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Two new records for the flora of Vietnam: *Sonerila* (Melastomataceae) and *Erycibe* (Convolvulaceae)

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Abstract

Two recently discovered species from Phu Quoc National Park in southern Vietnam, *Sonerila bokorensis* S.H. Cho and Y.D. Kim (Melastomataceae) and *Erycibe citriniflora* Griff. (Convolvulaceae), provide new records for the flora of Vietnam. For each species a taxonomic description is presented, together with information on their distribution, habitat and ecology; color photographs of both species are also given.

Keywords

Sonerila; *Erycibe*; new record; Phu Quoc; Vietnam

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Introduction

Sonerila Roxb. is known to be one of the large genera in the family Melastomataceae. It has about 150–176 species distributed in tropical Asia from India to Malesia, including southern China and Sri Lanka (Ridley, 1946; Renner, 1993; Cellinese & Renner, 1997; Narayanan *et al.*, 2013; Chen & Renner, 2007). *Sonerila* is clearly distinguished from other genera of Melastomataceae in having trimerous flowers and mostly uniparous cymes (Chen & Renner, 2007). Until now, the following 12 species of *Sonerila* had been recorded for Vietnam: *S. annamica* Guillaumet, *S. cantonensis* Stapf, *S. erecta* Jack., *S. finetii* Guillaumet, *S. harmandii* Guillaumet, *S. lecomtei* Guillaumet, *S. neodriessenioides* C. Hans., *S. plagiocardia* Diels., *S. quadrangularis* Guillaumet, *S. rivularis* Cogn., *S. tenera* Royle, *S. tuberosa* C. Hans. (Pham, 2003).

The genus *Erycibe* Roxb. (Convolvulaceae) includes about 75 species distributed mainly in tropical Asia and Malesia with outliers in Australia, Japan and Taiwan (Staples, 2010). It is distinguished from other genera of Convolvulaceae in having woody climbers or scandent shrubs, stems lenticellate; leaves petiolate, entire, leathery or papery; flowers small, corolla white or yellow, deeply 5-lobed; fruit a slightly fleshy berry (Staples, 2010). Until now, the nine species of *Erycibe* that have been recorded for the flora of Vietnam include *E. cochinchinensis* Gagnep., *E. crassiuscula* Gagnep., *E. elliptilimba* Merr. & Chun., *E. griffithii* C. B. Clarke, *E. hainanensis* Merr., *E. obtusifolia* Benth., *E. schmidtii* Craib, *E. subspicata* Wall. ex G. Don, *E. tixieri* Derooin (Pham, 2003).

In 2014–2015, we carried out field surveys to assess the flora of the Phu Quoc National Park which is located on Phu Quoc Island in the southern

