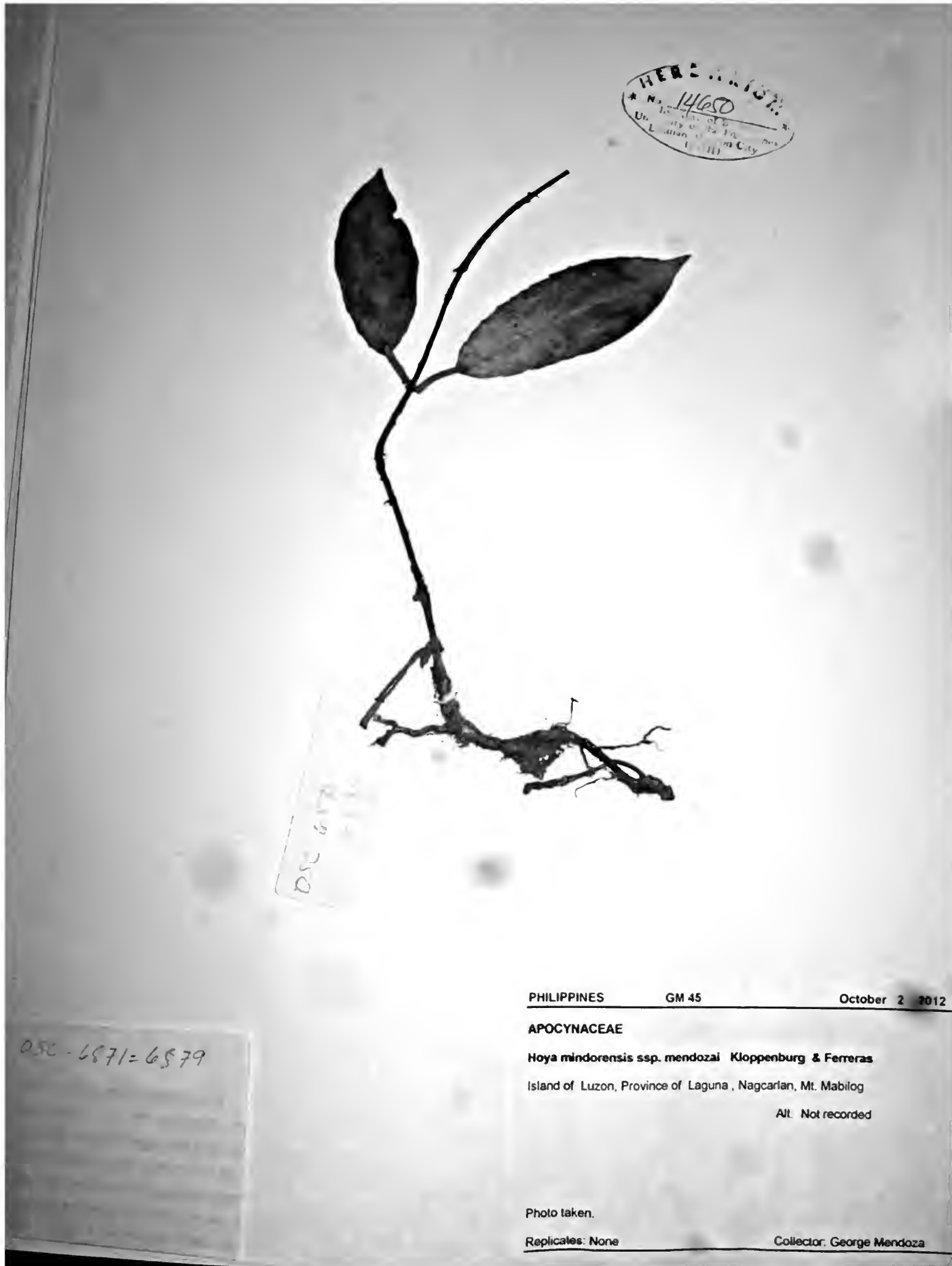
George Mendoza, Landscape Artist, Nurseryman and Plant Explorer from Quezon City, Philippines, visit his web site www.forest-treasures.com.



