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# THISMIA ANGUSTIMITRA (THISMIACEAE), A NEW SPECIES FROM THAILAND

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SUMMARY

A new species of the genus *Thismia* (Thismiaceae) from Thailand is described and illustrated.

***Key words***: Thismiaceae, *Thismia angustimitra*, Thailand, new species.

## INTRODUCTION

The genus *Thismia* Griff. had been treated as a part of the family Burmanniaceae (Jonker 1938, 1948, Stone 1980, Jarvie 1996, Saunders 1996, Yang et al. 2002, APG 2003, Tsukaya & Okada 2005). Interestingly, however, recent molecular phylogenetic research has suggested that *Thismia* is sister to the Dioscorea clade, not the Burmannia clade, therefore supporting recognition of the Thismiaceae (Merckx et al. 2006). The genus consists of c. 35 species and is concentrated mainly in the Malay Peninsula. All species of the genus are mycotrophic herbs, growing typically amongst leaf litter on shady wet forest floor. In Thailand, two species have been recorded, viz. *T. javanica* J.J.Sm. and *T. mirabilis* K.Larsen (Larsen 1965, 1987). During a botanical field trip to Phu Wau Wildlife Sanctuary, Nong Khai Province, north-eastern Thailand in September 2004, a new species was found.

**Thismia angustimitra** S.Chantanaorrapint, *spec. nov.* — Fig. 1

> Species nova ab affini *Thismia mirabilis* K.Larsen laminae in mitram angustis et anulo curvatum bene differt. — Typus: *Chantanaorrapint 765* (holo PSU!; iso BKF!, L! in glycerine-alcohol), Thailand, Nong Khai Province, Phu Wau Wildlife Sanctuary, c. 200 m alt., 18°09'53"N, 103°59'03"E, 13 September 2004.

Plant terrestrial, achlorophyllous, mycotrophic. *Root* creeping, vermiform, branched, brownish white tip. *Stem* erect, simple, to 10 cm tall (including flowers), bearing 1–3 flowers. *Leaves* scale-like, appressed lanceolate, 3–6 mm long, translucent, apex acute. *Involucral bracts* 3, white, similar to upper leaves. *Flower* c. 10 mm long, perianth of 6 tepals, fused to form an obovate-elliptic chamber, lacking transverse bars inside; outer tepals 3, white, c. 2 by 4 mm, apex spreading, rounded or mucronate, margin crenate; inner tepals 3, purple to brownish, mitriform with three lateral apertures, aperture 3.5–4.5 mm diam., top of mitre with three fovea; annulus incurved; stamens 6,

