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## ***Peliosanthes arunachalensis* (Asparagaceae), a new species from north-eastern India**

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**Key words:** Arunachal Pradesh, India, new species, Asparagaceae, *Peliosanthes arunachalensis*, *Peliosanthes sinica*.

**Summary.** *Peliosanthes arunachalensis* (Asparagaceae), a new species from the state of Arunachal Pradesh, north-eastern India, is described and illustrated. It differs from similar congener, *P. sinica*, in having elongated scape, to 14 cm long, 7–10-flowered raceme shorter than scape, 2–3 cm long, bract equal or shorter than the flower, light grayish flowers, comparatively longer perianth segments, 6.5–7.5 mm long, with incurved margins, and superior ovary.

## ***Peliosanthes arunachalensis* (Asparagaceae) – новый вид из Северо-Восточной Индии**

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**Ключевые слова:** Аруначал-Прадеш, Индия, новый вид, Asparagaceae, *Peliosanthes arunachalensis*, *Peliosanthes sinica*.

**Аннотация.** *Peliosanthes arunachalensis* (Asparagaceae), найденный в штате Аруначал-Прадеш на северо-востоке Индии, описывается в качестве вида, нового для науки. Приводятся аналитические иллюстрации нового таксона. Описываемое растение отличается от близкородственного *P. sinica* длинной ножкой соцветия (до 14 см дл.), 7–10-цветковой кистью 2–3 см дл. (которая отчетливо короче ножки соцветия), прицветниками (которые по длине равны или короче цветков), светло-сероватыми цветками, относительно длинными, 6,5–7,5 мм дл., долями околоцветника с краями, отчетливо загнутыми внутрь, и верхней завязью.

### **Introduction**

The genus *Peliosanthes* Andrews belonging to the family Asparagaceae (APG, 2016) comprises about 32 species (Govaerts, 2017). It spreads mainly in south and south-east of continental Asia, including

Nepal, Bhutan, India, Myanmar, China, Cambodia, Laos, Vietnam, Thailand, Indochina and Malaysia (Averyanov, Tanaka, 2012; Averyanov et al., 2015; Averyanov et al., 2016). But numerical diversity in the genus *Peliosanthes* is ambiguous in India.

While working on the genus *Peliosanthes* in north-eastern India, the authors encountered some interesting herbarium specimens (G. K. Deka s.n., 14 Nov. 1951, ASSAM 38205, 37430; R. S. Rao 17800, 18 Nov. 1958, ASSAM 19488, 19489). These specimens were marked as *Peliosanthes violacea* Wall. var. *minor* Baker, a synonym of *P. griffithii* Baker (Govaerts, 2017), from which they differ significantly, but morphologically similar to *P. sinica* F. T. Wang & T. Tang in stoloniferous habit. The flowers were dissected, and detailed morphological study was carried out based on the herbarium specimens and in the fields described in label data. Later on consultation of the literature (Baker, 1879; Hooker, 1894; Tanaka, 1999, 2004; Chen, Tamura, 2000; Averyanov, 2011; Averyanov, Tanaka, 2012, 2013; Tanaka et al., 2013; Averyanov et al., 2014, 2015, 2016), it became apparent that the specimens studied were morphologically different from all other known taxa of the genus, which warrant its description as a new species. Table 1 demonstrates the morphological differences between the novelty and the allied species, *P. sinica*.

### Taxonomic treatment

*Peliosanthes arunachalensis* D. K. Roy, A. A. Mao & Aver., **sp. nov.** (Figs. 1, 2).

Differs from allied species, *Peliosanthes sinica* in broadly elliptic leaf blade (vs. oblong to elliptic), elongated scape, to 14 cm long (vs. to 3.5 cm), raceme shorter than scape, 2–3 cm long, 7–10-flowered (vs.

