

Dendrobium armeniacum P.J.Cribb, a new record for Indonesian New Guinea

Lina. S. Juswara^{1,*} and André Schuiteman²

¹ Herbarium Bogoriense, Botany Division, Research Centre for Biology, Indonesian Institute of Sciences, Cibinong Science Center, Jl. Raya Jakarta – Bogor Km. 46, Cibinong, 16911, PO Box 25 Cibinong, Indonesia.

² Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB, United Kingdom.

*Author for correspondence: lina.juswara@gmail.com

Abstract

Dendrobium armeniacum P.J.Cribb is recorded from Papua Province, Indonesia, for the first time. A description, illustration, and images of this rarely collected species are here presented.

Introduction

After *Bulbophyllum*, *Dendrobium* is the second largest orchid genus in New Guinea, with approximately 560 known species (Schuiteman 2013). Undoubtedly, many species of *Dendrobium* still await discovery in New Guinea, particularly in the more poorly explored western part of the island, and for most species the distribution is incompletely known.

In May 2014, LSJ conducted fieldwork in two regencies in Papua Province, Lanny Jaya and Jayawijaya. One of the sites visited was the heritage tropical rainforest of the Dani people from the village of Meagama, Ilaga, Ukuloba, Hubikosi District, near Wamena, the capital city of Kabupaten Jayawijaya, in the famous Baliem valley. In this orchid-rich forest, LSJ collected a living specimen of an epiphytic *Dendrobium* species that was not seen in flower at the time. The specimen was subsequently cultivated in the Biology Botanical Garden (Kebun Raya Biologi) in Wamena, where it flowered in April 2015, producing a single stem with two inflorescences. In May 2016, the specimen re-flowered producing more than two stems with 8 to 10 flowers per inflorescence.

After examination it was determined that the specimen belonged to *Dendrobium* section *Latouria*, of which most species are endemic to New Guinea (Cribb 1982). Using the revision of this section by Cribb (1982) we initially identified the specimen as the rare *D. euryanthum* Schltr., since the callus structure seemed to match that species better than that of the similar *D. armeniacum*. According to Cribb (1982), there is a large solid callus at the base of the lip of *D. armeniacum*, whereas in our plant we find three ridges, more or less as in Schlechter's illustration of *D. euryanthum* (Schlechter, 1923–1928, t. 164, fig. 615). In addition, the length of the floral mentum, after preservation in spirit, was 8–10 mm (slightly longer when fresh), which is intermediate between *D. armeniacum* (6–7mm) and *D. euryanthum* (10–13 mm).

In other respects, however, notably the distinctly shorter lobes of the lip, and consequently the shallower sinuses between the lobes, as well as in the straight mentum and the larger maximum number of flowers, our specimen fits better the description of *D. armeniacum*. Assuming the callus structure and mentum length in this species is somewhat variable, and that *D. euryanthum* and *D. armeniacum* are indeed distinct species, we

believe that our specimen is best identified as *D. armeniacum*. This species, like *D. euryanthum*, was previously known only from Papua New Guinea. Considering that in some respects our plant appears to be intermediate between the two taxa, we cannot rule out that *D. euryanthum* and *D. armeniacum* are forms of the same species, in which case the name *D. euryanthum* would have priority.