Pictures from live flowers by George Mendoza

Collection number sp. GM #45

Reduced copy of the Holotype sheet:



Hoya moninae Kloppenburg & Siar

ISSN 2329-7336

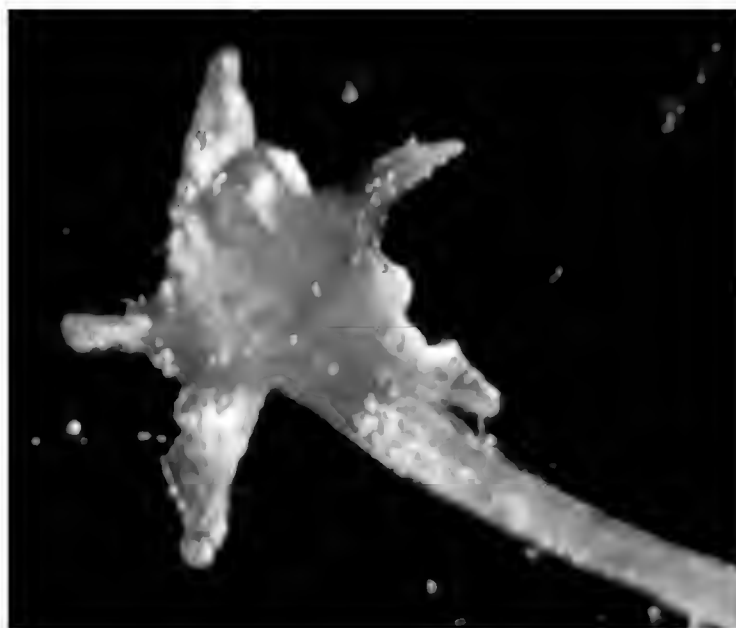
Hoya moninae Kloppenburg & Cajano sp. nova, holotypus 5295 (CAHUP) hic designatus. Epiphytica alte scandens, ramosa; caulibus ramisque filiformibus elongatis, flexuosis glabris, radicanibus, laxe foliatis; foliis patentibus patulisve, lanceolato-ellipticis, acuminatis, glabris, texture coriaceis 6.2-8.0 cm. longis, medio fere 2.8-4.3; cm. latis petiolo teretiusculo carnosio, 1.2-2.1 cm. longis; palmatim nervatus: cymis pedunculatis umbelliformibus, multifloris, pedunculo tereti, glabro, circ. 5 cm. longo, pedicellis gracilibus filiformibus, 2.0-2.5 cm. longis, glabris; floribus illis *Hoya mcgregorii* Schlechter in Philippine Journal of Science I p. 302 supplement (1906). Type: McGregor #191, (B). Calycis segmentis triangularis, glabris, circ. 0.11 cm. longis; corolla rotate, circ. 0.9 cm. diametente complanatis, usque infra medium; 5-lobata, extus glabra. Intus puberulus; coronae lobus intus spatulatus, apice anteriore acutis, dorso concavis, subtus longitudinaliter foveolatis; pollinia 0.39 mm longus, translatoribus perbrevis, retinaculo minuto oblongoideo.

This new species is some ways similar to *Hoya mcgregorii* Schlechter but differs in many ways namely the leaf nervation here is palmate as opposed to triplinerved. This new species is named to honor the late Dr. Monina V. Siar.

Stems: glabrous, terete 0.43 cm. in diameter, long internodes, nodes only a little enlarged.

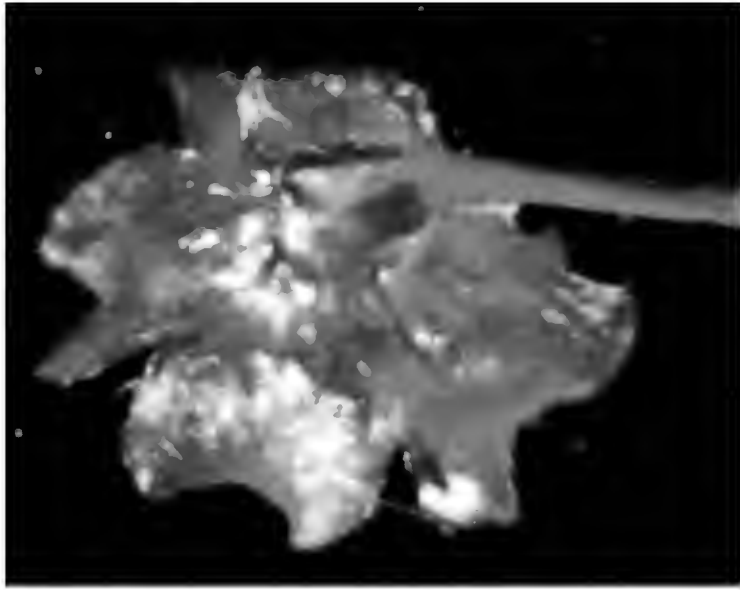


Pedicel: enlarged about 16x, curved, looks variable in length 2.0 – 2.5 cm. and 0.04 cm. in diameter, terete, glabrous, enlarging a little near the calyx. Pedicel longer than with *H. mcgregorii*