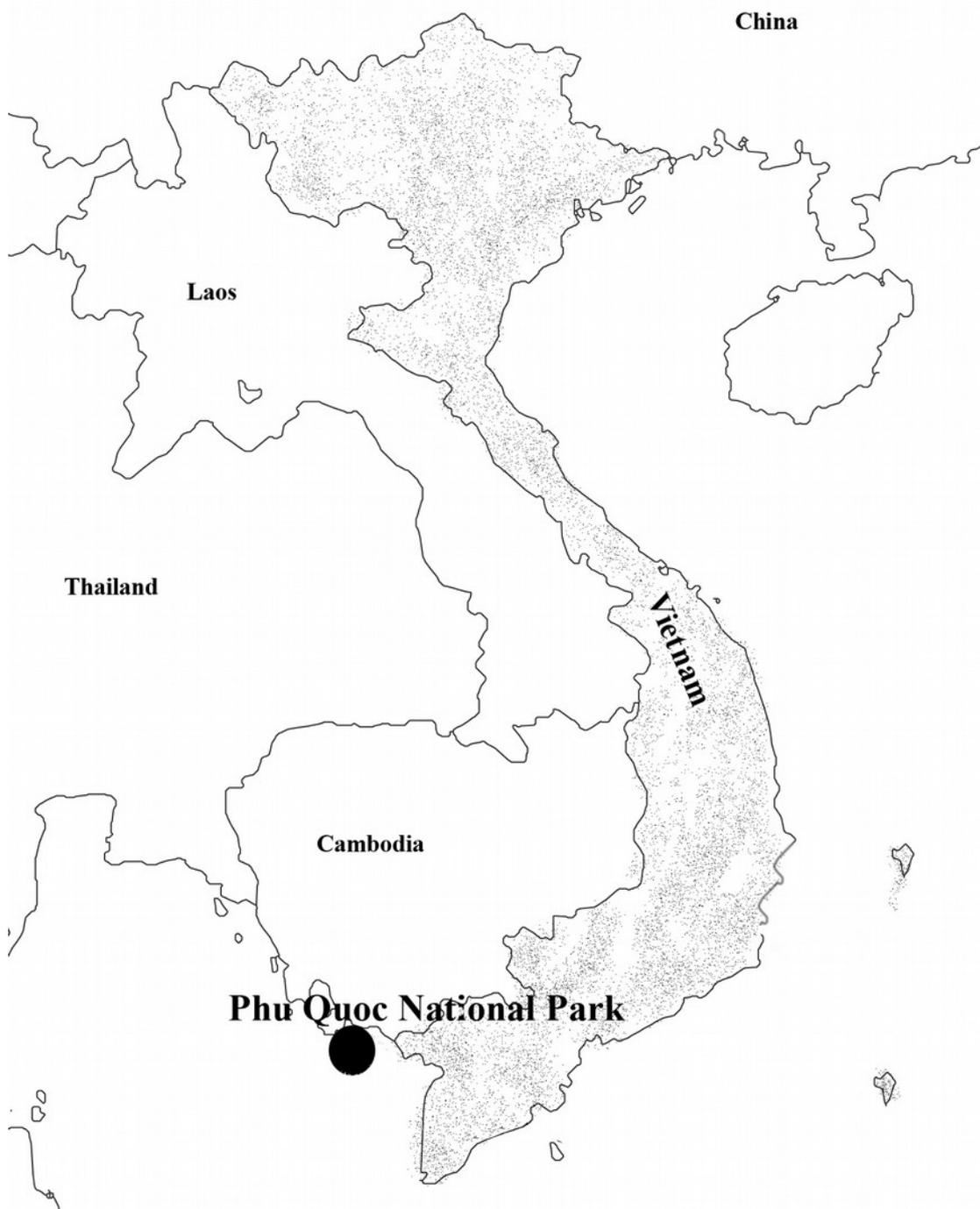


Fig. 1. Locality of Phu Quoc National Park, Vietnam

Vietnam, near the border with Cambodia (Fig. 1). During these surveys we discovered plants from within evergreen forests that were subsequently identified as *Sonerila bokorensis* and *Erycibe citriniflora*. Here, we report these two species as new distributional records and additions to the flora of Vietnam. Detailed descriptions of these species, together with color photographs (Figs. 2 and 3), are provided.

Materials and Methods

This study was based on our field observations of living plants, dry specimens in the herbaria

of Institute of Tropical Biology (VNM) and Institute of Ecology and Biological Resources (HN), and the specimen images available on the web from JSTOR and sites provided by herbarium A and BM. An illustrated Flora of Vietnam (Pham, 2003), Flora of Thailand of *Sonerila* and *Erycibe* (Renner *et al.*, 2001; Staples, 2010) were used to identify the species. Photographs of the plants in the field were taken using a Canon 1000D digital camera. Measurement of floral characters was performed with an ocular micrometer accurate to 0.5 mm.



Fig. 2. *Sonerila bokorensis* S.H. Cho and Y.D. Kim. A–B. Habit; C. Abaxial surface of leaf; D–E. Flowers; F–G. Immature fruit.

Taxonomic description

1. *Sonerila bokorensis* S.H. Cho and Y.D. Kim, Phytotaxa 222 (4): 295. 2015 (Fig. 2).

Perennial herb, to 30 cm tall; stem 4-angled, slightly winged, sparsely pubescent, sparsely branched. *Leaves* simple, opposite, mostly clustered at upper-most nodes; stipules lacking; petioles 0.1–2.4 cm long; leaf blade elliptic to ovate,

1.7–5.8 × 0.8–2 cm, abaxial surface with scattered seta on veins, adaxial surface setose between veins or near margin, apex acute, base attenuate to rounded, margin serrulate with each tooth having a terminal seta. *Inflorescences* terminal, pedunculate, 1 to 5 scorpioid cymes with 3 to 12 flowers; bracts small, subulate, 0.6–1.4 mm long, caducous; peduncles 2.4–6.5 cm long, subangular, sparsely pubescent. *Hypanthium* campanulate, 4–5

