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Pale-flowered *Sonerila leucantha* (Melastomataceae, Sonerileae), a new species from southern Vietnam

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ABSTRACT: *Sonerila leucantha*, a new species from the Central Highlands of southern Vietnam (Dak Lak Province), is described and illustrated. It resembles *S. yunnanensis* in having ovate leaves with a cordate base, quadrangular peduncles, and petals with the adaxial surface bearing stipitate glandular trichomes. Nevertheless, *S. leucantha* is clearly distinguished by its taller stems reaching up to 30 cm (vs. usually not exceeding 15 cm), an adaxial leaf surface that is subglabrous to sparsely covered with fleshy hirsute-setose trichomes (vs. moderately to densely villous-hirsute), white to pale yellowish petals (vs. pink), and uniformly yellow anthers (vs. bicolored, yellow and pale purple, or pale purplish and grayish-white).

KEY WORDS: Biodiversity, Dak Lak Province, endemism, flora of Indochina, plant conservation, *Sonerila yunnanensis*.

INTRODUCTION

The genus *Sonerila* Roxb. (Roxburgh, 1820), comprising approximately 200 species (Nguyen *et al*., 2025), is one of the largest genera in Melastomataceae and is widely distributed across Southeast Asia. The number of described *Sonerila* species has increased rapidly in recent years in Vietnam (Dinh *et al*., 2026; Hsu *et al*., 2026; Nguyen *et al*., 2024a,b; 2025; 2026). To date, 18 species have been recorded in Vietnam, of which 12 occur in southern Vietnam. Some of them are endemic to this region (Dang *et al*., 2016; Dinh *et al*., 2026; Nguyen *et al*., 2024a,b; 2026). These data indicate that more extensive field surveys in Vietnam may reveal additional important centers of *Sonerila* diversity in mainland Asia. During a botanical survey conducted in 2025 on Chu Mu Mountain, Dak Lak Province, in the Central Highlands of Vietnam, a distinctive pale-flowered species of *Sonerila* was discovered and collected. In addition to its white to pale yellowish flowers, this species is characterized by large, glossy, cordate-based leaves and distinctive indumentum. This combination of morphological characters clearly distinguishes it from all known species in Vietnam and neighboring countries. Based on detailed morphological comparisons with related species using herbarium specimens and relevant literature (Dang *et al*., 2016; Dinh *et al*., 2026; Hsu *et al*., 2026; Nguyen *et al*., 2024a,b; 2025; 2026; Phonepaseuth *et al*., 2021; Sae Wai and Hu, 2023), this taxon is confirmed as new to science and is described here as *Sonerila leucantha.*

MATERIALS AND METHODS

Descriptions of the new species are based on measurements taken from type specimens. Voucher specimens have been deposited in the LE herbarium. Species delimitation and morphological comparisons were based on relevant literature (Dang *et al*., 2016; Dinh *et al*., 2026; Hsu *et al*., 2026; Nguyen *et al*., 2024a,b; 2025; 2026; Phonepaseuth *et al*., 2021; Sae Wai and Hu 2023) and the examination of high-resolution images of herbarium specimens housed at BM, E, GXMG, HITBC, IBK, K, KUN, MO, NAS, NY. Morphological terminology follows Beentje (2016). Conservation status was evaluated in accordance with the Guidelines for Using the IUCN Red List Categories and Criteria, version 16 (IUCN, 2024).

TAXONOMIC TREATMENT

Sonerila leucantha V.C.Nguyen, Aver., Vuong & C.W.Lin, ***sp. nov.*** **Figs. 1, 2**

Type: Dak Lak Province, M'Drak District, western foothills of Chu Mu Mountain, dry secondary forest and remnants of primary evergreen broad-leaved forest on granite substrates along rocky streams on steep slopes at an elevation of 600–650 m a.s.l., terrestrial herb to 0.3 m tall, flowers white, not rare, 25 April 2025, *L. Averyanov, N.V. Canh, T. Maisak, AL3947* (holotype: LE LE01282689