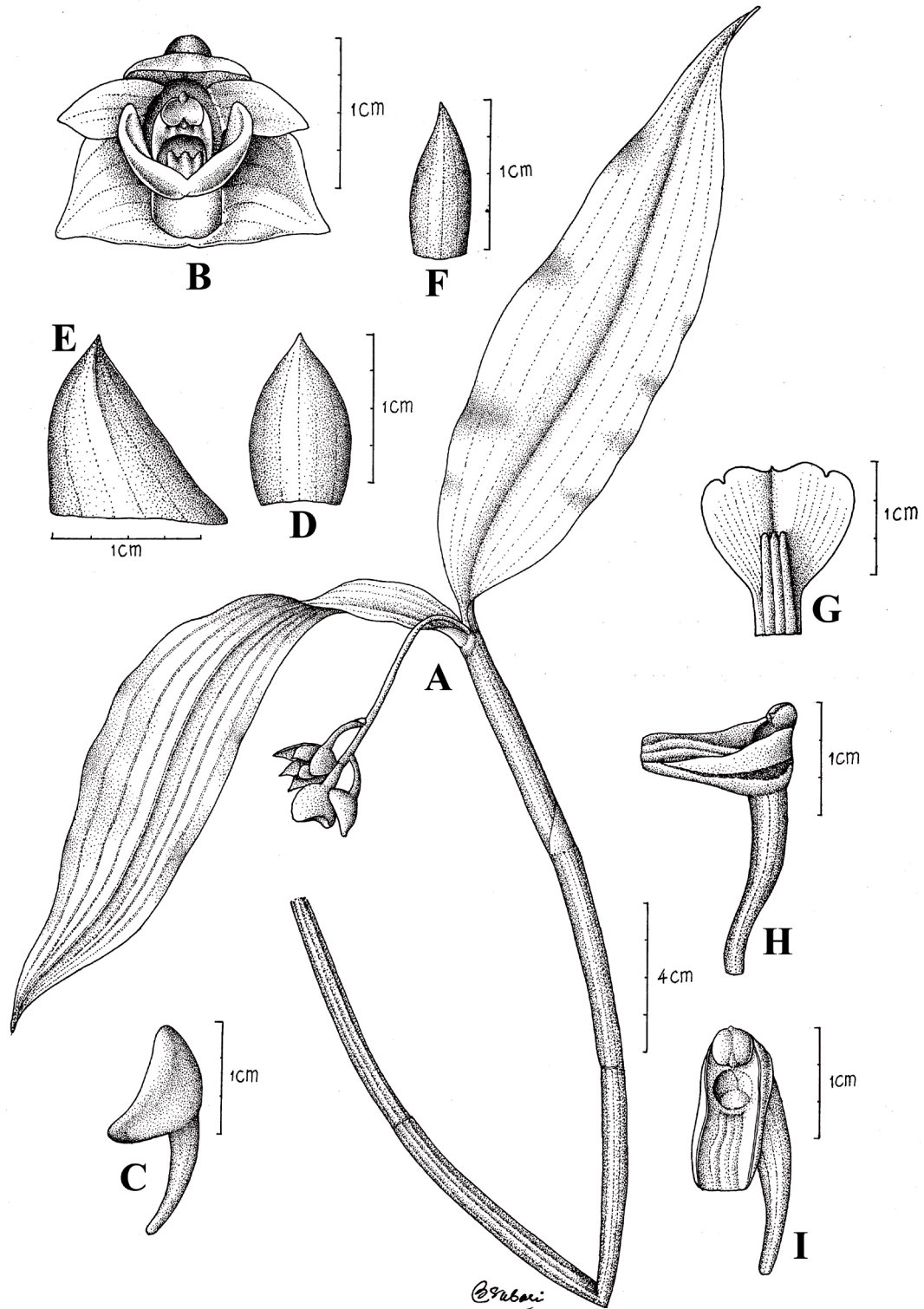


Fig. 1. *Dendrobium armeniacum* Schltr. A, habit; B, flower; C, floral bud; D dorsal sepal; E, lateral sepal; F, petal; G, lip; H, column, side view; I column, front view. Drawn by Subari from Juswara 928.

