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Utricularia sunilii (Lentibulariaceae), a striking new species from southern Western Ghats, Kerala, India

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Utricularia sunilii, a new species of *Utricularia* Sect. *Oligocista* from Kerala state of Western Ghats is described here. The new species shows similarities with *U. graminifolia* in having 3-nerved foliar organs and thickened capsule wall along the margin of dehiscence but differs by deeply 3-lobed lower lip of corolla.

Key words: Nelliyampathy, New taxon, Palakkad, *Utricularia*.

Introduction

The genus *Utricularia* L. (1753: 18), commonly known as bladderworts, belongs to the family Lentibulariaceae (Taylor 1989). Taylor (1989) recognized a total of 214 species for *Utricularia* in the world in his monograph and later, 24 taxonomically distinct species of *Utricularia* were published from various parts of the world (Fleischmann 2012). Janarthanam & Henry (1992) revised the genus *Utricularia* for India and reported 35 species. After that, only three species were described from different parts of India (Yadav *et al*. 2000; Yadav *et al*. 2005). In Kerala, the genus is represented by 24 species (Nayar *et al*. 2006).

During an extensive floristic exploration in Nelliyampathy hills of Palakkad district, Kerala, authors collected an interesting specimen of *Utricularia* Sect. *Oligocista* with deeply tri-lobed corolla lip which is evident from the field itself. After a critical study with all available literature, herbarium specimens and opinions of experts, it is considered as new species and is described here.

Taxonomy

Utricularia sunilii Naveen Kum. & K.M.P.Kumar, *sp.nov.* (Figs. 1–3)

Type:—INDIA. Kerala: Palakkad district, Nelliyampathy, Hill top, ca. 1400 m, 30 October 2016, *K.M. Prabhukumar, R. Jagadeesan & C.M. Harinarayanan 9730* (holotype CMPR; isotypes MH, SNMH, CATH).

FIGURE 1. Typical Habit of *Utricularia sunilii* sp. nov. (Photo: K.M. Prabhu).

