

## Helicteres ubonensis (Malvaceae), a new species from Thailand

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#### Key words

Helicteroideae identification key new species Ubon Ratchathani Abstract A new species, Helicteres ubonensis from Thailand, is described and illustrated. The new key to 12 species of Thai Helicteres is provided.

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#### INTRODUCTION

Helicteres L. is a genus in the family Malvaceae subfamily Helicteroideae (Bayer et al. 1999, Cowie 2011), comprising c. 60 species and it is distributed over tropical America and Asia (Bayer & Kubitzki 2003, Tang et al. 2007, Mabberley 2008). The genus is characterized by stamens adnate to gynandrophore, united sepals, oblong fruits with hairs and wingless seeds. In the account of the genus Helicteres for the Flora of Thailand, seven species and eight taxa were reported by Phengklai (1995, 2001). Recently, two new records, H. geoffrayi Gagnep. and H. prostrata S.Y.Liu and two new species, H. oblongifolia Chantar. & Poompo and H. thailandica Chantar. & Poompo from Thailand, have been published by Chantaranothai & Poompo (2019, 2020). Therefore, the species number has increased to eleven, three of which are endemic to the country. In preparing the treatment of *Helicteres* for anatomical study, a new species of Helicteres was discovered in Ubon Ratchathani province and it is described below.

#### **MATERIAL & METHODS**

This taxonomic study is based on herbarium material and field collections. Herbarium material has been consulted of AAU, BK, BKF, BM, K, KKU, KYO, PSU and QBG (see for abbreviations Thiers continuously updated). Description, line drawing of the new species, photos, specimens examined and ecological data are presented. Voucher specimens are deposited at AAU, KKU and QBG.

### **TAXONOMY**

Helicteres ubonensis Chantar. & Kantachot, sp. nov. — Fig. 1-2

Etymology. The specific epithet refers to the collections from Ubon Ratchathani province where the species was discovered

Typical of this species are narrowly elliptic-oblong leaves. Corolla purplish white or pinkish. Capsule pointed as beak at the apex and surface covering with stellate hairs — Type: P. Chantaranothai, C. Kantachot & P. Kludwong 2021-150 (holo KKU; iso AAU, QBG), Thailand, Khong Chiam, Napho Klang, along trail to Soi Sawan Waterfall, 10 Aug. 2019.

Shrub, 1-2 m tall; twigs erect and some ascending, terete, young twigs brownish, glabrescent; twigs blackish, glabrescent; bark thick with fibres. Leaves spiral, narrowly elliptic-oblong, (8-) 10–15 by (1–)2–3 cm, chartaceous, apex acute or acuminate, base cuneate or obtuse, margin entire, upper surface green, glabrous or glabrescent, lower surface pale green, with stellate hairs; midrib prominent on the lower surface; basal veins 3; lateral veins (3–)5–8 pairs; petioles 4–9 mm long, terete, hairy; stipules caducous. Inflorescences axillary or terminal, cymes, epicalyx present; peduncle 4-5 mm long, hairy. Flowers valvate, with short pedicels. Calyx campanulate, with 5 lobes, lobes unequal, green, hairy. Petals 5, free, spathulate, 7-9 by 4-5 mm, purplish white or pinkish. Androgynophore c. 5 mm long. Stamens 10, alternating with 5 staminodes, filament column glabrous; anther c. 0.5 mm long. Stigma 5, pointed apically. Ovary superior, surrounded by the filament column, longitudinally 5-lobed, hairy; style c. 1 mm long; ovules numerous, 8 per locule. Fruit capsular, cylindric, straight, pointed at the apex, 2.5–3.5 by 0.7–1 cm, fruit stalk 2–6 mm long; young fruit green, mature fruit brown, with stellate hairs. Seeds rhomboid, 2-3 by 1.5-2 mm, dull black.

Distribution — Thailand (Ubon Ratchathani: Khong Chiam, Soi Sawan Waterfall and Pha Taem National Park).

Habitat & Ecology — In open space on rock platform with dry evergreen forest. Flowering and fruiting at least in July-October.

Vernacular name — Khi on ging dum (ขีอันกึงดำ).

