



NEW SPECIES OF *HOYA* R.Br. (APOCYNACEAE) FROM THE PHILIPPINES

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ABSTRACT - Six new species of *Hoya* R. Br. (Apocynaceae, Asclepiadoideae) indigenous to the Philippines are described and illustrated namely: *Hoya aurigueana* Kloppenburg, Siar & Cajano 2012, *Hoya benstoneana* Kloppenburg, Siar, Guevarra & Carandang 2012, *Hoya bicolensis* Kloppenburg, Siar & Cajano 2012, *Hoya persicina* Kloppenburg, Siar, Guevarra, Carandang & Mendoza 2012, *Hoya valmayoriana* Kloppenburg, Guevarra & Carandang 2012 and *Hoya vicencioana* Kloppenburg, Siar, Cajano, Guevarra & Carandang 2012.

Key Words: *Hoya aurigueana*, *Hoya benstoneana*, *Hoya bicolensis*, *Hoya persicina*, *Hoya valmayoriana* and *Hoya vicencioana*, pollinarium, corona, Philippine *hoya*

INTRODUCTION

Hoya R. Br. (Apocynaceae, Asclepiadoideae) is a genus of flowering plants distributed from India to the Pacific Islands. The worldwide count of species reached to more than 500 as listed in the International Plant Names Index (2012). In Asia, the southeast region has been reported to be likely the center of diversity as many species have been recorded and are still being discovered at present (Rodda and Ang, 2012). Among other nations, the Philippines contains one of the richest and most diverse range of *Hoya* species (Kloppenburg and Siar, 2008). Increasing awareness in Hoyas has been apparent as more and more enthusiasts are gaining interest to study, collect, conserve, and market this group of plants. Several new species from different locations all over the nation have been reported, with the most recent one in Mt. Mabilog, Luzon

Island (Kloppenburg et al, 2011). In identifying and delineating *Hoya* species, both qualitative and quantitative features of the corolla, corona and pollinarium are of great importance (Kleijn and van Donkelaar, 2001).

In this paper, six new endemic *Hoya* species are described namely: *Hoya aurigueana* Kloppenburg, Siar & Cajano 2012, *Hoya benstoneana* Kloppenburg, Siar, Guevarra & Carandang 2012, *Hoya bicolensis* Kloppenburg, Siar & Cajano 2012, *Hoya persicina* Kloppenburg, Siar, Guevarra, Carandang & Mendoza 2012, *Hoya valmayoriana* Kloppenburg, Guevarra & Carandang 2012, and *Hoya vicencioana* Kloppenburg, Siar, Cajano, Guevarra & Carandang 2012. The six new species bring the number of known Philippine *Hoya* species to more than 80.

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METHODOLOGY

The germplasm collection activity of the Crop Science Cluster-Institute of Plant Breeding on indigenous ornamental plants including *Hoya* was conducted all over the Philippines. This was accomplished through collection trips, collaboration with plant collectors, and exchanges with *Hoya* growers and enthusiasts from different parts of the country. The latter group also brought their *Hoya* plants for identification. For all accessions, initial evaluation, data gathering, and photo documentation of the plant and floral

characteristics were carried out in the institute. When the characters did not match with the published passport data of existing species, preserve specimens were sent to the first author for further evaluation, correct identification, or if new species – for description. For new species, herbarium specimen was prepared and deposited to the Museum of Natural History, College of Arts and Sciences, UP Los Baños as voucher. Meanwhile, plants are propagated and maintained at the Fruit and Ornamental Crops Section of CSC-IPB for other research activities and distribution to the public.



Figure 1. *Hoya aurigueana* Kloppenburg , Siar & Cajano. A. Habit; B. Leaves; C. Inflorescence (scale bar = 1 cm).

RESULTS AND DISCUSSION

Descriptions of New Species

Hoya aurigueana Kloppenburg, Siar & Cajano 2012 *Hoya aurigueana* Kloppenburg, Siar & Cajano, sp. nova, Holotypus 71848 (CAHUP) hic designatus, foliis ellipticus vel ovato-ellipticis basi subobtusis-cuneatis, apici acuminatis, glabris, textura crasse coriaceis, plinervis 13.9 cm longis, 3.2 cm latis: cymes umbelliformibus 7-15 floris. Calycis segmentis ovatis obtusis, glabris ca. 0.25 cm longis; corolla reflexum. Similis *Hoya juannguoana* Kloppenburg (2002) sed corolla ca. 1.40 cm vs. 1.68 cm diametro complanatus; retinacula rhombeus non linear et 0.11 mm longis vs. 0.26 mm et pollinia 0.46 mm longis vs. 0.60 mm differt.

This new species has elliptic to ovate elliptic, glabrous foliage, the base is somewhat obtuse to cuneate with acuminate apex, plinerved, 13.9 cm long and 3.2 cm wide. With 7-15 flowers in a cluster, calyx sepals are about 0.20 cm long, glabrous on both surfaces, ovate with obtuse apex. It is similar to *Hoya juannguoana* Kloppenburg (2002) in many respects but the corolla is larger in diameter 1.40 cm versus 1.68 cm flattened; the retinaculum here is rhomboid in shape versus near linear, 0.11 mm long as opposed to 0.26 mm; and the pollinia are shorter 0.46 mm versus 0.60 mm among other differences (Figures 1 and 2).