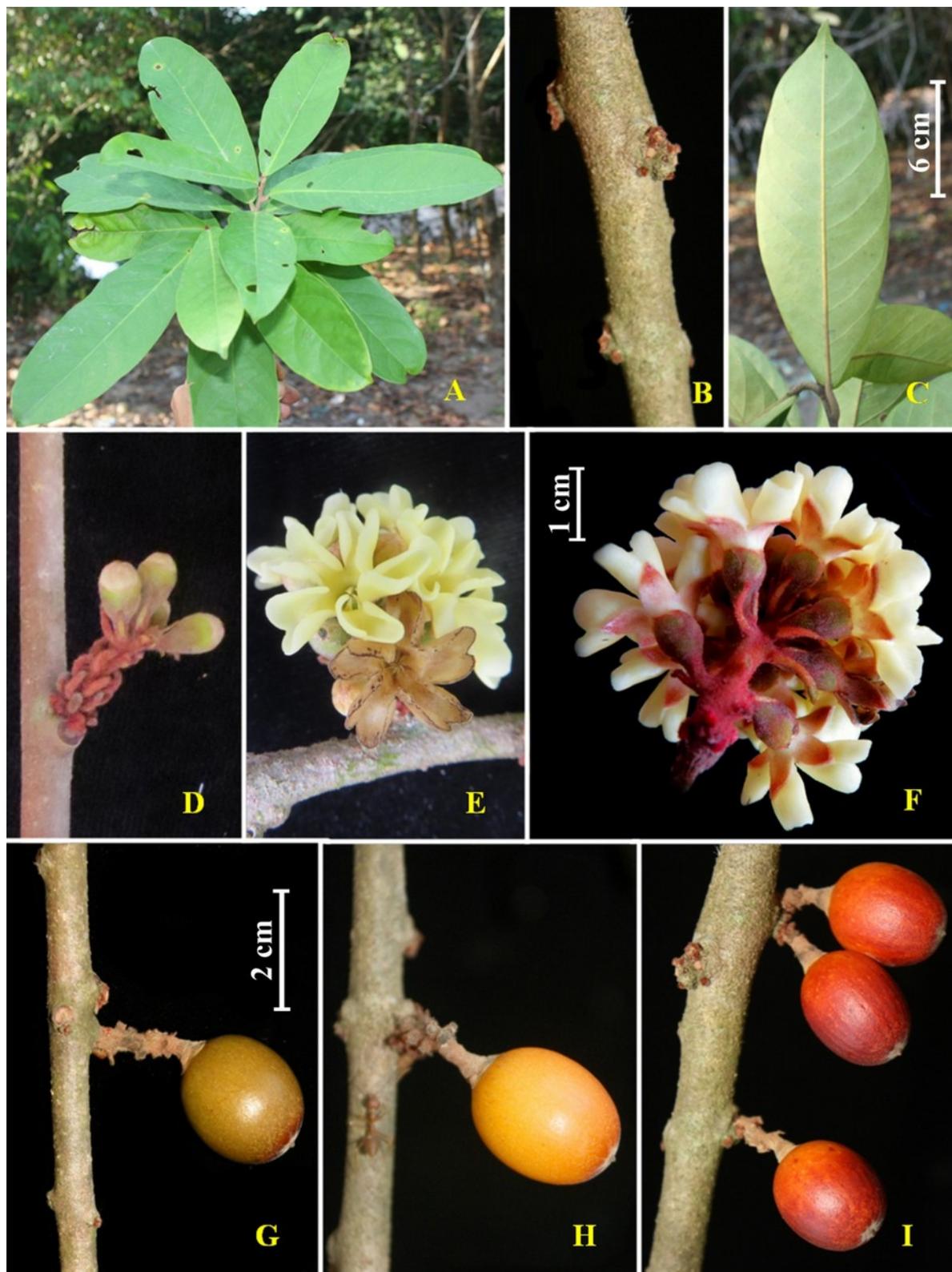


Fig. 3. *Erycibe citriniflora* Griff. A. Branchlet; B. Stems; C. Abaxial surface of leaf; D. Flower buds; E-F. Close-up of an inflorescence; G-H. Immature fruit; I. Mature fruit.

