

HOYA NEW



This is a slide from March 1986. Near village of Ghara above Tatopangi Central Nepal, 5800' elevation. I do not know who took it. Tree overhanging Kali Ghandaki River gorge. Photographer unknown.

Oh There it is !

A pdf publication devoted to the Genus

Hoya ISSN 2329-7336

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Editor:

Dale Kloppenburg

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 amorosoae** T. Green & Kloppenburg
3. **Hoya concava** Kloppenburg, Siar, Cajano & Carandang
4. **Hoya imbricata subsp. megapollinia** Kloppenburg
5. **Hoya bacunganeneis** Kloppenburg
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7. **Hoya samarensis subsp. gutierrezii** Kloppenburg
8. **Hoya ormocensis** Kloppenburg

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 amorosoae *T. Green & Kloppenburg
ISSN 2329-7336

*Green: Plant Research, P O Box 597, Kaaawa, Hawaii 96730

New Hoya species (Apocynaceae-Asclepidaceae) from Mindanao Island, Philippines.

Abstract: To add to the existing described hoya species from the Philippines is this new unique species that differs from all known Philippine species by its tiny flowers small floral parts and different leaves. Collected on Mt. Hamiguitan, Mindanao Island, Philippines, by the late Dr. Cecile Amoroso, for whom it is named.

Key words: Hoya amorosoae, Hoya bilobata, Mindanao.

Hoya amorosoae T. Green & Kloppenburg sp. nova, holotypus BISH 761229 (BISH) hic designatus, similes *Hoya bilobata* Schlechter 1905 sed corollae lobus 0.38 cm longus contraste 0.15 cm et foliis ventralis cum disperses anthocyanin pigmentum et folio ad marginem incrassata et biloba brevior, et flos centro non tholiformis ultimus pollinia interior apex planus acuminatus non rotundatus, differt. Folliculus ignota.

Diagnosis:



Pedicel: section with calyx and ovaries showing enlarged ca. 24x, pedicels are curved of various lengths, 0.4 – 0.95 cm long, terete, glabrous 0.7 cm in diameter.

Sepals: 5 narrowly ovate, granulate outside, slick glabrous inside, edges somewhat ragged, very small basal overlap ca. 0.01 cm, 0.09 cm long and 0.04 cm at the widest. Base is slightly granulate and sub-bulbous.

Ovaries: glabrous bottle shaped 0.08 cm long and base pair 0.07 cm wide, apex with circular lip like modifications.

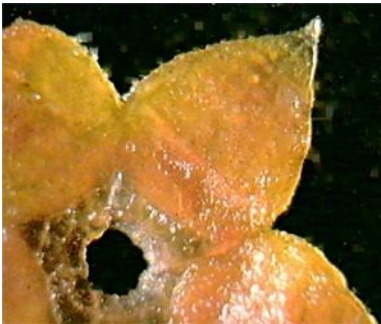


Ovary: apical area greatly enlarged to show the circular, lip like, end modification.



Corolla: ventral surface enlarged ca. 10x the surface is glabrous.

Sinus – sinus	0.18 cm
Sinus – center	0.15 cm
Sinus – apex	0.22 cm
Apex – center	0.32 cm
Widest	0.19 cm



Corolla: dorsal surface enlarged as above, this surface is papillose except for the central concave area and the lobe apices that are glabrous. The center is surrounded by five low narrowly bulbous protrusions at the lobe bases.



Corona: ventral surface enlarged ca. 23x, surfaces are glabrous, the lobes are channeled to near the central thick walled column which is 0.02 cm long with a circular opening 0.04 cm thick walled, clear around it. Anther wings do not protrude from the lobe sinuses, channel surfaces are nearly smooth.



Corona: side view of dorsal surfaces, enlarged as above. Inner lobes are raised and spatulate, meeting in the center, and with finely granulate surfaces dorsal with a central raised area, edges rounded, outer apex obtuse with the bilobed edges that extend beyond the outer apex and curve so apices meet. Anthers slightly longer.

Apex – apex	0.13 cm
Apex – bilobed ends	0.15 cm
Widest dorsal	0.05 cm
Widest including lobes	0.09 cm



Corona lobe side view enlarged ca. 48x, here the anther (left top) shows it above the inner lobe, below right the bi-lobe structure is visible with ends turned up and edges rounded.



View of the rachis end, first flowering showing the unequal, curved, glabrous pedicels, 20-23 in a cluster, forming a concave, negative geotropic umbel.



Partial view of a cluster of the flowers showing that this *Acanthostemma* species has a revolute pubescent corolla with the bilobed corona, with the center raised, flowers in the cluster tightly spaced, rose.

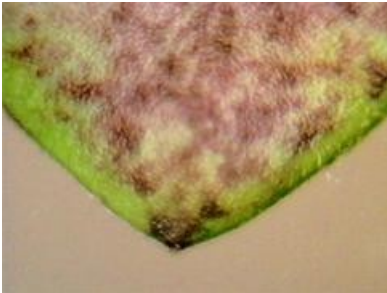


Leaves: opposite, petiolate, oval, base obtuse, apex sub-acute, most 2.7 cm long and 1.5 widest. Stem and petioles and one leaf base enlarged ca. 10.6x. The stems are terete, strict finely pubescent, internodes are 4.5-8.5 cm long, 2 opposite leaved at each node and two adventitious roots light in color, irregular in diameter mostly 0.15 cm in diameter 1.8 cm long that are granulate glabrous. Leaf petiole upper right is terete, pubescent, curved 0.3 cm long and 0.15 cm in diameter.

Photo to the left enlarged ca. 9x the stem, dark color, with an adventitious root above and a petiole and leaf base below, the leaf base is obtuse with a fleshy ligule at the attachment point dorsal side, surface is puberulous when small maturing leaf dorsal more granulate with edge areas pubescent.



Leaf edge dorsal surface, enervis, granulate except the edges pubescent and rounded. Adventitious root portion to the far right.



Ventral leaf surface at apex, greatly enlarged. About half of the leaves have irregular rusty-red colored blotches on the surface the leaf edges are rounded and the dorsal green color shown on this surface also note the scattered pubescent edge, otherwise the surface is granulate. Leaf apex is blunt.



Leaf: ventral view on left, dorsal view on right.