Leaves elliptic to ovate elliptic, 13.9 cm long, 3.2 cm wide, with entire margin. Base narrowly cuneate, apex acuminate, veins suprabasal reticulate. Peduncle 6.0 cm long and 0.16 cm in diameter. Pedicel terete, glabrous, strict, 1.6-2.5 cm long, 0.08 cm in diameter. Sepals do not reach the corolla sinuses, outside granulate, inside slick and glabrous with dark ligules, 0.20 cm long, 0.12 cm wide at the base, apex sub-acute. Ovaries dome-shaped, 0.10 cm tall, base pair 0.13 cm wide, glabrous, apical area notched rounded.

Corolla outer surface finely granulate and glabrous, apex acute, lobes widest about ½ way out. Inner surface extremely finely puberulent nearly glabrous, central area thickened and raised. Sinus to sinus 0.41 cm, sinus to center 0.30 cm, sinus to apex 0.25 cm, apex to center 0.70 cm, widest 0.23 cm. Corona all surfaces glabrous, lobes ventral side channelled, clear to the much thickened and enlarged center, lobe sides diagonally sulcate. Dorsal surface keeled from apex to apex. Inner lobe diagonally dentate, sulcate surface and rounded apex. Anther wings and retinacula sunken below scales, anther apices squared off. Apex to apex 0.40 cm, apex to center 0.42 cm, widest (dorsal) 0.22 cm, retinaculum to retinaculum 0.10 cm, retinaculum to center 0.09 cm, anther wing to anther wing 0.22 cm, anther wing to center 0.20 cm. Pollinarium measurements as follows: Pollinium length 0.46 mm, widest 0.20 mm. Retinaculum length 0.11 mm, shoulder 0.10 mm, waist 0.09 mm, hip 0.08 mm, extension 0.03 mm. Translator length 0.18 mm, depth 0.06 mm. Caudicle bulb diameter 0.06 mm. Ratios pollinium length/retinaculum length 3.0, pollinium length/width 2.5. Translator/caudicle type d/o (translator delta shaped; caudicle oval or round).

Etymology: This new species is named after Mr. Fernando B. Aurigue who collected the plant. He graduated Bachelor of Science in Agriculture major in Horticulture in 1986 from UP Los Baños and Master of Science in Plant Breeding in 1993 from the same university. Mr Aurigue is a Senior Science Research Specialist at the Philippine Nuclear Research Institute, Quezon City, Philippines. He is working on ornamental plants including the genus *Hoya*.

Hoya benstoneana Kloppenburg, Siar, Guevarra & Carandang 2012

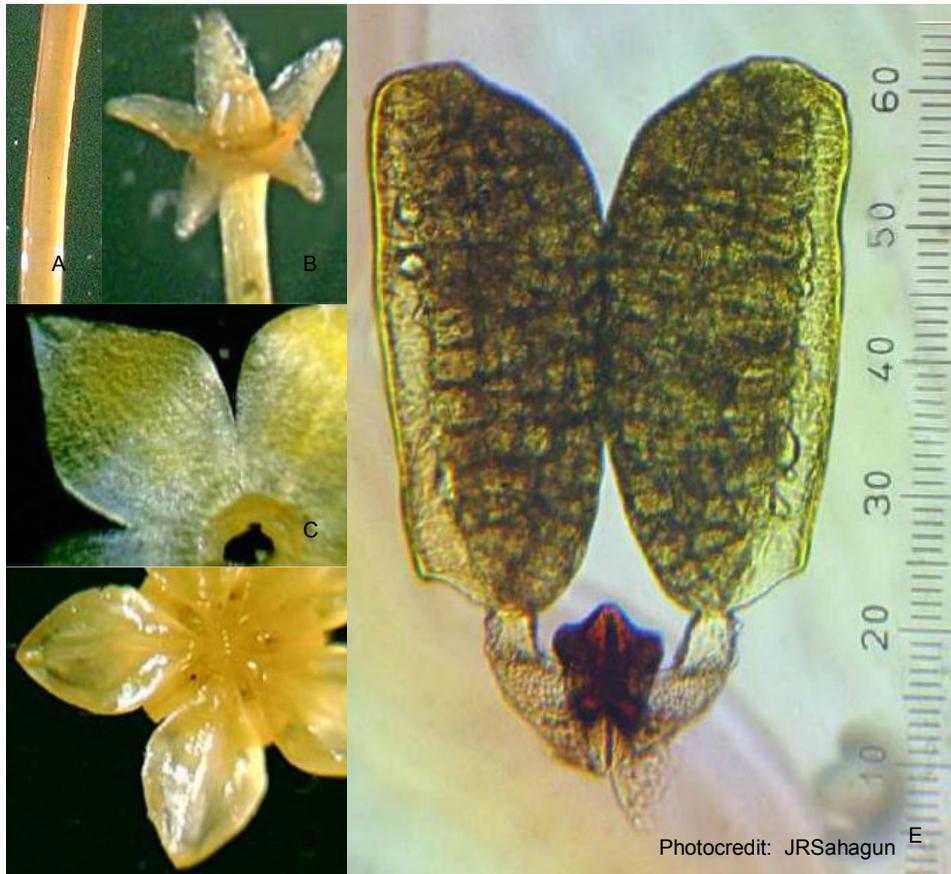


Figure 2. *Hoya aurigueana* Kloppenburg, Siar & Cajano, details of inflorescence. A. Pedicel; B. Calyx; C. Corolla; D. Corona; E. Pollinarium.

