



Peliosanthes longicoronata (Asparagaceae), a new species from central Vietnam

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Peliosanthes longicoronata is described and illustrated as a new species from central Vietnam (Ha Tinh Province, Vu Quang National Park). The new species has comparatively long staminal corona, that is mentioned in the specific epithet. The new species resembles *P. teta*, but differs in its solitary, upward-facing flowers and a white, tubular, distally incurved staminal corona.

Key words: Asparagaceae, *Peliosanthes*, new species, Vietnam, Vu Quang

Introduction

Peliosanthes Andrews (1810: 605) is a genus of herbaceous plants belonging to Asparagaceae: Nolinoideae (Chase *et al.* 2009). Currently more than 70 species of this genus are recognized (IPNI 2018) from subtropical to tropical Asia (Jessop 1976). Many species of *Peliosanthes* have recently been described from Cambodia, India, Laos and Vietnam (Tanaka 2004, Averyanov & Tanaka 2012, Averyanov *et al.* 2013, 2015a, 2015b, 2017, Vislobokov 2016, Nguyen *et al.* 2017, Roy *et al.* 2017a, 2017b). In August 1999, one of us (ANK) took part in a botanical exploration of the Joint Russian-Vietnamese Tropical Scientific and Technological Center in central Vietnam, during which he encountered an unusual, interesting plant of *Peliosanthes*. It was collected living to ascertain its taxonomic identity. The living material has been cultivated in the greenhouse of the Main Botanic Garden of Russian Academy of Sciences in Moscow. After a close study, we found that the plant is unique in several respects, differing from any other congeners so far known, and proved to be a new species, here named *Peliosanthes longicoronata*. In this paper we describe the new species with phenotypic, phenological, and phytogeographical data and discuss its taxonomic status. In the morphological description of the new species, mean values are given in square brackets after ranges of variation of quantitative characters. In plants of *Peliosanthes* (e.g. *P. longicoronata*), the basal part of a perigone is often elongate, forming a pedicel-like stalk, which has often been erroneously taken as a part of pedicel. Since it is basally jointed with a true pedicel, forming a constriction, we can readily distinguish the two parts externally (Fig. 1c, f). In the description below, these two parts are distinguished.

Description of the new species

Peliosanthes longicoronata Vislobokov & N.Tanaka, sp. nov. (Fig. 1)

Morphologically most similar to *Peliosanthes teta* Andrews (1810: 605), differing by its solitary, upward-facing flowers each with an upwardly curving stalky floral base and a white, tubular, distally incurved staminal corona.

Type:—VIETNAM, Ha Tinh Province, Vu Quang district, Vu Quang National Park. Collected in nature in August 1999 by *A.N. Kuznetsov* 1999.13445. The herbarium specimen prepared from a living cultivated plant in November 2017 by *M.S. Romanov & N.A. Vislobokov* 17001 (holotype MW!).

