



## *Peliosanthes separata* (Asparagaceae), a new species from Laos with rare structure of androecium

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Region of SE Asia is a hot spot of biodiversity for such genera of Asparagaceae as *Aspidistra* Ker Gawler (1822: 628), *Peliosanthes* Andrews (1808: 605) and *Tupistra* Ker Gawler (1814: 1655) (Averyanov & Tanaka 2012, Averyanov *et al.* 2013, 2015a, 2015b, Vislobokov *et al.* 2014, 2016, Vislobokov 2015), which were considered earlier within Convallariaceae s.str. (Dahlgren 1989).

*Peliosanthes* is a genus of herbaceous plants, which comprises about 70 species (IPNI 2016). A number of species were described recently from SE Asia and particularly from Laos (Averyanov *et al.* 2015a, 2015b). A plant of *Peliosanthes* was found and collected from nature in late 2015 in northern Laos. After cultivation, it bloomed in greenhouse. Thus, the flower morphology of the plant was investigated. The flowers have very rare structure of androecium: filaments are almost completely free and do not form stamen tube, which often called “corona” by some authors (Averyanov & Tanaka 2012, Averyanov *et al.* 2015a). Similar feature of androecium structure was hitherto known only for one species *Peliosanthes stellaris* Ridley (1898: 97). By comparison with congeners, the collected plant was recognized as a new species.

### Description of the new species

*Peliosanthes separata* Vislobokov, *sp. nov.* (Fig. 1)

Similar to *P. stellaris*, but style shorter, tepals wider, petiole shorter and lamina larger.

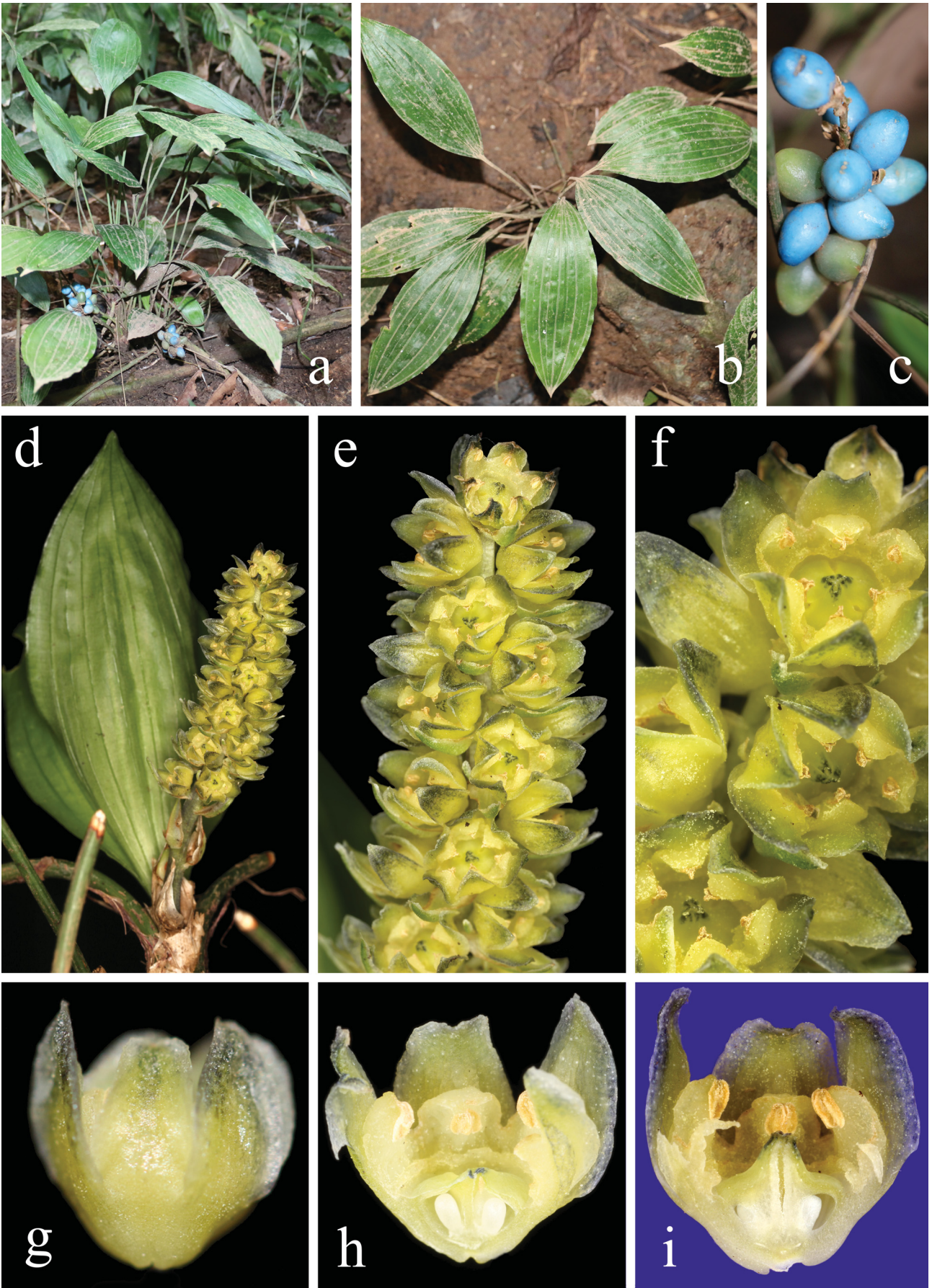
**Type**.—LAOS, Vientiane province, Vang Vieng district, 3.5 km W from Vang Vieng town, around the point 18° 55' 57.6" N, 102° 24' 41.1" E, alt. 300 m, forest, at the bank of temporary stream, 12 Dec 2015, *N.A. Vislobokov 15052* (MW).