Hoya benstoneana Kloppenburg, Siar, Guevarra & Carandang sp. nova, Holotypus 71849 (CAHUP) hic designatus. Similis *Hoya aurantiaca* Kloppenburg, Siar & Cajano (Kloppenburg and Siar 2009), sed folio hic ovatum, palmatum versus obovatum, triplinervum; sepalo triangulari non late ovatum; corolla parviorum et incisus plus et corona angustam plus 0.10 cm latum versus 0.15 cm, differt.

This new hoyia species is similar to but different from *Hoya aurantiaca* Kloppenburg, Siar & Cajano (Kloppenburg and Siar 2009), the

foliage here is ovate, palmate versus obovate, triplinerved; the sepals are triangular not broadly ovate; the corolla is smaller, more deeply cut and the corona is narrower 0.10 cm wide versus 0.15 cm (Figures 3 and 4).

Foliage opposite, petiolate, glabrous, ovate elliptic, base ovate to cordate, apex. apiculate, nervation palmate and light colored, inner pair reach apex, somewhat netted, surface sub-cupped on under side. Presence of some anthocyanin pigmentation. Pedicel strict, terete, glabrous, very fine granulate surface, 2.2 cm long, 0.09 cm in diameter.



Figure 3. *Hoya benstoneana* Kloppenburg et al. A. Habit; B. Leaves; C. Inflorescence (scale bar = 1 cm).

Calyx base a little enlarged, outer surface granulate glabrous. Sepals very small, triangular, overlap a little at the base, 0.12 cm long, 0.12 cm at the widest, edges ragged, no ligules observed, outside granulate, inside slick glabrous, do not quite reach the corolla sinuses. Ovaries short, dome-shaped, glabrous, 0.13 cm tall and base pair 0.12 cm wide. Corolla deeply cut, outside surface glabrous and finely granulose, the center extended into a bulge toward the calyx and pedicel. Inside surface finely puberulent even the apical areas, center glabrous with a slight thickened pentagonal slightly raised ring. Sinus to sinus 0.20 cm, sinus to center 0.17 cm, sinus to apex 0.43 cm, apex to center 0.58 cm, widest 0.37 cm. Corona ventral rounded edges. Inner lobes spatulate that nearly touch the center. Outer apex raised above the center, acute, edges rounded, dorsal slightly

sunken in center. Apex to apex 0.11 cm, widest 0.10 cm, retinaculum to retinaculum 0.06 cm, anther wing to anther wing 0.14 cm. Pollinarium measurements as follows: Pollinium length 0.45 mm, widest 0.18 mm. Retinaculum length 0.15 mm, shoulder 0.12 mm, waist 0.05 mm, hip 0.10 mm, extension 0.03 mm. Translator length 0.10 mm, depth 0.06 mm. Caudicle bulb diameter 0.09 mm. Ratios pollinium length/retinaculum length 3.0, pollinium length/width 2.5 Translator/caudicle type d/o (translator is delta shaped while caudicle is oval or round).

Etymology: This new *Hoya* species is named in honor of Dr. Benjamin C. Stone, deceased, who last worked as a Principal investigator of the Flora of the Philippines Project. Dr. Stone was the world's leading expert on Pandanaceae, Rutaceae, and Myrsinaceae. He was the author of over 300 publications, including four

books. He was the founder and editor of *Micronesica*, a University of Guam publication (1965). He graduated cum laude from Pomona College, Claremont, California with a bachelor's degree, subsequently getting his Ph.D. in Botany from the University of Hawaii in 1960. Dr. Stone collected over 18,000 plant specimens, including types, from Australia, Borneo, Cambodia, East Africa, India, Java, Madagascar, Malaysia,

Mascarene Island, Micronesia, New Caledonia, New Hebrides, Papua New Guinea, Philippines, Singapore, Society Is., Solomon Is., Sri Lanka, Switzerland, Thailand and many states in the United States.

