

***PELATANTHERIA WOONCHENGII*, A NEW ADDITION FOR THE ORCHID FLORA OF VIETNAM**

VUONG BA TRUONG^{1,4}, TAM QUANG TRUONG¹, KHANG VAN NGUYEN² & JIM COOTES³

¹ Institute of Tropical Biology – Vietnam Academy of Science and Technology, 85 Tran Quoc Toan, Dist. Ho Chi Minh City, Vietnam

² Number 735, Cai Von district, Binh Minh town, Vinh Long Province, Vietnam

³ 7 Bronte Place, Woodbine, NSW, Australia. 2560

⁴ Author for correspondence: bavuong2019@yahoo.com

ABSTRACT. *Pelatantheria woonchengii* is a new record for the orchid flora of Vietnam. This species was previously misidentified as *Pelatantheria ctenoglossum*, as both species are present in Vietnam. The illustration, description, distribution and comparison with the closest species in Vietnam are included. An updated identification key for all Vietnamese members of the genus *Pelatantheria* is presented.

KEY WORDS: new record, Orchidaceae, *Pelatantheria woonchengii*, Vietnam

The genus *Pelatantheria* Ridl. includes eight accepted species (Govaerts *et al.* 2017). In Vietnam four species are recorded by Seidenfaden (1992), and Averyanov and Averyanova (2003): *Pelatantheria ctenoglossum* Ridl., *P. eakroensis* Haager, *P. insectifera* (Rchb.f.) Ridl., and *P. rivesii* (Guillaumin) Tang & F.T.Wang. The first author had the opportunity to study some specimens of *P. ctenoglossum* that he collected, and other Vietnamese specimens from his own collection. After closely examining these specimens, he realized that they present some morphological differences from the typical *P. ctenoglossum*. According to O'Byrne (2009), *P. woonchengii* P.O'Byrne, previously unrecorded for the flora of Vietnam, is a closely related species that looks very similar to *P. ctenoglossum*. The main differences between the two taxa are described below. With the inclusion of *P. woonchengii*, the number of *Pelatantheria* species recorded in Vietnam increased to five.

Materials and methods. The description presented hereafter is based on Vietnamese material found in Khanh Son district, Khanh Hoa province, supplemented with other specimens from the senior author's private collection, originally collected in the Daklak province, Vietnam. The measurements and description were prepared from living plants. Herbarium material was preserved in 70% ethanol and stored at VNM

herbarium. All the photos were taken with a Canon 600D fitted with a EF-S 60mm f/2.8 Macro USM lens. Terminology for the morphological description follows Beentje (2012).

TAXONOMIC TREATMENT

Pelatantheria woonchengii P.O'Byrne, *Malayan Orchid Rev.* 43: 98. 2009 (Figure 1).

TYPE: Thailand. Cult. at Woon Leng Nursery (Singapore), *O'Byrne PX450* (SING!)

Creeping epiphyte *herb.* Aerial roots, occasionally branched, produced along stem. *Stem* to over 30 cm long, slightly compressed. *Leaves* distichous, thick, elliptic, concave, obtuse, slightly unequally bilobed, channeled along the midvein, 2.0–2.5 × 0.9–1.0 cm. *Inflorescence* axillary along the stem, *ca.* 1 cm long, peduncle short, slightly compressed, *ca.* 2 mm long, covered by 3 tubular bracts; rachis thicker than peduncle 7–8 mm long, 1–2 flowered; floral bract triangular, acute, *ca.* 2 mm long. *Flower* spreading, yellow striped with red on petals and sepals, the labellum yellow, the spur greenish-yellow. *Dorsal sepal* ovate, obtuse, *ca.* 4–5 × 3 mm. *Lateral sepals* oblique, elliptic, sub-acute, *ca.* 6–7 × 3 mm, with a distinct abaxial keel along the midvein. *Petals* thinner