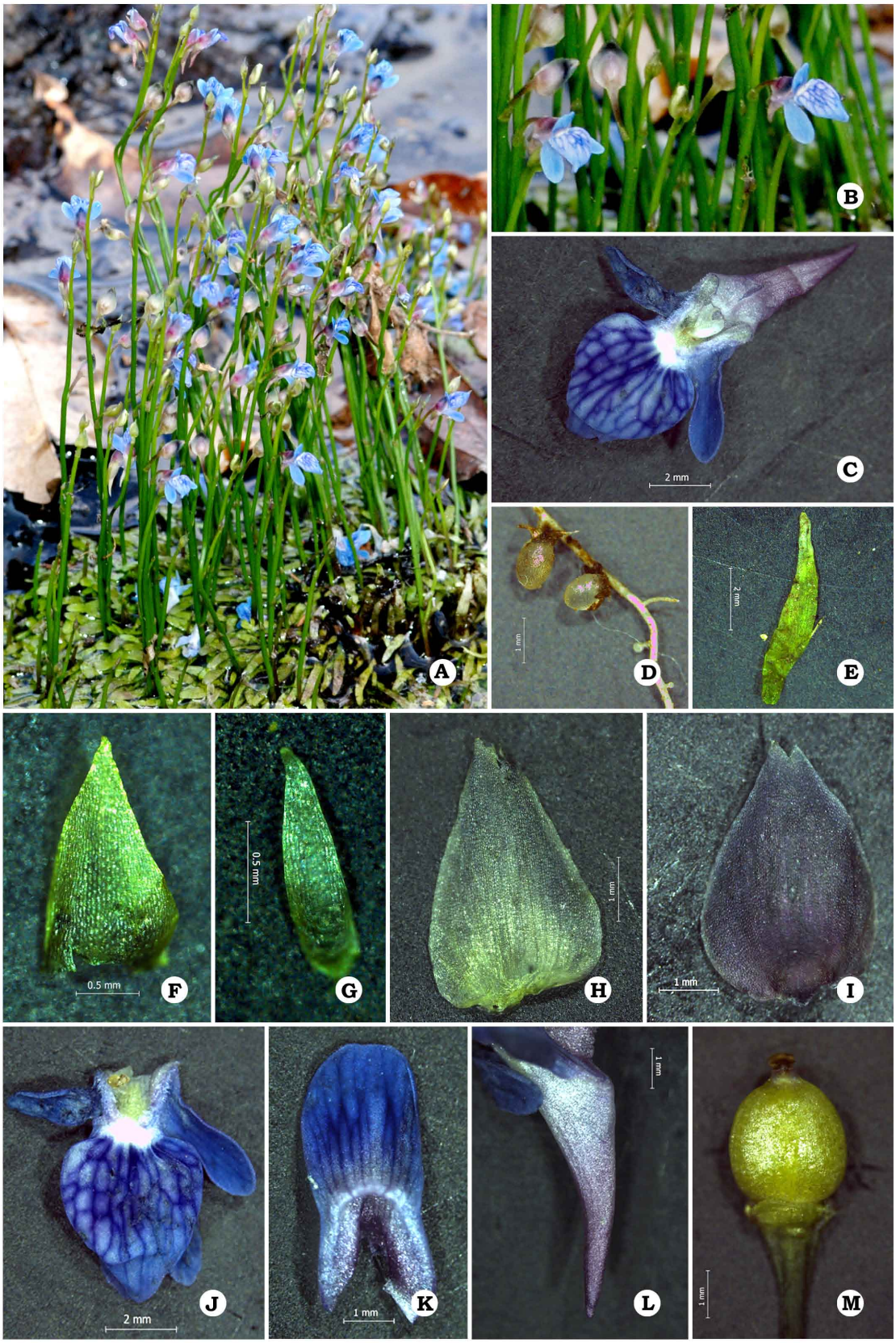

FIGURE 2. *Utricularia sunilii* sp. nov. A. & B. Habit; C. Single flower; D. Rhizoids with traps; E. Foliar organ; F. Bract; G. Bracteole; H. Calyx upper lobe ; I. Calyx lower lobe; J. Lower petals; K. Dorsal petal; L. Spur; M. Fruit.