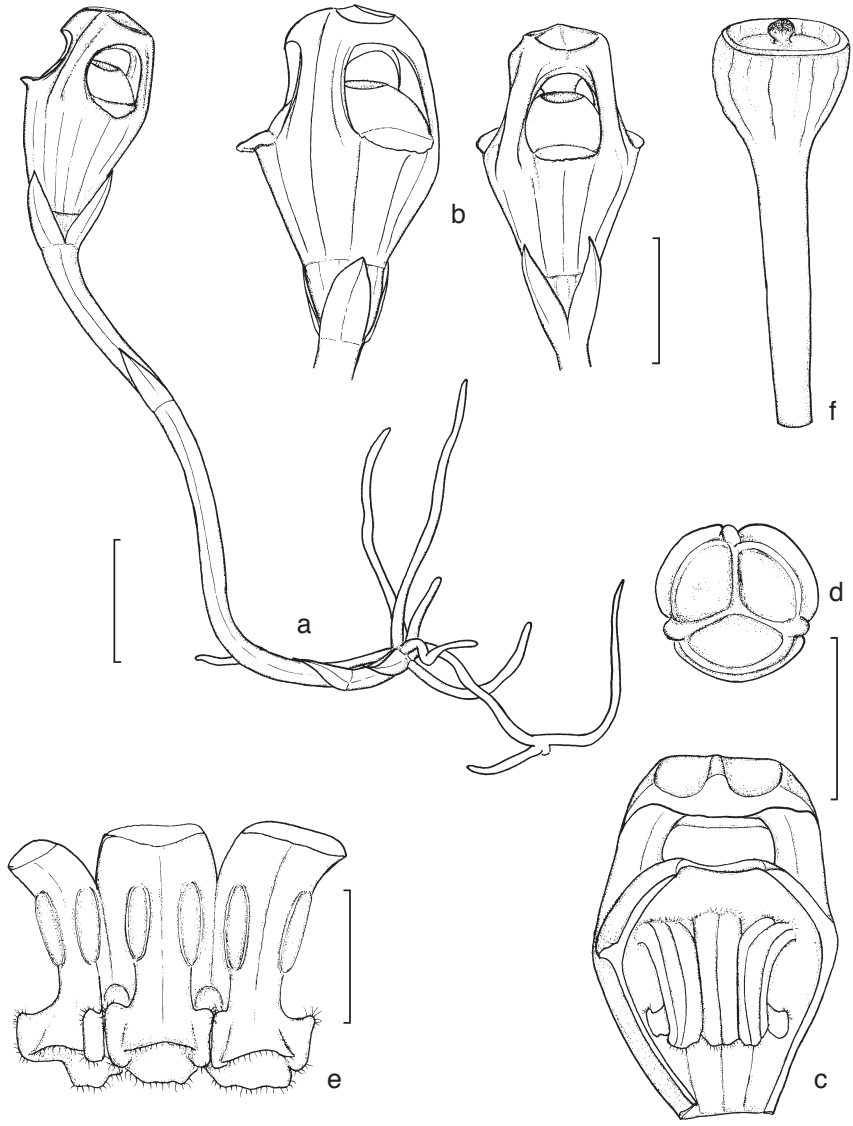


Fig. 1. *Thismia angustimitra* S.Chantanaorrapint. a. Habit; b. perianth tubes; c. longitudinal section of perianth; d. top view of mitra; e. side view of pendulous stamens; f. fruit (all from *Chantanaorrapint 765*, type specimen). — Scale bars: a–d, f = 5 mm, e = 2 mm.

connate to form a tube around the style, pendulous from the annulus, hairy, connective broad with a quadrangular wing; anthers oblong, adaxial on the basal part of the stamen; nectariferous gland present towards the apex on the line of fusion between each connective; stigma very short, globose, 3-lobed, papillose. *Fruit* fleshy, cup-shaped, c. 5 mm long; fruit stalk thickened and lengthened after flowering to 12 mm above the bracts. *Seed* not found.

Distribution — Known only from the type locality in Phu Wau Wildlife Sanctuary, Nong Khai Province, Thailand.

Ecology & Phenology — *Thismia angustimitra* was collected on sandy soil covered by leaf litters at the edge of a mountain in bamboo forest. Elevation 200 m. Flowering and fruiting in the rainy season.

Etymology — The specific name refers to the narrow mitre.

Notes — *Thismia angustimitra* is closely related to *T. mirabilis*, a species described from Khao Yai National Park and Ko Chang Island, Thailand, which also has three fovea at the top of the mitre, and has vermiform roots. However, *T. angustimitra* has a much narrower mitre with curved annulus, whilst *T. mirabilis* has a broad mitre and erect annulus.

Within the treatment of Jonker (1938), *T. mirabilis* and *T. angustimitra* appeared to resemble the species in sect. *Sarcosiphon*, especially *T. crocea* (Becc.) J.J.Sm., *T. clandestina* (Blume) Miq. and *T. episcopalism* (Becc.) J.J.Sm., as they have in common reduced outer perianth lobes and their inner ones are connate to an erect mitre with three holes. However, the former differ from the latter in having vermiform roots, as the species in sect. *Sarcosiphon* have a coralloid root system.

Concerning the distribution range, as Nong Khai Province has a common border with Laos PDR, it is expected that the new species might occur in Laos PDR as well.

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