Hoya bicolensis Kloppenburg, Siar, & Cajano 2012

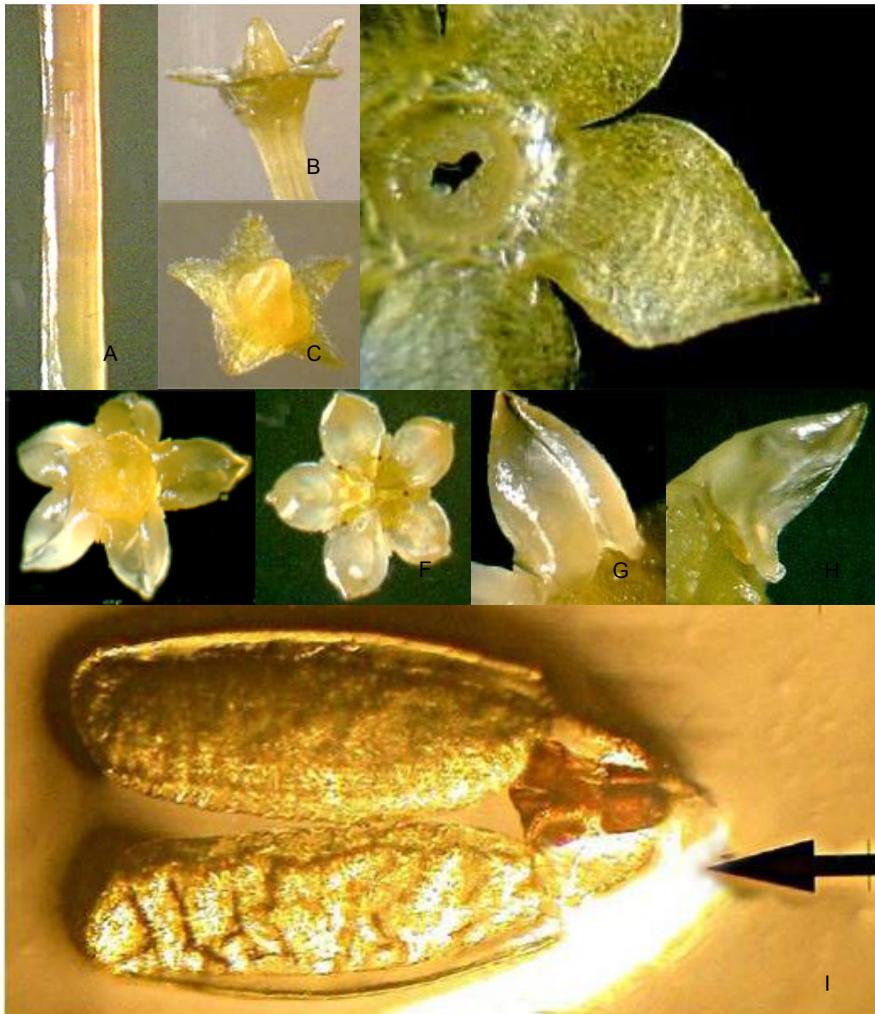


Figure 4. *Hoya benstoneana* Kloppenburg et al, details of inflorescence. A. Pedicel; B-C. Calyx & Ovary; D. Corolla; E-F. Corona; G-H. Coronal lobe; I. Pollinarium (arrow head length = 0.1 mm).

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Hoya bicoloris Kloppenburg, Siar & Cajano sp. nova, Holotypus JP 1994 (UC) similis *Hoya camphorifolia* Warburg (Perkins 1904) sed coronae stamineae lobis externo acuto non obtuso; sepala late triangulis non lanceolatis subacutis. Corolla 1/3 grandem 0.94 cm. vs. 0.60 cm. Pedicellis 1.5 cm longus, 0.6 cm diametro; foliis glabris ovato 7,80 cm longis 3.6 cm latis apice subacuminatus acutis basi rotundatis quntuplinervis reticulatis distinctis. Sepalis 0.11 cm longis et 0.10 cm latistriangularissubacutis glabrous; corolla 0.9 cm diametro extus glabra, intus pubescente; coronus ellipticus navicularibus,

supra concavis, apice interno erecto dentate, externo acuto emarginate, dorso margo et centro carinato.

The major difference in the two species compared above is that the ends of the outer lobes corona are acute not obtuse and that the sepals are broadly triangular and do not reach the corolla sinuses whereas in *Hoya camphorifolia* Warburg (Perkins 1904) the sepals are lanceolate (nearly linear) and reach or exceed the corolla sinuses. As with the comparative species, this new species flowers stay open at the most only 2 days (Figures 5 and 6).



Figure 5. *Hoya bicoloris* Kloppenburg, Siar & Cajano. A. Habit; B. Leaves; C. Inflorescence (scale bar = 1 cm).



Figure 6. *Hoya bicoloris* Kloppenborg, Siar & Cajano, details of inflorescence. A. pedicel; B. Corolla; C. Sepals & Ovary; D-E. Corona; F. Pollinarium; G. Pollinium; H. Retinaculum (arrow head length = 0.1 mm).

Leaves opposite, petiolate, glabrous, ovate, triplinerved, apiculate, nerves lighter than the leaf color, anastomosing, nerve angle ca. 20° to the midrib. Pedicel glabrous, strict, terete, enlarges slightly as it proceeds to the calyx, 1.5 cm long, 0.06 cm in diameter. Sepals triangular,

granulate outside, slick glabrous inside, 0.11 cm long, 0.10 cm at the widest. Ovaries dome-shaped, 0.11cm tall, base pair 0.08 cm wide, surfaces glabrous. Corolla outside surface granulate, glabrous, center raised and thickened. Inside surface pubescent, less so near the raised and thickened central column. Lobes widest just