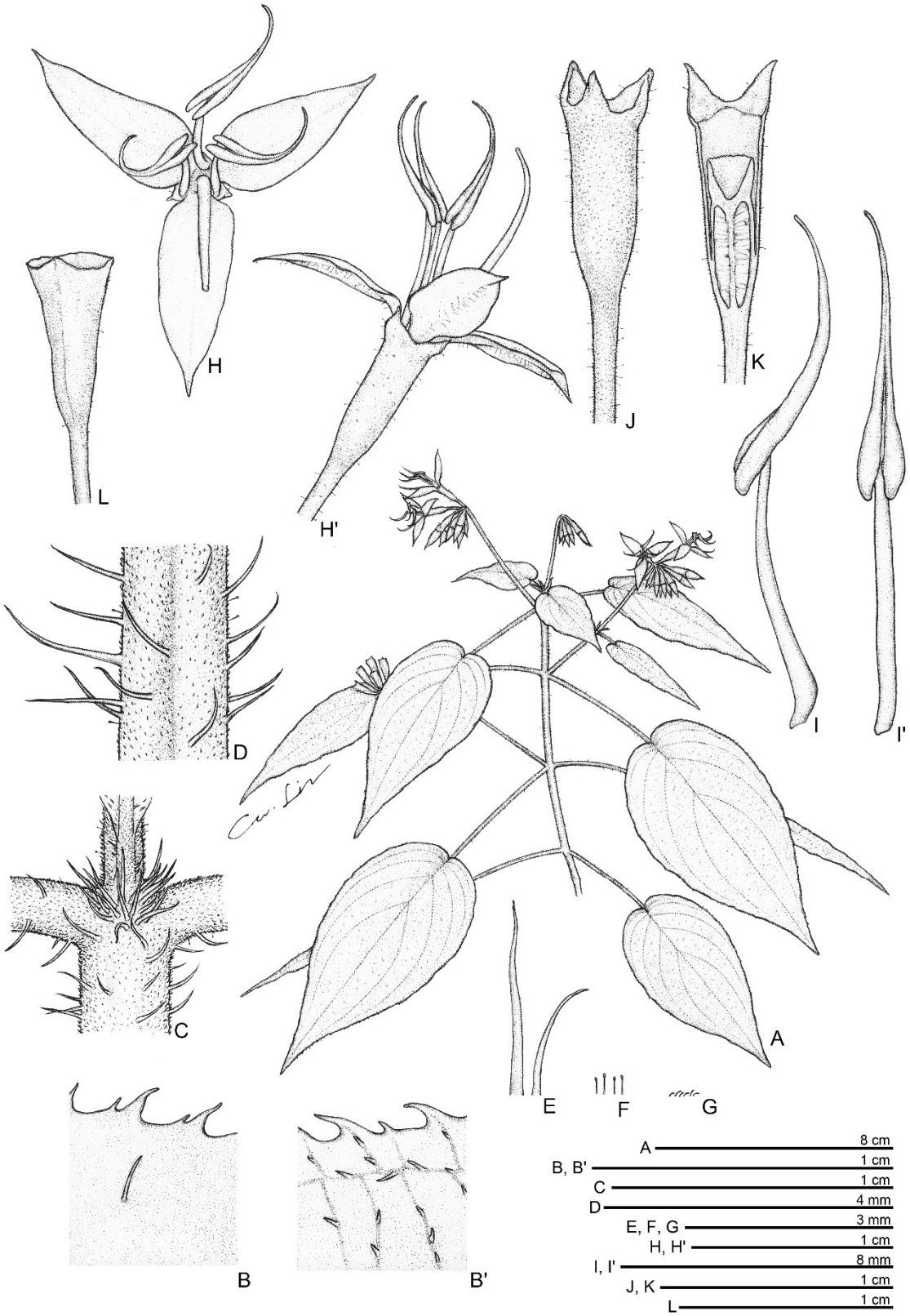

Fig. 1. ***Sonerila leucantha***. **A.** Flowering branch; **B, B'.** Portions of the leaf, adaxial and abaxial surfaces; **C.** Portions of stem and petioles; **D.** Petiole close-up; **E−G.** Types of trichomes: **E.** Fleshy hirsute-setose trichomes; **F.** Long stipitate glandular trichomes; **G.** Minute glandular trichomes; **H, H'.** Flower, front and side views; **I, I'.** Stamens, side view and view from the adaxial side; **J.** Hypanthium; **K.** Sagittal section of the hypanthium; **L.** Old capsule. Drawing by Che-Wei Lin from the type specimens.