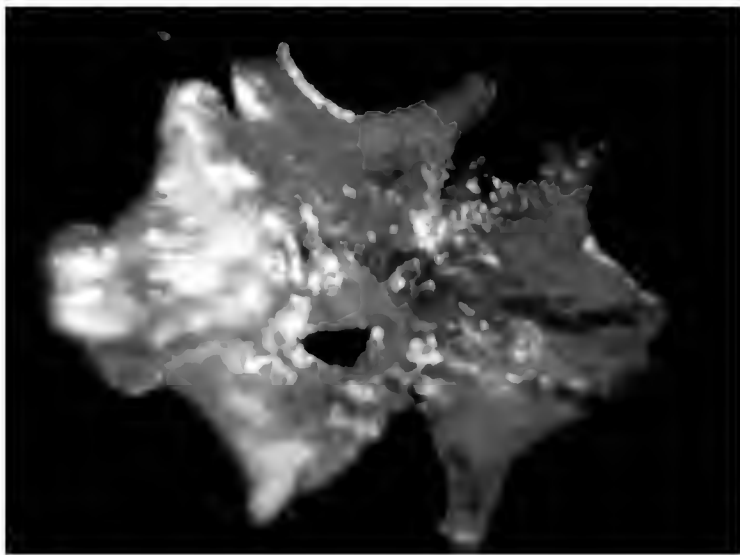
Side view of the **calyx** enlarged about 16x. Sepals are triangular, glabrous on both surfaces, 0.11 cm. long and 0.09 cm wide at the base. Ligules present? They do not reach the corolla sinuses.

Ovaries: short 0.07 cm, tall and 0.10 cm wide at base of pair, glabrous. Calyx not ovate obtuse as with *H. mcgregorii*.

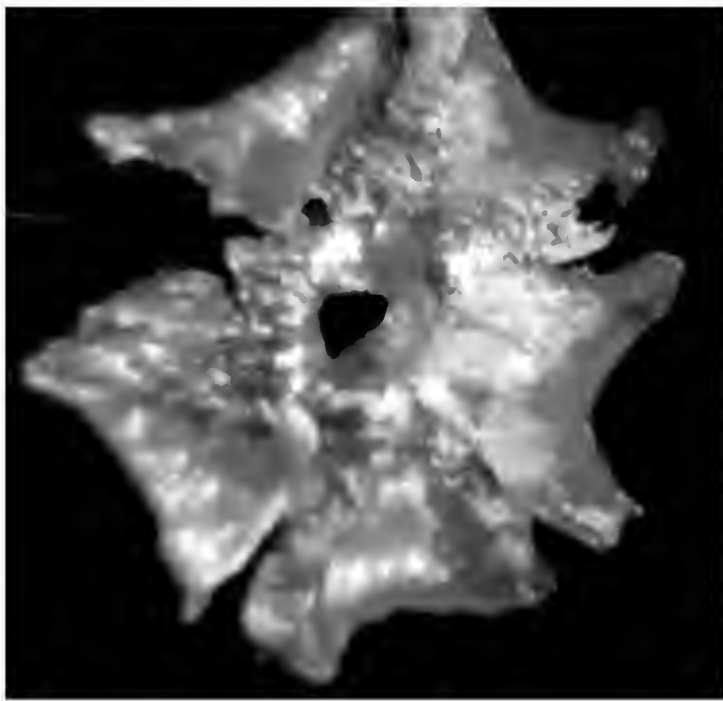


Flower outside view enlarged about 8x, Flower dried, corolla lobes folded in, one sepals of calyx end turned up. Corolla outside is glabrous, note in lower side the coronal lobe projecting from corolla sinus. Flower larger than *Hoya mcgregorii*.

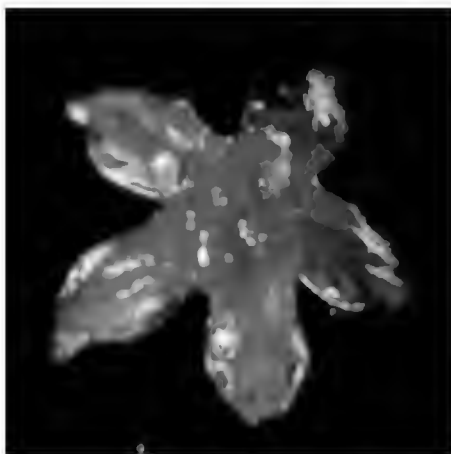
Sinus – sinus	0.22 cm.
Sinus – center	0.22 cm.
Sinus – apex	0.35 cm.
Apex – center	0.45 cm.
Widest	0.35 cm.