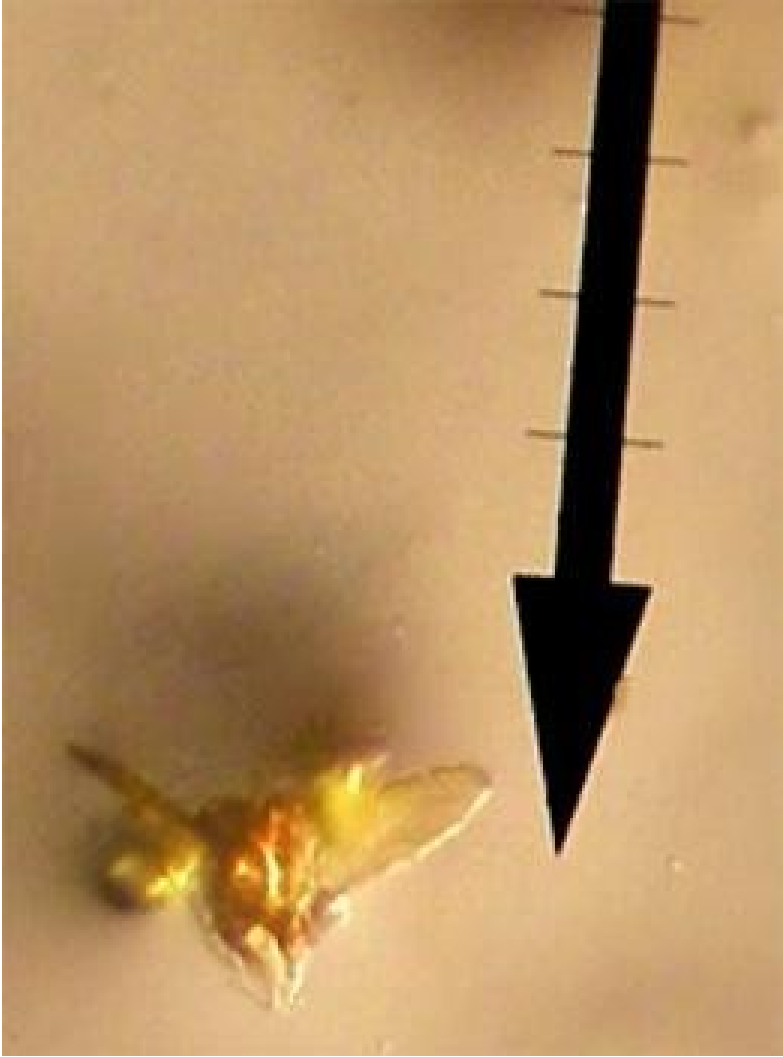
General growth about ½ natural size.



Growth comparison: *H. amorosoae*, on left, *Hoya bilobata* on the right.



Peduncle: with the rachis at the end enlarged ca. 20x. Peduncle is 2.5-4.0 cm long x 0.01 cm in diameter, the surface is glabrous but scruffy enlarging toward the rachis that is twice as large in diameter, bracteate with sub-cupped bracts.



Retinaculum
length 0.10 mm
shoulder 0.05 mm
waist 0.04 mm
hip 0.05 mm
ext. 0.03 mm

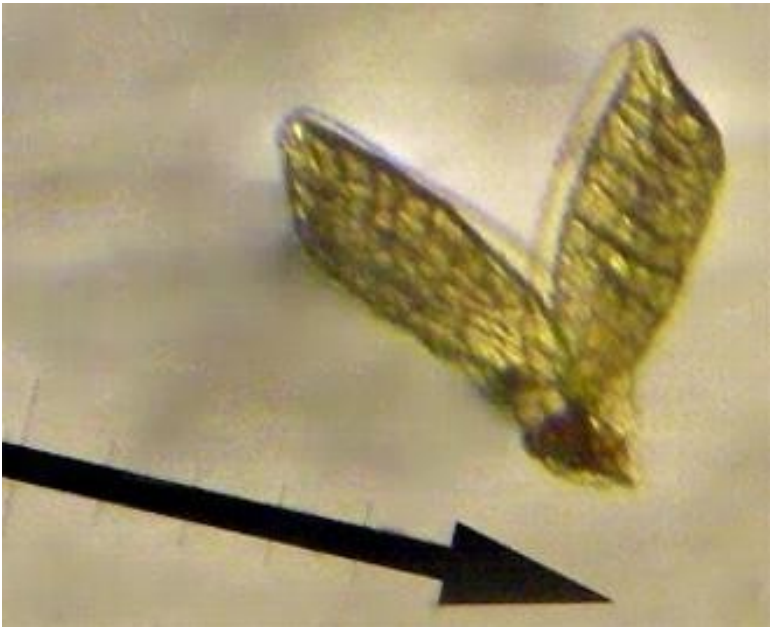
Translators
length 0.08 mm
width 0.04 mm

Pollinarium enlarged
230x.

Pollinia
length 0.22 mm
width 0.09 mm

Translator/caudicle
type: fb/cw

Pollinia ends: F (flat)



Minimal musk fragrance.
Flowers continually and
last about 5 days. Sap
milky white. Mature
plant about 1m in
diameter.

Hoya concava Kloppenburg, Siar, Guevarra & Carandang
ISSN 2329-7336

Hoya concava Kloppenburg, Siar, Guevara & Carandang sp. nova, holotypus 5991 (CAHUP) hic designatus. Similis *Hoya salmonea* subsp. *pallida* Kloppenburg, Mendoza & Ferreras folia ambo dorsalis paginae concavis et pollinia 0.35 mm longis sed corolla diametro complanatus 1.00 cm vs. 0.80 sed coronae lobus non navicularis, sed differt.

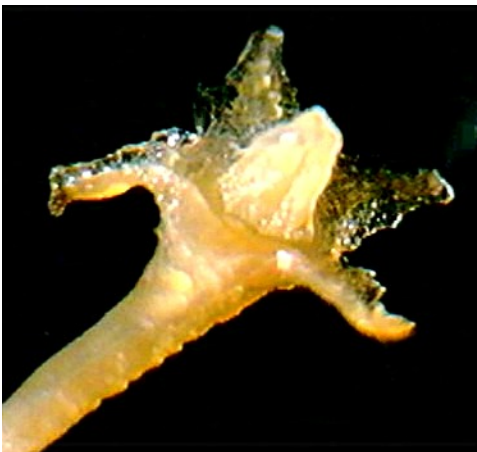
In a number of ways this new species is like *Hoya Salmonea subspecies pallida* as both have leaves with the dorsal surface concave and with pollinia of the same length however the corolla diameter flattened is larger 1.00 cm versus 0.80 cm and the corona lobes here are not boat shaped among other differences.



Pedicel: enlarged ca. 50x, filamentous, terete, glabrous, 1.4 cm long and 0.04 cm diameter.



Outside surface of the calyx enlarged ca. 22x. Sepals are glabrous, granulate outside slick inside, small basal overlap, apex sub obtuse.



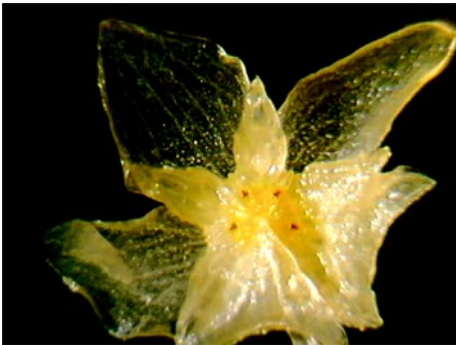
Side view of a calyx enlarged ca. 30x. No ligules seen, sepal apices do not reach the corolla sinuses. Sepals 0.12 cm long and widest near the base 0.08 cm.

