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HOYA CUTIS-PORCELANA (APOCYNACEAE): A NEW SPECIES FROM SAMAR AND BILIRAN ISLANDS, PHILIPPINES

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ABSTRACT – *Hoya cutis-porcelana* Suarez, Sahagun & Aurigue sp. nov., endemic to Samar and Biliran Islands, Philippines is described and illustrated. The foliage may appear similar to those of *Hoya camphorifolia* and *Hoya bicolensis*, but its flower does not resemble any known *Hoya* species to date.

Keywords: Apocynaceae, Biliran Island, *Hoya cutis-porcelana*, ornamental plant, Philippine Hoya, Samar Island

INTRODUCTION

For the past 10 years, at least 33 species of Hoya collected from their natural habitats in the Philippines have been described and published as new to science. All these species were studied and named by foreigners, with one to four Filipino authors as co-workers (Kloppenburg *et al*. 2012, 2011, 2010a-d, Kloppenburg & Siar 2010, 2009, 2008, 2006a-c, Simonsson & Rodda 2009).

Taxonomists from all over the world could not agree on the total number of species of *Hoya*. For the Philippines, the account given by Kloppenburg *et al*. (2012) was more than 80 species. Aurigue (2012) accounted for 104 species, excluding 10 additional new ones. In the absence of a systematic DNA fingerprinting, extensive morphological studies and intensive comparisons with species of the same sections found locally and those from other countries are necessary.

Some collections of Philippine Hoyas, brought abroad by foreign enthusiasts, are being studied and propagated intensively in other countries. Clones of these collections should also be successfully cultivated and propagated in the Philippines. Local collectors are at a distinct disadvantage to their foreign counterparts because there are more Philippine species available abroad than they are here. Indeed, many Philippine species are absent in local collections. However, they may be well represented in other countries, and often by multiple clones. As ornamental plants, conservation and sustainable commercialization of these native species are important in the country of origin, for it facilitates reintroductions should the wild populations decline in numbers for any reason.

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MATERIALS AND METHODS

All pertinent data were gathered and digital pictures were taken from a living specimen grown under backyard conditions. Microscopic observations and comparison of data with published passport data of similar species were conducted at the Philippine Nuclear Research Institute, Commonwealth Avenue, Diliman, Quezon City, Metro Manila, Philippines. Descriptions were based on Radford *et al*. (1974). The holotype material was prepared from a cutting taken from the cultivated plant that was originally gathered as a cutting from its wild habitat. The herbarium specimen was deposited at Philippine National Herbarium (PNH).

