

## A new species of *Hibiscus* (Malvaceae-Malvoideae) from Thailand

LEENA PHUPHATHANAPHONG<sup>1</sup> & SIMON GARDNER<sup>2</sup>

### ABSTRACT

A new species, *Hibiscus contortus* Phuph. & S.Gardner, is described and contrasted to its nearest ally, *H. floccosus* Mast.

KEYWORDS: Malvaceae-Malvoideae, *Hibiscus*, new species, conservation, Thailand.

Published online: 24 April 2017

### INTRODUCTION

*Hibiscus* L. comprises approximately 200 species distributed almost worldwide, mostly in the tropics and subtropics, with a few species in temperate regions (Bayer & Kubitzki, 2003). The Thai species of *Hibiscus* were enumerated by Phuphathanaphong *et al.* (1989), totalling 17 species (7 exotic species), and recently 19 species (9 exotic species) were recognized by Pooma & Suddee (2014). Further study of Malvaceae-Malvoideae for the Flora of Thailand by the first author found interesting fertile material of *Hibiscus* from Surat Thani and Songkhla provinces, southern Thailand, which we describe here as *H. contortus* Phuph. & S.Gardner. Borssum Waalkes (1966) recognized 9 sections of tribe Hibisceae and this new species belongs to section Azanza. Most species in this section are trees with broad stipules and palminerved leaves. *Hibiscus contortus* is most similar to *Hibiscus floccosus* Mast. which occurs in Peninsular Malaysia and Yala, the southernmost province of Thailand.

### *Hibiscus contortus* Phuph. & S.Gardner, **sp. nov.**

Allied to *Hibiscus floccosus* Mast. but differs in leaves not lobed, not scabrous (vs angular or lobed, scabrous); pedicel 2–2.5 cm long, jointed (vs 0.5–1 cm long, without joint); petals pale pink to pale orange with darker pink base (vs yellow to orange with red veins from base); stamen filaments 5–7 mm long (vs 2–2.5 mm long). Type: Thailand,

Surat Thani, Don Sak, alt. 5 m, 19 Dec. 2006, *Pooma et al.* 6460 (holotype **BKF**; isotypes **A**, **BKF**, **E**, **L**). Figs. 1–2.

Tree 5–13 m tall, branching low down. *Bark* pale grey, slightly flaking in irregular patches. *Branches* covered with fimbriate scales. *Leaves* broadly ovate, 10–15 by 9–13 cm, chartaceous, reddish when young; apex shortly acuminate; base truncate to shallowly cordate; margins irregularly shallowly serrate, crenate or undulate; basal nerves 5; lateral nerves 2–3 on each side of midrib; tertiary veins scalariform, slender; blade with scattered minute brownish fimbriate scales on both surfaces, denser on the nerves near base; lower surface with simple hairs at base of basal nerves and with a linear gland 2.5–6 mm long on midrib near base. *Petioles* 5–6.5 cm long, covered with fimbriate scales, denser near apex. *Stipules* lanceolate, 5–5.5 by 1–1.5 mm, with fimbriate scales, caducous. *Flowers* axillary, solitary or several near the end of twigs, often giving a corymbose appearance. *Pedicels* 2–2.5 cm long, articulation 5–7 mm from apex, from the articulation to base of epicalyx stout, covered with brownish fimbriate scales. *Epicalyx* broadly campanulate, 1–1.5 cm long, lower 2/3 connate, upper 1/3 divided into 5–6 triangular lobes; lobes recurved, projecting from epicalyx, outside yellowish green with dense brownish fimbriate scales, inside green with scattered minute fimbriate scales. *Calyx* campanulate, 2.5–3 cm long, base connate, apex divided into 5 triangular lobes, 1–1.2 cm long; calyx tube outside

<sup>1</sup> Forest Herbarium, Department of National Parks, Wildlife and Plant Conservation, Chatuchak, Bangkok, 10900 Thailand.

<sup>2</sup> 161 Ekamai 10, Sukhumvit Road 63, Bangkok, 10110 Thailand.