Ovaries, glabrous, columnar, 0.09 cm tall and 0.17 wide at pair base.



Corolla: Outside surface enlarged ca. 13x, the surface is glabrous, deeply cut lobe apices acute, broadest out from the sinuses.

Sinus – sinus	0.21 cm
Sinus – center	0.19 cm
Sinus – apex	0.40 cm
Apex – center	0.50 cm
Widest	0.30 cm



Inside view of a flower enlarged ca. 13x. Corolla inside very finely puberulent, coronal outer lobe apices exceed the corolla sinuses and are acute-emarginate, inner lobes are spatulate and do not reach the center. Retinacula and anther wings are plainly visible from above. Dorsal is nearly horizontal, slightly sway backed.



Corona: bottom view enlarged ca. 16x. Lobes are channeled below to near the central column. Anther wing apices are rounded protrude slightly.

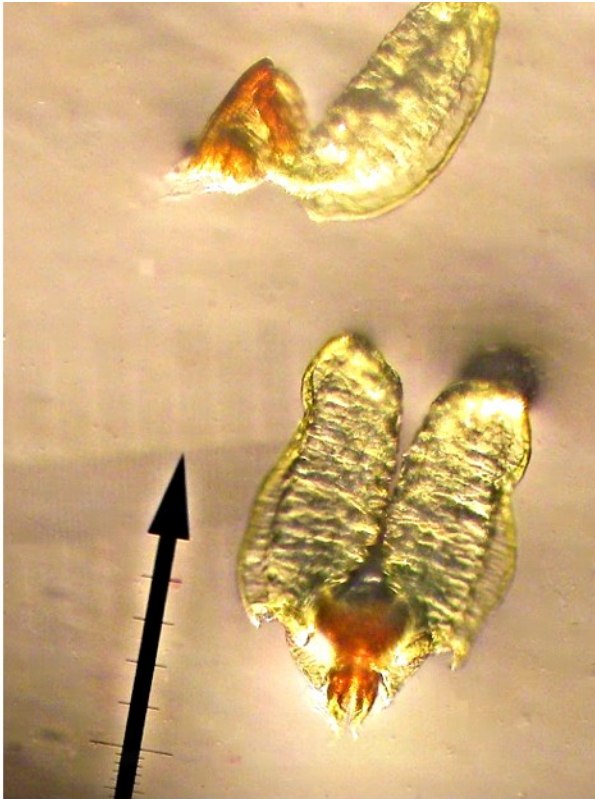
Apex – apex	0.27 cm.
Apex – center	0.30 cm
Widest	0.13 cm
Ret. – ret	0.06 cm
Ret. center	0.06 cm
Aw. – aw.	0.10 cm
Aw. – center	0.10 cm



Inside view of a corona enlarged ca. 16x, the dorsal is concave with a low central longitudinal keeled.



Side view of a coronal scale enlarged ca. 28x, scale is relatively thin, anthers exceed inner lobe, anther wing is deeply scythe shaped. Surface of scale is sulcate.



Pollinaria enlarged ca. 130x.

Pollinium

length 0.35 mm
widest 0.14 mm

Retinaculum

length 0.11 mm
shoulder 0.12 mm
waist 0.05 mm
hip 0.06 mm
ext. 0.05 mm

Translator

length 0.10 mm
depth 0.04 mm

Caudicle

bulb diam. 0.03 mm

Ratios: p/r 3.2 p/w 2.5

Translator/caudicle type: d/o

Pollinia inner apex type: R

Lower pollinarium distorted for some reason, some pollinaria were folded on themselves and here the pollinia are curled near apex and distorted, the upper picture the pollinium seems normal.

1. Quezon 1-021

Leaf sample	Length (cm)	Width (cm)	Thickness (cm)
1	17.3	7.0	0.130
2	14.5	6.3	0.135
3	12.3	6.4	0.140
4	14.7	8.6	0.145
5	12.9	7.7	0.140
6	10.2	5.5	0.135
7	10.9	6.1	0.150
8	12.0	6.4	0.130
9	14.6	5.7	0.140
10	12.5	6.5	0.160

Mean	13.2	6.6	0.141
Range	10.2-17.3	5.5-8.6	0.130-0.160

Leaves: opposite, petiolate, glabrous, elliptic-ovate, cupped (concave on dorsal side) base obtuse to sub cordate, apex acuminate-apiculate, nerves plinerved, inner pair nearly reaching the apex, anastomosing.

Collection number labeled sp. #1 Quezon 1-021 sent via Monina Siar, 16 May 2011, now 5 June 2011. 6 flowers in zip bag.



Photo from Dr. Monina Siar.

Photos below from George Mendoza, Manila, Philippines possibly the same species:



DSC 4308

Why color differences ? photography ?



DSC 4313

Close but difficult to be sure.



DSC 4314

Leaf looks very close.

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(Bebs) Maria Lusia D. Gueverra, her title is University Researcher, Fruit and Ornamental Crops Section, Crop Science Cluster, Institute of Plant Breeding, College of Agriculture, University of the Philippines in Los Banos, Laguna, Philippines.

Dale Kloppenburg retired: 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.

Hoya imbricata subsp. megapollinia Kloppenburg

ISSN 2329-7336

Hoya imbricata subsp. megapollinia Kloppenburg sp. nova, holotypus 41559 (CAHUP) hic designatus, similis *Hoya imbricata* Decaisne 1844 sed dissimilis id est pollinaria. Since nearly all descriptions of *Hoya imbricata* lack any measurements (a few mention the leaf dimensions and a few the flower size), it is difficult to delineate which of all the collections is typically comparable to the type species. This new sub-species however, differs from all other *Hoya imbricata* species I have studied, mainly in the size of the pollinaria. All previous studied specimens varied in pollinia length from 0.38 mm to 0.81 mm long, here the pollinia is 1.09 mm in length (the sixth longest of all the hoya species so far delineated). Nearly all parts are larger than others studied.



Pedicel: enlarged about 8x. It is large 3 cm long 0.10 cm in diameter, glabrous, terete.

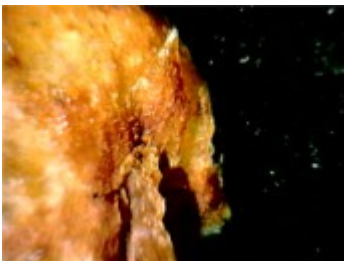


Outside surface of the calyx enlarged about 8x, sepals are large, apex acute, ciliate.