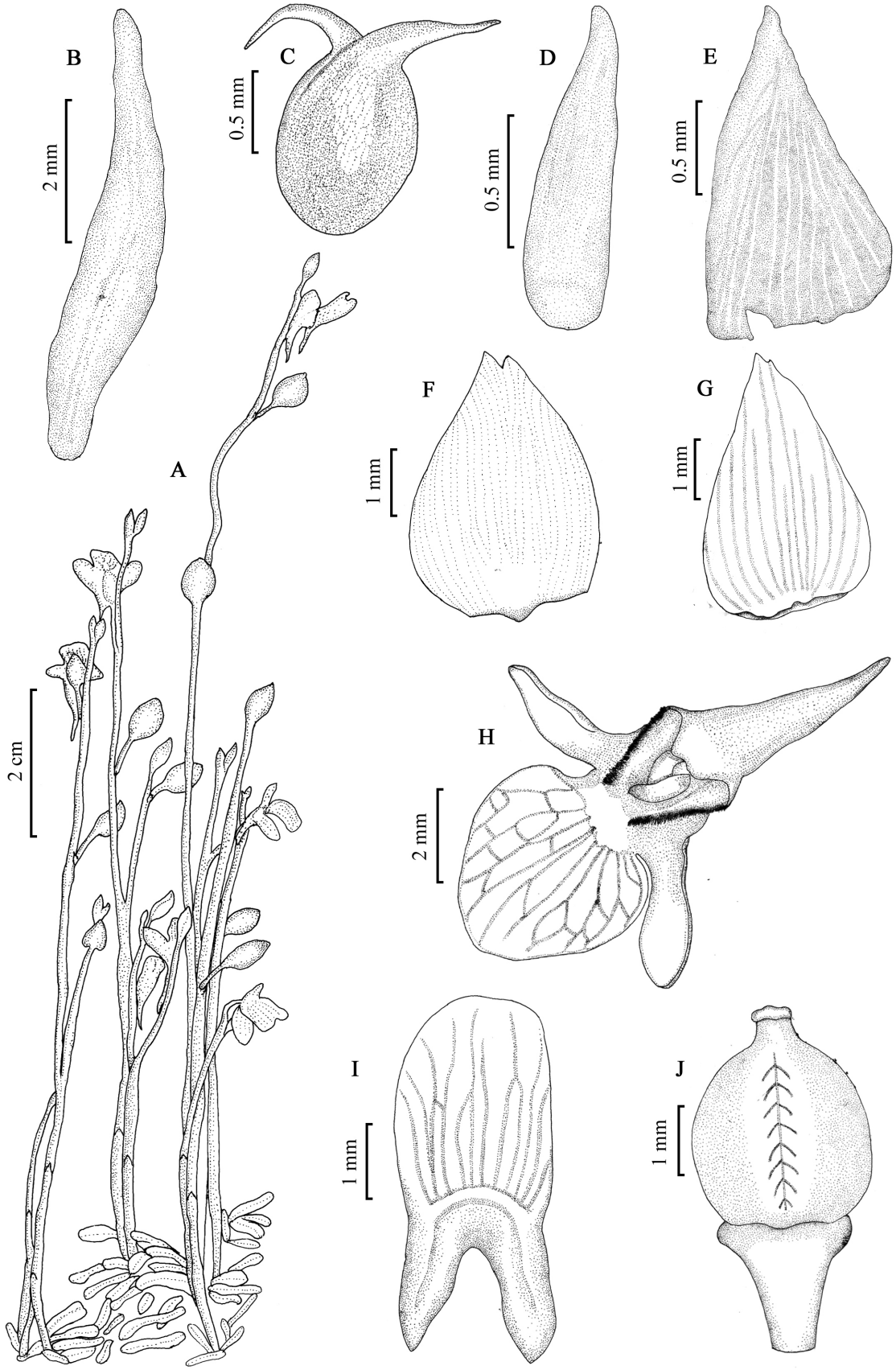

FIGURE 3. Illustration of *Utricularia sunilii* sp. nov. A. Habit; B. Foliar organ; C. Trap; D. Scale; E. Bract; F. Calyx upper lobe ; G. Calyx lower lobe; H. Single flower; I. Dorsal petal; J. Fruit.

Diagnosis:—*Utricularia sunilii* is similar to *U. graminifolia* Vahl but differs mainly in deeply 3-lobed lower lip of corolla**.**