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above the corolla sinuses. Sinus to sinus 0.23 cm, sinus to center 0.20 cm, sinus to apex 0.34 cm, apex to center 0.47 cm. Corona all surfaces glabrous, ventral side of the lobes evenly channeled and diagonally sulcate, presence of a well-developed central thickened column ca. 0.05 cm tall. Dorsal surface with keeled edges raised in distinct patten, sides of lobes a little concave. Outer apex slightly raised, emarginated and acute. Inner lobes do not reach the center, sharply curve up and dentate. Anther wings deeply scythe shaped. Apex to apex 0.24 cm, apex to center 0.27 cm, retinaculum to retinaculum 0.07 cm, retinaculum to center 0.06 cm, anther wing to anther wing/center 0.12 cm. Pollinarium measurements as follows: Pollinium length 0.35 mm, widest 0.15 mm. Retinaculum length 0.08 mm, shoulder 0.08 mm, waist 0.05 mm, hip 0.07 mm, extension 0.01 mm Translator length 0.07 mm, widest 0.03 mm, depth 0.01 mm. Caudicle bulb diameter 0.03 mm. Ratios pollinium length/retinaculum length 4.4, pollinium length/width 2.3 Translator/caudicle type p/o (translator perpendicular to the retinaculum and usually very short; caudicle oval or round).

Hoya persicina Kloppenburg, Siar, Guevarra, Carandang & Mendoza 2012

Hoya persicina Kloppenburg, Siar, Guevarra, Carandang & Mendoza sp. nova, Holotypus 71850 (CAHUP) hic designatus. Folio coriaceo glabro elliptico 9.66 cm longo, 3.42 cm lato, apice breviter acuminato acuto, basi rotundato 5-nervis, (pentinervio) reticulo subdistincto; pedicello 1.7 cm longo, 0.08 cm crasso, glabro; sepalis 0.26 cm longis, oblongis-linearis, subacutis, glabris. Corollae lobis late, triangularibus, rotate reflexa; circ. 1.16 cm diametiente complanatus, extus glabra, intus puberulent. Coronae lobis subhorizontalibus, superne ellipticus, apice anteriore denatis, dorso longitudinaliter carinatus, apice posteriore obtusis recurvato, subtus canaliculotio.

Etymology: This species is named after the place of collection. Bicol is a region located in the southernmost tip of Luzon Island, Philippines.

This new *Hoya* species is peach



Figure 7. *Hoya persicina* Kloppenburg et al. A. Habit; B. Leaves; C. Inflorescence (scale bar = 1 cm).

colored, leaves are coriaceous, glabrous elliptic 9.66 cm long and 3.42 cm wide, apex is shortly acuminate-acute, with a round base, nerves are somewhat distinct plinerved. The pedicels are 1.7 cm long and 0.08 cm in diameter, glabrous. Sepals are 0.26 cm long, oblong linear in shape, glabrous, with sub-acute apices. Corolla lobes are broad, triangular, rotate-reflexed about 1.16 cm in diameter flattened, outside glabrous, inside puberulent. Coronal lobes are horizontal, elliptic shaped, inner lobe is dentate, outer apex is obtuse, dorsal surface with a longitudinal keel, recurved, and channeled below (Figures 7 and 8).

Leaves opposite, petiolate, glabrous, triplinerved, elliptic, base obtuse, apex long acute, nerves lighter colored, leaf with some anthocyan pigmentation. Pedicel 1.7 cm long, 0.08 cm in diameter, strict, terete, glabrous. Calyx base knob shaped. Sepals outer apex obtuse, outside large granulations inside slick glabrous, no ligules observed, 0.26 cm long, 0.10 cm widest near base, do not reach the corolla sinuses. Ovaries short broad domed, glabrous 0.15 cm tall, 0.12 cm wide pair base. Corolla outside surface glabrous and granulate, inside puberulent except around the central thickened area. Center thickened, edges raised and rounded. Sinus to sinus 0.33 cm, sinus to center 0.30 cm, sinus to apex 0.40 cm, apex to center 0.58 cm, widest 0.38 cm. Corona all surfaces glabrous, lobes ventral side channeled extending to the anther wings and sinuses, lobe surface diagonally sulcate, center pentagonally distinct with bulbous extensions from the central column. Dorsal side keeled with an umbo forward, outer apex acute, inner lobe apices dentate and do not reach the center. Anther wings narrowly deeply scythe shaped. Apex to apex 0.33 cm, apex to center 0.36 cm, widest (dorsal) 0.14 cm, retinaculum to retinaculum 0.10 cm, retinaculum to center 0.07 cm, anther wing to anther wing 0.17 cm, anther wing to center 0.17 cm. Pollinarium measurements as follows: Pollinium length 0.45 mm, widest 0.19 mm. Retinaculum length 0.10 mm, shoulder 0.12 mm, waist 0.08 mm, hip 0.09 mm, extension 0.09 mm. Translator length 0.10 mm, width 0.03 mm Caudicle bulb diameter 0.06 mm. Ratios pollinium length/retinaculum length 2.4, pollinium length/width 2.4 Translator/caudicle

type ls/o (translator linear and short; caudicle oval or round).

Etymology: This species is named "percisina" owing to its peach colored corolla.