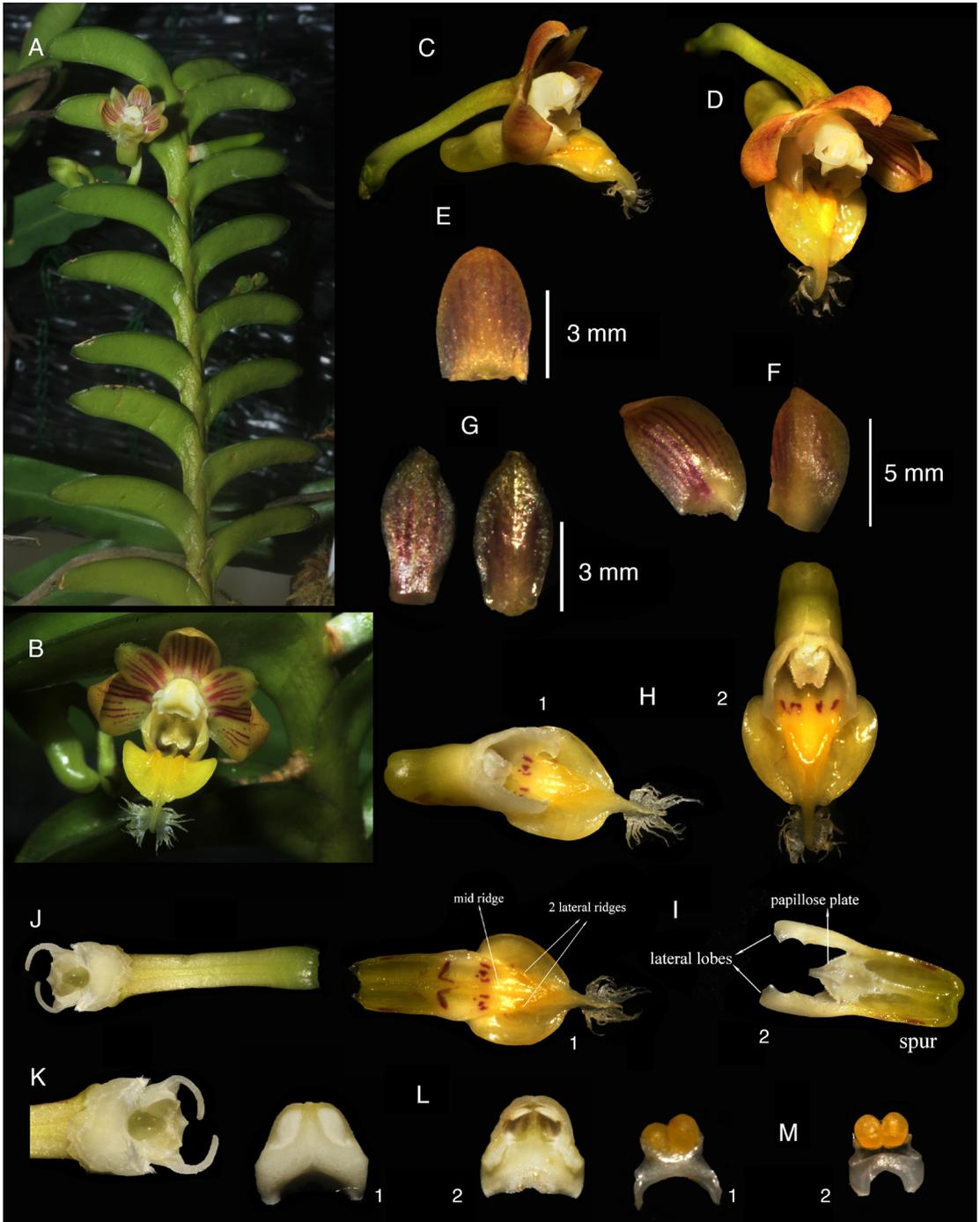


FIGURE 1. *Pelatantheria woonchengii*. A, habit. B, flower in frontal view. C, flower in side view. D, flower in upper view. E, dorsal sepal. F, lateral sepals. G, petals (abaxial and adaxial views). H, labellum with spur in adaxial (1) and frontal (2) views. I, mid lobe with spur, the lateral lobes removed (1) and present (2). J, column and pedicel. K, column. L, anther cap in frontal (1) and dorsal (2) views. M, pollinarium in frontal (1) and dorsal (2) views. Photo and drawing by Truong Ba Vuong from BV 300.