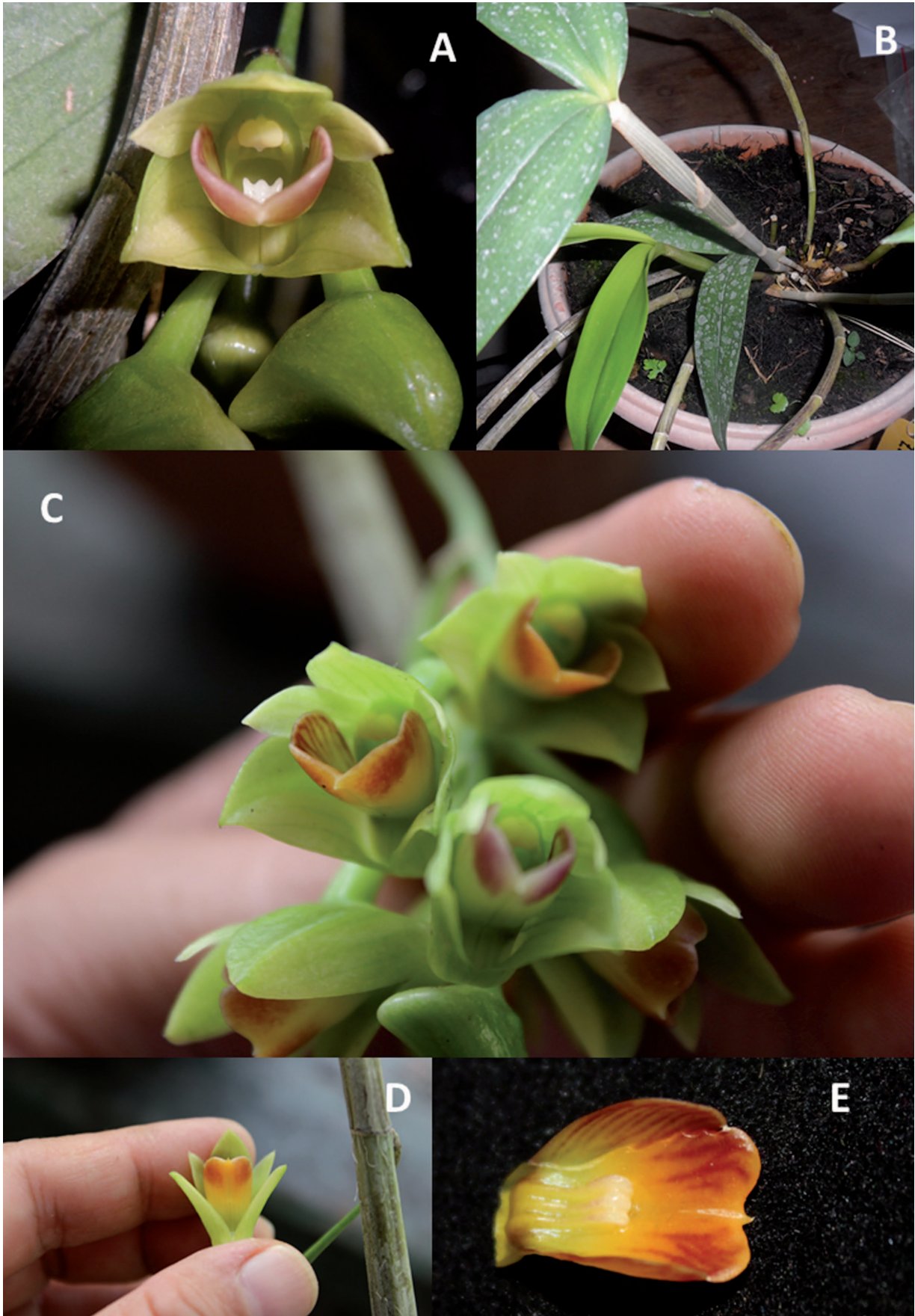


Fig. 2. *Dendrobium armeniacum* Schltr.: A, flower and buds; B, habit; C, flowers with all color variations; D, a flower showing mid-lobe of the labellum; E, labellum. For scale refer to description. Images from Juswara 928.

Taxonomy

Dendrobium armeniacum P.J.Cribb, *Orchadian* 6: 279, fig. 1 (1981). Type: Papua New Guinea, Enga Prov., Paiela Census Div., Lagaip Dist., Komanga, alt. 1500–1600 m, *Reeve 397A*, Oct 1979, (holotype K!; isotypes AMES, CBG, E, L, LAE).

Sayeria armeniaca (P.J.Cribb) Rauschert, in *Feddes Repert.* 94(7–8): 466 (1983).

Description: Pendent epiphytic herb. *Pseudobulbs* slender, slightly dilated above, 10–17.5 long, 0.3–0.8 cm diam., 2-leaved at apex. *Leaves* twisted at base to lie in one plane, subcoriaceous, elliptic, acuminate, up to 10 × 3–5 cm, bluish green. Inflorescence about 8 cm long, from terminal and subapical nodes of pseudobulb, 3–10-flowered; peduncle slender; peduncle-scales absent; floral bract of flaky looking scales, thin, triangular, subacute, appressed, 2–3 mm long. *Flowers* fleshy, greenish white, lip yellowish green, dull orange-brown in apical part of the mid-lobe with red-brown or purple veins. Dorsal sepal ovate, apiculate, 10–13 × 9 mm; lateral sepals obliquely triangular, subacute, 10–13 × 12–15 mm; mentum incurved-conical, 10–13 mm long. *Petals* elliptic, apiculate, 11.5 × 5.0 mm. Lip clawed, geniculate at base and slightly reflexed at apex, 3-lobed near apex, 15 × 11–13 mm when flattened; side-lobes erect-incurved, rounded in front; mid-lobe conduplicate, transversely oblong, slightly apiculate; callus 3-ridged, undulate at base (in lateral view), strongly raised at apex. *Column* 3 mm long, apex entire; foot 8–9 mm long. (Based on *Juswara 928*). **Figs 1, 2.**

