

Taeniophyllum rudolfii (Orchidaceae), a new species record for Thailand with a note on its typification

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ABSTRACT

Taeniophyllum rudolfii, previously known only from New Caledonia, was newly discovered in lower montane forest in southern Thailand. A description, line drawings and photographs are provided. In addition, a lectotype is also designated here.

KEYWORDS: lectotypification, *Microtatorchis*, orchid, southern Thailand, *Taeniophyllum*.

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INTRODUCTION

Taeniophyllum Blume (Orchidaceae) is one of the largest genera in subtribe Aeridinae with about 240 currently accepted species (including *Microtatorchis* Schltr.) (Kocyan & Schuiteman, 2013; Pridgeon *et al.*, 2014; POWO, 2022). The genus is widely distributed from tropical Africa through tropical Asia to Australia and Pacific islands, with a centre of diversity in New Guinea (Renner & Beadel, 2011; Pridgeon *et al.*, 2014). In Thailand, seven species have been recorded, including *T. calceolus* Carr. (= *T. hasseltii* Rchb.f.), *T. culiciferum* Ridl. (= *T. gracillimum* Schltr.), *T. filiforme* J.J.Sm., *T. glandulosum* Blume, *T. obtusum* Blume (= *T. pusillum* (Willd.) Seidenf. & Ormerod), *T. pahangense* Carr. and *T. quadrilobum* Seidenf. (Seidenfaden, 1978). During fieldwork carried out to study the orchid flora of Thailand, some interesting collections of the genus *Taeniophyllum* were made in the southern part of the country. Based on relevant literature and comparisons of herbarium specimens that are available online, they were identified as *Taeniophyllum rudolfii* Kocyan & Schuit., which is a new record for the country. The description and illustrations below are based on the most recent collection in Thailand.

TAXONOMIC TREATMENT

Taeniophyllum rudolfii Kocyan & Schuit., Phytotaxa 161(1): 74. 2013. — *Microtatorchis fasciola* Schltr., Bot. Jahrb. Syst. 39: 88. 1906. **nom. illeg.**, non (G.Forst.) Schltr. (1905). — *M. schlechteri* Garay, Bot. Mus. Leaflet. 23(4): 187. 1972. Type: New Caledonia. Auf den Abhängen des Mont Humboldt., ca 1,300 m, 15 Nov. 1902, *Schlechter 15300* (lectotype: **K** [K000942497] designated here; isolectotypes: **AMD** [AMD.93193], **AMES** [AMES00101783], **BM** [BM000539745, BM000539746], **E** [E00385269], **K** [K000942495], **L** [L0063334], **M** [M0232151], **S** [S07-6853, S-G-5962] photos seen). Figs. 1–2.

Epiphytic orchid. *Roots* 5–7 radiating from stem base, to 30 mm long, 1–1.5 mm in diam., tightly adherent to substrate, green when wet, whitish-green in the dry state, smooth. *Stems* very short, to 3 mm high. *Leaves* 3–5, pale green, oblong-lanceolate, 12–28 mm long, 4–6 mm wide, acute or apiculate. *Inflorescences* 3–6-flowered, erect or spreading at the base and arching above, 18–40 mm long; peduncle and rachis pale green, ca 1 mm in diam., glabrous; rachis flexuose; floral bracts distichous, narrow triangular, less than 2 mm long, with small

