



Sonerila lobbii comb. & stat. nov., a new species segregated from *S. picta* Korth. and *S. parishii* Stapf., and lectotypification of two names in the genus *Sonerila* (Melastomataceae)

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(Manuscript received 31 May 2022; Accepted 5 August 2022; Online published 12 August 2022)

ABSTRACT: *Sonerila picta* Korth. is a widespread and morphologically diverse species in the family Melastomataceae. *Sonerila picta* Korth. var. *lobbii* C.B. Clarke was first described from Myanmar. Later, it was lumped into the synonymy of *S. parishii* Stapf. Comprehensive observations of morphology as well as phenology have revealed that the herbarium specimens identified as *S. picta* var. *lobbii* are also clearly different from the typical *S. picta*. The syntypes of *S. parishii* including *C.S.P. Parish 429* (K) and two sheets of *T. Lobb s.n.* (K) are found to belong to two distinct species. Based on this study, we elevate the variety to the status of species, as *Sonerila lobbii* (C.B. Clarke) J. Wai & J.-M. Hu. The description and illustration are provided. We here also select *C.S.P. Parish 429* (K) as the lectotype of *S. parishii* and select one of the sheets of *T. Lobb s.n.* (K) as the lectotype of *S. picta* var. *lobbii*, basionym of *S. lobbii* (C.B. Clarke) J. Wai & J.-M. Hu.

KEY WORDS: lectotypification, new combination, *Sonerila parishii*, *Sonerila picta* var. *lobbii*, taxonomy.

INTRODUCTION

Sonerila Roxb. (Melastomataceae) is one of the largest genera in the tribe Sonerileae. It comprises about 189 accepted species, which are mainly distributed in tropical and subtropical Asia (Roskov *et al.*, 2022). It can be easily distinguished from other Asian genera of Melastomataceae by the trimerous flowers (Renner *et al.*, 2001; Chen and Renner, 2007). The Flora of Thailand (Renner *et al.*, 2001) recorded 13 species of *Sonerila* known to Thailand. In addition, two new species from Northern and Northeastern Thailand have been described in recent years (Suddee *et al.*, 2014; Sae Wai and Hu, 2020). Thus, to date, a total of 15 species have been recognized in Thailand.

Sonerila picta Korth. is one of the most widespread species in the genus, with a wide distribution ranging from China, Indochina to Malesia. Although this species was not accepted and was cited as a synonym of *S. maculata* Roxb. (Renner *et al.*, 2001; Roskov *et al.*, 2022), our ongoing study on a taxonomic revision of *Sonerila* in Thailand has revealed that *S. picta* is clearly distinguished from *S. maculata* by having quadrangular stems, while *S. maculata* has terete stems. *Sonerila picta* mainly grows in the deep shade of evergreen forests at elevations between 50–1700 m above sea level. A variety of *S. picta*, i.e., *S. picta* var. *lobbii* C.B. Clarke, was published in The Flora of British India based on two specimens collected from Thungyeen forests, Myanmar by T. Lobb (Clarke, 1879). As first described, *S. picta* var. *lobbii* is distinguished from var. *picta* by having a rusty tomentose stem and smaller leaves. A few years later, Stapf (1892) published

a new species, *Sonerila parishii* Stapf., based on a specimen collected from Mount Moolyet, Myanmar, by C.S.P. Parish and those of T. Lobb's specimens as well, treating *S. picta* var. *lobbii* as a synonym of *S. parishii*. Since the designation of specific specimens as types was not required in the early history of botanical nomenclature, multiple specimens, i.e., *C.S.P. Parish 429* (K) and 2 sheets of *T. Lobb s.n.* (K), are cited in the original publication (Stapf, 1892). These specimens, however, are a heterogeneous mix, determined as we examined them thoroughly. The two specimens collected from Thungyeen forests by T. Lobb differ from the specimen of C.S.P. Parish by many aspects (see below). According to Art. 9.3 in the International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code, Turland *et al.*, 2018), *S. parishii* and *S. picta* var. *lobbii* need lectotypification.