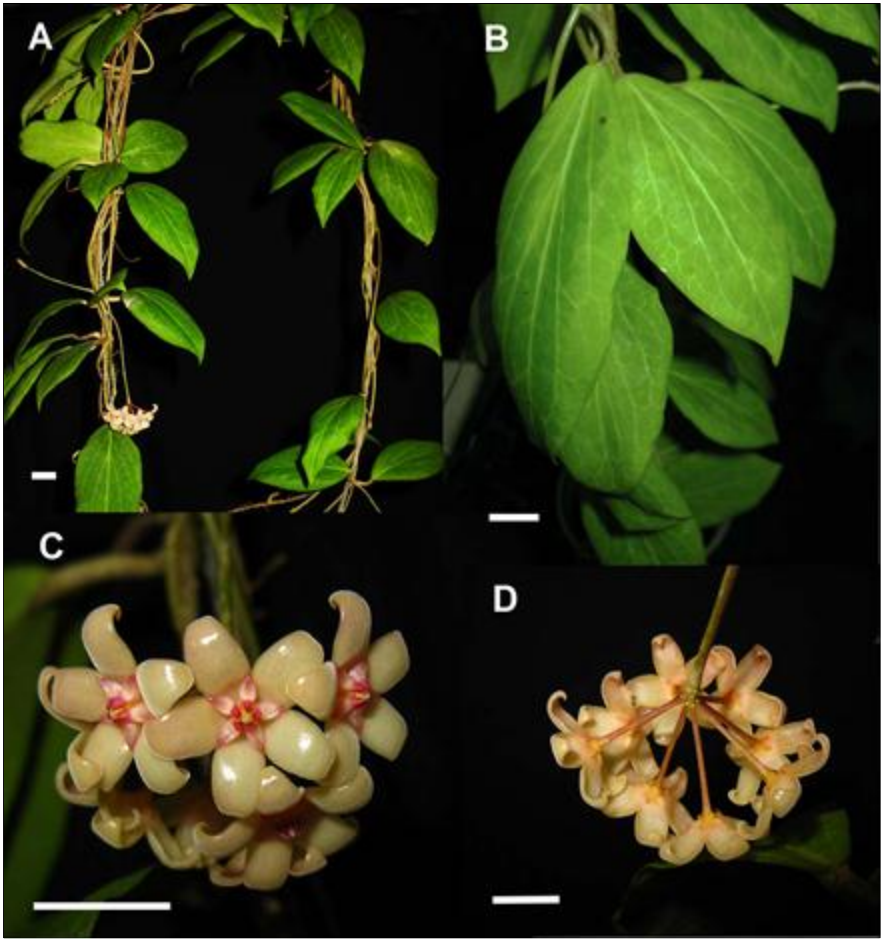

Figure 1. *Hoya cutis-porcelana* Suarez, Sahagun & Aurigue 2013. A. Habit; B. Close-up of leaves; C. Inflorescence; D. Rear view of inflorescence (scale bar = 1cm)

RESULTS AND DISCUSSIONS

Hoya cutis-porcelana Suarez, Sahagun & Aurigue sp. nov. 2013, Holotypus 254882 (PNH): collected from a cultivated plant with PNRI Accession Number H.233.WMS.

The species is an epiphytic, semi-woody and very slender, twining vine with roots appearing anywhere along the stem upon contact with a substrate (Figure 1A). The stem is glabrous, terete in cross-section, 2-4 mm in diameter, with internodes 8-11.4 mm long. The leaves are persistent, opposite, petiolate; with petioles often curved, 2-3 mm in diameter and 1.1-2.5 cm long; with lamina 5.5-12.1 cm long by 2.1-4.5 cm wide, coriaceous and flexible, elliptic-oblong to broadly lanceolate with cuneate base, acuminate tip that is gently bent downward, and entire margin that is often concavely curved downward; upper surface with a noticeable sheen but takes on a matted appearance as the leaf ages; lower surface paler and duller; with nerves pale green, pinnate; outer nerves 4-5 on each side of the midrib, the outmost ones barely visible (Figure 1B).

The inflorescence is hemi-globular, bearing 8-12 flowers; with peduncles 1.5-5.8 cm long by 1 mm in diameter, excluding the rachis, opposing leaf, persistent; bud conspicuously spherical with a papilla-like apex; pedicel terete, tuberculate, strict, 1.2 cm long and 0.1 cm in diameter (Figure 1C-D). Calyx 4.7 mm across; sepals do not reach the corolla sinuses, outside tuberculate, inside glabrous, 0.18 cm long, 0.12 cm wide at the base, apex obtuse; sinus-sepal end, 0.8 mm (Figure 2A). It has twin ovaries, pear–shaped (pyriform), 1.8 mm tall, base of one ovary 0.6 mm wide, glabrous (Figure 2B).

Its corolla is 15.0 mm across, (17.0 mm when flattened); inner surface puberulent, apex acute; outer surface subglabrate; margins and apices revolute, lobes 0.63 cm long (0.64 cm when flattened). In natural position, the corona only slightly exceeds the depth of the sinuses. Sinus to sinus 0.38 cm, sinus to center 0.30 cm, sinus to apex 0.64 cm, apex to center 0.84 cm, widest 0.42 cm. Corona surfaces are all glabrous, glutinous, and finely sulcate: 0.62 cm across, individual corona scales, inner apex acute, raised above the center and almost parallel to the central. forming an L-shape on the side view, outer apex acute; coronal base to outer lobe measures 0.31 cm long while coronal base to inner apex is 0.26 cm; widest 0.08 cm; outer surface