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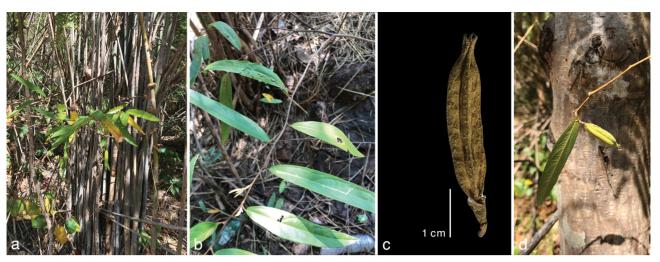


Fig. 1 Helicteres ubonensis Chantar. & Kantachot. a. Habitat; b. twigs and leaves; c, d. capsule. — Photos: Chortip Kantachot.

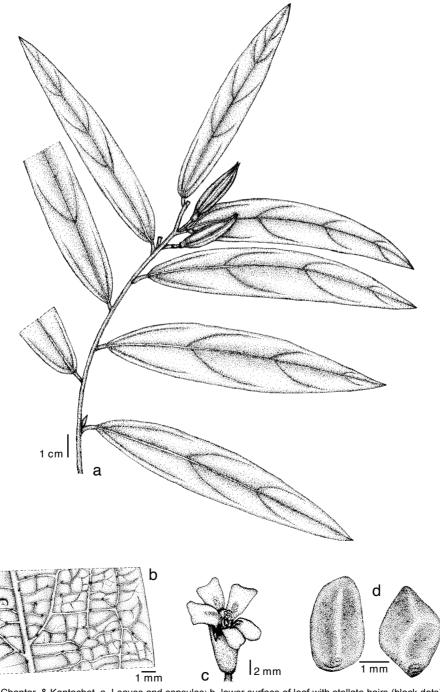


Fig. 2 Helicteres ubonensis Chantar. & Kantachot. a. Leaves and capsules; b. lower surface of leaf with stellate hairs (black dots); c. flower; d. seeds (a, b, d: *P. Chantaranothai et al. 2021-150*, c: *C. Kantachot 2020-32*, all KKU). — Drawing by Puntiwa Krachai, 2023.

Additional collections studied (paratypes). S. Poompo 10 (deposited at Department of Biological Science Herbarium, Ubon Ratchathani University), Thailand, Ubon Ratchathani, Khong Chiam, Huai Phai, Pha Taem National Park, s.d.; C. Kantachot 2020-32 (KKU), Thailand, Ubon Ratchathani, Khong Chiam, Napho Klang, Soi Sawan Waterfall, along Sae Soi creek, 30 July 2020.

Notes — *Helicteres ubonensis* is similar to *H. angustifolia* L. but differs in having narrow leaves, which are more or less oblong or elliptic-oblong, twigs brownish or blackish. It is also distinctive in the apically narrowed to pointed stigma, absence of setose hairs on the capsule surface and the capsule apex beaked (Table 1).

**Table 1** Morphological comparison between *H. angustifolia* and *H. ubonensis*, morphological characteristics are adopted from Phengklai (2001).

Characters / Species	H. angustifolia	H. ubonensis
Leaf - shape - petiole length	elliptic, oblong or lanceolate 3–5 mm	narrowly elliptic-oblong 4–9 mm
Flower - colour - petal size (length by width)	bluish or pink 5–10 by 1–2 mm	purplish white or pinkish 7–9 by 4–5 mm
<ul><li>stigma shape</li><li>Capsule</li><li>surface covered</li></ul>	flattened setose hairs	pointed apically stellate hairs
<ul><li>surface covered</li><li>presence of beak at the apex</li></ul>	absent	present

# NEW KEY TO THE SPECIES OF HELICTERES FROM THAILAND

Because of the discovery of several new species and new records, a new identification key to the species of the genus *Helicteres* for Thailand is provided:

1. Leaf margin entire or rarely with a few minute teeth near apex
1. Leaf margin serrate or dentate from base 9
2. Stems prostrate32. Stems erect or ascending4
3. Upper surface of leaves hairy; basal veins 3
3. Upper surface of leaves glabrous; basal veins 5  H. prostrata
4. Inflorescence a lax thyrse
5. Leaf margin entire. Stigma flattened, slightly 5-lobed
H. angustifolia
5. Leaf margin entire or slightly serrate near apex. Stigma simple, narrowed to a point or divided into 5 teeth 6

- 9. Leaves ovate, broadly ovate to more or less rounded 10
- 9. Leaves oblong-lanceolate or oblong-ovate . . . . . . . . . 11

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