

62. HOLOPOGON Komarov & Nevski in Komarov, Fl. URSS 4: 750. 1935.

无喙兰属 wu hui lan shu

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Archineottia S. C. Chen.

Herbs, small, heteromycotrophic, with short rhizomes and tufted fleshy roots, without green leaves. Inflorescence erect, terminal, racemose, sparsely papillose-pubescent above; peduncle with several tubular sheaths; rachis several to many flowered, sparsely papillose-pubescent; floral bracts membranous. Flowers erect or spreading, resupinate or not, actinomorphic or less commonly zygomorphic; pedicel rather long. Sepals similar, outer surfaces usually sparsely hairy. Petals similar, or central one a modified lip 2-lobed at apex. Column rather long, slightly dilated at apex, with a thick ridge on dorsal surface; anther erect or suberect, attached by a filament to ridge on back of column; pollinia 2, granular-farinaceous, soft, without caudicles or viscidia; stigma terminal; rostellum absent.

Six species: China, NW India, Japan, Russia (Far East); two species (both endemic) in China.

In the opinion of one of us (Chen), this genus is characterized by its very distinct column structure, in which there is a thick ridge on its dorsal surface linked at the upper end by a filament to the suberect anther, and a terminal stigma, but no rostellum. This is a reliable and stable character found in all the species, including those with a modified lip very similar to that in *Neottia*. For a detailed discussion, see Chen and Tsi (Acta Phytotax. Sin. 25: 329–339. 1987).

Two of us (Cribb and Gale) consider *Holopogon* to be congeneric with *Neottia*, and the taxa of the former with actinomorphic flowers to be peloric forms. Our understanding of the genetic control of organ development in orchids can be used to explain how zygomorphic flowers may become “regular” (i.e., actinomorphic) and how floral organs can take on different forms, as when the lip becomes petaloid or a staminode develops as an anther. For further discussion on the occurrence of actinomorphy in the Orchidaceae and other monocot groups with zygomorphic flowers, see Rudall and Bateman (New Phytol. 162: 25–44. 2004).

- 1a. Perianth actinomorphic, with 3 similar petals, without a modified lip 1. *H. gaudissartii*
1b. Perianth zygomorphic; lip subobovate-cuneate or oblong-obovate, distinct from petals 2. *H. smithianus*

1. Holopogon gaudissartii (Handel-Mazzetti) S. C. Chen, Acta Phytotax. Sin. 35: 179. 1997.

无喙兰 wu hui lan

Neottia gaudissartii Handel-Mazzetti, Oesterr. Bot. Z. 86: 302. 1937; *Archineottia gaudissartii* (Handel-Mazzetti) S. C. Chen.

Plants 19–24 cm tall. Rhizome short. Roots tufted, fleshy. Inflorescence reddish brown; peduncle with 3–5 sheaths; sheaths tubular, 1.8–3 cm, membranous, uppermost one bract-like; rachis 6.5–7.5 cm, 10–17-flowered, papillose-pubescent; floral bracts lanceolate, 4–8 mm, membranous, abaxially sparsely pubescent. Flowers erect, not resupinate, actinomorphic, purplish red; pedicel 8–10 mm, slender, papillose-pubescent; ovary ellipsoid, ca. 3.5 mm, papillose-pubescent. Sepals suberect, narrowly oblong, 2.5–3 × 0.7–0.9 mm, with a prominent midvein, outer surfaces slightly pubescent. Petals 3, without a modified lip, similar, narrowly oblong, 2.5–3 × 0.6–0.8 mm. Column erect, 2–2.5 mm including anther, with a conspicuous ridge on dorsal surface; filament relatively short; anther subovoid-oblong, 0.6–0.7 mm; pollinia subelliptic. Fl. Aug.

• Forests; 1300–1900 m. W Henan, Liaoning, C Shanxi.

2. Holopogon smithianus (Schlechter) S. C. Chen, Acta Phytotax. Sin. 35: 179. 1997.

叉唇无喙兰 cha chun wu hui lan

Neottia smithiana Schlechter, Repert. Spec. Nov. Regni Veg. 19: 375. 1924; *Archineottia smithiana* (Schlechter) S. C. Chen; *N. kungii* Tang & F. T. Wang.

Plants 10–29 cm tall, usually growing in clumps. Rhizome short; roots tufted, fleshy. Inflorescence reddish brown; peduncle with 3–5 sheaths; sheaths tubular, 1–4 cm, membranous; rachis 6–8 cm, 15–25-flowered, papillose-pubescent; floral bracts ovate or ovate-elliptic, 6–7 mm, abaxially sparsely papillose-pubescent. Flowers spreading, resupinate, zygomorphic, green; pedicel 3–5 mm, papillose-pubescent; ovary ellipsoid, 3–4 mm, papillose-pubescent. Sepals narrowly ovate-elliptic, 2.5–3 × 0.8–1.5 mm, with a prominent midvein, outer surfaces sometimes sparsely papillose-pubescent toward base; lateral sepals slightly oblique. Petals linear, 2.5–3 × ca. 0.5 mm, with a prominent midvein; lip distinct from petals, subobovate-cuneate or oblong-obovate, 6–8 × ca. 2.5 mm, base contracted, margin sparsely ciliate, apex 2-lobed; apical lobes subparallel, narrowly ovate, divided by a sinus ca. 1.5 × 1 mm; disk with a pair of inconspicuous longitudinal ridges near base. Column slightly curved forward, 2–3 mm; anther suberect; filament conspicuous, ca. as long as anther. Fl. Jul–Sep.

• Thickets, forests; 1500–3300 m. S Shaanxi, SW Sichuan.

