

## *Aglaia bracteolata* (Meliaceae), a new species for Thailand

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### ABSTRACT

A species of Meliaceae, *Aglaia bracteolata* is newly added to the flora of Thailand. It was first recognized in Suan Hin Pha Ngam Forest Park, Loei Province, and is described and illustrated here. This species is found on the limestone hill, characterized by the presence of *Cycas petraea* and *Dracaena cambodiana*. It is also found in Phayao, Lampang and Kanchanaburi Provinces.

KEYWORDS: Flora of Thailand, limestone, dendritic hairs, bracteoles.

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### INTRODUCTION

Meliaceae are a large family containing 58 genera and ca 740 species and distributed in the pantropical area expanding to temperate zone (E.M. Joyce, pers. comm.). In South-East Asia, species of Meliaceae are widely found from lowlands to higher elevation highlands, and are important components of tropical and subtropical evergreen forests. In Thailand, there are 23 genera and 95 species of Meliaceae, 40 of which belong to *Aglaia* (Phengklai *et al.*, in prep.). A synoptic account of the Meliaceae of Thailand has been published (Wongprasert *et al.*, 2011). It included only 18 genera and 84 species of Meliaceae, of which 32 species were in *Aglaia*. Thai names applied to various species in the genus are listed in Pooma & Suddee (2014). During botanical surveys in Suan Hin Pha Ngam Forest Park, Loei Province, two new species of Meliaceae were discovered. The first was *Toona calcicola* Rueangr., Tagane, Suddee (Rueangruea *et al.*, 2015); *Aglaia bracteolata* is the second.

### TAXONOMY

#### *Aglaia bracteolata* Pannell, sp. nov.

This species resembles *Aglaia grandis* Korth. ex Miq. in its unbranched or little-branched habit, apical spiral of numerous leaves with narrow leaflets, the leaflets with numerous veins and a conspicuous indumentum on the lower leaflet surfaces, inflorescences and infructescences. The striking difference is the structure of the trichomes, especially on the lower leaflet surface. In this species they are white stellate scales, while in *A. grandis* they are dendritic hairs with several whorls of arms on a central radius inserted at right angles to the leaflet surface. A close affinity with *A. grandis* is indicated by the occurrence of some dendritic hairs intermixed with the stellate hairs and scales on the twigs, inflorescences and infructescences. Unusually for the genus, conspicuous bracteoles subtend the individual flowers and exceed them in length (hence the specific epithet).

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Type: Thailand, Loei, Wat Pa Suan Hom, Amphoe Nong Hin, 7 Sept. 2016, N17° 03', E101° 45', P. Puudjaa, S. Ruengrua, C. Hemrat & W. Kiewbang 2005 (holotype **BKF!**; isotype **FHO!**).

Tree to 10(–20) m, unbranched or with few branches, with a condensed terminal spiral of leaves on each branch (Figs. 1A & 2A). *Bark* pale brown or greyish brown, reticulately fissured, thinly cracked to scaly, with white sap. *Twigs* ca 1 cm across near their apices, brown, longitudinally wrinkled, with longitudinal lenticels to 8×3 mm and densely covered with pale brown or grey stellate hairs, interspersed with ‘dendritic’ hairs that have a central radius and arms in a series of two or three whorls; scars from fallen leaves ca 8.5×7 mm. *Leaves* imparipinnate, to 75 cm long, petiole ca 18 cm long; the petiole, rachis and petiolules longitudinally wrinkled and densely covered with hairs like those on the twigs. *Leaflets* 17–25, 6–17.5(–22)×2–4(–6) cm, narrowly oblong or narrowly lanceolate, slightly cordate at the asymmetrical base, acuminate at the apex, with the acute acumen to 7 mm long; petiolule on lateral leaflets ca 2 mm long, on terminal leaflet to 10 mm long; lateral veins 18–21(–25) pairs, the midrib prominent and the lateral veins subprominent on the lower leaflet surface; with scales and hairs like those on the twigs numerous on the midrib below and with numerous white stellate scales on the lower leaflet surface. *Female inflorescence* in the axils of several of the uppermost leaves, to 20 cm long with one order of branching, the branches to 4 cm long, each bearing up to 15 flowers; peduncle 1–13 cm long; the peduncle, rachis and branches longitudinally wrinkled and with indumentum like that on the twigs, the flowers subtended by 1–3 bracteoles, 3.5–5 mm long, ca 1 mm wide at the base, narrowly lanceolate. *Flowers* 4.5–5×ca 3 mm, sessile or with a short pedicel 0.5–1 mm long. *Calyx* to 2×3 mm, cup-shaped, divided to about two thirds into five subrotund lobes, dull green, densely covered with pale brown stellate scales. *Petals* 5, ca 5×1.5 mm, narrowly obovate, dull yellow. *Staminal tube* ca 3.5×2.5 mm, obovoid, protruding beyond the petals; the aperture 1.5 mm in diameter, with an entire margin (Figs. 1C & 2B). *Anthers* 5, ca 1×0.5 mm, ovoid, inserted in the uppermost third of the staminal tube, not protruding, the middle third of the staminal tube thickened below each anther insertion. *Ovary* ca 1.5×1.5 mm, globose and densely covered with pale