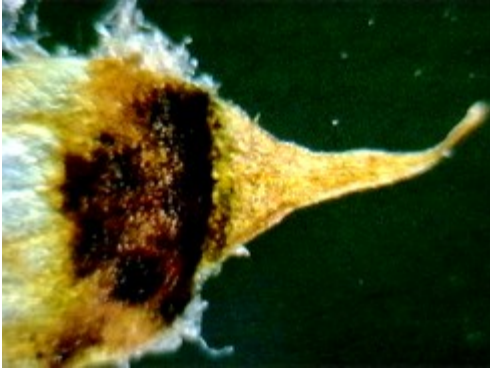


Inside surface of the calyx. Sepals are 0.35 cm long and 0.18 cm at the widest, ligules are present at the base sinuses, overlap about 1/3; they are hirsute ciliate.

Ovaries are glabrous 0.23 cm long and 0.15 cm wide at the base pair.

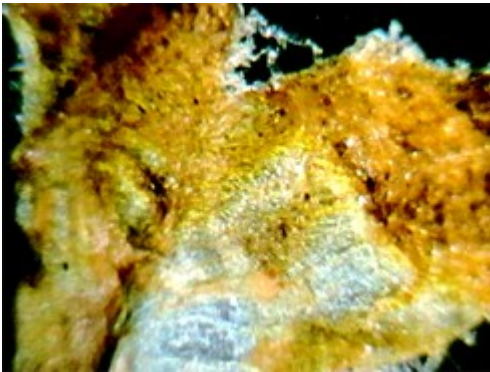


Outside surface of a flower at the calyx area enlarged about 8x. Sepals reach a little over half way to the corolla sinuses. Corolla surface here glabrous.

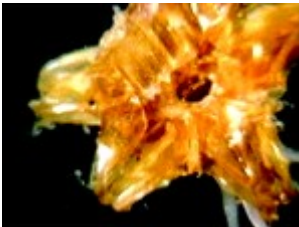


Apex of the corolla outer surface enlarged about 8x. The apex is long attenuate, surface is glabrous.

Sinus – sinus	0.46 cm
Sinus – center	0.38 cm
Sinus – apex	0.90 cm
Apex – center	1.20 cm
Widest	0.50 cm



Inside surface of the corolla enlarged about 8x. Surface is villous except for the outer lobe which is glabrous.



Bottom view of the corona enlarged about 8x. Lobes are shortly channelled, glabrous.



Side view of the corona between two scales enlarged about 8x. The lobes have prominent side lobes that at least in this dry state seem to be bi-lobes extending beyond the obtuse lobe apex, inner lobes are very upright, glabrous, anther wing slot very prominent.

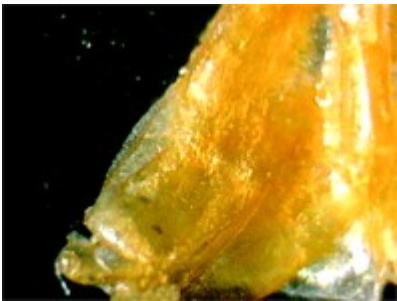


Another view of the corona showing the emerging clear membranous anthers extending way beyond the inner spatulate apices.

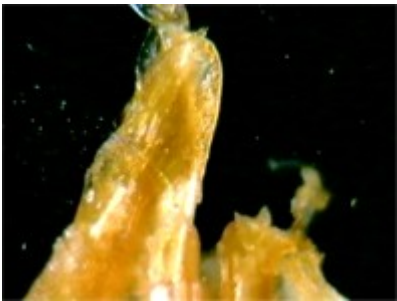
Apex – apex	0.50 cm
Apex – outer lobe end	0.54 cm
Width of dorsal	0.12 cm
Side lobe width	0.20 cm
Anther length	0.45 cm
Anther beyond lobe	0.32 cm



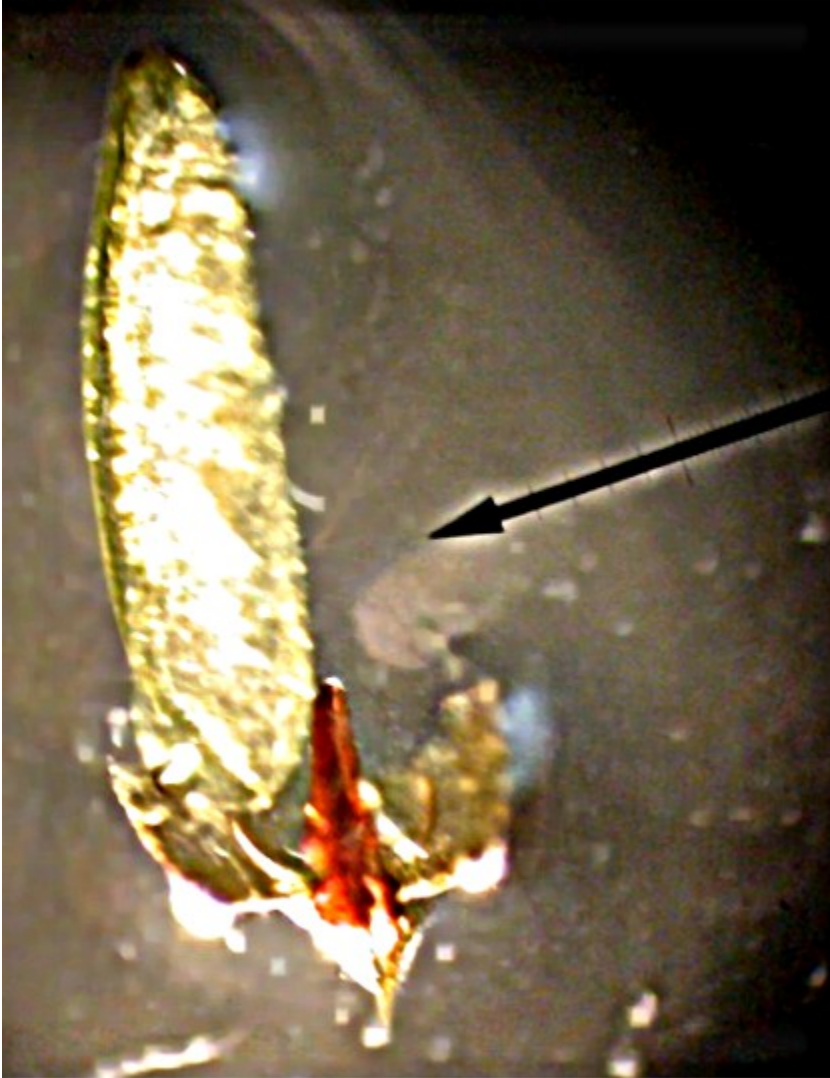
Side view of a scale enlarged about 16x. Center of scale is dome shaped while the well developed side lobes here extend beyond the outer apex and turn inward, much like many *Acanthostemma* species. The anther is long and thin.



Outer coronal lobe apex greatly enlarged showing the obtuse slightly turned up end of the coronal lobe to the lower left and a little beyond this the side lobe also with an obtuse end.



Greatly enlarged spatulate inner apex of the a coronal lobe.