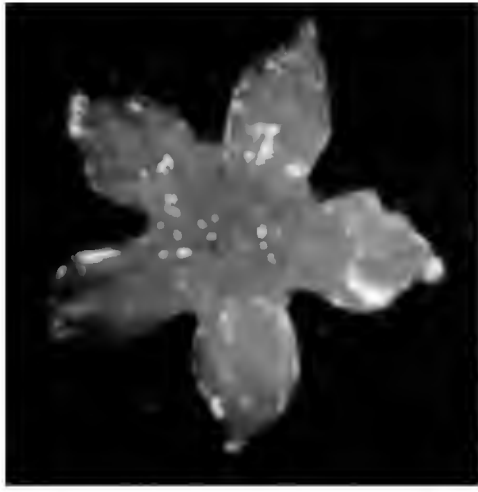
Outside view of the corolla enlarged about 8x, surface is glabrous, a central collar a little thickened is convex as it is on the inside also.



Inside view of the corolla enlarged about 8X, the surface is puberulent, central collar thickened, lobe apices are acute and deeply cut.

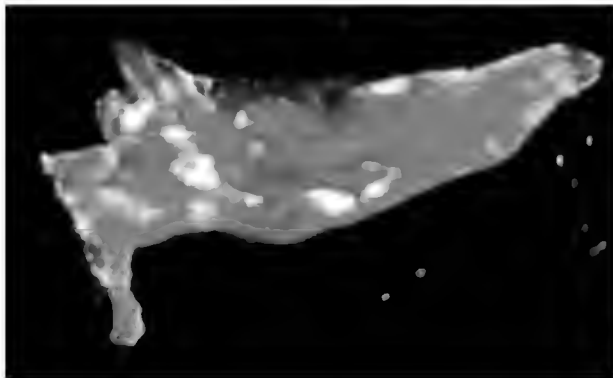


Bottom view of the corona, enlarged about 8x, lobes are channelled to near the central thickened column, lobe surfaces are finely sulcate. Apex acute. Anther wing apices even with the coronal sinuses.