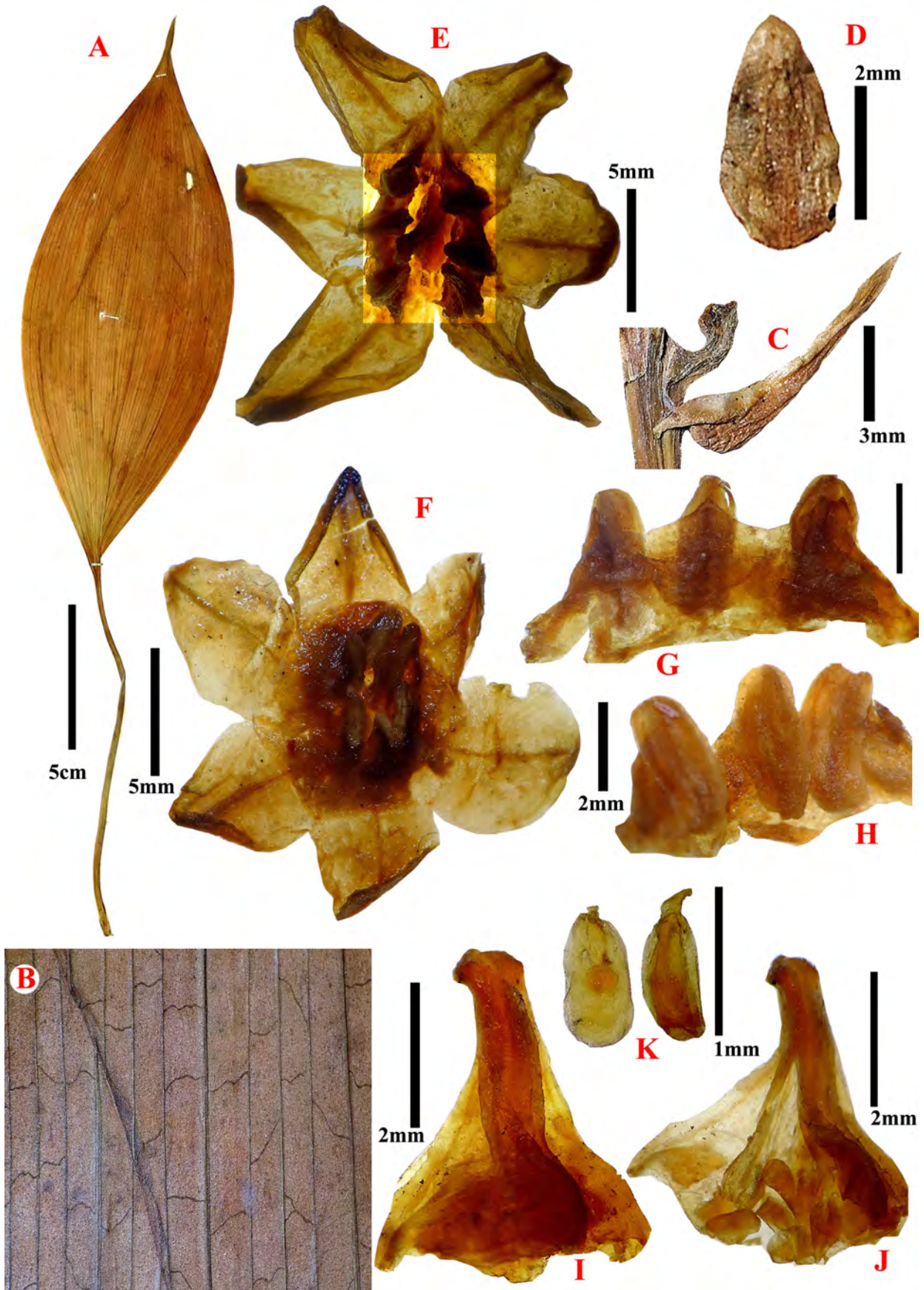
longer than scape, 4.5–5 cm, usually more than 10-flowered), light grayish flowers (vs. greenish purple), comparatively longer perianth segments, 6.5–7.5 mm long, with incurved margins (vs. 3.0–4.0 mm long, strongly revolute), superior ovary (vs. half-inferior).

**Type:** INDIA, Arunachal Pradesh: Aka Hills, Bomputa Camp, 9000 ft, 14. 11. 1951, G. K. Deka s.n. (holotype, ASSAM; isotype, ASSAM). Paratype: INDIA, Arunachal Pradesh: Siang F. D., Minguing to Take-Pokong, 1160–1740 m, 18. 11. 1958, R. S. Rao 17800 (ASSAM).

**Description.** Stoloniferous, terrestrial herbs; stolons with internodes to 20–25 cm long, 0.5 cm in diam., covered with remnants of whitish scarios scales on nodes. Cataphylls lanceolate, 5–10 × 0.7–1.0 cm, papyraceous, later becoming partially disintegrated. Leaves 2, petiolate, suberect; petiole rigid, almost straight, terete, 13–20 cm long; leaf blade broadly elliptic, 16.5–21.5 × 5.5–8.5 cm, acuminate to shortly attenuate, entire along margins, glabrous, glossy; longitudinal veins many, prominent; secondary veinlets conspicuous, spaced, sub-perpendicular to main veins. Scape axillary, bearing 1–2 sterile bracts, stout, elongated, longer than raceme, 12–14 cm long, ca. 2 mm in diam.; sterile bracts 1.2–2.0 × 0.3–0.5 cm, acuminate, margins membranous. Raceme 2–3 cm long, 7–10-flowered; rachis longitudinally finely ridged. Floral bracts 2, scarios; bract located below flower, lanceolate, 0.8–1.0 cm long, 1.5–2.0 mm wide, distally acuminate to subulate, concave, equal or shorter than the flower;



