

Coleus bolavenensis (Lamiaceae), a new species from Laos

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ABSTRACT

Coleus bolavenensis, a new species from Bolaven Plateau, southern Laos is described and illustrated. A preliminary conservation status is provided.

KEYWORDS: *Anisochilus*, Bolaven Plateau, Champasak Province, Dong Hua Sao NPA.

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INTRODUCTION

Coleus Lour. (Lamiaceae) is a genus of annual or perennial herbs or shrubs (Bentham, 1830a, 1832, 1848; Hooker, 1885; Doan, 1936; Mukerjee, 1940; Backer & Bakhuizen van den Brink, 1965; Keng, 1969; Cramer, 1978, 1981; Li & Hedge, 1994). At present, the genus contains 294 species and is distributed in the Old World tropics and subtropics, and often cultivated elsewhere (Paton *et al.*, 2019). The genus was first described by Loureiro in 1790 (de Loureiro, 1790). *Coleus* was either treated as distinct from *Plectranthus* L'Hér. or merged into *Plectranthus* by various authors (Paton *et al.*, 2019). Suddee *et al.* (2004) treated *Coleus* under *Plectranthus* in the tribe Ocimeae, subtribe Plectranthinae in a revision of tribe Ocimeae in continental South-East Asia (Myanmar, Thailand, Laos, Cambodia and Vietnam); 14 species were recognised under *Plectranthus*. In a recent study, Paton *et al.* (2019) treated *Coleus* as distinct from *Plectranthus* and a key to the genera of the subtribe Plectranthinae was provided. Several genera were merged into *Coleus* including

Anisochilus Wall. ex Benth. (Paton *et al.*, 2019). *Anisochilus* is an Asian genus of herbs and shrubs first described by Bentham in 1830 (Bentham, 1830b), characterised by the inflorescence a spike-like head, the sessile or subsessile fruiting calyx with posterior lobes decurved or deflexed and concealing the throat after anthesis, the decurved corolla tube, and the declinate stamens with confluent anthers. The genus was revised with 16 species recognised by Suddee & Paton (2009) but all are now recognised under *Coleus*. In the most recent checklists of Laos by Newman *et al.* (2007) and Jin *et al.* (2016), only *Coleus harmandii* (Doan ex Suddee & A.J.Paton) A.J.Paton and *C. pallidus* (Wall.) A.J.Paton were recorded.

During botanical surveys to Bolaven Plateau in July and December 2019, an undescribed species belongs to the *Anisochilus* group was found. We here describe it under *Coleus* as *C. bolavenensis* Suddee, Tagane & Rueangr. as the third *Coleus* species from Laos.

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DESCRIPTION

Coleus bolavenensis Suddee, Tagane & Rueangr., **sp. nov.**

Similar in morphology to *Coleus harmandii* (Doan ex Suddee & A.J.Paton) A.J.Paton but differs in having inflorescences simple (vs much branched in *C. harmandii*), leaves almost glabrous, with short hairs on mid-vein and secondary veins beneath (vs tomentose beneath in *C. harmandii*), and corolla bluish-purple (vs white or whitish-purple in *C. harmandii*).

Type: Laos. Champasak Province: Dong Hua Sao National Protected Area [Bolaven Plateau]. Paksong District, near Nong Luang Village, 15°04'14.58"N, 106°12'33.72"E, at 1,246 m elev., 17 Dec. 2019, fl. & fr., *Souladeth, Tagane, Kongxaysavath, Rueangreua, Suddee, Suyama & Suzuki L3296* (holotype **FOF!**; isotypes **BKF!**, **KAG!**). Fig. 1.

Undershrub 30–70 cm tall. *Stems* much branched, rounded, 0.5–1 cm in diam., young stem covered with appressed short hairs and sessile glands, old stem grey, glabrescent, aromatic with a bitter taste. *Leaves* petiolate or sessile, opposite decussate, lanceolate, oblong or oblong-obovate, 0.8–4 × 0.5–1.2 cm, apex acute or obtuse, base cuneate, margin entire to obscurely crenate near apex, often revolute when dry, glabrous with short hairs on mid-vein and without sessile glands above, almost glabrous, with short hairs on mid-vein and secondary veins and with minute sessile glands beneath, lateral veins 4–7 on each side, prominently raised beneath; petiole 0–5 mm long, puberulent; crushed leaves without aromatic smell. *Inflorescences* terminal, simple; adjacent verticils arranged close together and forming a dense cylindrical spike-like head, 10–50 × 8–10 mm, hoary-tomentose; cymes sessile, many-flowered; bracts ovate to ovate-lanceolate, arranged in 4 rows, caducous, forming a coma on the top of the inflorescence; pedicels 0 mm long (sessile). *Calyx* ovoid, ca 1 mm long at anthesis, obliquely 5-toothed; tube bluish-purple, densely villous outside, glabrous inside; fruiting calyx brown, 5–6.5 mm long; uppermost tooth ovate, erect or reflexed, apex acute or obtuse; 4 remaining teeth subequal, apex acute or obtuse, usually reflexed, arranged obliquely on throat at base of uppermost tooth; tube not ventrally saccate, with longitudinal veins prominent inside. *Corolla* bluish-purple, 7.5–9 mm long, exserted from calyx tube;

upper lip 5-toothed, the 2 median teeth ovate-orbicular, larger than the 2 ovate lateral teeth; lower lip entire, elongate, slightly concave, 2.5–3 mm long, longer than the upper lip; tube gradually dilated towards throat, ca 5 mm long, pubescent outside. *Stamens* 4, didynamous, declinate, slightly exserted, not exceeding the lower corolla lip; filaments free, glabrous; anther reniform, synthecous. *Ovary* glabrous. *Style* declinate, shortly bifid with subequal branches. *Disc* lobed, anterior side well developed. *Nutlets* black, shining, oblong to obovate-oblong, ca 1 × 0.8 mm, mature nutlets usually producing mucilage when wetted.