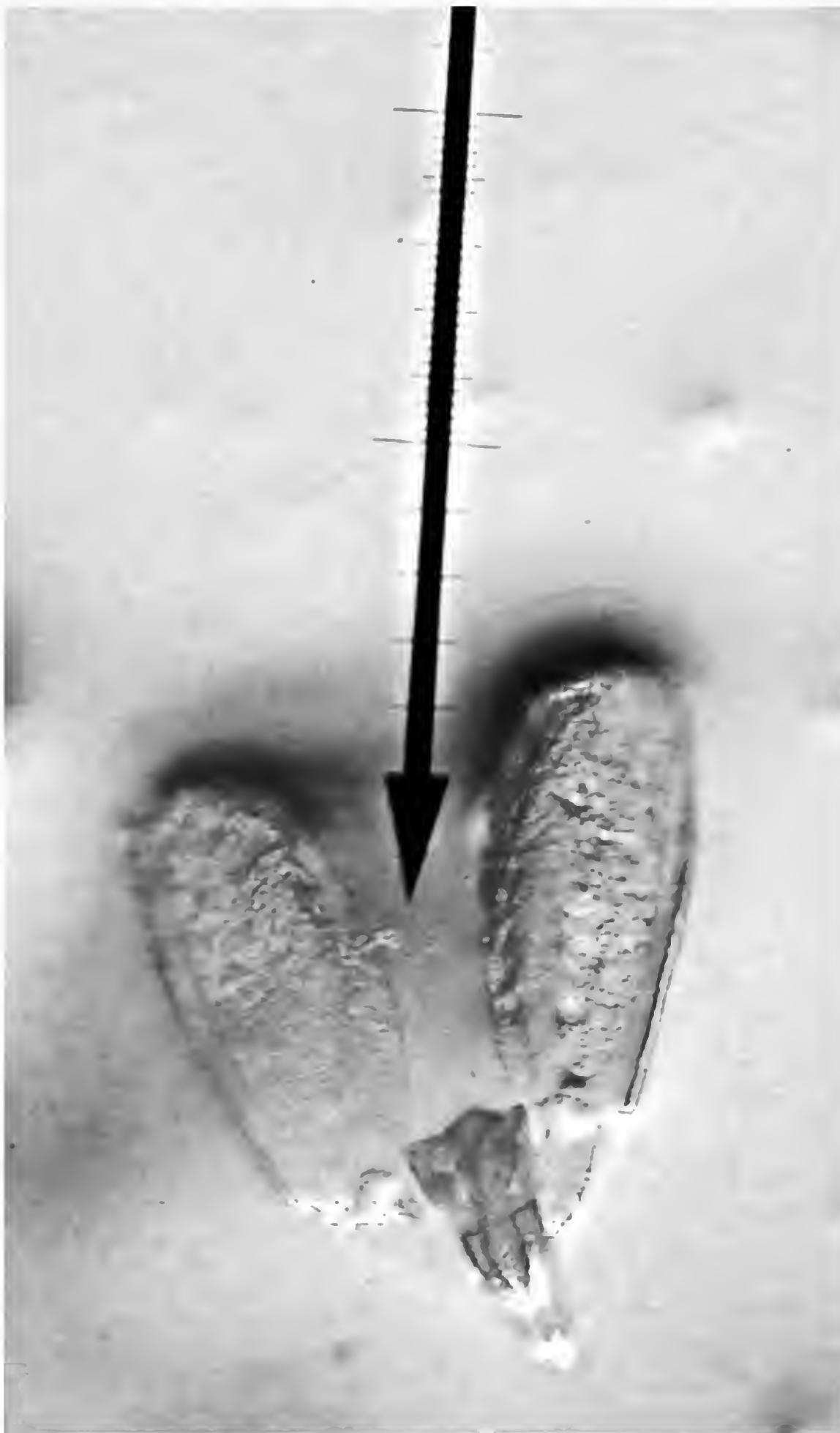


Top view of the calyx enlarged about 8x. Inner lobes are spatulate and raised, dorsal concave with a keel down center with a small umbo forward.

Apex – apex	0.19 cm.
Apex – center	0.21 cm.
Widest	0.11 cm.
Ret. – ret.	0.06 cm.
Ret. – center	0.03 cm.
Aw.- aw.	0.11 cm.
Aw. – center	0.10 cm.



Side view of a coronal scale enlarged at least 16x. Inner lobe raised slightly is spatulate, anthers overtopping, back a little swayed maybe due to drying on the herbarium sheet, outer lobe sub acute.



Pollinarium enlarged about 165x.

Pollinium

length 0.39 mm.
widest 0.17 mm.

Retinaculum

length 0.11mm.
shoulder 0.09 mm.
waist 0.03 mm.
hip 0.07 mm.
ext. 0.02 mm.

Translators

length 0.09 mm.
depth 0.04 mm.

Caudicle

bulb diam. 0.05 mm.

Caudicle bulb is relatively small.

Ratio: r/p 3

pl/pw 2.3

Translator/caudicle type:
ls/o

Flowers studied 5/30/06

Determination: Appears very near IML850 DMC 1713 mistakenly labeled *Hoya mcgregorii*. Found at UP Landgrant along river near Bot. Nursery, 17 March 1990 by Blas Hernaez.

Foliage: ovate-lanceolate apiculate, 6.2 – 8.9 cm. long x 0.28 – 4.3 at the widest near the middle, petiole 1.1 – 2.1, glabrous. Palmate nervation? Much shorter length than *mcgregorii*.