During botanical surveys in Tak province, Northern Thailand, conducted in November–December 2016, we found an additional population of *S. picta* var. *lobbii* in lower montane forest. Based on morphological studies, *S. picta* var. *lobbii* is morphologically distinct in having long golden-brown or ferruginous hairs on the stems, while the stems of typical *S. picta* and *S. parishii* bear minute reddish brown to black glandular hairs. Thus, we consider there to be sufficient evidence to elevate *S. picta* var. *lobbii* to the status of species. Additional specimens were also examined to improve the diagnosis and obtain a better understanding of the morphological variation in the newly elected species *S. lobbii*. With the addition of the new taxon, 16 *Sonerila* species are now known to occur in Thailand.

**Table 1.** Comparison of selected morphological characters of *Sonerila lobbii*, *S. parishii* and *S. picta*.

Characters	<i>S. lobbii</i>	<i>S. parishii</i>	<i>S. picta</i>
Stem	slender, terete or subterete, 1.5–3 mm thick	slender, terete, 2–3 mm thick	stout, distinctly quadrangular, 1.5–5 mm thick
Indumentum of stems	densely covered with long golden-brown or ferruginous hairs, 100% covered	covered with minute reddish brown glandular hairs, sometimes mixed with scattered long glandular hairs, 50–60% covered	covered with very minute reddish brown to black glandular hairs, sometimes mixed with few long glandular hairs, 60–80 % covered
Leaf			
Shape	broadly ovate or elliptic	elliptic or ovate	ovate, elliptic or lanceolate
Base	cuneate, obtuse, rounded or truncate	cuneate or obtuse	cuneate to rounded
Size	1.2–4(–7) by 1–3.2 cm	2.5–8 by 1.5–7 cm	2–14.5 by 1.2–7 cm
Inflorescences	terminal, 1–7-flowered	terminal, 3–9-flowered	terminal or axillary, 3–20-flowered
Hypanthium			
Shape	cylindrical-campanulate or obconical	cylindrical-campanulate or obconical	cylindrical-campanulate or obconical
Size	4.5–6.5 by 2–3 mm	5–7 by 2.5–3 mm	4–6 by 1.5–2 mm
Indumentum	densely pubescent mixed with scattered long glandular hairs	pubescent mixed with scattered long glandular hairs	seemingly glabrous, actually with minute hairs, sometimes mixed with few long glandular hairs
Petal	8–11.5 mm long	10–11 mm long	6–7.5 mm long
Anther	8–9 mm long	7–8 mm long	3–6.5 mm long
Style	13–16.5 mm long	12–13 mm long	7–13 mm long
Habitat	lower montane forest	montane forest	lowland to montane forests
Elevation	900–1500 m	2100 m	50–1700 m
Phenology	flowering and fruiting in November to February	flowering and fruiting in October to February	flowering and fruiting all year round
Geographical distribution	Dawna range in Thailand and Myanmar	Dawna range in Myanmar	South China, throughout Indochina and Malesia

MATERIALS AND METHODS

We carefully examined herbarium specimens deposited in BKF, E, K, PSU and TAI herbaria and undertook morphological and phenological comparisons of *S. picta* var. *picta*, *S. picta* var. *lobbii* and *S. parishii*. Data for *S. parishii* and *S. picta* were obtained from Stapf (1892), Korthals (1842) and type specimens as well as recently collected specimens. In addition, field observations for *S. picta* var. *lobbii* were conducted. In situ photographs of habitat and habit were taken. Voucher specimens were deposited at BKF, PSU and TAI. The morphological description below was conducted based on the type specimens from Myanmar and additional specimens from Thailand. A distribution map was reconstructed and built in ArcGIS 10.4 Desktop (ESRI, 2016). The conservation status of this new taxon was evaluated according to the guidelines of IUCN Red List Categories and Criteria version 15 (IUCN Standards and Petitions Committee, 2022).

TAXONOMIC TREATMENT

Sonerila lobbii (C.B. Clarke) J. Wai & J.-M. Hu, *comb. et stat. nov*

Figs. 1, 2; Table 1

Basionym: *Sonerila picta* Korth. var. *lobbii* C.B. Clarke, Fl. Brit. India [J.D. Hooker] 2(6): 536. 1879.
Type: MYANMAR. Shan (previously part of Moulmein): Taunggyi, Top of Thoungye, ca. 1200 m alt., *T. Lobb*

s.n. (lectotype: K! (barcode K001325093), designated here); Taunggyi, High forests of Thoungye, *T. Lobb s.n.* (isolectotype: K! (barcode K001325092), designated here).