brown stellate hairs; locules three, each containing two ovules; the stigma ca 1×1 mm, with three apical lobes. *Infructescence* ca 20×10 cm, peduncle ca 6 cm long, branched once, with up to 7 fruits, pedicels ca 7 mm; the peduncle rachis and branches longitudinally wrinkled and with an indumentum like that on the twigs (Fig. 2C). *Fruits* (1.6–)2.8–4.7(–6)×(2.0–)2.7–4.1(–5.4) mm, obovoid and shallowly 3-lobed when dry where the pericarp is moulded around the seeds, sparsely to densely covered with compact white stellate hairs with many short arms, somewhat glabrescent; pericarp 2–4 mm thick, green, ripening to pinkish dull yellow; locules 3, each with 0–1 seed (Fig. 2D), the inner surface brown and glabrous. *Seeds* 1.7–3.7×1.3–2(–3) cm and 0.8–1.7(–2) cm thick, with two subequal peltate seedlings and the shoot axis in the centre attached to the two cotyledons.

Distribution.— Endemic to Thailand.

Additional specimens.— NORTHERN: Phayao [road to Pang King, 19° 31.06.91'N, 100° 24.38.07'E, 22 Feb. 2013, *La-ongsri et al.* 2672 (**QBG** 66612!)], Lampang [Ngao District, Kiew Lom, 415 m alt., 12 Jan. 2016, *La-ongsri et al.* 4415 (**QBG** 96369!); Wang Nuea, 656 m, 21 June 2013, *La-ongsri et al.* 3003 (**QBG** 68639!)]; NORTH-EASTERN: Loei [Wang Saphung, Phu Lang, Thum Pha Phung temple, mouth of cave, 17°19'34.6N, 101°40'8.6E, 452 m alt., 19 July 2014, *Poopath et al.* 677 (**BKF!**), *Poopath et al.* 679 (**BKF!**, **FHO!**); Erawan, Wat Pa Pha Sam Yot, 17°10'07"N 102°02'29"E, 570 m alt., 20 Feb. 2015, *Tetsana et al.* NT933 (**BKF!**); Nong Hin, Puan Phu subdistrict, Wat Pa Suan Hom, Pha Ngam Forest Park, 17°03'12"N, 101°45'32"E, 570 m alt., 21 Apr. 2017, *Tetsana et al.* NT1282 (**BKF!**); Mueang Loei District, Nam Suai, Phu Pha Lom Forest Park, 22 Mar. 2018, *Wangwasit* 180322-14 (**QBG** 115764!); same locality, 24 Jan. 2018, *Wangwasit* 180124-46 (**QBG** 115690!); same locality, 12 Sept. 2018, *Wangwasit* 180912-23 (**QBG** 116034!).

Ecology.— Dry evergreen or mixed deciduous forest. In Loei on limestone, growing on silty clay or on cliff, the habitat characterized by the presence of *Cycas petraea* A.Lindstr. & K.D.Hill and *Dracaena cambodiana* Pierre ex Gagnep.; alt. 410–656 m.

Phenology.— Flowering: July. Fruiting: January to April.