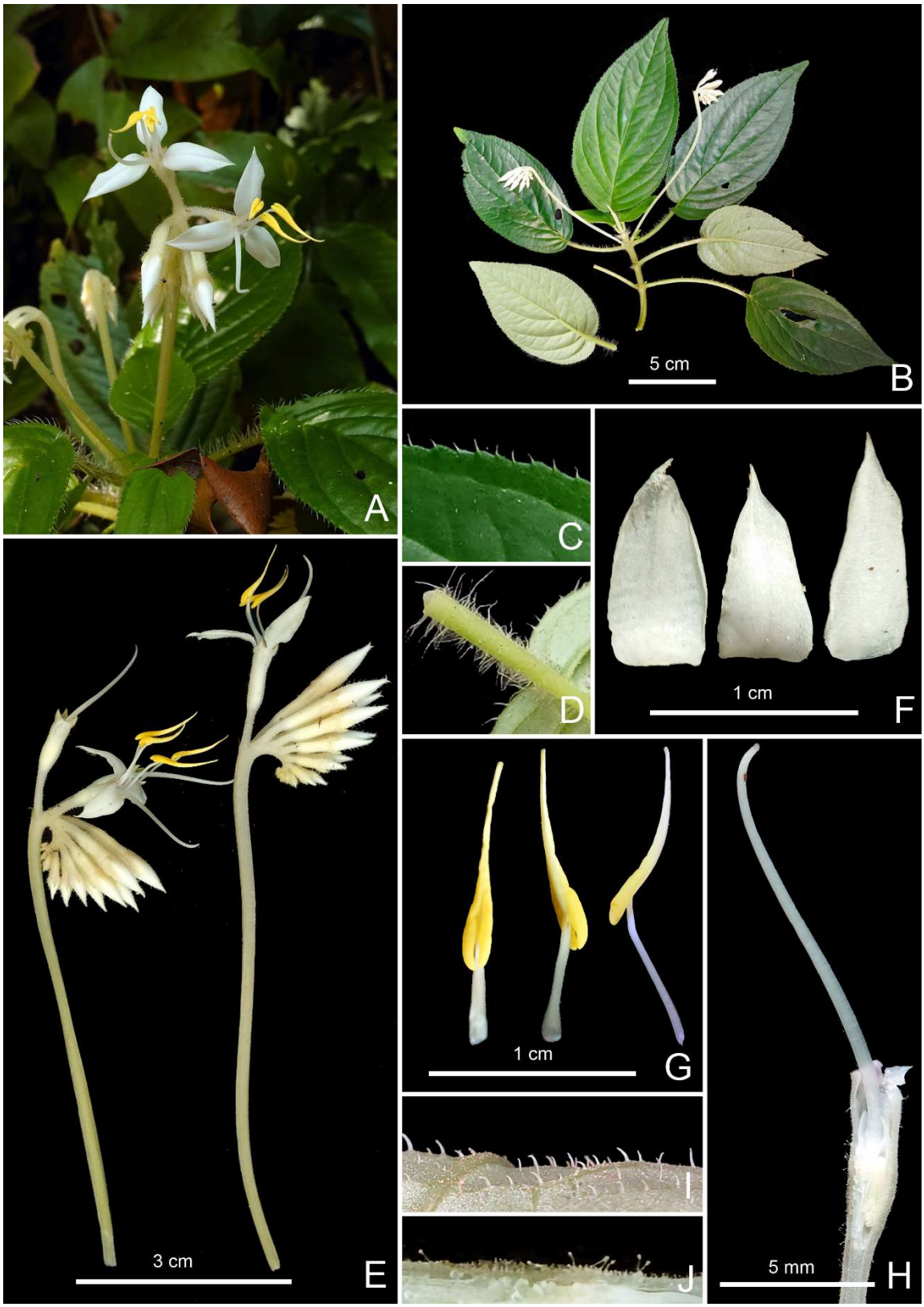

Fig. 2. ***Sonerila leucantha***. **A.** Flowering plant in natural habitat; **B.** Flowering branch; **C, D.** Portions of leaves, adaxial and abaxial surfaces; **E.** Inflorescences; **F.** Petals, adaxial side; **G.** Stamens, side view and view from abaxial side; **H.** Longitudinal section of the hypanthium showing pistil; **I.** Indumentum of the leaf on abaxial surface; **J.** Indumentum of the hypanthium. All photos by Van Canh Nguyen from plants used for the preparation of the type specimens. Corrected and designed by Ba Vuong Truong and Che Wei Lin.

https://en.herbariumle.ru/?t=occ&id=265784; isotypes: LE01282688 https:// en.herbariumle.ru/?t=occ&id=265783, LE01282690 https://en.herbariumle.ru/?t=occ&id=265785, photos of the plant used for the preparation of the type specimens LE01255799 https://en.herbariumle.ru/?t=occ&id=261572).

Diagnosis: The new species resembles *S. yunnanensis* in its ovate leaves with a cordate base, quadrangular peduncles, and petals with the adaxial surface bearing stipitate glandular trichomes. However, *S. leucantha* is readily distinguished by its taller stems reaching up to 30 cm in height (vs. usually not exceeding 15 cm based on our observations), an adaxial leaf surface that is subglabrous to sparsely covered with fleshy hirsute-setose trichomes (vs. moderately to densely villous-hirsute), white to pale yellowish petals (vs. pink), and uniformly yellow anthers (vs. bicolored, yellow and pale purple or pale purplish with pale grayish-white).

Description: Terrestrial, annual or perennial herb. **Stems** erect, few- or many-branched, pale green, quadrangular in cross section, narrowly 4-winged, up to 30 cm long, 2.5–5.5 mm in diameter, internodes up to 7 cm long, often shorter on the distal branches, densely covered with minute glandular trichomes (0.1–0.2 mm long), sparse long stipitate glandular trichomes 0.3–0.6 mm long, gland-tipped hirsute-setose trichomes 0.3–0.6 mm long, and fleshy hirsute-setose trichomes 1–3.5 mm long; nodes densely hirsute-setose with fleshy trichomes up to 4 mm long. **Leaves** opposite, decussate, isomorphic, equal or slightly unequal in size within each pair, held horizontally; petioles sub-terete, grooved above, pale green, up to 12 cm long, longer on the lower part of the stem, becoming shorter toward the stem apex, 1.5−3 mm in diameter, densely covered with glandular trichomes up to 0.2 mm long, sparse long stipitate