Diagnosis: *Sonerila lobbii* is similar to *S. parishii* in having slender and terete stems, but differs in having long golden-brown or ferruginous hairs covering all of the surface (versus minute reddish brown glandular hairs sometimes mixed with scattered long glandular hairs, the indumentum covering 50–60% of the surface) and in bearing relatively smaller leaves (1.2–4(–7) by 1–3.2 cm versus larger leaves of 2.5–8 by 1.5–7 cm in *S. parishii*). *Sonerila lobbii* can be distinguished from the typical *S. picta* by its slender, terete or subterete stems (versus stout, quadrangular stems); only terminal inflorescences (versus terminal or axillary); relatively larger flowers: longer petals (8–11.5 mm long versus shorter petals 6–7.5 mm long in *S. picta*); longer anthers (8–9 mm vs shorter anthers 3–6.5 mm in *S. picta*); longer styles (13–16.5 mm versus shorter styles 7–13 mm in *S. picta*). A detailed comparison of *S. lobbii*, *S. parishii*, and *S. picta* is presented in Table 1. Therefore, there is sufficient evidence to elevate *S. picta* var. *lobbii* to the status of a species.

Perennial herbs or subshrubs, up to 30 cm high; stems decumbent to ascending or erect, slender, terete or subterete, semi-woody in older parts, 1.5–3 mm thick, densely covered with golden-brown or ferruginous hairs; internodes up to 3 cm long. *Leaves* opposite decussate, isomorphic, pale to dark green, or sometimes with slightly metallic blue-green, chartaceous when dry; petioles 0.5–3.5 cm long, sparsely to densely hairy; blades broadly