Pollinarium with one pollinium missing enlarged about 165x.

Pollinium

length 1.09 mm
widest 0.16 mm

Retinacula

length 0.36 mm
should. 0.10 mm
waist 0.05 mm
hip 0.10 mm
ext. 0.04 mm

Translators

length 0.32 mm
depth 0.06 mm

Caudicle

bulb diam. 0.08 mm

Ratio: r/p 2.7
p/w 6.8

Translator/caudicle type: fb/cw

Pollinia inner end type: R

CAHUP #8359

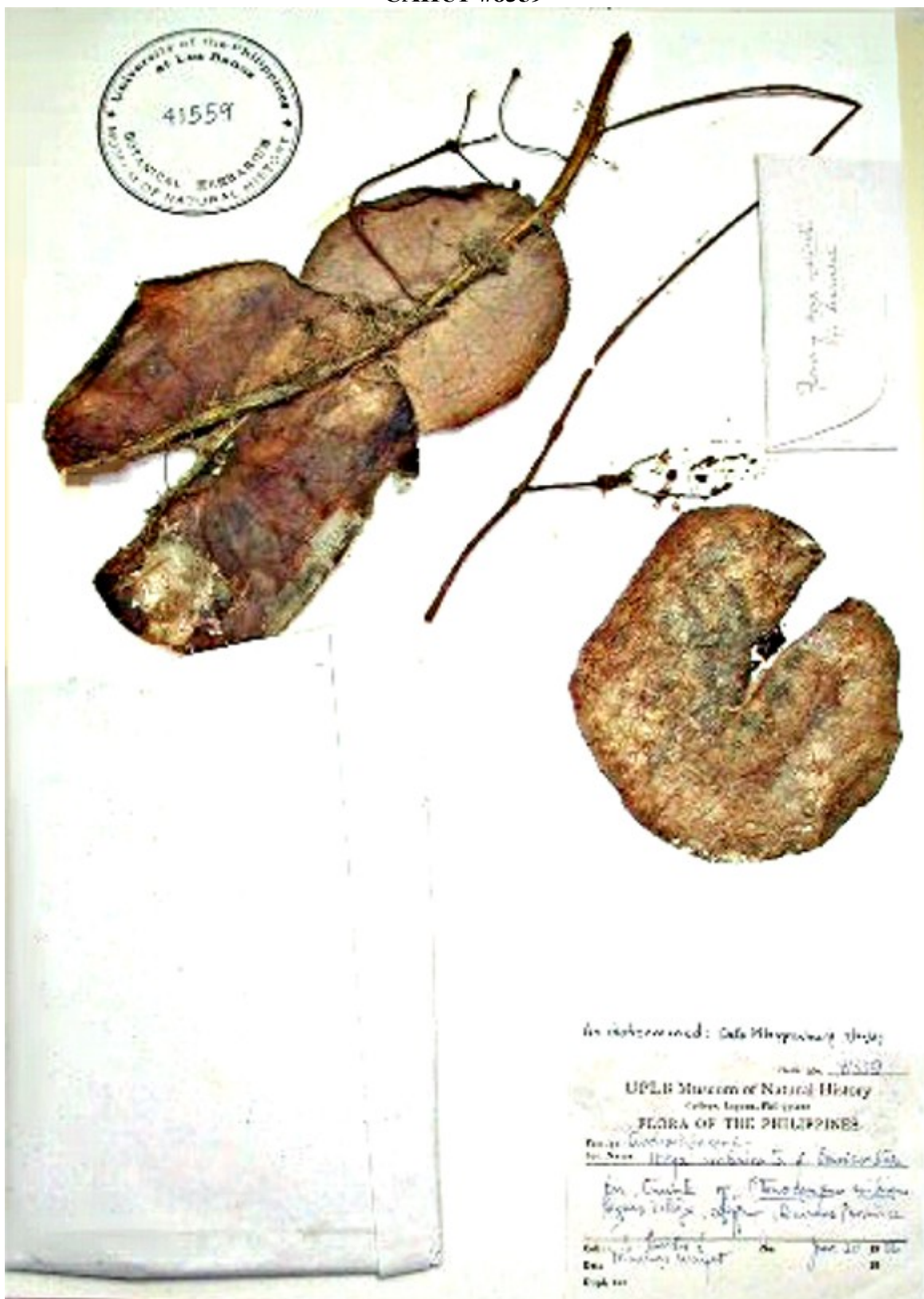


Chart Of some *Hoya imbricata* entities

Measure cm	MW Baguio	DK Palawan	TG Mottled	TG Solid Gn.	DK Tonusu	Warburg Maxima
Leaf type						9-10
Leaf size						
Stem						
Root						
Peduncles						8-11 x1.5-2
Pedicle lgth.			1.3-1.6	to 3.8	1.8	1.3-3 x 0.66
diameter	0.11		0.09	0.15	0.12	
surface	fine pub.			lenticels		
Calyx lgth.	0.11	0.21	0.16		0.14	
width	0.09	0.17	0.13		0.11	
surface			ciliate		Entire	ciliate
Ovaries tall	0.12		0.14		0.15	
base (2)	0.10		0.13		0.10	
Corolla out	puber	puber	puber	v. long	puber	
in	granulose	granulose	granulose	granulose	granulose	
S-S	0.47	0.30	0.21	0.50	0.29	
S-A	0.95		0.55	0.85	0.49	
S-C	0.36	0.25	0.24	0.40	0.25	
widest	0.45		0.33		0.30	
diameter	2.50		1.44	2.20	1.50	1.20
Corona						
A-A	0.25	0.21	0.21	0.39	0.19	
widest	0.09	0.10	0.12	0.15	0.06	
Rt-Rt	0.06	0.08	0.10	0.10		
Aw-Aw	0.17	0.14	0.15	0.25	0.11	
C-A			0.28	0.43	0.28	
Aw lgth.	0.12	0.07	0.11	0.09		
depth (ht.)	0.50	0.18	0.18	0.26	0.20	
base lgth.	0.30	0.20	0.20	0.19	0.20	
collar				0.15	0.15	
Anther lgth.	0.36	0.15	0.17	0.23	0.08	0.20
width	0.06	0.03	0.03	0.04	0.06	
Pollinarium	measurements below in mm					
poll. lgth.	0.8	0.38	0.43	0.70	0.47	
poll. width	0.24	0.14	0.16	0.25	0.15	
Ret. lgth.	0.39	0.14	0.11	0.27	0.18	
shoulder	0.08	0.08	0.05	0.16	0.07	
waist			0.04		0.04	
hip			0.06		0.06	
ext.				0.15		
Translator						
lgth.	0.25	0.15	0.17	0.20	0.24	
bulb diam.			0.06		0.07	

Hoya bacunganensis Kloppenburg

ISSN 2329-7336

Hoya bacunganensis Kloppenburg sp. nova, holotypus 349 (PNH) hic designatus. Not like any other white flowered Philippine hoyas species, of which there are at present six species. Among the white flowers species it is closest to *Hoya eburnea* in having the channeling of the coronal lobe edges turned outward to form the “V” shape channel, also the coronal lobes exceed the corolla lobe sinuses, in addition the pollinia are the same length 0.41 mm, however the coronal lobes are entirely different, as are the retinacula among other differences. This species was collected by G. E. Edano at Bacungan, Puerto Princessa, Palawan, Philippines 28 Mar. 1947.