**Fig. 1.** *Peliosanthes arunachalensis*. A. Holotype (G. K. Deka s.n., ASSAM!, Acc. No. 38205). B. Isotype (G. K. Deka s.n., ASSAM!, Acc. No. 37430). C. Paratype (R. S. Rao 17800, ASSAM!, Acc. No. 19488).



**Fig. 2.** *Peliosanthes arunachalensis*. A – Leaf. B – Leaf blade, surface bellow. C – Bract with pedicel. D – Bracteole. E – Flower, frontal view showing the ovary. F – Flower, frontal view showing the corona. G – Portion of corona, dorsal view. H – Portion of corona, ventral view showing anthers. I – Intact pistil. J – Pistil with splitted ovary showing the ovules. K – Ovules. [Adopted from G. K. Deka s.n., ASSAM!, Acc. No. 38205].

bracteole lateral to flower, broadly ovate-triangular, 2.5–3.0 × 1.5–2.0 mm. Flower solitary in bracteal axil, pedicellate, broadly open, 1.2–1.5 cm across, nodding or slightly upward, light grayish; pedicel terete, longitudinally finely ribbed, 4–5 mm long, upturned or sub-horizontal. Perianth tube broadly

obconical, 2–3 mm long; segments 6, similar, ovate to ovate-triangular, obtuse, 6.5–7.5 mm long, 4–4.5 mm wide, spreading, slightly incurved at margins. Corona broadly conic, its base scarcely demarcated from tepals, 4.0–4.5 mm across, about 3 mm high, distinctly hexagonal. Anthers 6, sessile, introrse,



Fig. 3. *Peliosanthes sinica*. Photo by L. Averyanov.

inserted at distal edges of corona, broadly ovoid, 3.0–3.5 mm long and 1.0–1.5 wide, light yellowish. Ovary superior, conical, 3.0–3.5 mm in diam., 3-loculed, each chamber containing 4 ovules on basal placenta; ovules oblong, 1 mm long, 0.5 mm wide; style broadly conical, 3-angular, ca. 3 mm long; stigma 3-partite.

**Flowering.** November.

**Etymology.** The new species is named after the area of its origin (the state of Arunachal Pradesh, north-eastern India).

**Habitat.** Moist ground in the rock crevices.

**Distribution.** New species is still known only by herbarium specimens originated from Aka Hills and Siang F. D. of the state of Arunachal Pradesh, India.

**Notes.** Comparison of morphology between the known species of *Peliosanthes* indicates that *P. arunachalensis* is superficially similar to

*P. sinica* (Fig. 3) in stoloniferous habit with long petiole and many prominent, longitudinal veins on leaf blade. But *P. arunachalensis* is clearly differs from it in broadly elliptic leaf blade (vs. oblong to elliptic), elongated scape, to 14 cm long (vs. to 3.5 cm), raceme shorter than scape, 2–3 cm long, 7–10-flowered (vs. longer than scape, 4.5–5 cm, usually more than 10-flowered), light grayish flowers (vs. greenish purple), comparatively longer perianth segments, 6.5–7.5 mm long, ovate to ovate-triangular, with incurved margins (vs. 3.0–4.0 mm long, elliptic-lanceolate, strongly revolute), superior ovary (vs. half-inferior), see Table 1.

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Table 1

Comparison of morphological characters between *Peliosanthes arunachalensis* and *P. sinica*.

Characters	<i>Peliosanthes arunachalensis</i>	<i>Peliosanthes sinica</i>
Leaf blade	Broadly elliptic, 16.5–21.5 × 5.5–8.5 cm	Oblong to elliptic, 11–17 × 3–6 cm
Scape	12–14 cm long	3.0–3.5 cm long
Raceme	Shorter than scape, 2–3 cm long, 7–10-flowered	Longer than scape, 4.5–7.0 cm long, usually more than 10-flowered
Bract	Equal or shorter than the flower	Longer than flower
Flowers	Nodding or slightly upward, light grayish	Upward, greenish purple
Perianth segments	Ovate to ovate-triangular, 6.5–7.5 mm long, slightly incurved at margins	Elliptic-lanceolate, 3.0–4.0 mm long, strongly revolute at margins
Ovary	Superior	Half-inferior

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