A NEW SPECIES OF *SWERTIA* (*GENTIANACEAE*) FROM THAILAND

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A new species of *Swertia* (*Gentianaceae*) from Thailand is described and illustrated.

Keywords. *Gentianaceae*, *Swertia*, Thailand.

INTRODUCTION

The genus *Swertia* is a large and difficult genus of about 150 described species. It is almost cosmopolitan, being known from all continents except Australia and South America, but is centred in the Sino-Himalayan region. It is distinct in *Gentianaceae* only by a combination of features. It has a bisexual flower with the corolla lobes longer than the tube, the stigma is elevated above the ovary, and there are 1–2 glands at the base of the corolla lobes. This new species clearly belongs in *Swertia* as it possesses all these features. Only three species are presently recorded from Thailand (Ubolcholaket, 1987) and this new one is clearly distinct from all of them. Although presently known only from the type locality it is unlikely to be endemic to this mountain or even to Thailand.

Swertia chiangdaoensis P. Suksathan, **sp. nov. Figs 1, 2.**
Type: *Suksathan* 2129, 19 xi 1999, Thailand-Chiang Mai (Doi Chiang Dao), exposed summit grassland 2225m (holo. QBG, iso. E). Known only from the type locality. Swertiae speciebus quattuor (*S. ciliatae* D. Don ex G. Don) Burtt, *S. cinctae* Burkill, *S. paniculatae* Wall. et *S. pubescenti* Franch. in grege informali XXVII (Shah, 1984) affinis sed a his glandulo uno operculo semilunari lacinia glanduli glandulum fere aequanti, staminibus breviter connatis (haud liberis ut in *S. pubescenti* et *S. paniculata* nec multo latiore connatis ut in *S. ciliata* et *S. cincta*). Stigma longius (c.1mm, haud usque ad 0.5mm) quam in ceteris speciebus hujus gregis est praebet.

An annual, pubescent, fastigiately branched herb. *Stem* 15–65cm. *Leaves* 1.2–4.0 × 0.1–0.6cm, narrowly lanceolate, acute, sessile, pubescent. *Inflorescence* a dense, many-flowered panicle. *Flowers* pentamerous. *Calyx tube* 1.0–1.5mm, lobes 5.0–6.0 × 1–1.5mm, narrowly lanceolate, puberulent, margin ciliate, apex acute. *Corolla* pale purple with two dark purple bands and one green band in the basal half above the gland, the base with 2–4 linear dark blue appendages up to 0.2mm,

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tube c.1.2mm; lobes 6.0–8.0 × 3.0–4.5mm, narrowly rhomboid, acute. *Glands* one per lobe, semilunar, 0.5 × 1.0mm; gland flap almost as long as the gland, the margin slightly 3-lobed, dark blue. *Filaments* 4.0–5.0mm, dilated towards the base, puberulent, shortly connate at base to 0.1mm; anthers 0.8–1.0mm, oblong-ovate, dark brown. *Ovary* 4.8–5.0 × 1.2–1.5mm, ovate-oblong, pale green with irregular dark blue patches becoming completely dark blue towards the apex; gynophore c.0.3mm; style indistinct; stigmas 2, linear, 1.5–2mm. *Capsule* not seen. Fl. Oct–Nov.

Discussion

This new species belongs in subgenus *Ophelia* (Grisebach) C.B. Clarke because of its annual habit and opposite leaves. Shah (1984) separated the subgenus *Ophelia* into 20 informal groups. This new species keys out to group XXVII, whose members have dilated filaments and a single gland on each petal. This new species is distinct from all the others in this group in all floral parts but especially in the halfmoon-shaped glands at the corolla base (Fig. 3b), the degree of connation of the filaments and their different shape. Of the other species in group XXVII, *S. ciliata* and *S. cincta* have distinctly connate filaments of at least 1mm, whereas the filaments of *S. pubescens* and *S. paniculata* are free. This new species has an indistinct connation of not more than 0.1mm. The filament shape of *S. chiangdaoensis* is quite different from the others: the species with free filaments are narrowly lanceolate or narrowly rhomboid in shape (broadest near the middle), but in *S. chiangdaoensis* the filaments are narrowly triangular (broadest at the base) like the free segment of the filaments of *S. ciliata* and *S. cincta*. It thus might appear to be more related to *S. ciliata* and *S. cincta* than to *S. pubescens* and *S. paniculata.* The *Flora of China* (Ho Ting-nung & Pringle, 1995) records the same group of species as Shah with horseshoe-shaped, single glands that are close to those of this new species; these have been dissected for detailed comparative studies (Fig. 3) but in gland morphology, calyx shape and indumentum, stamen size, shape and connation, and stigma length, they all differ from this new species.