A very woody stem 0.06 cm in diameter enlarged at the nodes with circular scars, glabrous.

Leaf blade: opposite, petiolate, 11 – 14.5 cm long, 3.5 cm wide. narrow tapering to both ends, base cuneate, apex acute, glabrous, margins undulant entire, looks thick and fleshy.

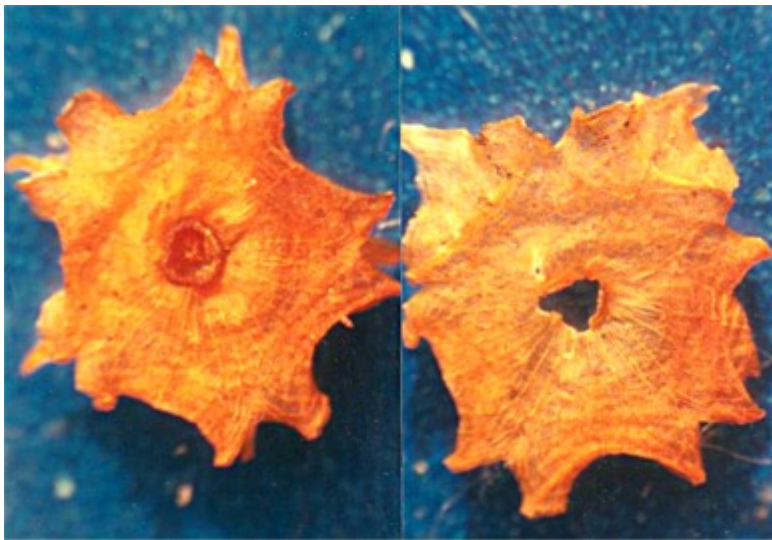
Petiole: 1-1.5 cm long x 0.03 cm in diameter rugose, channeled above.

Peduncle: short 1 cm long, terete, glabrous.

Pedicel: ca 2 cm long, 0.35 cm in diameter, glabrous, very filiform, amber color.

Calyx: 0.10 x 0.10 cm broadly triangular, glabrous overlap ½. Ligules of dark color.

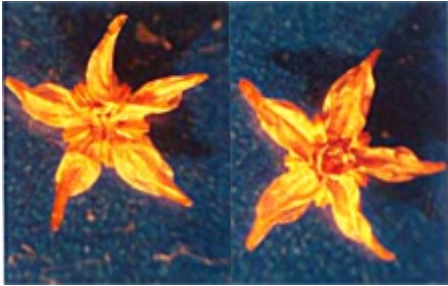
Ovaries: 0.06 cm x 0.06 cm.



Outside left and inside right of the corolla enlarged about 8x. Outside glabrous, inside pubescent except under the corona, color white
Collar 0.08 x 0.03 cm

Sinus – sinus	0.30 cm
Sinus – center	0.25 cm
Sinus – apex	0.30 cm

Apex – center 0.45 cm
 Widest 0.28 cm



Corona bottom right and top left enlarged about 8x. Glabrous, outer lobes very acute, exceed the corolla sinuses, inner lobes meeting in the center, with narrow peaked ridge down the center, anther wings very prominent.

Apex – apex 0.35 cm
 Widest 0.13 cm
 Ret. – ret. 0.05 cm
 Aw. – aw. 0.15 cm



Pollinarium enlarged about 165x.

Pollinium
 length 0.41 mm

widest 0.19 mm

Retinaculum

length 0.21 mm

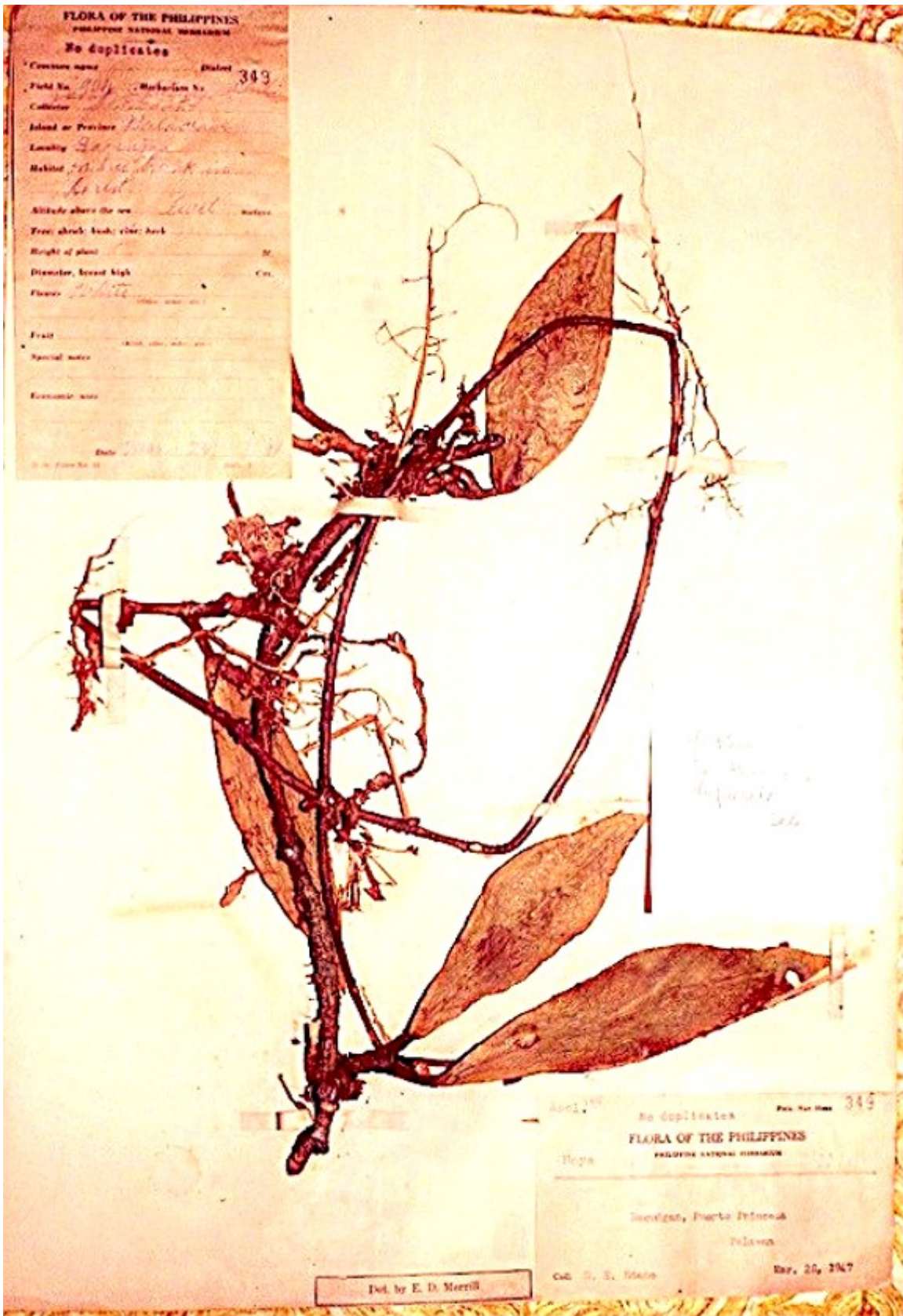
shoulder	0.11 mm
waist	0.09 mm
hip	0.10 mm
ext	0.03 mm close bifid apex