Specimens examined: Vietnam, Kien Giang Province, Phu Quoc National Park, in evergreen forest, alt. 450 m, 10°22'30"N, 104°02'38"E, 29 July 2014, Dang *et al.* PQ240 (VNM, and the herbarium of Phu Quoc National Park).

Distribution: Cambodia (Kampot) and Vietnam (new record).

Habitat and Ecology: In Vietnam this species is known from a few populations in Phu Quoc National Park, Kien Giang Province, an altitude of ca. 450 m. It grows in evergreen forests in a ravine mainly dominated by species of Selaginellaceae, Orchidaceae, Annonaceae, Lauraceae, Myrtaceae, Rubiaceae with Apocynaceae, Dioscoreaceae, Euphorbiaceae, Fabaceae, Lamiaceae, Moraceae. Flowering in

July to October and fruiting in September to November.

Remark: This species is similar to *Sonerila calophylla* Ridl. from Malay Peninsula, but distinguished from that species by having glandular trichomes on the pedicels, abaxial midvein of the petals, hypanthium, and capsules.

2. *Erycibe citriniflora* Griff., Not. Pl. Asiat. 4: 284. 1854; Kerr, Fl. Siam. Enum. 3 (1): 94. 1951; Hoogland, Blumea 7: 345. 1953; Hoogland in Ooststr., Fl. Males. Ser. 1, 4: 425. 1953; Stap, Fl. Thailand 10, 3: 390. 2010 – *Erycibe hololobula* Kerr, Bull. Misc. Inform. Kew 1941: 11. 1941; Fl. Siam. Enum. 3 (1): 96. 1951; Plate XLII: 4 (Fig. 3).

Woody climber or scandent shrub, to 8 m tall, lenticellate; young stems stellate-hairy. Leaves petiolate, narrowly obovate-oblongate, less often elliptic-oblong, 10–30 × 3–11 cm, drying reddish underneath, base tapering cuneate, apex often short-acuminate or obtuse to rounded, entire, leathery or papery, lateral veins usually 7–12 per side, midrib and veins prominent beneath; petioles 7–15 mm long. Inflorescences axillary, dense glomerules; peduncles to 3 mm long. Flowers small, fragrant; calyx equal in length, densely red tomentose, outer 2 oval to orbicular, inner 3 transverse-oval, red stellate-hirsute on backs; corolla cream to yellow, 7–11 mm long, tube 2–4 mm long, lacking intrastaminal sclae inside, lobules entire; stamens tips exerted, anthers 1.5–2 mm long, apex acute to acuminate; ovary 1.2–1.8 × 1–1.4 mm, glabrous or densely hirsute, stigma conical. Fruit a slightly fleshy berry, ellipsoid, 20–22 × 8–14 mm, glabrous, bullate, ripening orange.

Specimens examined: Vietnam, Kien Giang Province, Phu Quoc National Park, along streams in evergreen forest, alt. 40 m, 10°22'00"N, 100°50'49"E, 11 March 2015, Dang *et al.* PQ241 (VNM, and the herbarium of Phu Quoc National Park).

Distribution: Thailand, Myanmar, Peninsular Malaysia and Vietnam (new record).

Habitat and Ecology: In Vietnam this species is known only from Phu Quoc National Park, Kien Giang Province, Southern Vietnam. The small population was found along streams in evergreen forest, at alt. ca. 40 m, in an area dominated by *Ficus racemosa* L., *Lithocarpus leiocarpa* A. Cam., *Dilena ovata* Wall. ex Hook.f. & Thomson, *Cratoxylon formosum* (Jack.) Dyer, *Garcinia harmandii* Pierre, *Aporosa planchoniana* H. Baill. ex Muell., *Suregada cicerosperma* (Gagnep.) Croizat., *Syzygium syzygioides* (Miq.) Merr. & L.M.Perry, *Euodia leptota* (Spreng.) Merr., *Salacia rostrata* Pierre.

Flowering in February to April and fruiting in April to June.

Remark: This species is similar to *Erycibe cochinchinensis* Gagnep., but differs from it by having leaves narrowly obovate-oblongate, widest toward apex and tapering to cuneate base; corolla lacking intrastaminal sclae inside.

Competing Interest

The authors declare that they have no competing interests.

Authors' contributions

All authors contributed equally to the work presented in this paper.

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