Specimen examined: Indonesia, Papua Province, Jayawijaya Regency, Wamena, Hubikosi District, Ukuloba, Osinakma Forest, heritage forest of Meagama Village, 30 May 2014, flowered in cultivation Apr 2015 and May 2016 at Kebun Raya Biologi, Wamena (Z2014050030 RA), *Juswara 928* (BO, spirit material) (Fig. 3).

Habitat and ecology: Montane forest at c. 1790 m elevation, epiphyte on tree trunk, uncommon within a shady forest in a small valley, with two living specimens of *Dendrobium capituliflorum* Rolfe collected from nearby grassland. A single specimen of *D. armeniacum* was collected in May 2014, but was not seen when the site was revisited in May 2016.

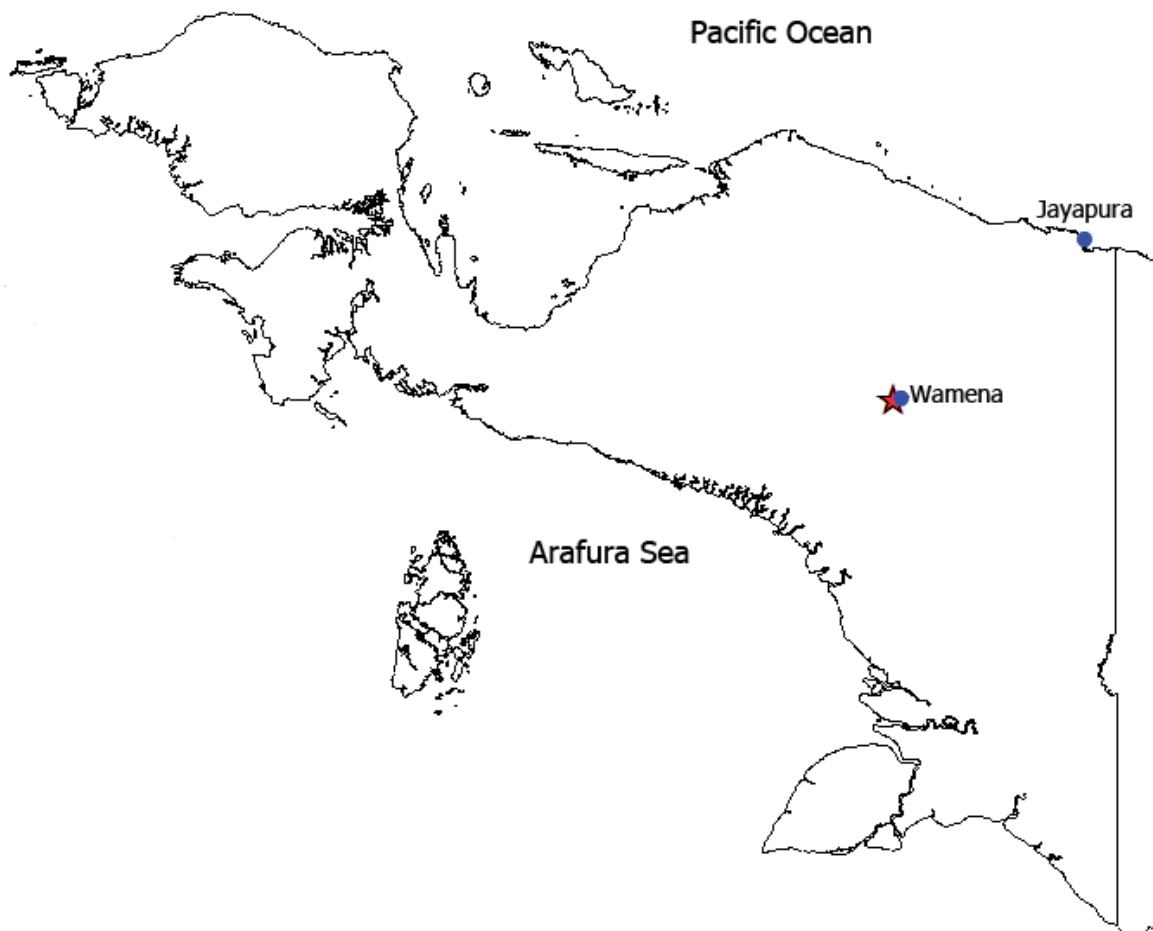


Fig. 3. The location of *Dendrobium armeniacum* collection site (red star) near Wamena in Papua, Indonesia.