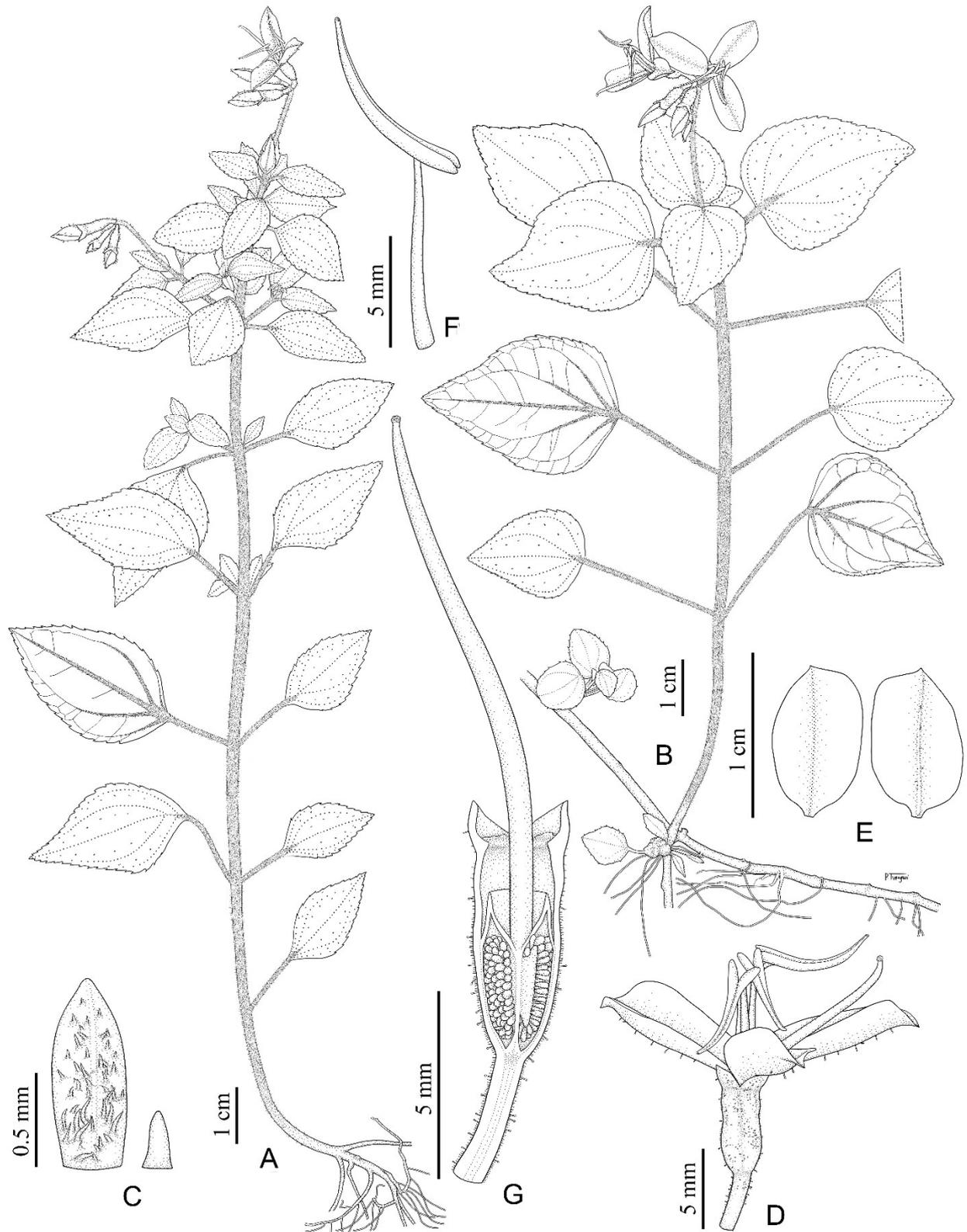


Fig. 1. Type specimen and additional specimen of *Sonerila lobbii* (C.B. Clarke) J.Wai & J.-M.Hu: Lectotype *T.Lobb s.n.* (K) (A), *J.Wai* 2604 (PSU) from Thailand (B-G). A, B: Habit, flowering shoots with leaves. C: Bracts, larger bract with hairs (left), smaller bract without hairs (right). D: Flower. E: Petal showing adaxial (left) and abaxial (right) sides. F: Stamen. G: Longitudinal section of a flower showing hypanthium, stigma, style and ovary. All drawn by P.Tippayasi