Herb, rhizoids up to 4 cm long, ca. 0.1 mm thick, branched, branches slender, capillary, eglandular, glabrous. Foliar organs produced on stolons, 1.5–2.5 × 0.4–0.9 mm, linear or linear–oblanceolate, obtuse or round at apex, glabrous, obscurely 3–nerved. Traps on stolons, rhizoids and foliar organs, 1.2 –1.8 × 0.7–0.9 mm, globose to sub-orbicular; stalk stout, ca. 0.4 mm long, sparsely glandular pubescent; mouth basal; appendages 2, simple, 0.4–0.7 mm long, slender, glandular hairy. Scape grooved towards apex, racemes up to 20 cm long, ca. 1 mm thick, glabrous, green, 2–6-flowered; scales 3–4, ca. 2 × 1 mm, ovate-lanceolate to triangular, acute to acuminate at apex, glabrous, basifixed; fertile bract 1.8–2 × 0.8–1 mm, ovate–lanceolate, acuminate at apex, green, glabrous, shortly amplexicaul; bracteoles 1–1.5× 0.2–0.4 mm, lanceolate–subulate, acuminate at apex, basifixed, faintly 1–nerved, reticulate. Flowers 0.8–1.5 cm long; pedicels 4–6 mm long, erect, not winged at anthesis, slightly grooved, pale brown, distinctly winged in fruit. Calyx lobes unequal; upper lobe 3.8–4.2 × 1.7–3 mm, broadly ovate, apex acuminate–emarginate, 10–12 nerved, reticulate; lower lobes 4–4.5 ×2.2–2.7 mm, lanceolate to oblong–lanceolate, irregularly bi or tri–dentate at apex, 12-nerved. Corolla pink to violet, upper lip 5–6 × 2–2.5 mm, oblong to oblong–lanceolate, truncate–obtuse, notched at apex, white, constricted near middle, gibbous at base dorsally, pale blue with 8–12 blue coloured striations, glabrous; lower lip 5–7 × 6–8 mm, broadly obovate, deeply 3-lobed, lobes free up to base, side lobes 4.5–5× 1.8–2 mm, oblanceolate, 4–5 veined, blue; mid lobe 5–5.2 × 4–4.2 mm, hemispherical, gibbous, reticulate veined, hairy at throat, constricted in the middle; spur 5–6 × 1.5–2 mm, conical. Stamens 2; filaments 1.3–1.5 mm long, white, glabrous; anther 0.5–0.6 × 0.4–0.5 mm. Ovary 1.8–2 × 1–1.2 mm, with numerous ovules, green; style thick; stigma 2–fid. Fruit 2.8–3 × 2.4–2.6 mm, enclosed within the calyx lobe, elliptic-oblong, thickened along dehisced margin. Seeds 0.28–0.35 x 0.25–0.32 mm, sub-globose to globose; testa cells reticulate with slightly elongate cells.

Phenology:—Flowering and fruiting occurs from September to January.

Etymology:—The specific epithet is named to honor Dr. C.N. Sunil, Associate Professor, S.N.M. College, Maliankara for his immense contributions to the field of angiosperm taxonomy.

Notes:—The species of *Utricularia* Sect. *Oligocista* are generally characterized by the entire or obscurely lobed lower lip of the corolla. The new species superficially resembles *U. babui* Yadav *et al.* (2005: 71), but differs in having obscurely 3- nerved foliar organs (vs. 1- nerved foliar organs) and deeply 3- lobed lower lip of corolla (vs. entire lower lip). As per the personal information shared by one of the authors of *U. babui* (Dr. Milind M. Sardesai, Department of Botany, Savitribai Phule Pune University, Pune, India), it is confirmed that the proposed new species is distinct from *U. babui* (pers. com.). *Utricularia sunilii* also shows some similarities with *U. graminifolia* Vahl (1804: 195) but differs in its obscurely 3- nerved foliar organs (vs. 3- nerved foliar organs which are again branched) and deeply 3- lobed lower lip of corolla (vs. entire or obscurely lobed lower lip of corolla). But, in *U. sunilii*, the deeply 3- lobed lower lip of the corolla is distinct and striking and is easily observable in the field itself. In some individuals, very rarely obscurely 3-lobed lips are observed during early morning, but later they cleave up to their base. A more detailed study is required on this species to reveal its taxonomic and ecological significance.

Distribution and associated species:—The new species grows in moist places near temporary pools in open grasslands and also in wetlands of high range areas in Hill top of Nelliyampathy forest and in close association with *Eriocaulon thwaitesii* Koernicke. (1854: 627) (Eriocaulaceae).

Additional specimens examined (paratypes):—INDIA. Kerala: Palakkad district, Nelliampathy, Hill top,± 1600 m, 29 December 2015, *K.M. Prabhukumar & C.N. Sunil 8748* (CMPR!); 20 January 2018, *K.M. Prabhukumar & V.V. Naveen Kumar 11116* (CMPR!); 20 January 2018, *M.K. Jabeena & Maya C. Nair 1182* (Herbarium, Govt. Victoria College!); Idukki district, Devikulam, Ghat road, 27 September 2016, *V.V. Naveen Kumar 9215* (SNMH!).

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