Notes: During this study we did not examine any material of *D. euryanthum*, and as Cribb (1982) cites only two collections, it is likely to be uncommon in the Southern Highlands and Enga Provinces of Papua New Guinea. Schlechter's type material from the Torricelli Mountains in PNG is missing and was probably lost. Mark Clements (CANB) kindly sent us a photo of a floral dissection from a specimen he collected in the Torricelli Mountains (Fig. 4). This image aided our identification process. *Dendrobium armeniacum* is a more frequently collected species in Papua New Guinea and has been found in several Highland provinces and in the Sarawaket Mountains.

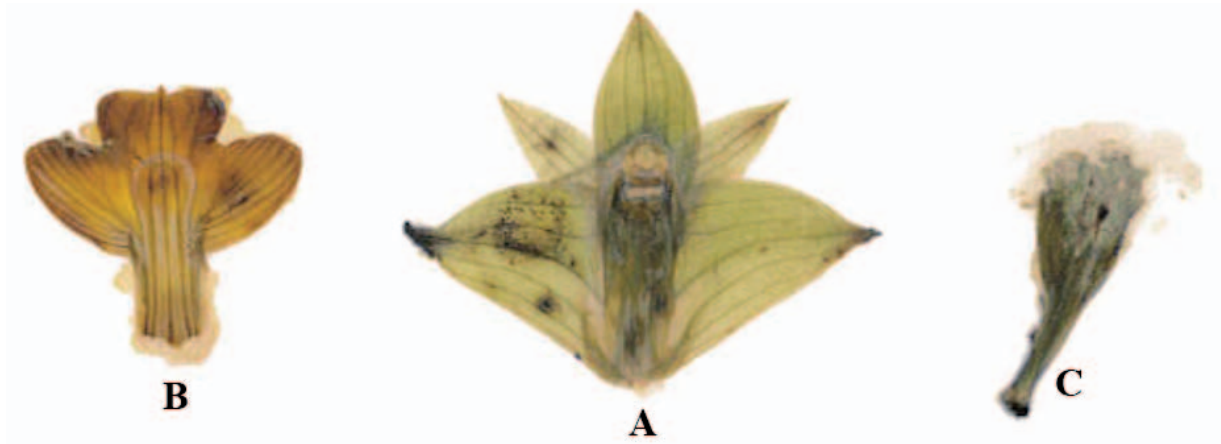


Fig. 4. Floral dissection of *Dendrobium euryanthum* from near the locus classicus in Papua New Guinea, West Sepik Province, Torricelli Mountains: A, flower; B, lip; C, pedicel with ovary. From Clements *s.n.* (CANB).

Acknowledgments

We thank Albert Wawo, the Program Leader of Biology Botanical Gardens in Wamena, for providing generous use of research facilities and living specimens under their care. Many thanks also go to the Biology Botanical Garden team for their support during LSJ's fieldwork. Mark Clements kindly sent the image of *D. euryanthum* used in this study (Fig. 3). Subari (Research Center for Biology, Botany Division) prepared the line drawing of specimen *LSJ 928*. This research was funded by the project of Biology Botanical Garden, Indonesian Institute of Sciences, Research Center for Biology, Botany Division. We also thank two anonymous reviewers for helpful suggestions and providing additional images of *D. euryanthum*.

References

- Cribb PJ (1981) *Dendrobium armeniacum* P.J.Cribb. *Orchadian* 6: 279
 Cribb PJ (1982) A revision of *Dendrobium* sect. *Latouria* (Orchidaceae). *Kew Bulletin* 38: 229-306
<http://dx.doi.org/10.2307/4108109>
 Rauschert S (1983) Beitrag zur Nomenklatur der Orchidaceae. *Feddes Repertorium* 94: 433-471
 Schlechter R (1923–1928) Figuren-Atlas zu den Orchidaceen von Deutsch-Neu-Guinea. *Repertorium Specierum Novarum Regni Vegetabile, Beihefte* 21
 Schuiteman A (2013) *A Guide to Dendrobium of New Guinea*. Natural History Publications (Borneo), Kota Kinabalu