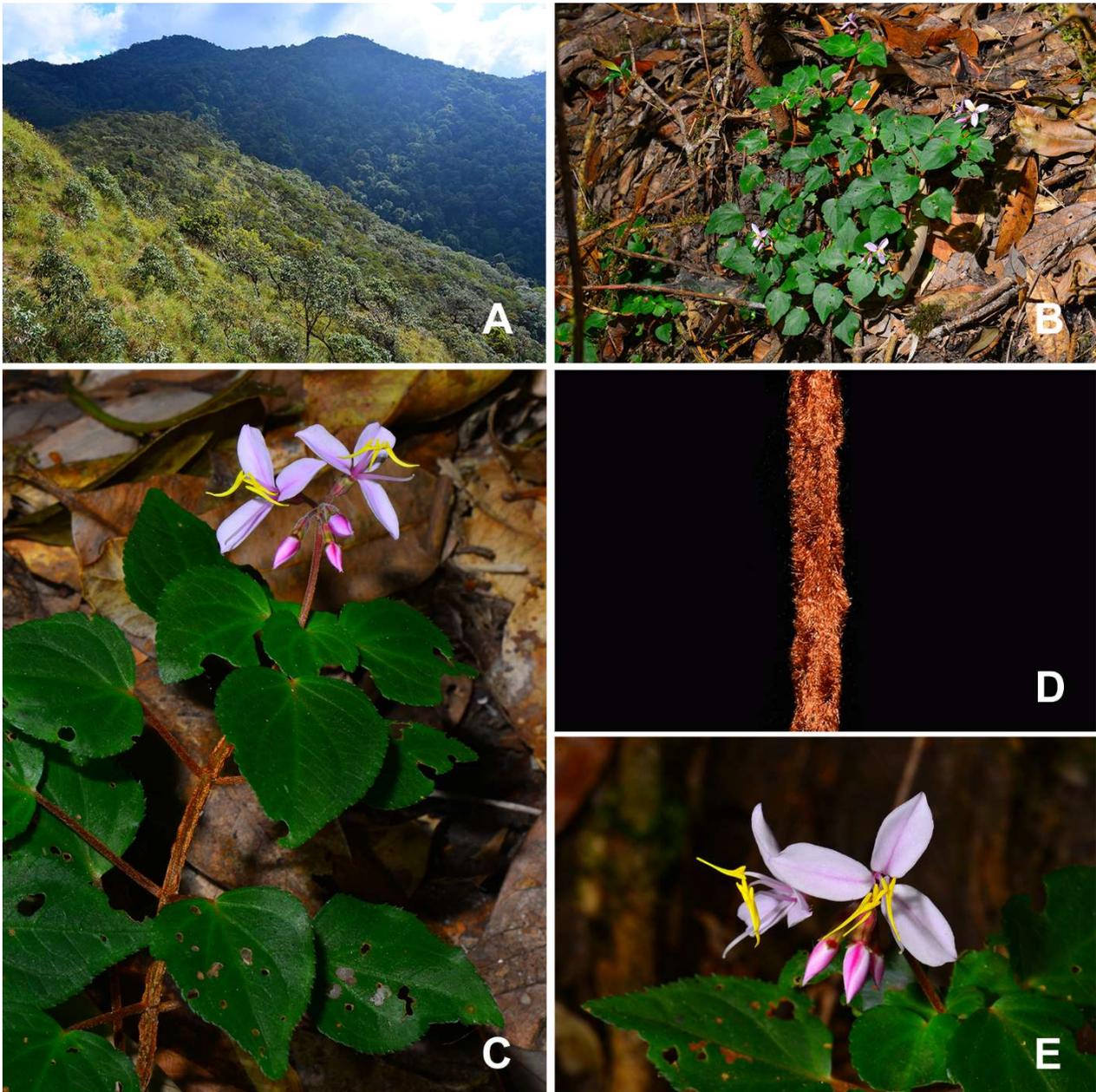


Fig. 2. Photos of *Sonerila lobbii* (C.B.Clarke) J.Wai & J.-M.Hu (A-E). **A:** Natural habitat. **B:** Habit. **C:** Flowering shoot. **D:** Stem indumentum showing long golden-brown or ferruginous hairs. **E:** Inflorescence and flowers. All taken by J.Sae Wai.

ovate or elliptic, 1.2–4(–7) by 1–3.2 cm, 1.2–2.2 times as long as wide, adaxially sparsely setose to subglabrous, abaxially minutely ferruginous pubescent along veins, apex acute or sometimes blunt, base cuneate, obtuse, rounded or truncate, margins shallowly serrate (sinus up to 1 mm deep); leaf venation (3–)5–7-plinerved, with an additional basal pair of submarginal veins extending 1/3–2/3 the length of the lamina and then becoming obscure, the innermost pair of primary veins diverging from the midrib 1–10 mm above the base of the leaf blade. *Inflorescences* terminal, erect, scorpioid cymes, 1–7-

flowered, densely pubescent with scattered long glandular hairs on peduncle, pedicels and hypanthium; peduncles 1–3 cm long, purplish; bracts minute, triangular to triangular-ovate, up to 1 mm long, occasionally hairy outside. *Flowers* 3-merous; pedicels 2–5 mm long, purplish. *Hypanthium* cylindrical-campanulate or obconical, 5–6.5 by 2–3 mm, purplish or greenish; part of hypanthium free from ovary ca. 2.5 mm long. *Calyx lobes* 3, broadly triangular-ovate, ca. 1 by 1.5–2 mm, sparsely glandular hairy. *Petals* elliptic-oblong or obovate, 8–11.5 by 5.5–6.5 mm, apex acute,