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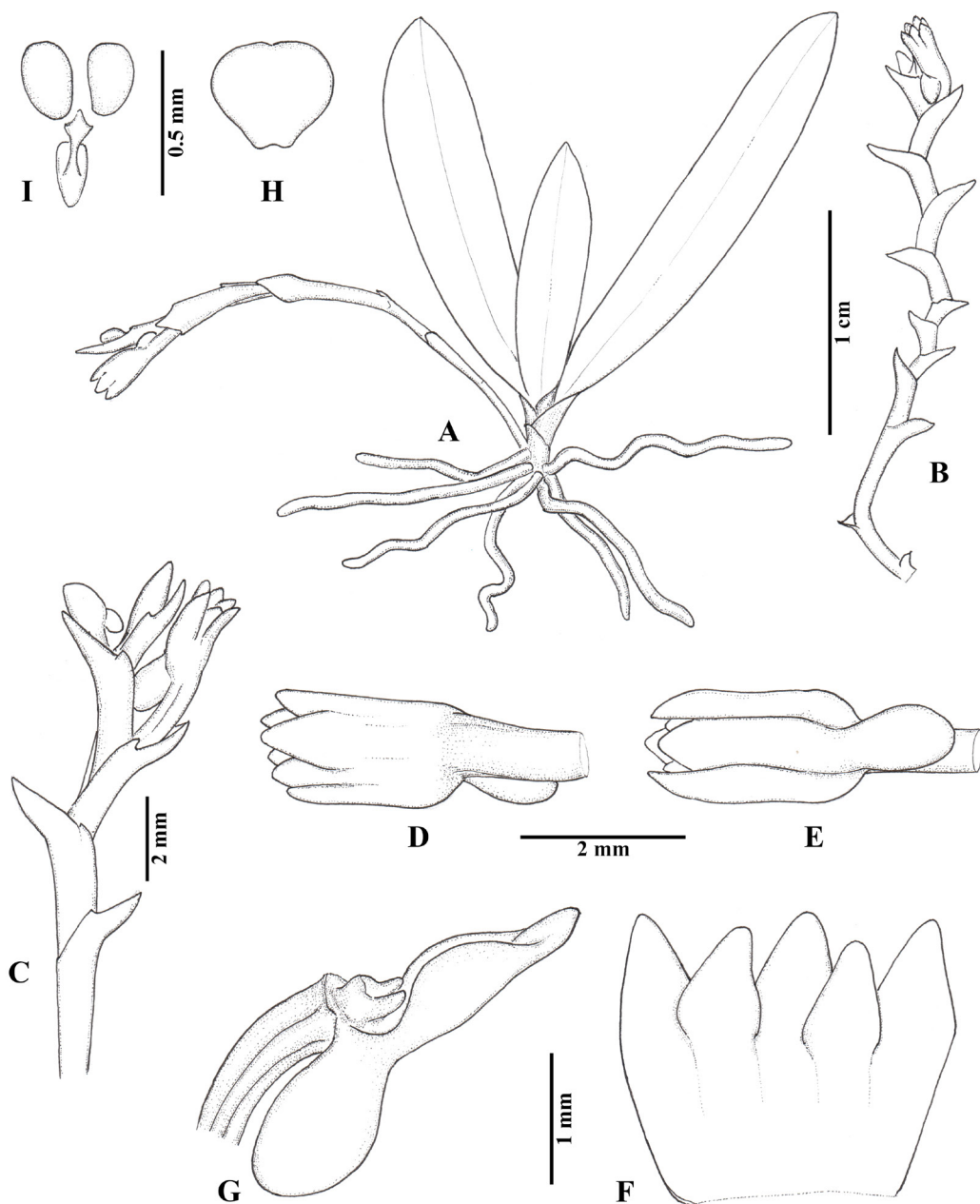


Figure 1. *Taeniophyllum rudolfii* Kocyan & Schuit. A. plant with inflorescence; B–C. inflorescences; D–E. flowers, D. side view, E. ventral view; F. sepals and petals; G. column and labellum with spur, side view; H. anther; I. pollinarium. All from Chantanaorrapint, Patarakulpisutti & Inuthai 17 (BKF, PSU). Drawn by S. Chantanaorrapint.

