

Quercus thorelii Hickel & A. Camus (Fagaceae), a new record for Thailand

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ABSTRACT. *Quercus thorelii* Hickel & A. Camus (Fagaceae) is newly recorded for Thailand. The species is described and illustrated.

KEY WORDS: *Quercus thorelii*, Fagaceae, new record, Thailand.

INTRODUCTION

The genus *Quercus* L. (Fagaceae) has about 350–450 species distributed in the northern temperate and subtropical regions with extensions into the tropics in W Malesia and northwestern S America. Barnett (1940) reported 22 species from Thailand in her study on the genus *Quercus* in Asia. Phengklai (2008) reported 29 species, 1 sub-species and 1 variety of *Quercus* in his account of the family Fagaceae for Flora of Thailand. During work on the family Fagaceae in Khao Soi Dao Wildlife Sanctuary, Chanthaburi province, *Q. thorelii*, with distinctive leaf and cupule characters, was discovered as a new record for Thailand.

DESCRIPTION

Quercus thorelii Hickel & A. Camus, Bull. Mus. Natl. Hist. Nat. 29: 599. 1923.— *Cyclobalanopsis thorelii* (Hickel & A. Camus) Hu, Bull. Fan Mem. Inst. Biol. 10: 106. 1940; Huang Chengjiu, Zhang Yongtian & B. Bartholomew in Wu Zheng-yi & P.H. Raven, Fl. China 4: 394. 1999. Type: Laos, Maong-pun, from de Sam, Neua, 17 Sept. 1920, *E. Poilane* 1902 (holotype **P**; isotypes **IBSC**, **NY**, **P**). Figs. 1–2.

Tree ca. 20 m high, 50 cm in diameter; bark smooth, deeply fissured, grey; blaze with distinct

furrows. *Leaves* subcoriaceous, elliptic to elliptic-oblong, 11.3–22 by 4.4–8.6 cm, apex mostly acute, base obtuse, rarely oblique, margin serrate at 1/2–1/3 from apex, both surfaces glabrescent; midrib and lateral veins strongly raised on lower and depressed on upper surface; lateral veins 14–19 per side; tertiary venation scalariform. *Petioles* 1.2–1.5 cm long, thickened at base, with sparse persistent stellate hairs. *Male inflorescences* spikes, axillary in the axils of upper leaves, 8–10 cm long; male flowers single or in clusters; perianth 6-lobed, membranous, ovate, ca. 1.2–1.6 mm long, hairy; stamen 6–8, ca. 2–2.8 mm long, anther ca. 0.8–1 mm long, densely hairy. *Female inflorescences* not seen. *Infructescences* ca. 2.2 cm long, bearing 1–2 acorns. *Acorns* compressed, 1.7–2 by 3–3.5 cm, sessile. *Cupules* short-cylindrical, enclosing over the nut, base truncate, wall 2–4.5 mm thick, all parts hairy except for the glabrous base inside, lamellae 13–14 layers, ca. 1.5–3 mm apart, rim denticulate. *Nuts* 1 per cupule, oblate, 1.2–1.5 cm high (excluding the persistent style), 2.7–2.8 cm in diameter, hairy, apex mostly truncate with slightly protruding persistent style ca. 0.5 mm long, base truncate, scar broad, concave ca. 1.9 cm in diameter.

Thailand.— SOUTH-EASTERN: Chanthaburi [Khao Soi Dao Wildlife Sanctuary, Nam Tok Khao Soi Dao, 29 July 2008, *B. Harwood* 2015 (**BKF**, Herbarium of Botany Department, Faculty of

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Science, Kasetsart University); Khao Soi Dao Wildlife Sanctuary, Khao Soi Dao Nuea, 7 Feb. 2009, *B. Harwood 2043* (BKF)].

Distribution.— China (S Guangxi, S Yunnan), Laos, Vietnam.

Ecology.— In evergreen forest on mountain slopes, only known so far in Khao Soi Dao Wildlife Sanctuary; alt. 300–800 m. Flowering: February–March; Fruiting: June–August.

Vernacular.— Ko soi dao (ก่อสอยดาว).

Notes.— The distinguishing characters of *Quercus thorelii* Hickel & A. Camus are cupule being the same height as the nut, and the acorn size is > 3 cm in diameter. The young acorn and the leaf of this species are very similar to *Q. austrocochinchinensis* Hickel & A. Camus but the mature acorns are larger.