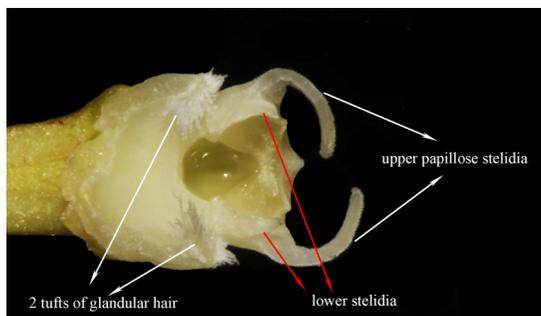
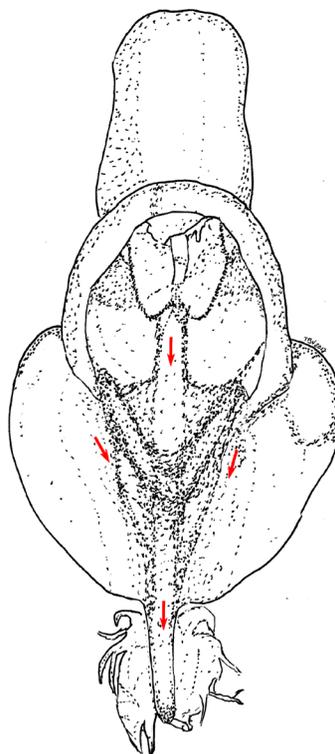


FIGURE 2. *Pelatantheria woonchengii*, detail of the column.

Photo and drawing by Truong Ba Vuong from BV 300.

Right, FIGURE 3. Ridges on labellum of *Pelatantheria woonchengii*. Drawn by Truong Ba Vuong from BV 300.



than sepals, narrowly elliptic, sub-acute ca. 5×2 mm. *Labellum* 3 lobed, spurred, immobile, ca. 12 mm long (from tip of spur to tip of mid lobe); spur ca. 4 mm long, apex rounded, truncate, emarginate, slightly curved forward; lateral lobes erect, triangular, ca. 3×2 mm; mid lobe broadly ovate to suborbicular, rounded, the margins slightly curved forward, $6\text{--}7 \times 5$ mm wide, the apex with an appendage 2 mm long and tufts of white hairs on the sides of apex; provided with 3 keels continuous from the ridge of spur septum, the central one lower than the lateral keels, fused on the middle of mid lobe into one narrower keel connecting with the apical appendage; spur provided on the floor with a median ridge, create the septum of spur and dividing it into 2 halves; the sidewall callus and the callus on the floor forming a backwall, laminar, ovate, papillose, T-shaped callus ca. 1.5 mm long. *Column* stout, ca. 2 mm long, provided at the base with 2 tufts of white glandular hair on each side, the apex with 2 pairs of lateral stelidia, the upper two incurved, papillose, embracing the anther cap, the other two shorter, oblique. *Anther cap* triangular. *Pollinia* 4, in two pairs, subglobose. *Ovary* (with pedicel) 1.1 cm long, the

ovary straight, the pedicel slightly up curved. *Capsule* not seen. (Fig. 2–3).

FLOWERING TIME: From mid-October to late November.

DISTRIBUTION: Khanh Son district (Khanh Hoa province), Daklak, Ninh Thuan. Peninsular Malaysia (Pahang), Thailand.

SPECIMEN EXAMINED: Khanh Son District (Khanh Hoa province) BV 239 (VNM). Daklak province, flowered in the private collection of the senior author, BV 300 (VNM). Without specific locality, *Nguyen Van Khang s.n.* (Photo).

TABLE 1. Comparison of the main differences between *Pelatantheria woonchengii* and similar to *P. ctenoglossum*.

	<i>Pelatantheria ctenoglossum</i>	<i>Pelatantheria woonchengii</i>
Callus on midlobe	Labellum with 3 keels, mid keel lower than 2 side keels, 3 keels jointed to form a high keel in middle of mid lobe and then compress into single narrow keel connecting with labellum apex.	“Mid lobe with large yellow callus...”, according to Seidenfaden (1992); “...disk thickened and cushion-like centrally, waxy”, according to Chen, & Wood (2009).
Column foot	Two tufts of hairs for each side	One tuft of hairs for each side



FIGURE 4. Species of *Pelatantheria*. A. *P. ctenoglossum* Ridl. (Photo by Chu Xuan Canh) and B. *P. woochengii* P.O’Byrne (photo by Truong Ba Vuong).

Pelatantheria woochengii looks very similar to *P. ctenoglossum* and is misidentified in Vietnam. Below is the comparison of the two species (Table 1, Fig. 4).

There are 2 flower forms of *P. woochengii* found in Vietnam. The first one is described above. Another form (observed in the collection of the second author) is striped with red and has a lower number of stripes (Figure 5).