Translators very short and tight.

length	0.11 mm
depth	0.02 mm

Caudicle bulb diam 0.04 mm ca.

Notations: Found on tree trunk in forest at seal level.



FLORA OF THE PHILIPPINES
PHILIPPINE NATIONAL HERBARIUM
No duplicates

Collector name _____ District 349
Field No. 349 Station No. _____
Collector _____
Island or Province _____
Locality _____
Habitat _____
Altitude above the sea _____ meters
Tree, shrub, bush, vine, herb _____
Height of plant _____ m.
Diameter, breast high _____ cm.
Flower _____
Fruit _____
Special notes _____
Economic uses _____
Date _____

No duplicates
FLORA OF THE PHILIPPINES
PHILIPPINE NATIONAL HERBARIUM

349

Boya

Saniglat, Puerto Princesa
Palawan

Det. G. S. Gentry
Mar. 26, 1947

Det. by E. D. Merrill

Hoya barbonii Kloppenburg

ISSN 2329-7336

Hoya barbonii Kloppenburg sp. nova holotypus PNH 2175 hic designatus. This species in the section *Acanthostemma* Kloppenburg and the first Philippine hoyia species to have a pollinium that is 0.28 mm long and the first Philippine *Acanthostemma* with a pollinia that is 0.11 mm wide. The Anther wings are in the preserved flowers very pronounced with wide sides and a deeply cut apical area. The only species in this section with a corolla flattened with a smaller diameter corolla is *Hoya rizaliana* Kloppenburg at 0.74 cm, all others are at 1.00 cm or larger, here it is 0.84 cm. It has been named for the lead collector. Now deceased. An old friend of mine.

Collected by Barbon, Alvarez, Garcia at Sibulan, Sta Maria in watershed area 8/31/91.

Stem: 0.1 - 0.2 cm in diameter, nodes 0.4 cm in diameter, internodes 6 cm long, rather uniform, glabrous.

Blade: long narrow 7 x 0.7 cm folded when dry, base attenuate, apex sub-acute, glabrous, enervis, channeled. Petiole 1 cm rather fine, glabrous.

Peduncle: 5- 6 - 7 + cm 04 cm slight curve, upright.

Rachis: cylindrical, fine, slightly enlarged.



Pedicel and view of back of the flower enlarged about 8x.

Pedicel: 0.5 – 1 cm long curved, glabrous 16 in this cluster.

Calyx: 0.12 x 0.09 cm, triangular, outside punctate, 1/3 overlap of sepals at base, reach 1/3 way to the corolla sinuses.

Corolla: outside granulose-glabrous.

Ovaries: 0.13 x 0.09 cm, glabrous.



Corolla outside surface enlarged about 8x, lobes are deeply cut, broadest just above the sinuses, apex acute. Color yellow-orange ?

Sinus – sinus	0.23 cm
Sinus – center	0.20 cm
Sinus – apex	0.29 cm
Apex – center	0.42 cm
Widest	0.24 cm



Inside view of the flower enlarged about 8x. Corolla is finely pubescent, lobes just reach the corolla sinuses, outer and inner lobes obtuse. Anther wings doubled, center raised, color clear yellow.

Apex – apex	0.59 cm
Widest	0.22 cm
Ret. – ret.	0.04 cm
Aw. – aw.	0.13 cm



Pollinarium enlarged about 125x.
Inner pollinia lobes are truncate,
translators are long and narrow
with clear caudicles visible.

Pollinium

length	0.28 mm
widest	0.11 mm

Retinaculum

length	0.13 mm
head	0.04 mm
hip	0.05 mm
ext.	0.02 mm

Translators

length	0.14 mm
widest	0.003 mm

Caudicle

bulb diam.	0.05 mm
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Type: Clear

Translator/caudicle type: lb/o

Pollinia inner end type: T

Hoya samarensis subsp. gutierrezii Kloppenburg

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Hoya samarensis subsp. gutierrezii Kloppenburg subsp. nova, holotypus 117633 PNH his designatus. Similis sp. sed flos color violabeus non luteus et sepala linearis non triangularis et corolla diametro complanatus 0.80 cm contrastre 0.94 cm, differt.

This subspecies is similar to the species both have similar coronal structures and pollinarium, however the flower color is different also the calyx lobes here is linear as opposed to triangular and the corolla flattened has a smaller diameter 0.80 cm vs. 0.94 cm among other differences. The species is named for the lead collector. It was collected at Mt. Sohoton, Bassey, Samar, M-A 1970. 125° 12' E. 11° 27' N. Diptocarp forest, vine, flower violet, leaf tinged violet.

Stems: flexible reddish in color, nodes slight, internodes rooting, rigid, glabrous.

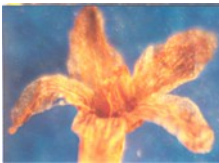
Leaf: opposite, petiolate, glabrous with anthocyanin pigmentation, 4-9 cm x 1.5-2.5 cm, elliptic-lanceolate, base cuneate, apex acute, enervis, margins undulant, a tinge of violet, probably very thick and fleshy.

Petiole: 0.8-1.0 cm x 0.1-0.15 cm glabrous, most likely not channeled above.

Peduncle: 8.5 x 0.1 cm glabrous thin strict.

Rachis: finely bracteate.

Pedicel: 1.5 – 2 cm, 0.02 cm in diameter, glabrous, yellowish very long, very fine.



Top view of a calyx enlarged about 8x, sepals 0.18 cm x 0.10 cm outside puberulous-punctate, very slight basal overlap, long and narrow apex obtuse, long dark ligules. Ovaries short domed shaped.



Flower enlarged about 8x. Sepals do not come near the corolla sinuses. Corolla outside glabrous.



Inside view of a flower enlarged about 8x. Corolla is pubescent, coronal lobes exceed the corolla sinuses.

