



# *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, spatulate, 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, cylindrical, 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 (ขี้ฉั่นกิ่งดำ).

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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. Chantaranonthai et al. 2021-150, c: C. Kantachot 2020-32, all KKU). — Drawing by Puntiva 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, Napo 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	<i>H. angustifolia</i>	<i>H. ubonensis</i>
<b>Leaf</b>		
– shape	elliptic, oblong or lanceolate	narrowly elliptic-oblong
– petiole length	3–5 mm	4–9 mm
<b>Flower</b>		
– colour	bluish or pink	purplish white or pinkish
– petal size (length by width)	5–10 by 1–2 mm	7–9 by 4–5 mm
– stigma shape	flattened	pointed apically
<b>Capsule</b>		
– surface covered	setose hairs	stellate hairs
– presence of beak at the apex	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 . . . . . 2
1. Leaf margin serrate or dentate from base . . . . . 9
2. Stems prostrate . . . . . 3
2. Stems erect or ascending . . . . . 4
3. Upper surface of leaves hairy; basal veins 3 . . . . .
- . . . . . *H. oblongifolia*
3. Upper surface of leaves glabrous; basal veins 5 . . . . .
- . . . . . *H. prostrata*
4. Inflorescence a lax thyrse . . . . . *H. thailandica*
4. Inflorescence a short cyme . . . . . 5
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

6. Young twigs glabrous or sparsely hairy . . . . . 7
6. Young twigs hairy . . . . . 8
7. Leaves lanceolate or oblong-lanceolate. Capsule with villous hairs . . . . . *H. lanceolata*
7. Leaves narrowly elliptic-oblong. Capsule without villous hairs . . . . . *H. ubonensis*
8. Leaves coriaceous, scabrous on upper surface. Apex of capsule without beak . . . . . *H. lanata*
8. Leaves chartaceous, glabrous on upper surface. Apex of capsule with beak . . . . . *H. geoffrayi*
9. Leaves ovate, broadly ovate to more or less rounded . . . . . 10
9. Leaves oblong-lanceolate or oblong-ovate . . . . . 11
10. Capsule twisted. Lower surface of leaves glabrescent or scabrous . . . . . *H. isora*
10. Capsule not twisted. Both surfaces of leaves with soft hairs . . . . . *H. viscid*
11. Leaves chartaceous. Calyx less than 1 cm long. Capsule 1.5–2 cm long . . . . . *H. elongata*
11. Leaves coriaceous. Calyx more than 1 cm long. Capsule 2.5–5 cm long . . . . . *H. hirsuta*

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