stipule-like appendage at base. *Flowers* yellowish-green, scarcely opening, opening in succession from the base of the raceme, usually one at a time. *Sepals* and petals fused in their lower part forming a tube ca 1.3 mm long; free portions not recurved, apices acute; free parts of sepals triangular-ovate, ca 1×0.7 mm; free parts of petals triangular-ovate, ca 0.7×0.5 mm. *Labellum* ovate-lanceolate, ca 1.5×1 mm, margins slightly involute, apex acute and somewhat swollen, without appendage; basal spur ovoid, ca 1.5×0.9 mm, glabrous on the outside, with a papilla inside the spur at the apex. *Column* erect, ca 0.4 mm long; stelia triangular, ca 0.2 mm high; anther sub-orbicular, ca 0.3 mm in diam.; pollinia 2, ovoid, ca 0.2 mm long. *Ovary* (including pedicel), 1.8–2.2 mm long, yellowish green, glabrous. *Capsule* not seen.

Thailand. — Peninsular: Nakhon Si Thammarat [Ron Phibun, Summit of Khao Ramrome Mt, montane forest, $08^{\circ}14'19.75''$ N, $99^{\circ}48'20.23''$ E, ca 950 m alt., 20 Sept. 2008, Chantanaorrapint 2350 (PSU, spirit); San Yen Mt, ca 1,200 m altitude, 12 Mar. 2009, Chantanaorrapint, Patarakulpisutti & Inuthai 17 (BKF, PSU, spirit)].

Distribution. — New Caledonia (type), Thailand. The species was previously known only from New Caledonia. The species may have been overlooked in the field by previous botanical explorations because of its small size. In Thailand, it is presently known only from Nakhon Si Thammarat province, but it may have a wider distribution range and may

also occur in other areas of southern Thailand and in the Malesian region.

Habitat and Ecology. — In Thailand, *Taeniophyllum rudolfii* was found growing on tree branches in lower montane forest, 950–1,200 m altitude. Flowering recorded in March and September.

Notes. — *Taeniophyllum rudolfii* was originally described as *Microtatorchis fasciola* by Schlechter (1906: 88) based on his three collections (*Schlechter 14911*, *15300* and *15695*) from New Caledonia. Later, Garay (1927: 187) proposed a new name, *M. schlechteri* Garay, for this taxon, as *M. fasciola* Schltr. was an illegitimate name due to the earlier combination *M. fasciola* (G. Forst.) Schltr. (Schlechter, 1905). Recently, Kocyan & Schuitman (2013: 74) transferred this orchid to the genus *Taeniophyllum*. Due to the existence of *T. schlechteri* Mansf., a new name was needed in *Taeniophyllum*. In the protologue, Schlechter did not cite a holotype, therefore, it became necessary to designate a lectotype. We here designate Schlechter's collection (*Schlechter 15300*) in K (K000942497) as the lectotype of *T. rudolfii*, because this specimen (K000942497) has more complete structures (including roots, stem, leaves, inflorescence and flowers) than the other duplicates.

Taeniophyllum rudolfii is easily distinguished from the other species of the genus in Thailand by the presence of leaves, the floral bracts having stipule-like appendages at base, and the two pollinia.



Figure 2. *Taeniophyllum rudolfii* Kocyan & Schuit. A: Habit. B: Portion of inflorescence. Photographs by S. Chantanaorrapint.

Allied species in SE Asia, formerly in genus *Microtatorchis*, differ in having a retrorse tooth at the lip apex. Two varieties of *T. rudolfii* are recognized, *T. rudolfii* var. *rudolfii* and *T. rudolfii* var. *productilis* (N.Hallé) Kocyan & Schuit (= *Microtatorchis schlechteri* var. *productilis* Hallé) (Hallé, 1977). The variety *productilis* differs from the typical one by larger plants, well-developed leaves, and the long deltoid floral bracts with decurrent base. Based on plant size and shape of the floral bracts, Thai specimens match well with the typical variety, except that the spur in the Thai material is rounded at the apex, not abruptly narrowed as in specimens from New Caledonia.

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