Of the three species presently recorded in the *Flora of Thailand* (Ubolcholaket, 1987) only one has a single gland per corolla lobe and that species (*S. angustifolia* D. Don) is not considered closely related, as the filament shape is filiform not flattened and the glands are inverted pockets without the long flap characteristic of this new species.

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FIG. 1. Isotype of *S. chiangdaoensis* P. Suksathan (Photo: D. White).


HERB. HORT. EDINB.
Type Specimen
QUEEN SIRIKIT BOTANIC GARDEN HERBARIUM (QBG)
PRIME MINISTER OFFICE
FLORA OF THAILAND
Family GENTIANACEAE
QBGNo 16456
Botanical name Swertia chiangdaoensis P. Suksathan
Local name
Date 19 November 1999
Locality peak of Doi Chiang Dao, Chiang Dao district
Province Chiang Mai
Alt. 2225 m
Note Herb 15-65 cm petals purplish with dark purple and green stripe above the nectary.
Nectary 1 pocket-shape with slightly 3 lobies dark blue margin. Grow in expose area at summit.
Collector P. Suksathan
No. 2129
Det
Dup. E

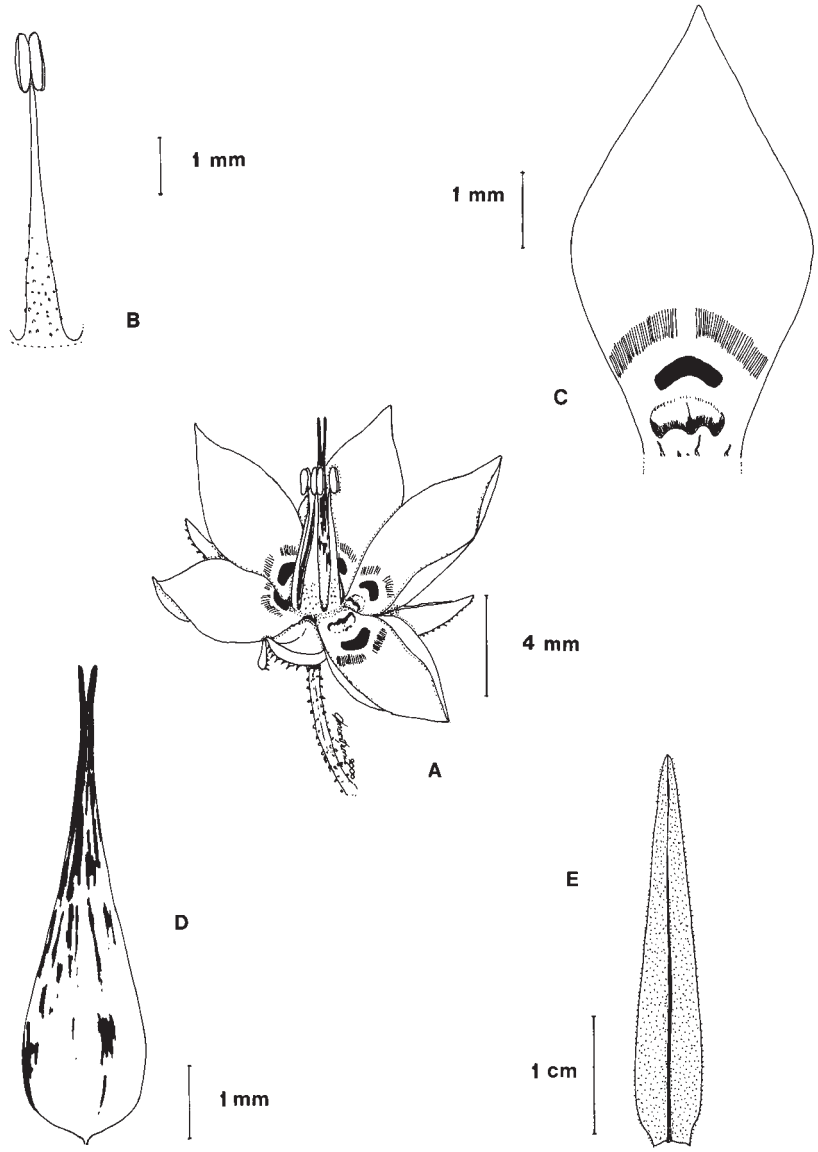

FIG. 2. *Swertia chiangdaoensis* P. Suksathan: A, flower; B, stamen; C, corolla lobe; D, pistil; E, leaf.