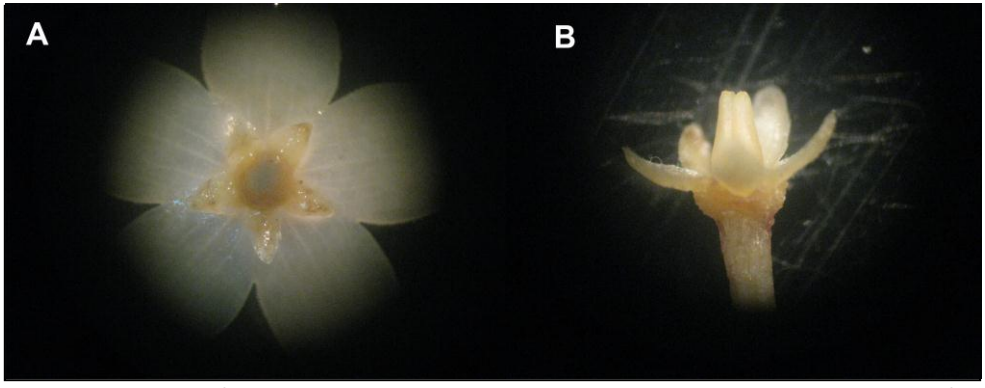

Figure 2. A. Close-up of the calyx that shows the sepals do not reach the corolla sinuses; B. Side view of the twin ovaries.

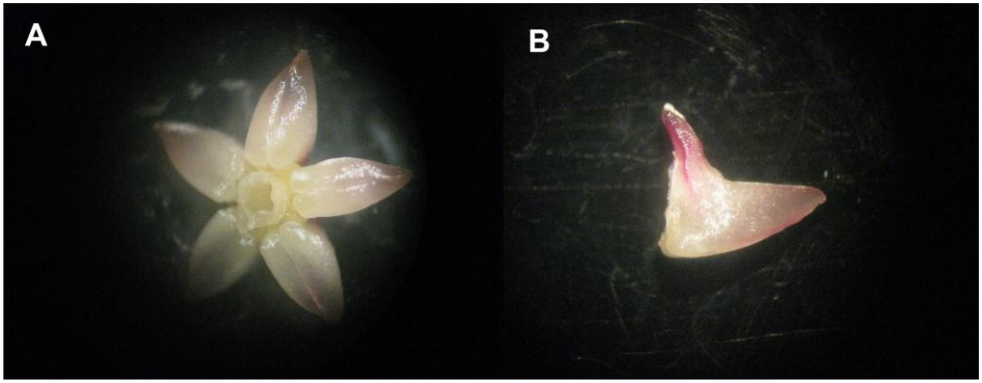

Figure 3. A. Rear view of corona; B. Side view of the coronal scale

channeled; apex to apex 0.34 cm, retinaculum to retinaculum 0.10 cm, anther wing to anther wing 0.12 cm, anther wing to retinaculum 0.10 cm, anther wing to center 0.14 cm (Figure 3). Pollinarium measurements as follows: Pollinium length 0.35 mm, widest 0.17 mm. Retinaculum length 0.22 mm, shoulder 0.16 mm, waist 0.08 mm, hip 0.13 mm, extension 0.03 mm. Translator measures 0.10 mm long and 0.03 mm deep. Caudicle bulb diameter is 0.06 mm. Ratios: pollinium length/retinaculum length 1.6, pollinium length/ pollinium width 2.0, Translator/caudicle type l/o (translator linear; caudicle oval) (Figure 4).

The general appearance of the leaves is akin to some species in the *Hoya pottsii* complex, specifically *Hoya camphorifolia* Warb. and *H. bicolensis* Kloppenb., Siar & Cajano. The flower resemble that of *Hoya anulata* Schltr. at first glance. However, they are entirely and distinctly different species. The scent is sweetish-sour, comparable to that of *Hoya camphorifolia*'s.

The species was discovered by Mr. Suarez in a remote limestone forest many kilometers from the coast in Samar province, about 7 meters above sea level. It was also found in Biliran Island in the Visayas, although the forest type was not noted (Ronny Boos, pers. comm.). The plant seems to prefer localities with filtered light.