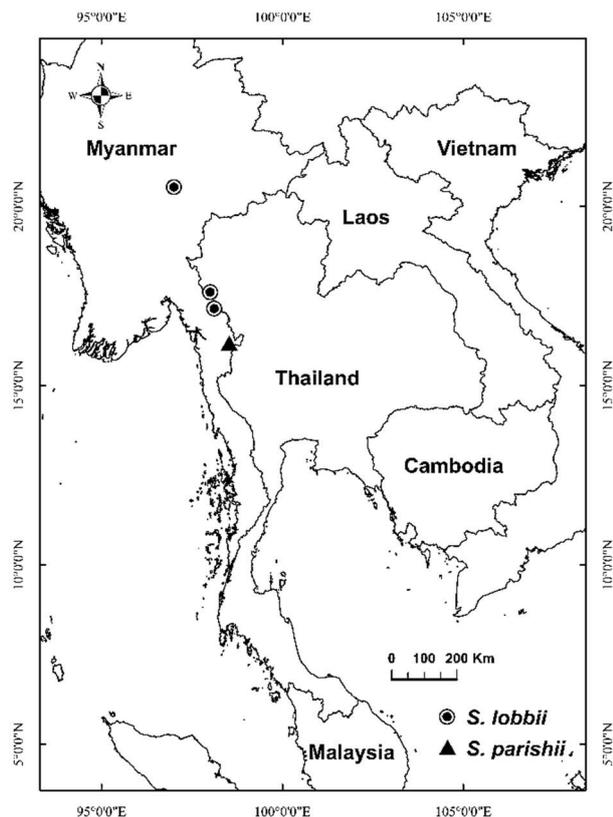


Fig. 3. Distribution map of *Sonerila lobbii* (●) and its closely related species, *S. parishii* (▲).

pinkish, inner surface glabrous, outer surface glandular hairy along the midvein. *Stamens* 3, equal or nearly so, glabrous; filaments 7–9 mm long, pinkish; anthers slightly incurved, deeply cordate at base, 8–9 mm long, yellow. *Ovary* 2–3 mm long, 3-locular; ovary crown ca. 1 mm high; ovules numerous; style 13–16.5 mm long, pinkish white; stigma capitate, papillate. *Capsule* obpyramidal, trigonous, 5–6.5 by 3–4 mm. *Seeds* numerous, triangular ovoid, 0.5–0.7 mm long, 0.3–0.35 mm wide, brownish; testa cells papillate.

Habitat and Ecology: Terrestrial plant. This species was found growing in shaded areas of lower montane forest; 900–1500 m alt. Flowering and fruiting observed from November to February.

Proposed IUCN conservation status: Data Deficient (DD). Because this species is known from only a few localities and information on population size and threats is still inadequate, we suggest this status according to IUCN Red List guidelines Version 15 (IUCN Standards and Petitions Committee, 2022).

Distribution: Myanmar (type) and Thailand.

Vernacular name: Sao Sanom Si Prachim (สาวสนมศรีประจิม) (Suggested here).

Additional specimens examined: THAILAND. Tak: Ta Song Yang District, Mon Klui-Mon Tule, 17°36'30.42"N, 98°0'14.15"E, 1327 m, 4 November 2016, *J.Wai* 2572 (BKF!, PSU!, TAI!); *ibid.*,

17°36'25.16"N, 98°0'13.18"E, 1376 m, 12 December 2016, *J.Wai* 2604 (BKF!, PSU!, TAI!). MYANMAR. Kayin: Dawna Range, Talè, 900–1500 m, 21 February 1909, *J.H.Lace* 4608 (E!, K!).

Notes. Clarke (1879) cited only one unnumbered collection and did not indicate where this collection was housed since this was not required before 1990. There are two specimens at Kew herbarium collected by Thomas Lobb from the exact location as given in the protologue. However, one specimen is labelled 'Top of Thoungyeen' and the other is labelled 'High forests of Thoungyeen'. Moreover, it is possible that there were originally more than two duplicates of this collection deposited in other herbaria. Therefore, the specimen of *T.Lobb* s.n. in Kew herbarium labelled 'Top of Thoungyeen' with barcode no. K001325093 is designated here as lectotype.

Lectotypification

Sonerila parishii Stapf., in *Ann. Bot.* vi. (1892) 303. **Lectotype** (designated here): Myanmar. Kayin: Dawna Range, Mount Moolyet (Mulayit Taung), 2100 m alt., 1862, *C.S.P.Parish* 429 (K! (barcode K000867674)).

Flowering & Fruiting: October to February

Distribution and status: *Sonerila parishii* is known only from Mulayit Taung, Myanmar.

ACKNOWLEDGMENTS

The authors would like to thank the curators and staff of BKF, E, KEW, PSU and TAI herbaria for assistance during visits. Special thanks are due to Manop Poopath for his assistance during field trip, Pakorn Tippayasri for the line drawing. This research was supported by funds from Faculty of Science, Prince of Songkla University.

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