Reduces copy of the Type sheet CAHUP #5295



Hoya foxii Kloppenburg

ISSN 2329-7336

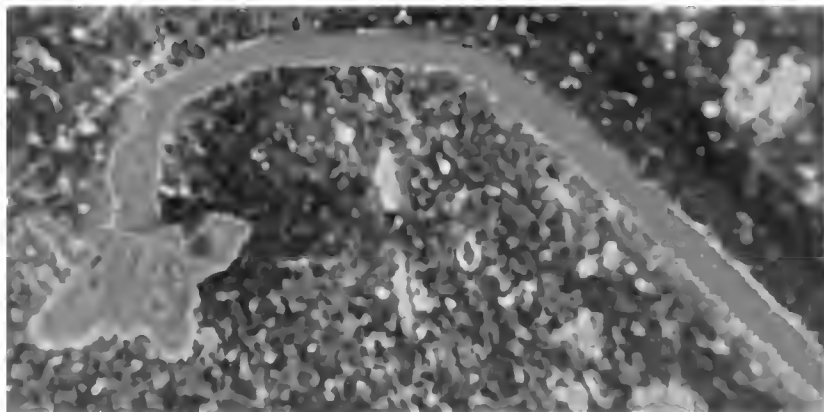
Hoya foxii Kloppenburg, sp. nova, holotypus #5023 (PNH) hic designatus. Epiphytica, volubilis, scandens, ramosa; caule ramisque filiformibus elongatis, flexuosis, teretibus, glabris, laxe foliatis; foliis; ellipticis, acuminatis, glabris, pli-nervis, 8-10 cm longis, medio vel infra medium 2.5-3 cm latis, petiolo brevi carnosos; pedicellis filiformibus gracilibus, teretibus, glabris, 1.7 cm longis; calycis segmentis ovatis glabris, 0.12 cm longis; corolla usque infra medium 5-fida reflexa, extus glabra, intus minutissime et subinconspicuo puberulosa, 0.90 cm diametiente complanatus, lobis late ovatis, acutis, circ. 0.29 cm longis; coronae lobus intus dentatus apice sub-acutis subreflexa, dorso concavis, subtus sulcatis.

A twining epiphyte, climbing branched, stalks and branches threadlike elongate, flexible round, glabrous, loosely leaved, with the leaves elliptical, acuminate, glabrous, with pli-nerves, 8 – 10 cm long in the middle or below 2.5 – 3 cm wide, petiole short fleshy, pedicels threadlike slender, glabrous, round, 1.7 cm long, calyx segments ovate glabrous, 0.12 cm long; corolla is reflexed outside glabrous inside minutely and somewhat inconspicuously puberulous, 0.90 cm in diameter flattened, lobes broadly ovate, acute, about 0.29 cm long; with the lobes of the corona, with inner lobe dentate the tip sub-acute and a little reflexed (turned down), with the dorsal concave, channeled below.

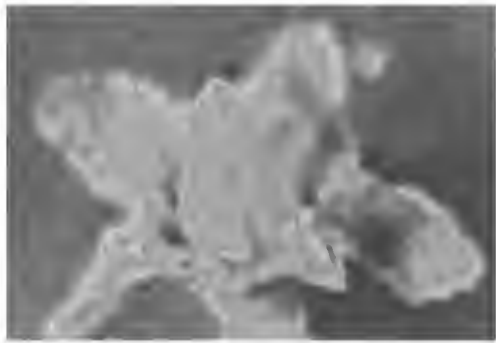
This species was labeled *Hoya gracilis* Schlechter ?, collected by Robert B. Fox at Dibutunan, Baler, Quezon Province, Luzon, Philippines march 1948. Determination made by E. D. Merrill. This species is not a Section *Acanthostemma* (Bl.) Kloppenburg species. It is not *Hoya gracilis* Schlechter.

The notation on the herbarium sheet says “The leaves of this plant are crushed in a coconut shell of water, removed, and then the leaves are rubbed over the entire body of a person suffering from fever”.

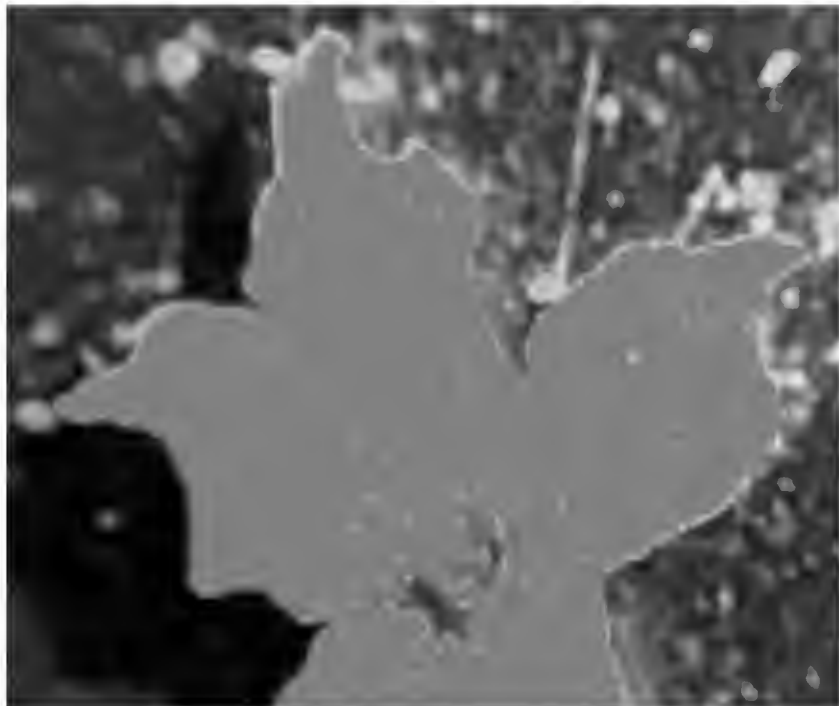
Photomicrographs from the herbarium sheet flower:



Pedicel, calyx and ovaries enlarged about 8x. Pedicel is long and curved, terete, glabrous, filiform 1.7 cm long and 0.035 cm in diameter. Sepals have about 1/4 overlap at their base, edges membranous, apex rounded 0.12 cm long and 0.08 cm wide. Ovaries are bottle shaped 0.10 cm tall base pair 0.08 cm wide.



Calyx and ovaries top view enlarged about 16x.



Corolla outside enlarged about 8x. Corolla is reflexed, outside surface punctate, inside finely pubescent. Lobes are deeply cut.

Sinus – sinus	0.20 cm
Sinus – center	0.16 cm
Sinus – apex	0.35 cm
Apex – center	0.45 cm
Widest	0.25 cm

Flower diameter flattened 0.90 cm

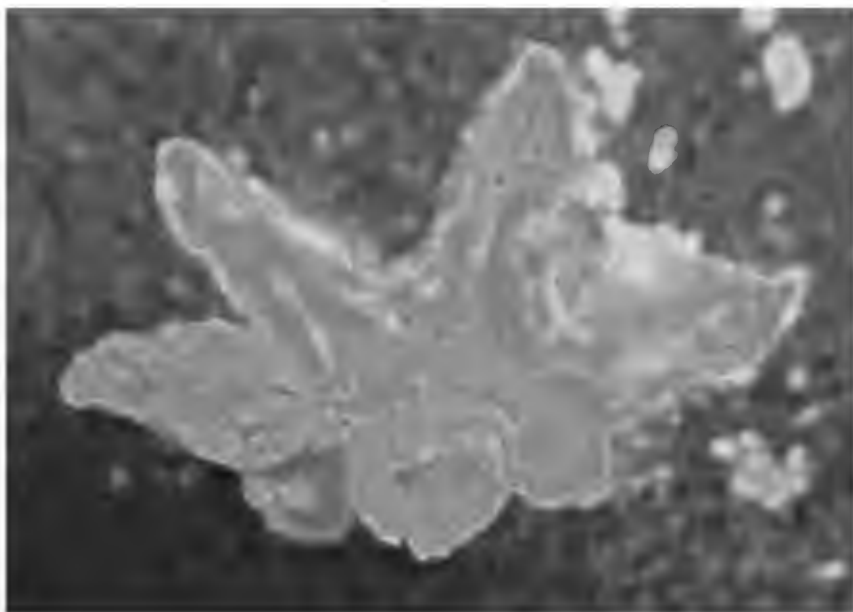
Stems: woody, subterete, glabrous.

Internodes: 6-11 cm long, glabrous.

Nodes: flattened, enlarged, glabrous.

Petiole: mostly 1 cm long, probably grooved, glabrous.

Blade: 8-10 cm x 2.5-3 cm pinnate venation 6 pairs, glabrous top, fine granulose below.



Bottom view of the corona enlarged about 16x. This surface is channeled, with edges finely sulcate. There is a long column 0.06 cm tall, oval opening 0.10 cm x 0.05 cm. The anther wing apices are extended from the lobe sinuses with rounded apices.



Top view of the stylar crown center enlarged about 16X. The raised center is ornate capitate (somewhat as with *Hoya darwinii* Loher but not as elaborately detailed).



Top view of the corona enlarged about 8x. Inner lobes are raised as are the outer lobes. Inner ones rise above the center but do not cover the anthers and they are sharply dentate. Dorsal surface seems concave and outer apices narrowly rounded.



Pollinarium enlarged about 65x. This is the best I could do with the subject. No details of the retinaculum, translators or caudicle. One pollinium rounded the other tapered.

