Peliosanthes brevicoronata (Asparagaceae), a New Species from Thailand

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Based on plants from Huai Kha Khaeng Wildlife Sanctuary, Uthai Thani Province, Thailand, we provide the first description of Peliosanthes brevicoronata, sp. nov. (Asparagaceae). The corona of P. brevicoronata is not well developed, a trait shared with P. gracilipes and P. minutiflora, but P. brevicoronata differs from the former species in its densely flowered inflorescence, small pistil, and abaxially greenish purple and adaxially yellow erect tepals, and from the latter by its indistinct aerial stem.

Key words: Asparagaceae, corona, Huai Kha Khaeng Wildlife Sanctuary, new species, Peliosanthes, Peliosanthes brevicoronata, Peliosanthes gracilipes, Peliosanthes minutiflora, Thailand, Uthai Thani Province

Peliosanthes Andrews (Asparagales-Asparagaceae) comprises ca. 30 species, frequently in shaded sites on evergreen forest floors, in southern China, Indochina, Malaysia and India. Five species have been reported recently from eastern Indochina (Averyanov & Tanaka 2012). Exposure of the sarcotesta seeds through irregular rupturing of the fruits during early development is a highly unusual trait in Peliosanthes (Conran & Tamura 1998, Chen & Tamura 2000) and is shared with Ophiopogon Ker Gawl. and Liriope Lour. Molecular analyses show that the three genera are phylogenetically related (Yamashita & Tamura 2000).

Another unique character of Peliosanthes is a corona produced through fusion of six dilated staminal filaments (Chen & Tamura 2000). Within the genus, the filaments are strongly fused and the anthers appear to be attached to the inside of a fleshy corona. The degree of fusion is exceptionally little in P. gracilipes (Craib) N. Tanaka, which has a sparsely flowered inflorescence, white revolute tepals and a large pistil (Fig. 1a), and in P. minutiflora N. Tanaka, J. Murata & S. K. Wu, which has an elongate aerial stem (Tanaka et al. 2013).

In March 2013, we found plants of Peliosanthes in which the corona was not well developed and the free parts of the filaments were distinct (Fig. 1b). They were growing in a mesic site rich in humus in a gallery evergreen forest among stands of dry dipterocarps at Huai Kha Khaeng Wildlife Sanctuary, Uthai Thani Province, Thailand. We consider the poorly developed corona to be a primitive morphological character state in Peliosanthes. Peliosanthes gracilipes and P. minutiflora also have coronae that are less developed than those of their congeners, but the plants from Huai Kha Khaeng differ from the former species in producing a densely flowered inflorescence (Fig. 1c), a small pistil and abaxially greenish purple and adaxially yellow erect tepals (Fig. 1b, c), and from the latter by the indistinct aerial stem. We therefore consider the plants to represent an undescribed species and name them here.
**Peliosanthes brevicoronata** M. N. Tamura & Poopath, sp. nov. —Figs. 2–3

Similar to *P. gracilipes* and *P. minutiflora* in sharing a poorly developed corona, but differing from *P. gracilipes* in its densely flowered inflorescence, small pistil, and abaxially greenish purple and adaxially yellow erect tepals, and from *P. minutiflora* by the indistinct aerial stem.


Herbs, perennial, evergreen. Rhizome vertical or descending, slightly moniliform, 1.9–4.7 cm long, 2–6.5 mm in diam. Roots to 3.2 mm in diam. Sheaths enveloping base of petioles and a scape several, scarious. Foliage leaves 1–5, glabrous, basal; petiole 14–30 cm long, 1.2–3.0 mm broad; blade linear-oblong to narrowly oblong, 15.5–22.5 cm long, 3.2–7.1 cm broad, base attenuate and decurrent on petiole, margin slightly scabrous, apex acuminate, subulate veined, longitudinal veins 7–13, transverse veinlets between longitudinal veins conspicuous. Scape 3.3–5.0 cm long, 1–2 mm in diam., purple, glabrous; sterile bracts 2–7, linear to narrowly lanceolate, 7.3–15.5 mm long, white, scarious. Inflorescence terminal, racemose, 6–7 cm long, glabrous, 40–60-flowered; axis purple, often apically greenish. Flowers solitary, bisexual, descending; pedicel 1.2–2.0 mm long, purple; bracts and bracteoles linear to narrowly lanceolate, 1–9 mm long (bracts), to 1.5 mm long (bracteoles), white, scarious. Perianth 3.7–4.8 mm long; outer lobes 3, 3.1–3.6 mm long, 2 mm broad, erect, abaxial surface purple, more or less greenish centrally, ad-
FIG. 2. Peliosanthes brevicoronata M. N. Tamura & Poopath. a, Habit (Tamura et al. 20488, KYO); b, flowering portion of raceme [from material kept in alcohol (Tamura et al. 20488)]; c, abaxial surface of foliage leaf (Tamura et al. 20488, KYO).
axial surface yellow; inner lobes 3, 2.8–3.3 mm long, 2 mm broad, erect, abaxial surface greenish purple, more or less yellowish apically, adaxial surface yellow. Stamens 6; filaments basally fused into a corona; corona epitepalous, 0.6 mm high, greenish purple; apical free part of filaments 0.9 mm long (outer) and 1.2 mm long (inner), yellowish green; anthers 6, ovoid, 0.7 mm long. Ovary 1.1 mm long, half-inferior, 3-locular; ovules basal, 0.7 mm long, 0.3 mm in diam. Style 1, 1.1 mm long. Anthesis March.

Distribution and habitat. Known only from the type locality; semi-shaded, mesic, humus-rich, gallery evergreen forest among stands of dry dipterocarps.


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References


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