Hoya valmayoriana Kloppenburg, Guevarra & Carandang 2012

Hoya valmayoriana Kloppenburg, Guevarra, & Carandang sp. nova, Holotypus 71809 (CAHUP) hic designatus, foliis ellipticis 8–14 m longis, 3.4 cm latis, basi rotundata vel late cuneata, apice longe acuteque acuminate, glabris, 5-plinervia, nervis utrinque plano-convexis, cymes umbelliformibus +/- 32 floris. Similis *Hoya benitotanii* Kloppenburg (2010), sed 5-plinervia, nervis non pinnatibus; foliis pedicellis longius 2.6 cm vs. 2.0 cm et floris magni 1.26 cm diametinte vs. 1.00 cm; posteremo polliniis multo brevis 0.48 cm vs. 0.57 cm et translatoribus typus p/o vs. fb/cw, differ.

This new species was originally collected in the Philippines by David M. Cummings now living in South Africa with his collection number DMC 1622. Mr Cummings e-mailed the first author on 23 May 2012 to confirm. He and his wife Odette collected this species together with 7 other hoyas in October 1988, ¾ Km. North of Lake Bulusan, in a dense forest along the roadside. The distance is from the junction of the main road going along the road towards Lake Bulusan, Sorsogon Province, Philippines - the same location as *Hoya davidcummingsii* Kloppenburg (1995). It has the same pollinia length as *Hoya benitotanii* otherwise very different. The leaves are somewhat similar to *Hoya camphorifolia* Warburg with the same nerve angles but narrowly elongated like *Hoya siariae* Kloppenburg but it is actually not like any other Philippine *Hoya* species. The late David Liddle had it listed under IML 831 (Figures 9 and 10).

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Leaves elliptic, 5-nerved, base obtuse, apex long acute-acuminate and bent downward, surfaces glabrous, anastomosing, 7-14 cm long, 3.4 cm widest, petioles 8.7 cm long. Pedicel strict, terete, glabrous, 2.6 cm long, 0.7 cm wide. Inflorescence cluster of yellow orange flowers with purplish pink center, arranged in a loose semi-globose umbels, corolla reflexed with recurved apices. Sepals glabrous inside and out, sub-linear, overlap slightly at base, apices obtuse, 0.22 cm long, 0.10 cm wide at base, ligules present. Ovaries dome-shaped, glabrous, 0.16 cm

tall and base pair 0.11 cm wide. Corolla ventral surface glabrous, central collar thickened and protrudes abaxially (away from flower apex), lobes broad, apex sharp acute, color yellow-orange. Dorsal surface puberulent except apex of lobes and less so around the thickened collar area. Sinus to sinus 0.40 cm, sinus to center 0.33 cm, sinus to apex 0.45 cm, apex to center 0.63 cm, widest 0.45 cm. Corona ventral surface glabrous, channeled lobe diagonally sulcate. Anther wing apices extended beyond the sinuses, narrow ends blunt, pink in color. Column area with granulate



Figure 9. *Hoya valmayoriana* Kloppenburg, Guevarra & Carandang. A. Habit; B. Leaves. C. Inflorescence (scale bar =1cm).

side surfaces to the inner ends of the coronal lobes. Dorsal surface glabrous, slightly concave with low central rise, outer apex exceeds the corolla sinus, sharp acute. Inner lobe blunt, dentate, does not reach the center. Coronal lobe evenly channeled to near the central column surface, diagonally sulcate. Outer lobe very slightly raised, inner lobe short dentate. Lobe is medium in depth, relatively narrow, widest just outward from inner dentate lobe, outer apex distinctly narrowly acute. Apex to apex 0.30 cm, apex to center 0.40 cm, widest 0.10 cm near inner

lobe, retinaculum to retinaculum 0.11 cm, retinaculum to center 0.09 cm, anther wing to anther wing 0.19 cm, anther wing to center 0.12 cm. Pollinarium measurements as follows: Pollinia length 0.48 mm, widest 0.23 mm. Retinaculum length 0.10 mm, shoulder 0.15 mm, waist 0.07 mm, hip 0.08 mm, extension 0.04 mm. Translator length 0.10 mm, depth 0.05 mm. Caudicle bulb 0.04 mm. Ratios pollinium length to width 4.8, pollinium length to retinaculum length 2.1. Translator/caudicle type d/o (translator is delta shaped while caudicle is oval or round).