Laos.—Champasak Province: Dong Hua Sao National Protected Area [Bolaven Plateau]. Paksong District, near Nong Luang Village, 15°04'17.70"N, 106°12'38.82"E, at 1,250 m elev., 4 July 2019, str., *Souladeth et al. L2897* (**FOF!**, **KAG!**); Dong Hua Sao National Protected Area [Bolaven Plateau]. Paksong District, near Nong Luang Village, 15°04'14.58"N, 106°12'33.72"E, at 1,246 m elev., 17 Dec. 2019, fl. & fr., *Souladeth et al. L3296* (**BKF!**, **FOF!**, **KAG!**); Dong Hua Sao National Protected Area [Bolaven Plateau]. Paksong District, near Nong Luang Village, 15°03'38.56"N, 106°12'28.68"E, at 1,290 m elev., 17 Dec. 2019, fl. & fr., *Souladeth et al. L3367* (**BKF!**, **FOF!**, **KAG!**).

Distribution.—Endemic to the Bolaven Plateau.

Ecology.—Open grassland with exposed rocks, 1,250–1,300 m alt. Flowering & fruiting: November–December.

Vernacular.—Nuat pla muek (ໜາວປາຫຼັກ).

Etymology.—The epithet refers to the type locality.

Provisional Conservation Assessment.—This species is known only from three locations on the Bolaven Plateau with an Extent of Occurrence of less than 10 km², and an estimated known Area of Occupancy around 3 km². All subpopulations occur within Dong Hua Sao National Protected Area, which attracts significant numbers of tourists: especially to the waterfalls and wildflower meadow. The increased visitor numbers in the rainy season and the common incidence of forest fires in the dry season might increase disturbance and could affect the survival chances of this species. The number of mature individuals in each subpopulation is less than 250. It is assessed here as Endangered, EN B1ab(iii) + B2ab(iii), following the IUCN criteria (2019).

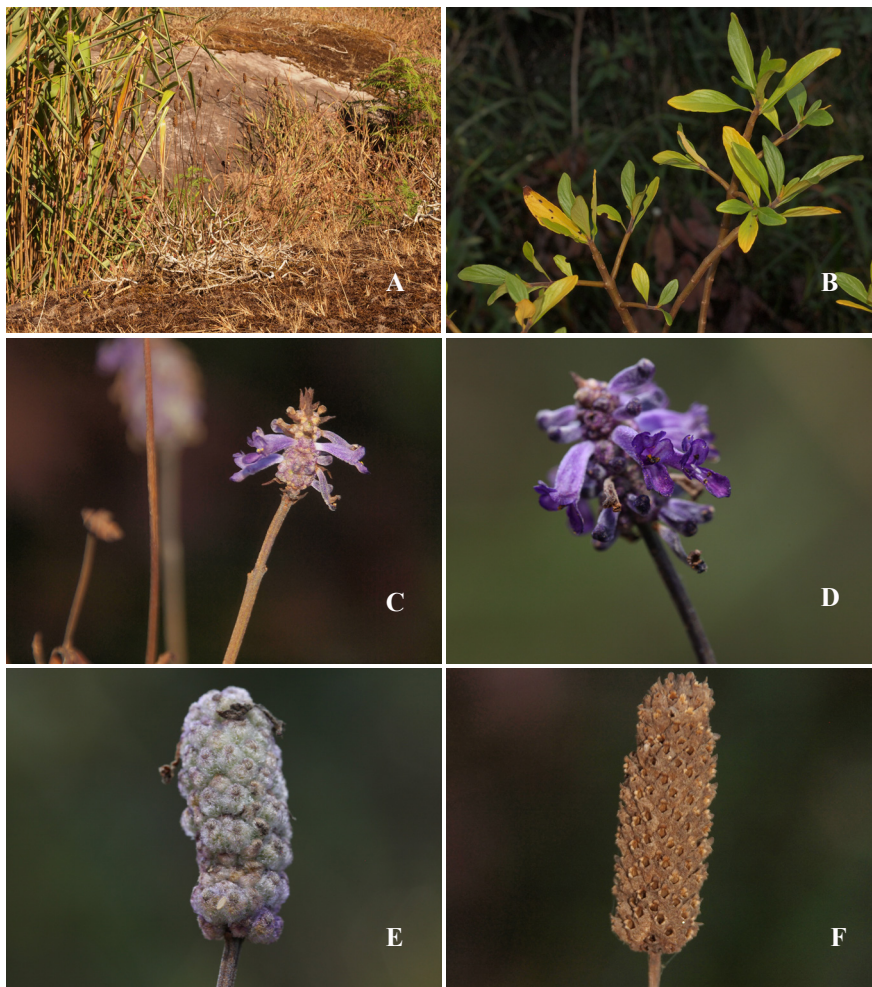


Figure 1. *Coleus bolavenensis* Suddee, Tagane & Rueangr., A. Habit; B. Branches and leaves; C–D. Flowers; E. Fresh infructescence; F. Dry infructescence. A–C, F. by S. Tagane; D–E. by S. Rueangruea.

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