Sinus – sinus	0.20 cm
Sinus – center	0.20 cm
Sinus – apex	0.40 cm
Apex – center	0.61 cm
Widest	0.39 cm

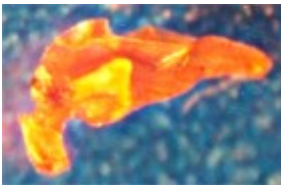


Bottom view of the corona enlarged about 8x. Lobes are channeled with a central column of 0.10 cm tall.

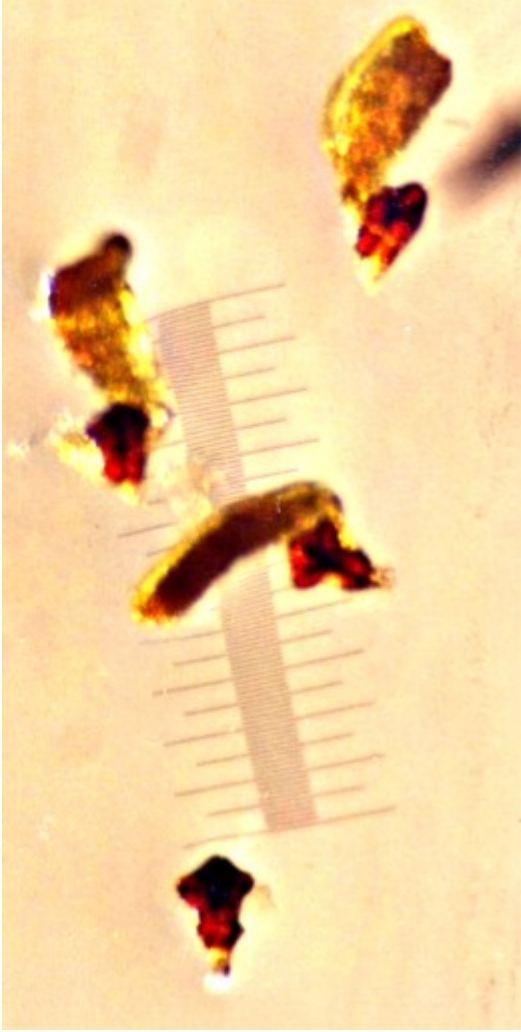


Top view of the coronal one lobe reflexed inward, enlarged as above. Dorsal concave with central keel the length of the scale, inner apex dentate outer acute.

Apex – apex	0.31 cm
Widest	0.12 cm
Ret. – ret	0.05 cm



Side view of a coronal lobe enlarged about 16x. Inner lobe short dentate, outer apex subacute Anther wings deeply scythe sapped.



A view of several pollinaria scale included is 1 mm in total length. It appears the pollinium in different photos are different length and widths. I do not know the reason ?

Pollinium

length	0.35 mm
widest	0.18 mm

Retinaculum

length	0.17 mm
shoulder	0.15 mm
waist	0.06 mm
hip	0.08 mm
ext	0.03 mm

Translator

length	0.08 mm
depth	0.02 mm

Caudicle

bulb diam.	0.05 mm
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Translator/caudicle type: ls/o

Pollinia inner end type: F

Holotype sheet, reduced copy.



Hoya ormocensis Kloppenburg

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Hoya ormocensis Kloppenburg sp. nova holotypus 11895 (PNH) hic designatus. Pro parte maxima similes *Hoya ferrerasii* Kloppenburg & Siar 2010 sed flos color differt et folia elliptica acuminata contrastre obovata acuta et corolla diameter complanatus 0.88 cm contrastre 1.00 cm et incisura plus peritus. Pollinium longior 0.43 mm contrastre 0.39 mm, differt.

The species is for the most part similar to *Hoya ferrerasii* but the flowers are of a different color and the foliage is shaped differently here elliptic with a acuminate apex vs. obovate and with an acute apex also the diameter of the corollas flattened are different here 0.88 cm vs. 1.00 cm and here the corolla is more deeply cut also the pollinia are longer 0.43 mm vs. 0.39 mm among other differences. This species found by G. E. Edano 12 March 1950 at Antilao River, Ormoc, Leyte, Philippines. Field No. 2018, along a ridge in forest, elevation 500 meters. Flower green, fruit green.

Leaves: opposite, petiolate, lanceolate, reticulately veined, prominent midrib, pinnate veins 5-6 pairs on either side of midrib. Blade 10-12 cm long x 3-4 cm wide; top glabrous bottom scattered hairs, most along the midrib.

Petiole: 1-1.5 cm long, straight very finely pubescent, purplish color.

Nodes: somewhat enlarged rooting.

Peduncle: 2.5 – 7.5 cm long finely pubescent.

Rachis: circular enlarged, pods and blooms at the same time. 2 pods from 1 blooming 1 from another flower, fascilate.

Pods: 8 cm long x 0.2 cm in diameter dark colored, calyx persistent.

Photomicrographs follow. Flower from herbarium sheet:



Pedicel, calyx and ovaries enlarged about 8x.

Pedicel: ca. 1.3 – 2.0 cm long, terete, filiform finely hirsute.

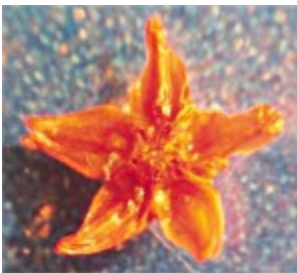


Pedicel and calyx enlarged about 24x, to show the dense hirsute surfaces. Sepals are in addition ciliate; inside glabrous. 0.1 cm long base 0.05 cm



Corolla top view enlarged about 8x. Coronal lobes exceed the sinus of the corolla. Corolla lobes very wide above the sinuses. Flower diameter flattened is 0.88 cm in diameter.

Sinus – sinus	0.20 cm
Sinus – center	0.15 cm
Sinus – apex	0.34 cm
Apex – center	0.44 cm
Widest	0.31 cm



Corona top view enlarged about 8x. Dorsal side of lobe broadly keeled, inner lobe spatulate almost reaching the center. This appears to be a species with rudimentary side lobes as the apex appears emarginate. The anther wings are thick. Diameter 0.56 cm

Apex – apex	0.26 cm
Apex – center	0.28 cm
Widest	0.125 cm
Anther wing – aw.	0.11 cm
Ret. – ret.	0.05 cm



Bottom view of the corona enlarged about 8x. The lower side is channeled well in toward the center, surfaces are sulcate. There is a central column, relatively long. Scale outer apices are emarginate (slit or cleft).

Pollinarium enlarged about 110x. Pollinia outer apices taper inwardly & flat.



Pollinia

length 0.43 mm
widest 0.13 mm

Retinaculum

length 0.23 mm
shoulder 0.09 mm
waist 0.03 mm
hip 0.06 mm
extensions rudimentary.

Translator

length 0.07 mm
depth 0.02 mm

Caudicle bulb diam. 0.06 mm

Translator/caudicle type: p/o

Pollinia inner end type: F (flat)

Herbarium Holotype sheet reduced:

