



A new species of *Schoenorchis* (Orchidaceae) from West Java, Indonesia

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Key words

Aeridinae
flora of Indonesia
Malesia
Schoenorchis kembangleutik
taxonomy

Abstract *Schoenorchis kembangleutik* Yudistira & Mustaqim described here as new to science is an orchid species currently considered endemic to West Java. It is similar to *S. pachyachris* (J.J.Sm.) J.J.Sm. from Sumatra and Java but differs in having flowers with midlobe of labellum orbicular (vs oblong) with horizontal and rounded (vs pointing upwards and tapering to a point) apex, the labellum side lobes white, uncinata and retrorse at the apex (vs yellow, straight and erect at apex), and in having shorter spurs with straight base (2 vs 4 mm long, with geniculate base). A morphological description, notes on distribution, habitat and ecology, an illustration, photographs and a key to the five species of *Schoenorchis* of Java are provided.

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INTRODUCTION

The genus *Schoenorchis* Blume consists of 23 species known from tropical Asia, ranging from India to southern China and Malesia, and extending to north-eastern Queensland, Australia (Pridgeon et al. 2014). Members of this genus are usually epiphytes (Comber 1990, Pridgeon et al. 2014) and characterized by glabrous roots and floral bracts, fleshy either terete or flat leaves, flowers with sepals and petals free, bifurcate rostellum, with labellum (spur excluded) longer than the dorsal sepal and rigidly adnate to the base of the column, spur single with mouth not closed by callus and column without foot as well as unequal and paired pollinia (Pridgeon et al. 2014). Six species have been described in the last few decades, e.g., mainly from Vietnam (Van Duy & Averyanov 2015, Averyanov et al. 2019) but also from India (Kumar & Sequiera 2000).

In Java, four species of *Schoenorchis* have been recorded so far (Comber 1990), none of them endemic. In early 2022, an apparent *Schoenorchis* specimen was collected from a montane forest in West Java. A thorough study of the literature (Smith 1905, Comber 1990, 2001, Seidenfaden & Wood 1992, Van Duy & Averyanov 2015, Averyanov et al. 2019) and type specimens available in JSTOR Global Plants (<http://plants.jstor.org>) showed that the recently collected specimen is new to science and it is described here.

MATERIAL AND METHODS

The measurements and descriptions were based on fresh material collected during an expedition undertaken in 2022. The general plant descriptive terminology follows Beentje (2016) and the distribution map was prepared with SimpleMapper (Short-

house 2010). The preliminary conservation status assessment was undertaken following IUCN (2012) and IUCN Standards and Petitions Committee (2022) using criterion D.

TAXONOMY

Schoenorchis kembangleutik Yudistira & Mustaqim, *sp. nov.*
— Fig. 1–3; Map 1

Etymology. The epithet is derived from the Sundanese words 'kembang' (flower) and 'leutik' (small), which refer to the small flowers of the species.

This species is similar to *Schoenorchis pachyachris* (J.J.Sm.) J.J.Sm. in the flat leaves and few-flowered inflorescences, but differs in having flowers with mid-lobe of labellum orbicular (vs oblong) with horizontal and rounded (vs pointing upwards and tapering to a point) apex, with the side lobes white, uncinata, retrorse at the apex (vs yellow, straight and erect at apex), and in having shorter spurs (2 vs 4 mm long) with a straight (vs geniculate) base. — Type: *Yudistira 0202022* (holo LGS), Indonesia, West Java, Garut Regency, Talegong subdistrict, Sukamulya village, elev. 1200 m, 13 May 2022.



Fig. 1 *Schoenorchis kembangleutik* Yudistira & Mustaqim in its natural habitat. — Photograph by Y.R. Yudistira, 2022.

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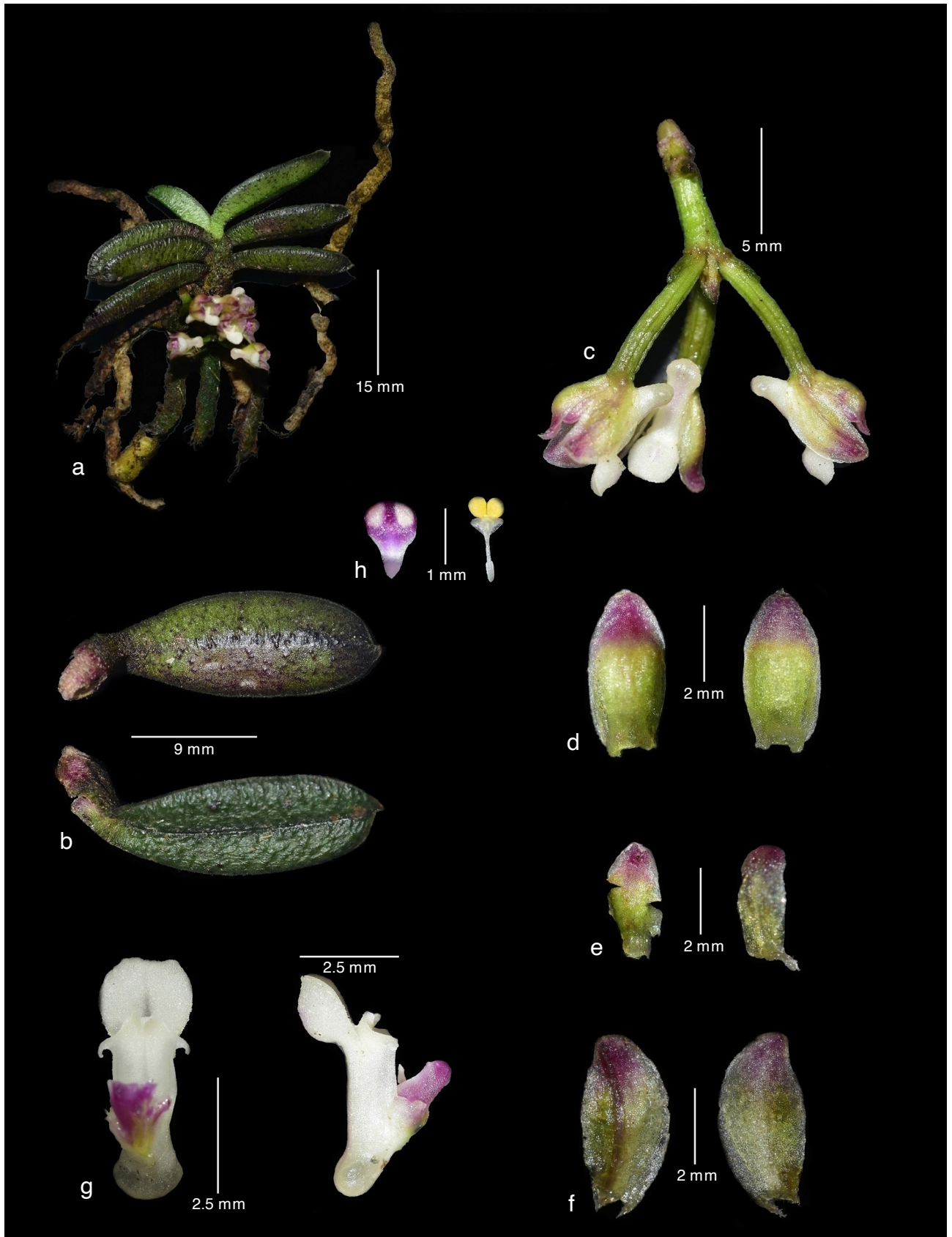


Fig. 2 *Schoenorchis kembangleutik* Yulistira & Mustaqim. a. Plant; b. leaves; c. inflorescence; d. dorsal sepals; e. petals (one petal is broken); f. lateral sepals; g. labellum and column; h. anther-cap and pollinarium. — Photographs by Y.R. Yulistira, 2022.

Small epiphytic herb, entirely glabrous. *Roots* flattened, green when exposed to sun, 2–4 mm wide. *Stems* c. 1.5 cm long. *Leaves* in two rows, oblong, 14–19 by 4–7 mm, fleshy, rigid, abaxial side warty, apex unequal; sheath warty, dark green. *In-florescences* from the two most recent defoliated nodes, umbel-like racemes, 3-flowered; peduncle c. 3 mm long; rachis c. 2 mm long, dark to light green, with one abortive flower bud at the apex of the rachis; bracts small, triangular, c. 1.5 by 0.5–1 mm, apex pointed. *Pedicel* and *ovary* cylindrical, 6-angled, c. 6 by 1.5 mm, sparsely verrucose, dark green. *Median sepals* elliptic, hooded, 4–5 by c. 2 mm, apex upcurved, midrib prominent abaxially, apical margin hyaline, tip mucronate, pale green with red colouring at the apex. *Lateral sepals* oblique, elliptic, c. 5.5 by 2.5–3.5 mm, apex obtuse to sub-acute, midvein distinct and prominent abaxially, pale green with slightly reddish at apex. *Petals* oblong, c. 3 by 1–1.5 mm, tip outwardly curved, apex

acute, midrib prominent abaxially, margin entire, pale green with reddish in apical part. *Labellum* 3-lobed, immobile, spurred; lateral lobes rectangular, the apical part uncinately and retrorse, c. 2 by 1.5 mm; mid-lobe orbicular, c. 2 by 2 mm, apex rounded, surpassing the sepals, concave, fleshy, along the median with a longitudinal groove for half of its length, tip slightly decurved, basal edges ciliate; disk with a triangular bilobed callus at the base of the mid-lobe; spur deeply saccate, c. 1.5 by 1–1.5 mm, straight at the base, obtuse, apical part globose, widened, white with pale green tinge, apical part longitudinally divided by a septum into two compartments. *Column* short, oblong, c. 1.5 by 1 mm, pale purple. *Stigma* elliptic. *Rostellum* very slender, deeply divided into two thin, very pointed, well-separated lobes. *Anther* pyriform, c. 1 by 0.5 mm, anther cap tapering into a long, blunt beak, reddish. *Pollinia* 4, unequal in size, the larger ones broadly elliptic, the smaller ones triangular

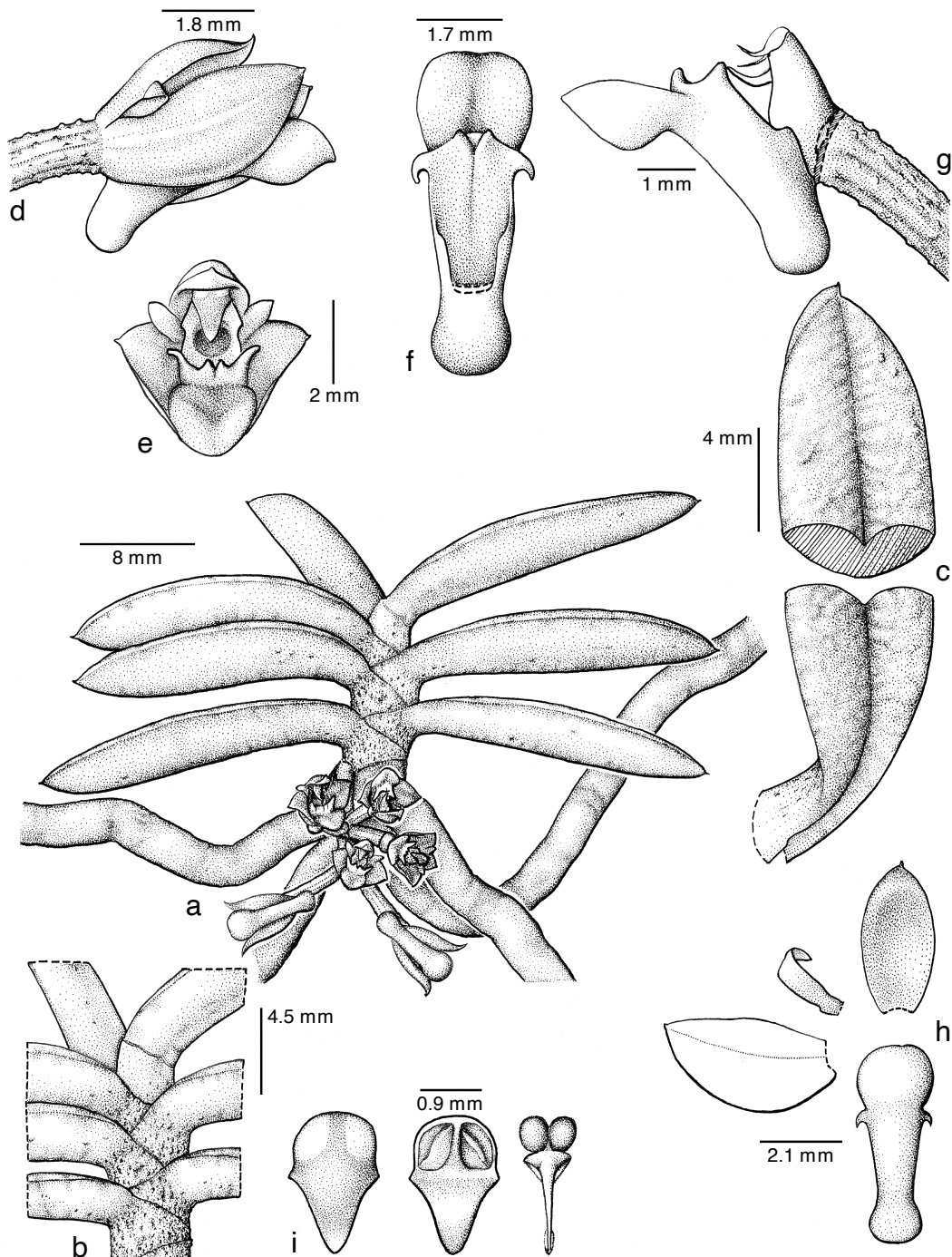
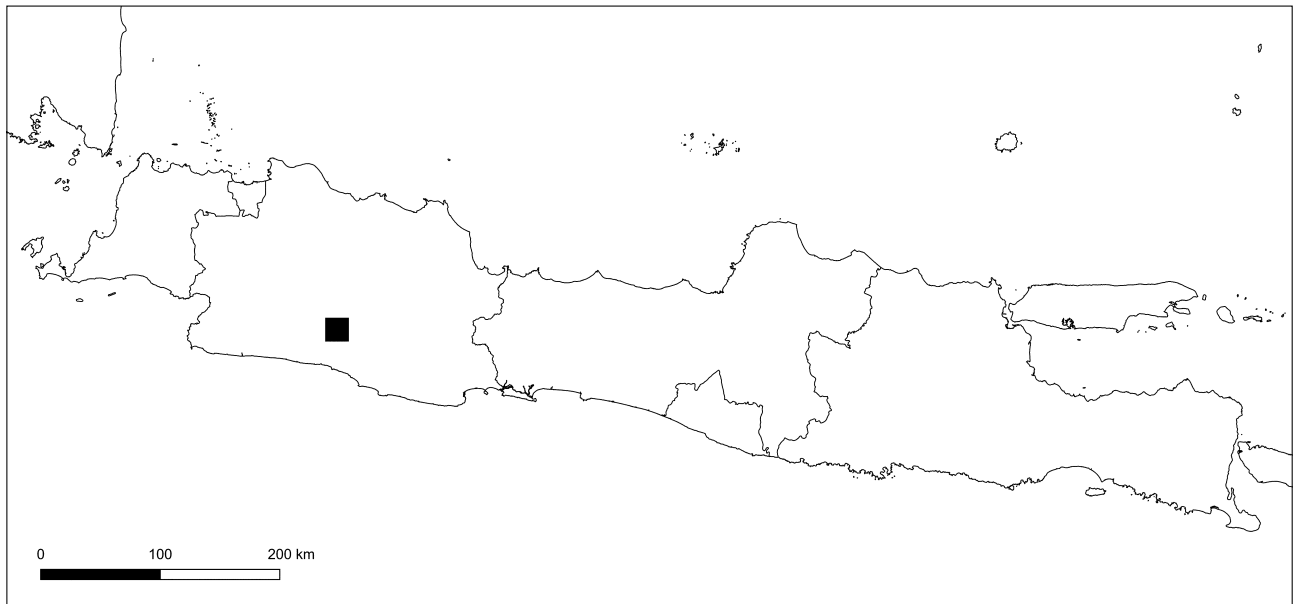


Fig. 3 *Schoenorchis kembangleutik* Yudistira & Mustaqim. a. Habit; b. leaf bases; c. leaves; d. flower, lateral view; e. flower, front view; f. ovary, labellum and column, in lateral view; g. labellum seen from above; h. dorsal and lateral sepal, petal, and labellum underside; i. anther-cap and pollinaria. — Illustration by Yuanito Eliazar, 2022.



Map 1 Endemic distribution of *Schoenorchis kembangleutik* Yulistira & Mustaqim on Java.

in outline, yellow; on a long, broad, strongly curved stipe, with a large and elongated, apically pointed viscidium. *Fruit* not seen.

Distribution — Endemic to West Java, only known from the type locality.

Habitat & Ecology — Epiphyte in lower montane forest, elevation c. 1200 m. Flowering: May; fruiting unknown.

Conservation status — *Schoenorchis kembangleutik* is known only from the type locality in a lower montane ecosystem and is apparently rare. Despite being not protected by the government, the forest where the specimen was collected is in a good state and no human disturbance was seen during the field survey. At least four surveys in the type locality and surroundings have been carried out and around 85 individuals were counted. With the available information, following IUCN (2012) and IUCN Standards and Petitions Committee (2022) guidelines, this species is provisionally assessed as Endangered (EN under criterion D).

Note — The discovery of *S. kembangleutik* increases the number of *Schoenorchis* species in Java to five species. For Java, *S. kembangleutik* and *S. pachyachris*, can be recognised by having inflorescences shorter than the leaves with 3 flowers per inflorescence (3–6 in *S. pachyachris*). The other species of this genus usually have numerous flowers per inflorescence (c. 15 or more).

KEY TO THE SPECIES OF SCHOENORCHIS OF JAVA

(modified from Comber 1990)

1. Leaves terete 2
1. Leaves flat 3
2. Leaves over 10 cm long; flower violet or bluish
 *S. juncifolia*
2. Leaves less than 3 cm long; flowers white or yellowish . . .
 *S. micrantha*
3. Inflorescence much longer than the leaves, usually branching
 with flattened peduncle, bearing c. 15 or more flowers . . .
 *S. paniculata*
3. Inflorescence shorter than the leaves, not branching, pe-
 duncle terete, bearing 3–6 flowers 4
4. Spur c. 2 mm long with straight base . . . *S. kembangleutik*
4. Spur c. 4 mm long with geniculate base . . . *S. pachyachris*

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