Gentianaceae account for the *Flora of Bhutan*, for checking specimens, I. Hedge for help with the literature, M. Mendum for advice on the drawings, and D. White for the photograph. I wish to thank Dr R. Mill for the Latin translation and the keepers of the Royal Botanic Garden Edinburgh and the Royal Botanic Gardens, Kew, for

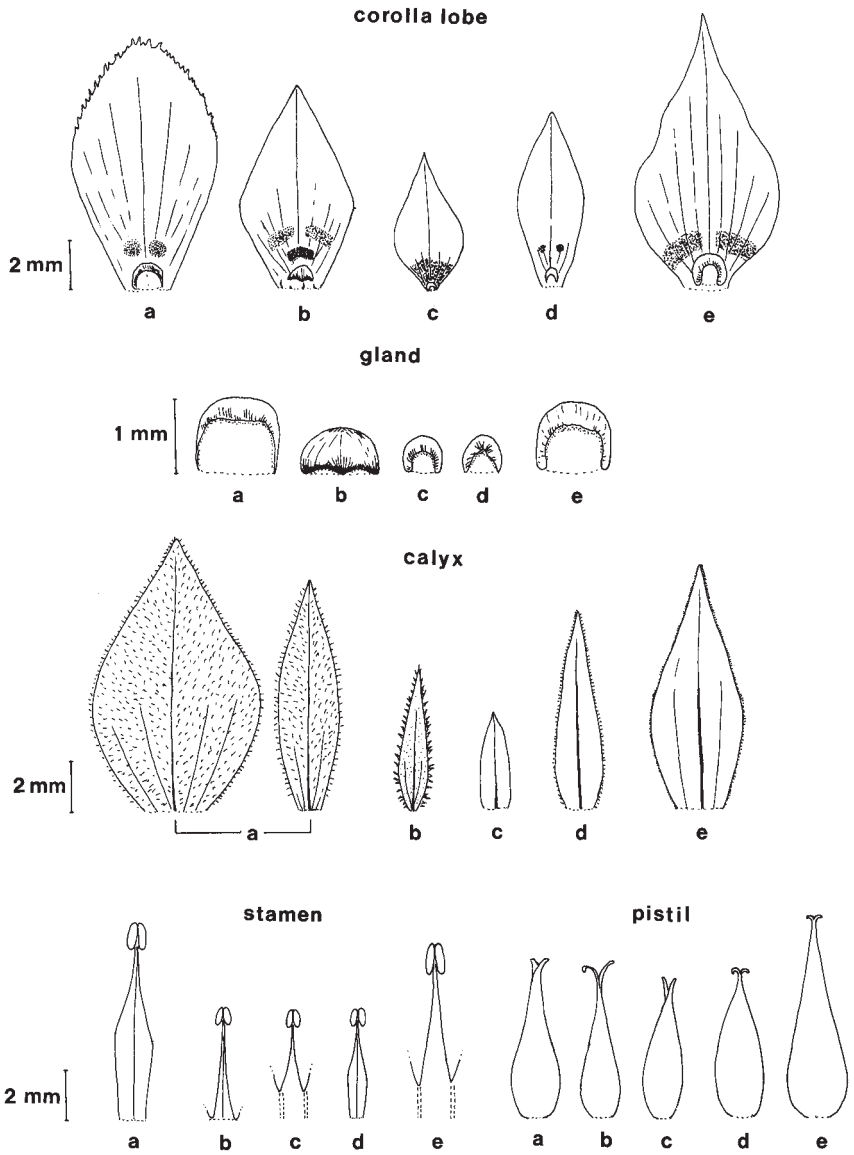

FIG. 3. Comparison of flower parts of five *Swertia* spp. all held at E: a, *S. pubescens* Franch. (*Brickell & Leslie* 12,113?); b, *S. chiangdaoensis* Suksathan (*Suksathan* 2129); c, *S. ciliata* (D. Don ex G. Don) Burtt (*Burtt* 1236?); d, *S. paniculata* Wall. (*Alpine Garden Society Chinese Expedition* 1901?); e, *S. cincta* Burkill (*Alpine Garden Society Chinese Expedition* 1985?).

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