Table 1. Comparison of morphological characters of *Quercus austrocochinchinensis* Hickel & A. Camus and *Q. thorelii* Hickel & A. Camus.

	<i>Q. austrocochinchinensis</i>	<i>Q. thorelii</i>
Cupule size (in diameter)	1.5–1.8 cm	3–3.5 cm
Cupule size (in height)	0.7–1.5 cm	1.5–2 cm
Nut size (in diameter)	1–1.8 cm	2.5–3 cm
Scar size (in diameter)	1–1.2 cm	1.8–2 cm
Lamellae layers	6–10 layers	13–14 layers

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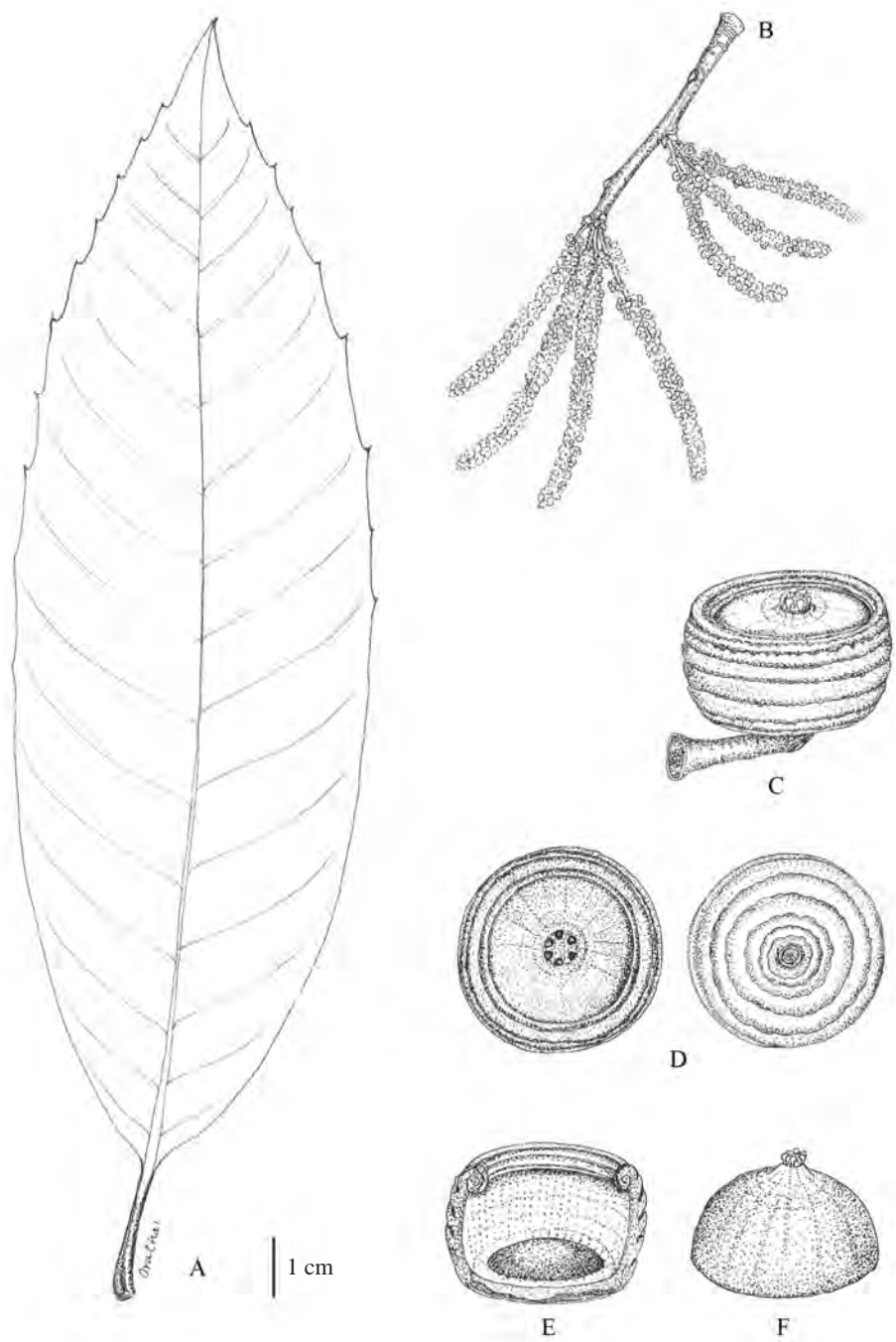


Figure 1. *Quercus thorelii* Hickel & A. Camus: A. leaf; B. male inflorescences; C. acorn: side view; D. acorns: top and bottom views; E. cupule; F. nut. Drawn by O. Kerdkaew.