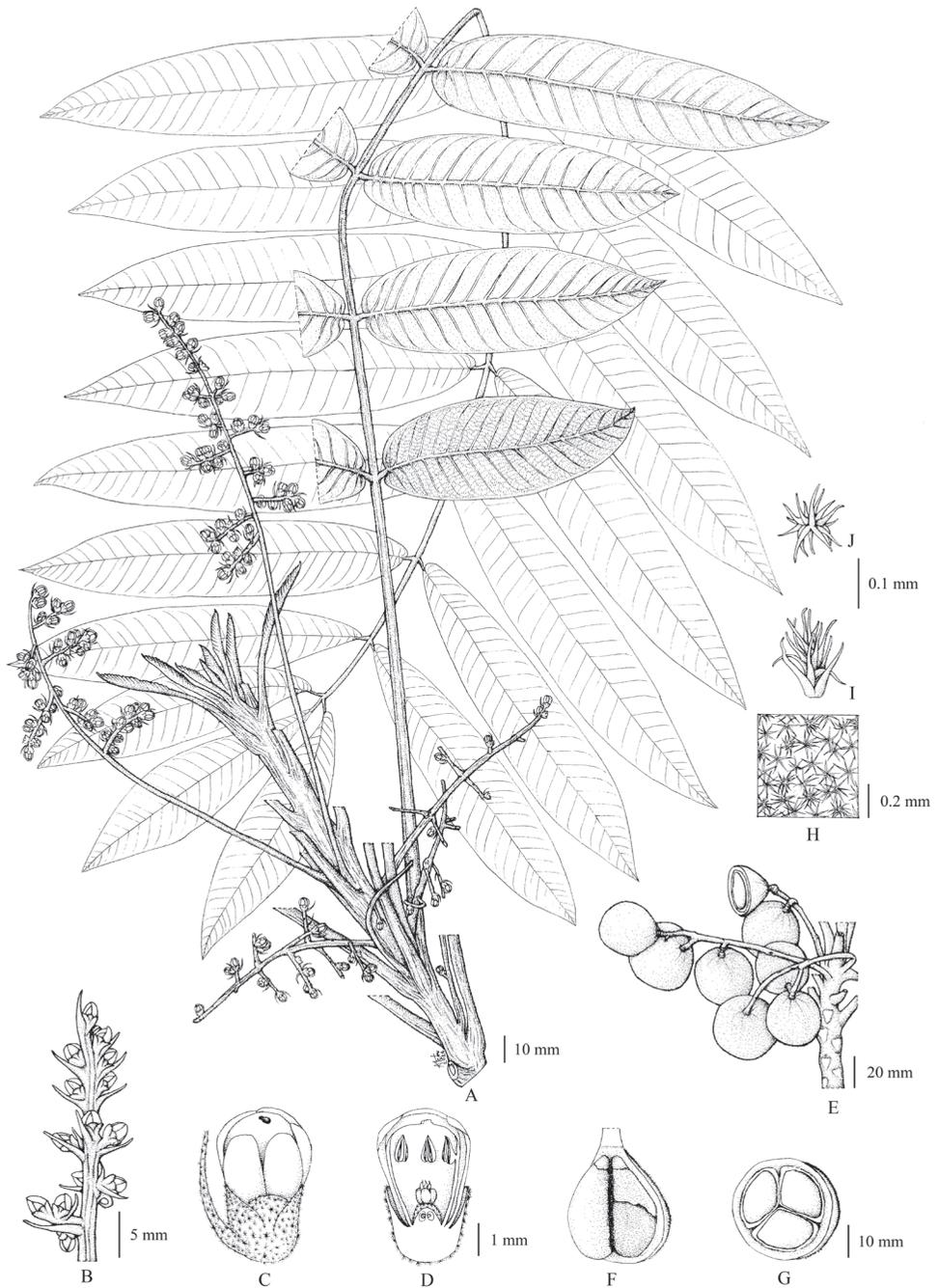


Figure 1. *Aglaia bracteolata* Pannell. A. leafy twig with female inflorescences; B. young inflorescence showing subtending bracteoles; C. mature flower showing entire, narrow, apical aperture at apex of staminal tube; D. longitudinal half flower; E. infructescence; F. longitudinal half fruit showing gelatinous aril; G. transverse half fruit; H. detail of lower leaflet surface showing indumentum (stellate hairs and stellate scales), I. dendritic hair; J. stellate hair. [A, C–D from *P. Puujaa et al. 2005*; B, H–J from *M. Poopath et al. 679*; E–G from *N. Tetsana et al. 1282* (field photo by N. Tetsana)]. Drawing by Atcharapan Saengbuapuean.