Pollinia

length 0.45 mm

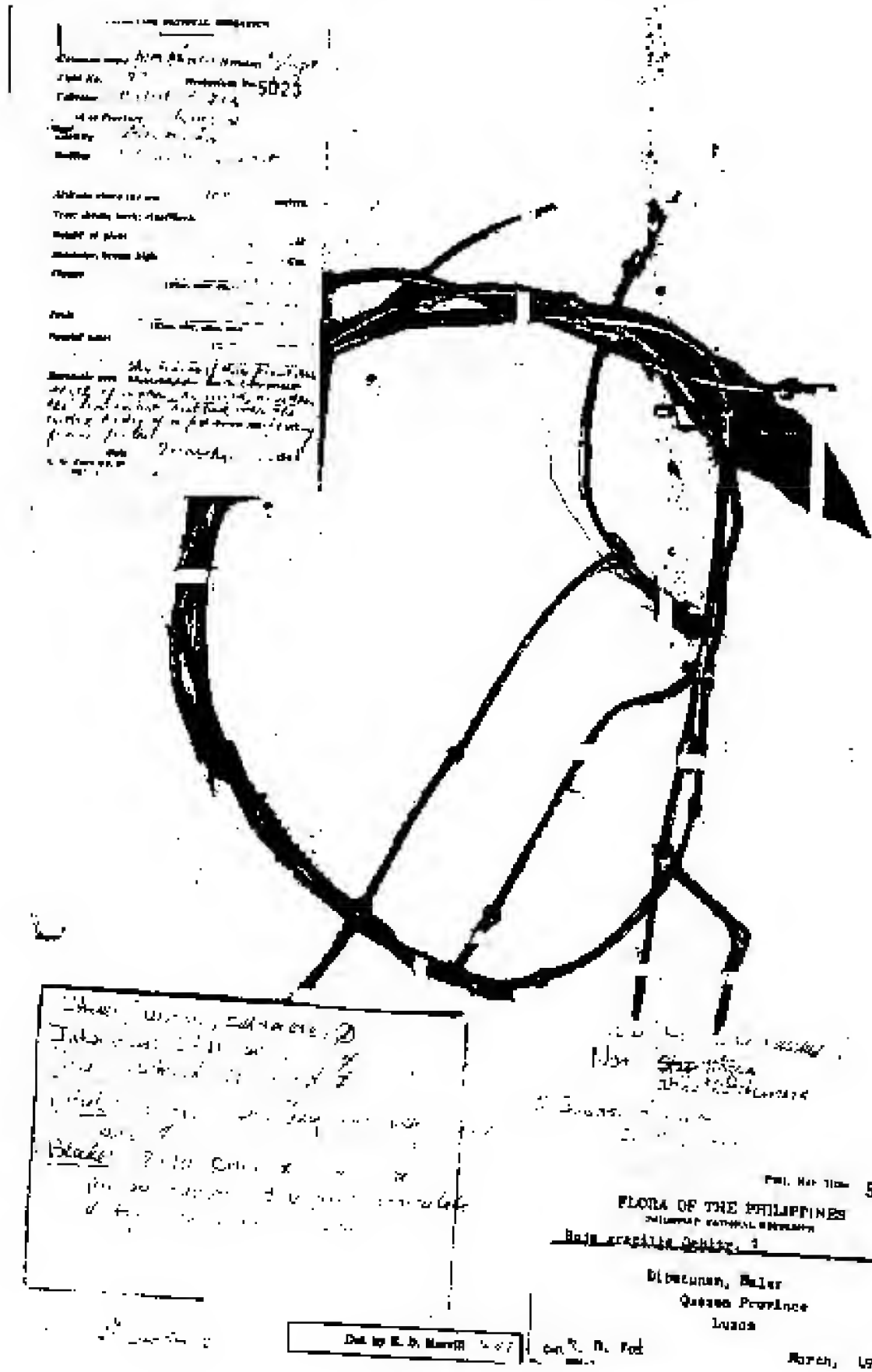
widest 0.21 mm

Retinaculum

length 0.41 mm

Reduced copy of the type sheet:

Herbarium sheet reduced, not a very clear copy.



Data in upper left corner of sheet:

Common name: Aimbangon
Dialect: Egerngat.

Field No.: 43 Herbarium No.: 5023

Collector: Robert B. Fox.
Province: Quezon
Locality: Dibutunan
Habitat: 2k in from coast.
Altitude: Altitude above sea: 100 meters.

New combination:

Hoya blashernaezii Kloppenburg **subsp. siariae** (Kloppenburg) Kloppenburg
com. nov. Basionym *Hoya siariae* Kloppenburg in *Fraterna* 15(3): 1 (2002) Holotype
67052 (CAHUP). Collected at Tyabas, Quezon, Philippines,.

Hoya siariae is different enough in the shape of the pollinaria retinaculum (shield
shaped not oval) and other measurements and enough differences to be considered a
subspecies