Figure 1. *Hibiscus contortus* Phuph. & S.Gardner: A. flowering branch (*Pooma et al. 6460*); B. fruit; C. seed. (B–C. *Gardner & Sidisunthorn ST2251*). Drawn by Orathai Kerdkaeo.

yellowish green with dense brownish fimbriate scales, inside with minute crispy hairs and some minute fimbriate scales; calyx lobes outside yellowish green with dense brownish fimbriate scales, inside with dense fimbriate scales, margins wing-like in bud. *Corolla* pale orange to pale pink, centre darker pink, petals twisted together. *Petals* 5, obliquely obovate, 4–5 by 1.5–2.5 cm, apex rounded, base narrow, margin irregularly crenulate, outside with fimbriate scales, inside gland dotted. *Staminal column* 5–7 cm long, protruding 1.5–4.5 cm beyond the twisted petals; filaments 5–7 mm long; anthers in upper 2/3 of the tube, reniform, ca. 1 mm long. *Ovary* ovoid, densely golden hairy, 5 locules; style slender enclosed within the staminal tube, stylar branches 5, hairy, protruding 5–6 mm beyond the staminal column; stigma discoid. *Capsules* obovoid 2.5–2.8 by 1.8–2 cm, thinly woody, outside densely golden hairy, inside glabrous, 5-loculed. *Seeds* reniform, ca 4 by 3 mm, hairy.

Thailand.—PENINSULAR: Surat Thani, Don Sak, alt. 5 m, 19 Dec. 2006, *Pooma et al.* 6460 (A, BKF, E, L); Songkhla (road between Hat Yai and Satun), alt. 100 m, 25 Jan. 2006, *Gardner & Sidisunthorn ST2251* (BKF, K).

Distribution.—Endemic to peninsular Thailand.

Ecology.—Secondary forest at foot of limestone hills or open secondary growth along roadside, 5–100 m alt.

Phenology.—Flowering and fruiting: December–January.

Vernacular.—Chaba hup (ชบาหุบ).

Etymology.—The specific epithet ‘*contortus*’ is derived from Latin, in reference to the overlapped and twisted petals.

IUCN conservation assessment.—This new species is only known from an area < 500 km<sup>2</sup>. The species is known from small populations in Surat Thani and Songkhla provinces in secondary growth not in protected areas, and thus may be impacted from road construction and human activities. We therefore suggest the conservation assessment ‘Vulnerable’ (VU B2ab(iii)) (IUCN, 2001).

Notes.—Field notes for *Gardner & Sidisunthorn ST2251* were “Bark: pale grey, slightly flaking in irregular patches. Flower: epicalyx and calyx yellow-green with golden-brown glands; petals pale pink, tinged darker pink towards base inside”. Field notes for *Pooma et al.* 6460 were “Small tree 5–7 m tall, low branching; young leaves reddish; calyx greyish brown; corolla very pale pinkish, reddish at base, staminal column creamy; anthers yellow”.



Figure 2. *Hibiscus contortus* Phuph. & S.Gardner. Photo: R. Pooma.

## REFERENCES

- Borssum Waalkes, J. van. (1966). Malesian Malvaceae Revised. *Blumea* 14(1): 52.
- Bayer, C. & Kubitzki, K. (2003). Malvaceae In: K. Kubitzki & C. Bayer (eds). *The Families and Genera of Vascular Plants* 5: 225–311. Springer-Verlag, Berlin, Heidelberg, New York.
- IUCN. (2001). *IUCN Red List Categories and Criteria: Version 3.1*. Prepared by the IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK.
- Phuphathanaphong, L., Siriruk, P. & Nuvongsri, G. (1989). The genus *Hibiscus* in Thailand. *Thai Forest Bulletin (Botany)* 18: 43–79.
- Pooma R. & Suddee, S. (eds). (2014). *Tem Smitinand's Thai Plant Names*, revised edition 2014. Office of the Forest Herbarium, Department of National Parks, Wildlife and Plant Conservation, Bangkok. 826 pp.