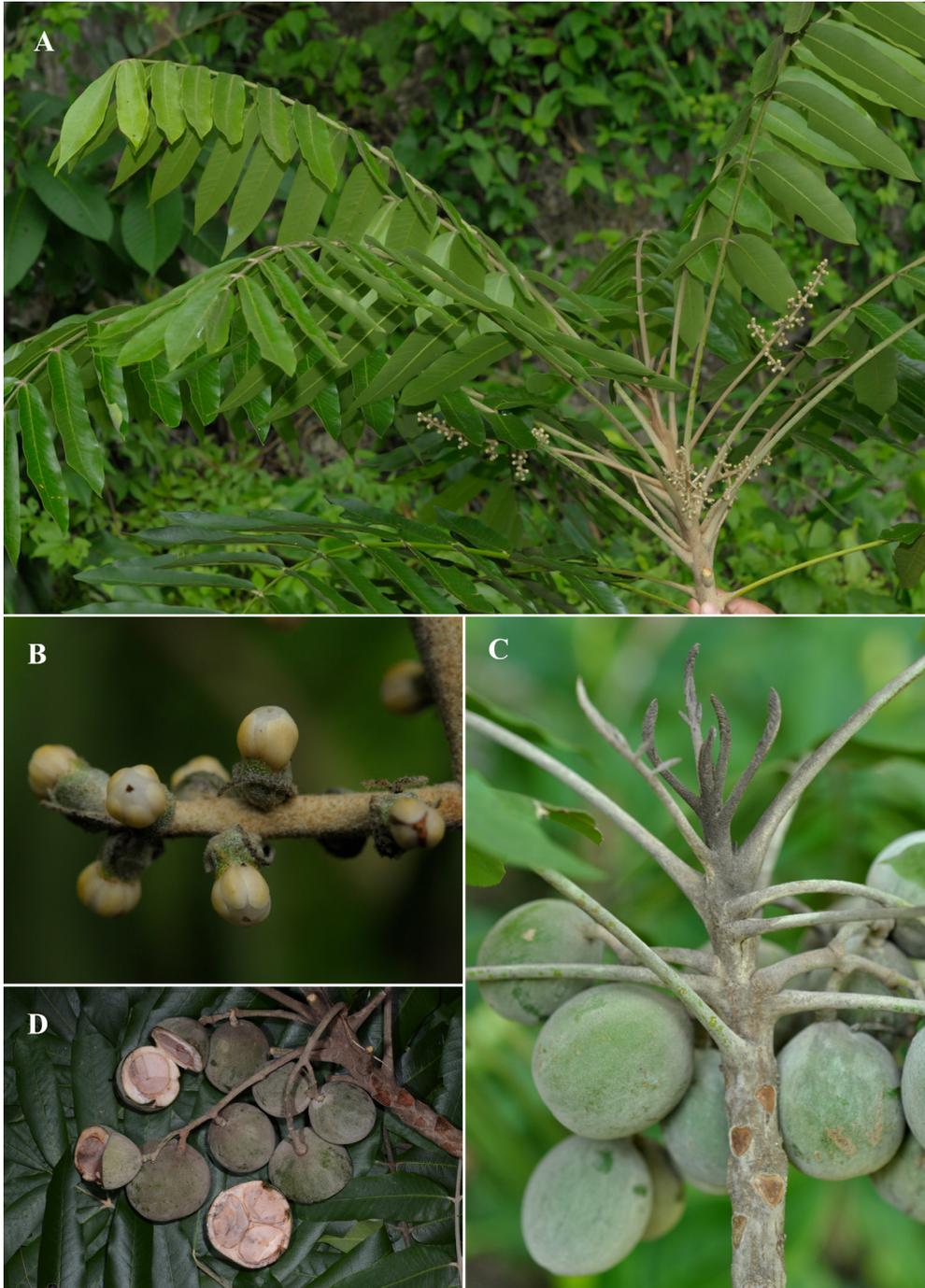


Figure 2. A. Flowering shoot with spiral of leaves and axillary inflorescences; B. Part of inflorescence showing sessile flowers subtended by linear bracts and staminal tube with narrow aperture; C. Fruiting shoot with several axillary infructescences; D. Infructescence with transversely cut fruits. A–B photograph by S. Ruengruea, C photograph by W. Kiewbang, D photograph by N. Tetsana.

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