glandular trichomes 0.3–0.6 mm long, and fleshy hirsute-setose trichomes 1–3.5 mm long; blades thinly chartaceous, symmetrical, sometimes slightly asymmetrical at the base, ovate to oblong-ovate, 6−15 × 3–7 cm, base deeply cordate, apex attenuate to attenuate-caudate, rarely acuminate, margin serrulate, with each tooth tipped by a white mucro, adaxially bright green, sometimes with silvery white dots between veins; the adaxial surface covered with slightly curved glandular trichomes *ca*. 0.1 mm long, and sparse fleshy hirsute-setose trichomes 2–3 mm long between primary veins, rarely subglabrous, glossy; abaxially pale green, all veins covered with trichomes similar to those on the petioles; venation pinnate, with 4 or 5 secondary veins on either side of the midrib, shallowly grooved above. **Bracts** minute, inconspicuous, triangular, less than 1 mm long, pale green. **Inflorescence** axillary, arising from upper leaf axils, simple scorpioid cyme, erect or ascending, bearing up to 20 flowers; peduncles quadrangular, 4.5–9.5 cm long, light greenish to almost white, densely covered with glandular trichomes up to 0.2 mm long and long stipitate glandular trichomes up to 0.5 mm long. **Flowers** 3-merous; pedicels light green or pale yellowish to almost white, terete or obtusely triangular in section, 5–7 mm long, with indumentum similar to the peduncle. **Hypanthium** cylindrical, pure white or white with a yellowish or greenish tint, 7–9 mm long, 2.5–3 mm in diameter, 3-angular in section, obscurely 3- or 6-ribbed, with indumentum similar to the peduncle; part of hypanthium free from ovary 3.8–5 mm long. **Sepals** 3, erect, white to pale green, triangular, obscurely keeled, *ca*. 2 × 2.5 mm, slightly connate at the base, glandular hairy, apex acute. **Petals** 3, white to pale yellowish, spreading, narrowly ovate, slightly oblique, 10–12.5 × 4 mm, acute to shortly acuminate, midrib on abaxial side with scattered long stipitate glandular trichomes *ca*. 0.5 mm long. **Stamens** 3, isomorphic, glabrous; filaments white, slightly flattened, 7–10 mm long; anthers bright yellow, triangular-lanceolate, slightly curved, 7–11 mm long, deeply cordate at the base, distally long-acuminate, with two pores at the apex. **Ovary** 4–5 mm long, 3-locular; ovary crown *ca*. 2 mm high, margin entire or finely denticulate; ovules numerous. **Style** filiform, white, up to 20 mm long; stigma truncate. **Fruit** a cupuliform capsule, 6.5–9 × 3–4 mm.