Propagation of original stock will serve as ornamental plant material for conservation and commercialization purposes. By stem cuttings, it took 12 months to bloom.

Etymology: The specific epithet, which means "porcelain skin," refers to the porcelain-like surface of the flowers.

Figure 4. Pollinarium (scale in micrometer)

CONCLUSION AND RECOMMENDATION

This new *Hoya* species is endemic to Samar and Biliran Islands in the Visayas, Philippines. In foliage, *Hoya cutis-porcelana* may look like *H. camphorifolia* and *H. bicolensis* but its flower does not resemble any known *Hoya* species to date. It is a new ornamental plant worthy of propagation for conservation and commercialization purposes.

ACKNOWLEDGMENT

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STATEMENT OF AUTHORSHIP

Mr. Aurigue, as the senior author, prepared the manuscript with inputs from Mr. Suarez and Mr. Sahagun as co-authors. Mr. Sahagun made microscopic observations, photomicrography and photography.

REFERENCES

Aurigue FB. 2012. Updates on Philippine Hoyas. Philippine Horticultural Primer and Directory 3:28-33.

Kloppenburg RD, Guevarra MLD, Carandang JM and Maranan FS. 2012. New Species of *Hoya* R. Br. (Apocynaceae) from the Philippines. *Journal of Nature Studies* 11 (1&2): 34-48.

Kloppenburg RD, Siar SV, Carandang JM and Hadsall AS. 2011. *Hoya ilagii*, another new species (Apocynaceae, Asclepiadoideae) from Luzon Island, Philippines. *Asia Life Sciences* 20 (2): 263-269.

Kloppenburg RD, Siar SV and Ferreras, UF. 2011. *Hoya amrita* Kloppenburg, Siar & Ferreras sp. nova. *Asclepios* 110: 27-29.

Kloppenburg RD, Siar SV and Ferreras, U. 2010a. *Hoya kanlaonensis* Kloppenburg, Siar & Ferreras. *Fraterna* 23 (4): 24-27.

Kloppenburg RD, Siar SV and Ferreras, UF. 2010b. *Hoya ferrerasii* Kloppenburg & Siar sp. nova. *Fraterna* 23 (4): 21-23.

Kloppenburg RD, Siar SV and Ferreras, UF. 2010c. *Hoya corazoniae* Kloppenburg, Siar & Ferreras. *Fraterna* 23 (4): 15-19.

Kloppenburg RD, Siar SV and Ferreras, UF. 2010d. *Hoya carmelae* Kloppenburg, Siar & Ferreras. *Fraterna* 23 (4): 9-13.

Kloppenburg RD and Siar SV. 2010. New species of *Hoya* (Apocynaceae) from Brunei and the Philippines. *Gardens' Bulletin Singapore* 61 (2): 87-94.

Kloppenburg RD and Siar SV. 2009. Additional four new species of *Hoya* R.Br. (Apocynaceae) from the Philippines. *Asia Life Sciences* 18 (1): 139-154.

Kloppenburg RD. 2009. Philippine Hoya Species: A monograph. 11th Revised Edition. 704 p.

Kloppenburg RD and Siar SV. 2008. Three new species of *Hoya* R.Br. (Apocynaceae) from the Philippines. *Asia Life Sciences* 17 (1): 57-70.

Kloppenburg RD and Siar SV. 2006a. *Hoya stoneiana* Kloppenburg & Siar. *Fraterna* 19 (4): 19-23.

Kloppenburg RD and Siar SV. 2006b. *Hoya linavergariae* Kloppenburg & Siar. *Fraterna* 19 (4): 11-18.

Kloppenburg RD and Siar SV. 2006c. *Hoya lucyae* Kloppenburg & Siar. *Fraterna* 19 (4): 8-10.

Radford AE, Dickison WC, Massey JR and Ritchie Bell C. 1974. Vascular Plant Systematics. Harper & Row, Publishers. New York, U.S.A. 891 p.

Simonsson N. and Rodda M. 2009. *Hoya platycaulis* Simonsson & Rodda sp. nov. an attractive new *Hoya* (Apocynaceae – Asclepiadoideae) from the Philippines. *Asklepios* 106: 13-18.

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