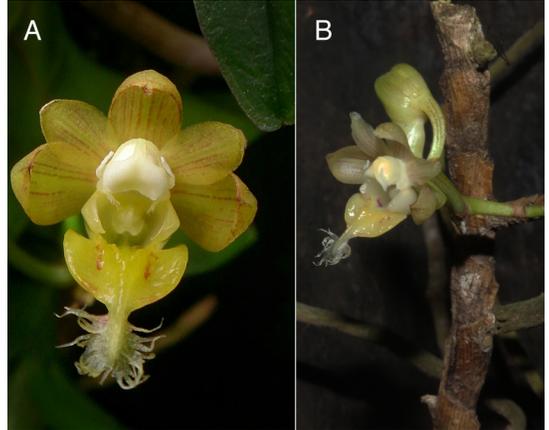


FIGURE 5. Specimens of *Pelatantheria woochengii* with fewer reddish stripes. A, photo from the private collection of Nguyen Van Khang; B, photo of BV 239, collected by the senior author in Khanh Son district (Khanh Hoa province). Photo by Truong Ba Vuong.

Pelatantheria woochengii has recently been sold through the Internet in the Vietnamese market of wild orchids, at a very cheap price. Many populations of the species were destroyed by overcollection.

ACKNOWLEDGMENTS. The authors would like to thank to the reviewers for their critical suggestions that were helpful in improving the manuscript. The authors would like to sincere gratitude to Peter O’Byrne for his help in confirming the identify of *Pelatantheria woochengii* and his fruitful discussion regarding the key. Thanks also go to Mr. Mark Arcebal Naïve and Mr. Chu Xuan Canh for their kindness suggestions and excellent photos. The studies resulting in this paper were funded and supported by Institute of Tropical Biology (ITB) Ho Chi Minh City, Vietnam.

ARTIFICIAL IDENTIFICATION KEY TO THE VIETNAMESE SPECIES OF *PELATANTHERIA**

- 1a. Pollinia 2, without hairs on column, short and thin appendage without projection on labellum apex *P. eakroensis*
- 1b. Pollinia 4 2
 - 2a. Midlobe of labellum smooth, without projection on midlobe apex 3
 - 3a. Midlobe with unclear central thickening, without or unclear hairs on column *P. insectifera*
 - 3b. Midlobe with single mid ridge, dense white glandular hairs on column apex *P. rivesii*
 - 2b. Midlobe of labellum with prominent yellow calli or warty cushion callus, with projection on midlobe apex 4
 - 4a. Midlobe of labellum with 3 yellow calli, 2 tufts of hairs on each side of column *P. woochengii*
 - 4b. A broad warty yellow callus nearly covered midlobe, 1 tuft of hairs on each side of column *P. ctenoglossum*

* Based on data from Seidenfaden (1992), Haager (1993), Averyanov (1994), O’Byrne (2009), Chen and Wood (2009).

LITERATURE CITED

- Averyanov, L.V. (1994). *Identification guide to Vietnamese orchids (Orchidaceae Juss.)*. S.-Petersburg: World and Family.
- Averyanov, L. V. & Averyanova, A. L. (2003). *Updated checklist of the orchids of Vietnam*. Hanoi: Vietnam National University.
- Beentje, H. (2012). *The Kew Plant Glossary, an illustrated dictionary of plant terms* (revised edition). Kew: Royal Botanic Gardens, Kew Publishing.
- Chen S. C. & Wood, J. J. (2009). *Pelatantheria*. Pp. 456–457 in: Z. G. Wu, P. H. Raven, Hong D.Y. (eds) *Flora of China*. Vol. 25. Beijing & St. Louis: Science Press & MBG Press.
- Govaerts, R., Dransfield, J., Zona, S. F., Hodel, D. R. & Henderson, A. (2017). *World Checklist of Orchidaceae*. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet: <http://apps.kew.org/wcsp/> Retrieved 2017–11–21.
- Haager, J.R. (1993). Some new taxa of orchids from southern Vietnam. *Orchid Digest*, 57, 39–42.
- O' Byrne, P. (2009). Three Orchid species named after OSSEA Members. *Malayan Orchid Review*, 43, 96–105 .
- Seidenfaden, G. (1992). *The Orchids of Indochina*. Copenhagen: Council for Nordic Publications in Botany.