Distribution and ecology: The plant is so far found only on Chu Mu Mountain, Dak Lak Province, in dry secondary and primary evergreen broad-leaved forest on granite on steep slopes along rocky streams at elevations of 600–650 m a.s.l. It flowers in April.

Etymology: The species name refers to the white to pale yellowish flowers.

Proposed IUCN conservation status: *Sonerila leucantha* is currently known from a single, geographically very restricted location in Vietnam, where it occurs as a terrestrial herb in dry secondary and primary evergreen broad-leaved forest on granite substrate. The habitat is already disturbed, indicating ongoing anthropogenic pressure. Although the species is capable of reproduction, as evidenced by the presence of fruiting individuals and seedlings, its highly restricted distribution makes it vulnerable to stochastic events and further habitat degradation. Because the species is known from only one location and could rapidly become threatened by a single threatening event affecting its habitat, it is here assessed as Vulnerable (VU D2) following the IUCN Red List Categories and Criteria (IUCN Standards and Petitions Committee 2024). Further botanical exploration in this and adjacent areas may reveal additional populations, which could lead to a reassessment of its conservation status in the future.

Notes: This new species is superficially similar to *S. yunnanensis* Jeffrey ex W.W.Sm. (Smith, 1914). Although *S. yunnanensis* has long been treated as a heterotypic synonym of *S. cantonensis* Stapf (Stapf, 1892), our examination of herbarium material and observations of living plants indicate that they are morphologically distinct, a distinction that has also been

corroborated by the recent taxonomic reinstatement of the species by Hsu *et al*. (2026).

Sonerila leucantha also shares several morphological characters with *S. peninsularis* J.Wai & J.M.Hu (Sae Wai and Hu 2023) in its quadrangular stem, ovate leaves with a deeply cordate base, leaf venation pinnate, and quadrangular peduncles. However, it differs in having a complex stem indumentum comprising, which consists of minute glandular trichomes, long-stipitate glandular trichomes, gland-tipped hirsute-setose trichomes, and fleshy hirsute-setose trichomes (vs. only minute glandular trichomes), an adaxial leaf surface bearing slightly curved glandular trichomes mixed with sparse, fleshy hirsute-setose trichomes (vs. subglabrous, with a few strigose trichomes restricted to the secondary veins), and white to pale yellowish petals (vs. pink).

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