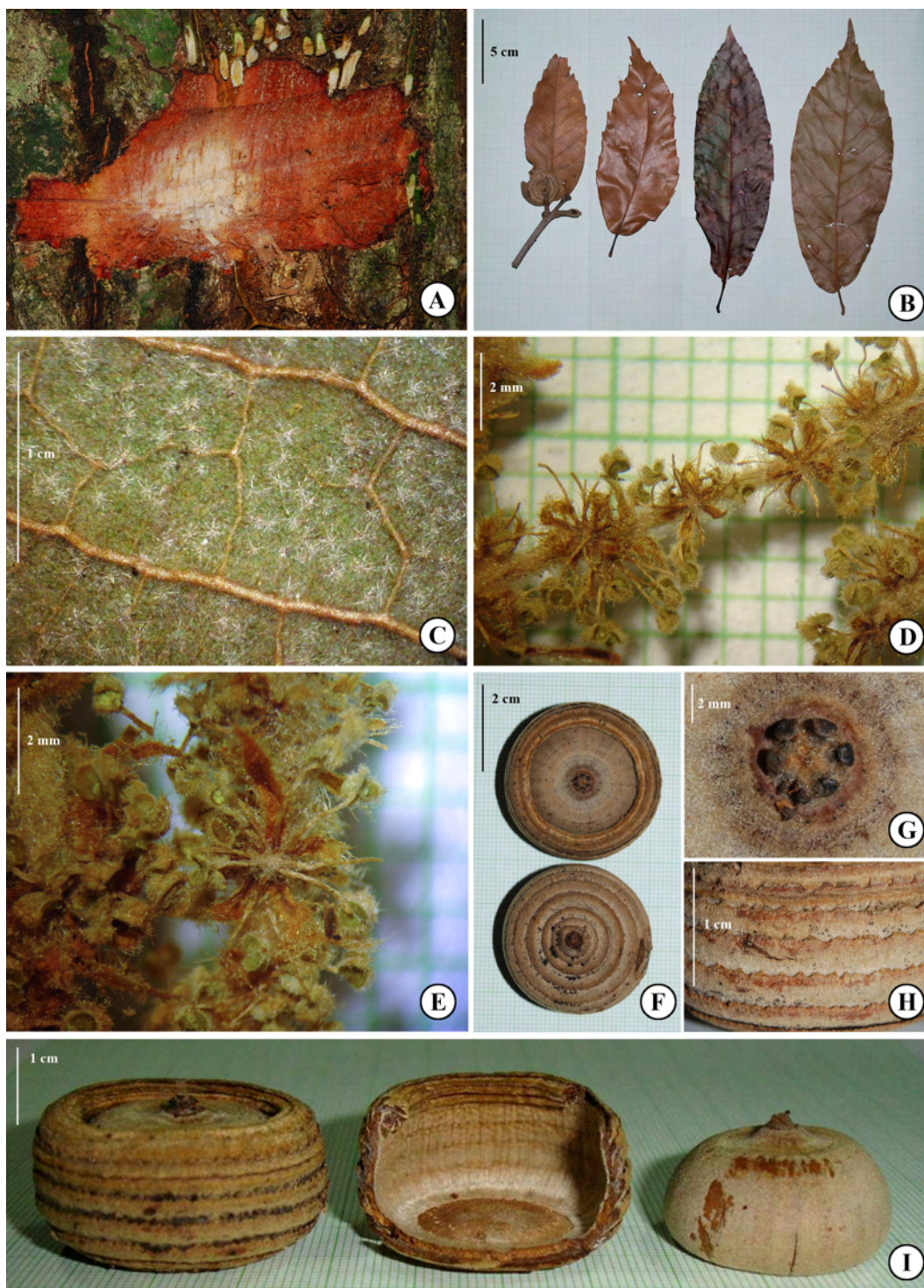


Figure 2. *Quercus thorelii* Hickel & A. Camus: A. blaze; B. leaves; C. stellate hairs on lower surface of young leaf; D–E. male inflorescences; F. acorns; G. nut with persistent styles; H. cupule lamellae; I. acorn, cupule and nut. Photographed by D. Chusrithong (A) and K. Bunpha (B–I).