Herbaceous perennial evergreen plant. Rhizome short plagiotropic or ascending, Ø 2.5–3.5 mm. Cataphylls papyraceous, purplish, up to 7 cm long. Roots grey, Ø 2–3 mm. Foliage leaves dark green, erect, petiolate (Fig. 1a). Petiole rigid, adaxially sulcate, 14.5–19.5 cm long, Ø 1.5 mm. Lamina elliptic, basally cuneate and distally acuminate, 13.5–14.5 cm long, 4.1–4.6 cm wide, glabrous, with 2 secondary veins at both sides of the midvein (Fig. 1b). Inflorescence a raceme, 8 cm tall; scape erect or ascending, 3 cm long, Ø 2–2.8 mm, with 4–5 greenish, ovate-cuneate, sterile bract, 9–10.5 mm long, 4.5–6 mm wide; rachis 4–5 cm long bearing about 27 flowers (Fig. 1d). Floral bracts green to light greenish, scarious, cuneate to narrowly lanceolate, 7.4–9 mm long, 2.4–4.4 mm wide. Flowers solitary, almost completely greenish, articulated with short green pedicel 1.1–1.6 mm long, Ø 0.7–0.8 mm, with single narrowly lanceolate bracteole 2–2.4 cm long, 0.7 mm wide. Perigone campanulate, 4.3–5 mm long, Ø 5.6–6.7 mm; tube light green at both sides, widely campanulate, 1–1.9 mm long, Ø 3.5–4.4 mm; lobes 6, arranged in two whorls, equal, somewhat incurved, light green inside, light green or partly dark grey spotted outside, ovate-triangular acuminate, 3.1–4.2 mm long, 1.8–2.9 mm wide (Fig. 1e–g). Stamens 6, at the radii of tepals; filaments light green, fleshy, triangular, almost completely free (somewhat fused at the base, forming stamen ring less 1 mm high, not forming corona), 1.2–1.7 mm long, 1.6–1.9 mm wide near the base; anthers small, yellowish, 0.8–0.9 mm long, introrse. Style dark grey spotted, cylindrical, very short, less 1 mm high (Fig. 1h, i). Stigma greenish, flat, 3-lobed, Ø 0.5 mm. Ovary semi-inferior, broadly obconical, 3-locular, 1.2 mm high. Fruits berries, blue (young fruits green), ellipsoidal, 11–13 mm long, Ø 7.3–8 mm (Fig. 1c).

**Additional specimens examined**.—Living plant in Main Botanic Garden of Russian Academy of Sciences (Moscow), garden number: 2015.11343 01, collection number: VV15PS02, collected from the type locality 12 Dec 2015.

**Etymology**.—The specific epithet refers to structure of androecium, which consists of six separate stamens without formation of corona, which occurs in most species of *Peliosanthes*.

**Flowering**.—Flowering was recorded in early June in greenhouse.



**FIGURE 1.** *Peliosanthes separata*. a. fruiting plant; b. plant, view from above; c. fruits; d. flowering plant; e, f. inflorescence; g. flower, view from side; h, i. longitudinal section of flower. (Images d–f, h, i provided by M.S. Romanov).



**Fruiting:**—Fruiting was recorded in December in nature.

**Distribution:**—The species is known from type locality only. Presumably it is local endemic of northern Laos.

**Taxonomic relationships:**—The new species resembles *P. stellaris* Ridl. by the presence of almost separate stamens, which is unique feature for these two species only. Also *P. separata* resembles *P. stellaris* by inferior ovary and green color of perigone but differs in shorter style (not ascending stamen ring vs longer than the stamens), shape of tepals (triangular-ovate vs. narrowly linear), shorter petioles (14.5–19.5 cm vs. 7.6 cm) and larger lamina (13.5–14.5 × 4.1–4.6 cm vs. 12.7 × 2.5 cm).

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