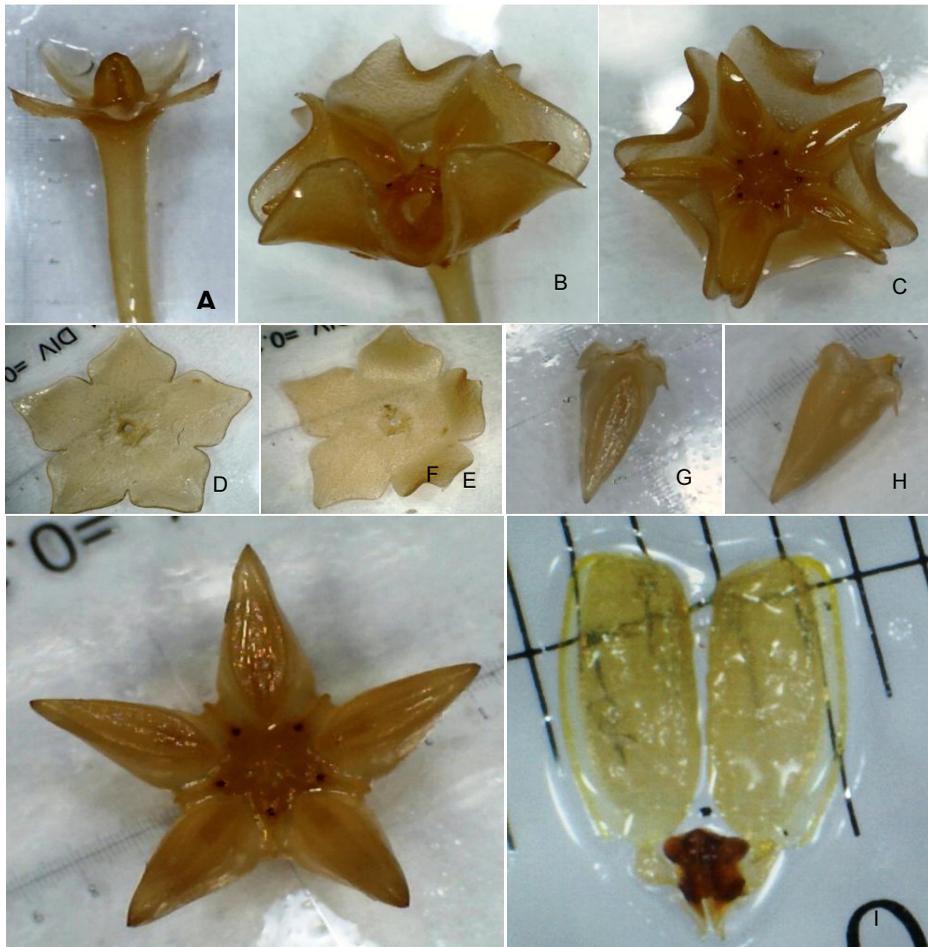


Figure 10. *Hoya valmayoriana* Kloppenborg, Guevarra & Carandang, details of inflorescence. A. Pedicel with calyx & ovary; B-C. Flower; D-E. Corolla; F. Corona; G-H. Coronal scale; I. Pollinarium (1 div = 0.1 mm).

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Etymology: This new *Hoya* species is named in honor of Dr. Helen Valmayor, a retired professor of the Department of Horticulture, University of the Philippines Los Baños, Laguna, Philippines. Dr Valmayor earned bachelor and master degrees (BS Botany, BS Education and MS Botany) from University of the Philippines Diliman while her PhD degree was obtained from University of Florida. She worked on Philippine ornamental plants particularly orchids.

Hoya vicencioana Kloppenburg, Siar, Cajano, Guevarra & Carandang 2012

Hoya vicencioana Kloppenburg, Siar, Cajano, Guevarra & Carandang sp. nova, Holotypus 71842 (CAHUP) hic designatus. Frutex scandens, inflorescentiis exceptis glaber, ramis sub teretibus, ca.0.3 cm diametro; foliis carnosis, in siccitate coriaceis, oblongis ad oblongo-obovatis, 10.5-17.6 longis et 6.0-8.2 latis, pallidis, nitidis, basi cordatis, apice apiculatis,

palmatinerviis, pedicellis tenuibus, glabrous, ca. 1.9 cm longis et 0.06 cm diametro; floribus reflexis, sepalis triangularibus, subacutis, extus sub-glabrous, 0.14 cm longis attingens sinus corollae; corollae lobis late triangularibus, acuminatis, circiter 0.42 cm longis, extus glabrous, indus uniformiter puberulus, apice inflexis; coronae lobis ellipticus, attingens sinus corollae, 0.25 cm longis, apice acutis, patentibus, subplanis.

This new *Hoya* species is not *Hoya mcgregorii* Schlechter (1906) as it was thought to be, neither *Hoya quinquinervia* Warburg (Perkins 1904) nor *Hoya pentaplebia* Merrill (1918), but most similar to the latter except that the corolla is not rotate, leaf apices not acuminate and the base cordate not just rounded, the coronal inner lobe apex is not short but fairly long spatulate. There are many differences in measurements of the parts too (Figures 11 and 12).



Figure 11. *Hoya vicencioana* Kloppenburg, Siar, Cajano, Guevarra & Carandang A. Habit; B. Leaves; C. Inflorescence (scale bar = 1 cm).

Foliage opposite, petiolate, glabrous, ovate, base obtuse to cordate, apex apiculate, palmate nervation of 3-5 but mostly 3 ascending in a loop to near the leaf apex, 10.5-17.6 cm long, 6.0-8.2 cm widest, 0.18-0.215 thick. Pedicel 1.9 cm long and 0.06 cm diameter, terete, curved, glabrous, enlarging near base of calyx. Sepals mostly glabrous outside except for a few hair cells, inside glabrous slick, reach the corolla sinuses, 0.14 cm long and 0.10 cm at the widest. Ovaries columnar with reduced apices, glabrous, 0.09 cm tall and 0.08 cm wide at base of pair. Corolla outside surface glabrous, lobes deeply cut near 2/3 of lobes, broadest in the middle, apex acute. Inside surface fairly uniformly puberulent except for the lobe apices, center with a raised column. Sinus to sinus 0.19 cm, sinus to center 0.15 cm, sinus to apex 0.42 cm, apex to center 0.61 cm, widest 0.32 cm. Corona white with a yellow center that reaches the corolla sinuses. Lobes ventral side