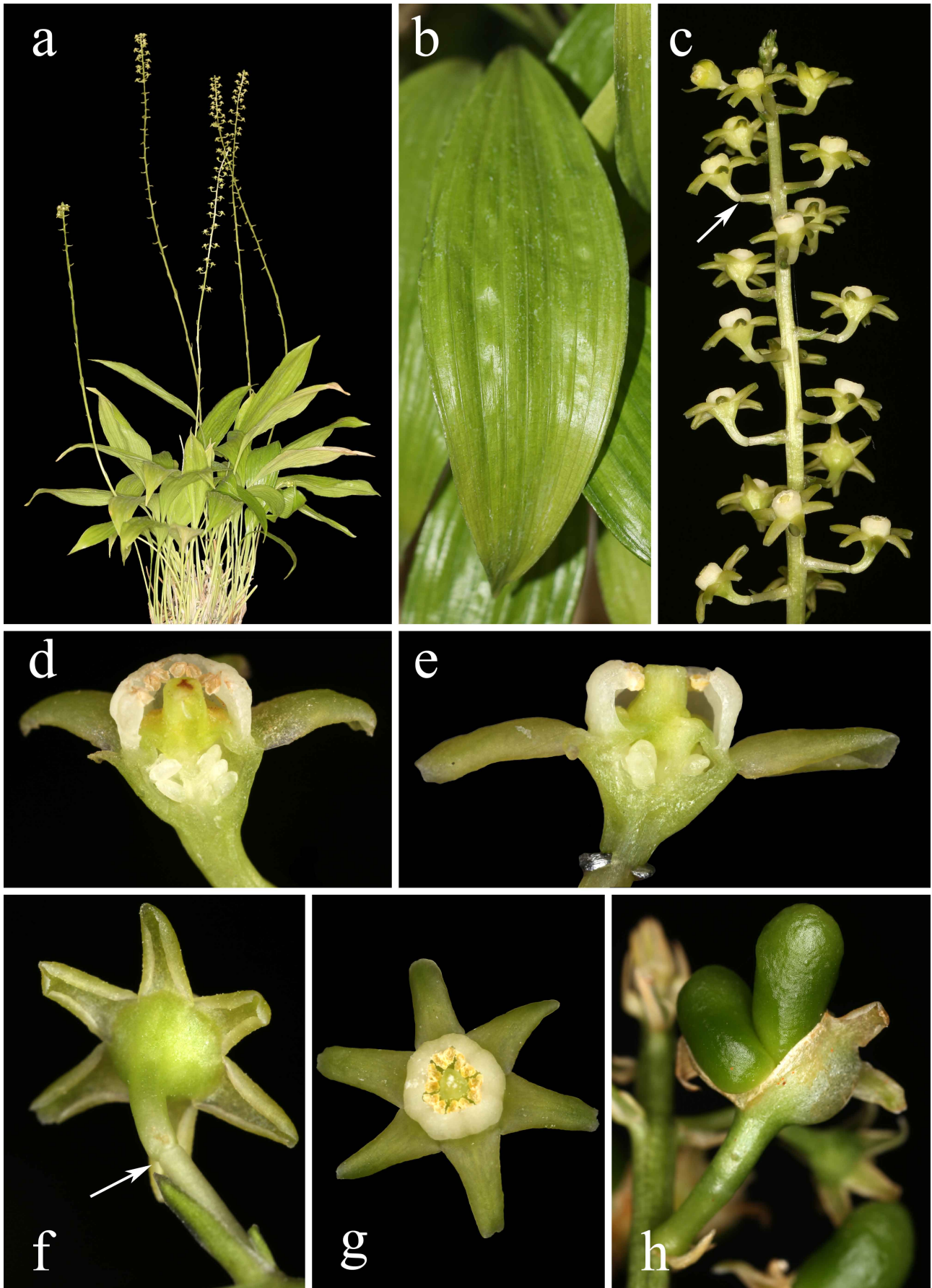


FIGURE 1. *Peliosanthes longicoronata*. a. flowering plant; b. leaf blade, adaxial view; c. inflorescence (the constriction is arrowed); d, e. longitudinal section of flower; f. flower, view from below (the constriction is arrowed); g. flower, view from above; h. seeds emerging from ovary. (Images provided by M.S. Romanov, illustration designed by E.A. Kuzmicheva).

Herbaceous evergreen perennial (Fig. 1a). Rhizome short, plagiotropic or ascending, \varnothing 6.1–7.3 [6.7] mm. Cataphylls purplish, oblong, papyraceous, up to 4.5–7.8 [6.2] cm long. Roots gray, wiry, \varnothing 2.1–2.6 [2.3] mm, densely covered with light gray root hairs. Leaves green, ascending or arching, petiolate (Fig. 1a, b). Petiole rigid, adaxially sulcate, 10–18 [16] cm long, \varnothing 1.7–2.1 [1.9] mm. Lamina elliptic, basally cuneate and distally acuminate, 14–16 [15.2] cm long, 3.2–4 [3.6] cm wide, glabrous, with 7–9 prominent longitudinal veins (including the midvein), crossed sub-perpendicularly with many unbranching transversal veinlets (Fig. 1b). Inflorescence a raceme, 36–69 [52] cm tall; scape (peduncle) erect, 24–38 [31.7] cm long, \varnothing 1.6–2.3 [2] mm, with 12–14 greenish, lanceolate, sterile bracts (without flowers in axils) 7.5–8.6 mm long, 1.2–1.5 mm wide; rachis 12–23 [17.5] cm long bearing 26–49 flowers (Fig. 1a, c). Floral bracts light green, narrowly lanceolate-triangular or subulate, 2.7–6.9 [4.5] mm long, 0.8–1.4 [1] mm wide. Flowers solitary, facing upward, pedicelate. Pedicel horizontal or subhorizontal, straight, green, 2.7–4.6 [3.9] mm long, at base with single lanceolate or subulate bracteole 1.1–1.5 [1.4] mm long, 0.2–0.4 [0.3] mm wide (Fig. 1d–g). Perigone completely light green, funnel-shaped, 3.5–4.5 [4.2] mm long, \varnothing 6.8–8 [7.4] mm; basal syntepalous part obconic-crateriform, elongating below like a stalk, 3.6–4 [3.8] mm long, \varnothing 2.3–2.8 mm, including the basal stalky part 1.4–2.2 [1.9] mm long, \varnothing 0.5–0.7 [0.6] mm in distal part, curving upward; lobes 6, arranged in two whorls, homomorphic, somewhat recurved, narrowly triangular, revolute laterally, 2.3–2.6 [2.5] mm long, 1.2–1.7 [1.5] mm wide. Stamen filaments white, fleshy, fused forming cylindrical corona-like structure 1.3–2 [1.5] mm high, \varnothing 2.1–2.6 [2.4] mm; anthers 6, at the radii of tepals, white-yellowish, sessile, dorsally adnate to upper portion of corona, 0.5 mm long, introrse, each anther with two elliptic thecae somewhat divergent and upwardly facing in lower part when dehisced. Style green, cylindrical, ca 1 mm high. Stigma greenish, flat, slightly 3-lobed, \varnothing 0.5 mm. Ovary semi-inferior, globular, 3-locular, 1.3 mm high. Seeds green when young, elliptical, 16.2–16.4 [16.3] mm long, \varnothing 9.9–10.6 [10.3] mm (Fig. 1h).

Additional specimen examined:—Living plant in Main Botanic Garden of Russian Academy of Sciences (Moscow), garden number: 1999.13445, collected from type locality in August 1999. The herbarium specimen prepared from the living cultivated plant in February 2017 by *M.S. Romanov & N.A. Vislobokov 17002* (MW!).

Etymology:—The specific epithet refers to the comparatively long staminal corona.

Flowering:—From November to February in a greenhouse.

Fruiting:—April in a greenhouse.

Distribution:—*Peliosanthes longicoronata* is known only from the type locality. Presumably it is a local endemic of central Vietnam.

Taxonomic relationships:—*Peliosanthes longicoronata* appears most closely allied to *P. teta* in having an inflorescence exceeding the leaves, columnar styles, and thecae somewhat diverging and facing upward in the lower part, but differs markedly by the solitary (vs. 1–5 in axils of bracts), upward-facing (vs. horizontal to obliquely upward-facing) flowers with an upwardly curving, basal stalky part of perigone, white, tubular, distally incurved (vs. usually purple, broadly conic) staminal corona, and strongly revolute (vs. not or sometimes weakly revolute) perigone lobes. It also approaches *P. tonkinensis* Wang & Tang (1936: 83) described based on the specimen *B. Balansa 280* (in Herbarium Kew: K000099379!) from northern Vietnam by having thecae facing upward in the lower part, but is distinguishable chiefly by the solitary (vs. 2–3), larger flowers (\varnothing 6.8–8 vs. 4.5–5 mm), and higher (1.2–1.7 vs. 0.7 mm), tubular (vs. subtubular-hemispheric) corona. The new species somewhat resembles *P. divaricatanthera* Tanaka (2004: 157) described from central Vietnam and southern China (Yunnan) by having an inflorescence overtopping the leaves and revolute perigone lobes, but is readily distinguishable by the solitary (vs. 1–3) flowers per bract, longer pedicels (2.7–4.6 vs. 2.5 mm), longer basal stalky part of perigone (1.4–2.2 vs. 0.5–1.2 mm), longer perigone lobes (2.3–2.6 vs. 1.4–2 mm), higher (1.3–2 vs. 0.3 mm) and wider (\varnothing 2.1–2.6 vs. 1.5–2 mm) staminal corona, thecae slightly divergent in the lower part (vs. divaricate, upward-facing thecae), and columnar (vs. depressed pyramidal) style.

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