channeled with a central column 0.05 cm long. Dorsal side concave with a central keel, inner lobes raised a little, spatulate, touching in the center. Outer lobe raised slightly with acute apices. Scale relatively thin with a very deeply scythe shaped anther wing side, anther wing apices extend slightly. Apex to apex 0.25 cm, widest 0.10 cm, retinaculum to retinaculum 0.05 cm, retinaculum to center 0.03 cm, anther wing to anther wing 0.14 cm, anther wing to center 0.13 cm. Pollinarium measurements as follows: Pollinium length 0.42 mm, widest 0.15 mm Retinaculum length 0.15 mm, shoulder 0.17 mm, waist 0.10 mm, hip 0.15 mm, ext. 0.10 mm. Translator length 0.10 mm.

Caudicle bulb diameter 0.10 mm. Ratios pollinium length to width 2.8, pollinium length to retinaculum length 2.8 Translator/caudicle type ls/o (translator linear and short; caudicle oval or round).

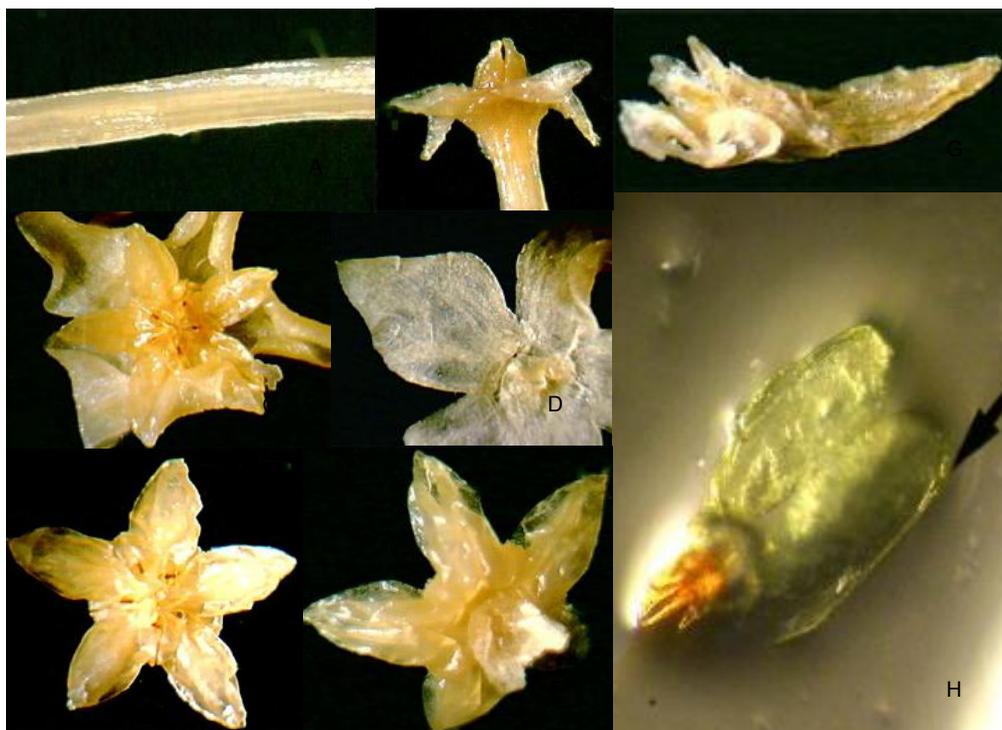


Figure 12. *Hoya vicencioana* Kloppenborg et al, details of inflorescence. A. Pedicel; B. Calyx & Ovary; C. Flower; D. Corolla; E-F. Corona; G. Coronal scale; H. Pollinarium (arrow head length = 0.1 mm).

New Species of *Hoya* R.Br. (Apocynaceae) from the Philippines

Etymology: This new *Hoya* species is named after Mrs. Priscilla P. Vicencio, a Laboratory Technician at the Crop Science Cluster-Institute of Plant Breeding, University of the Philippines Los Banos and who takes care of the propagation and maintenance of our Hoyas.

SUMMARY AND CONCLUSION

These new *Hoya* species are indigenous to the country. With the continuous degradation of their natural habitats coupled with unpredictable climatic conditions, there is a need to conserve these species in cultivation. One strategy of conserving these species is through promoting awareness and dissemination of the importance of these species to the public. As well as to the groups that advocates the conservation of this group of plants. As an initial step of conserving and preserving the *Hoya* species, these are being maintained and propagated at the Fruit and Ornamental Crops Section, Institute of Plant Breeding, Crop Science Cluster, UP Los Baños. These will be available starting 3rd quarter of 2013 to any interested individuals or groups.

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STATEMENT OF AUTHORSHIP

The first author (RDK) was responsible in the description of species with some assistance from MLDG. Other relevant data and photographs were supplied by MLDG and JMC while the manuscript was prepared by MLDG and FSM.

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