Platanthera pallida (Orchidaceae), a New Species of Fringed Orchis from Long Island, New York, U.S.A.

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ABSTRACT. Reexamination of the species and hybrids of the simple-lipped group of the genus Platanthera sect. Blephariglottis shows that several colonies found on eastern Long Island constitute a new species. Platanthera pallida is described based upon its recurved lip, reflexed lateral sepals, pale cream coloration, and unusual habitat—dry, interdunal hollows. It was previously referred to as P. cristata because of its superficial resemblance to that species and lack of other similar fringed orchises in the northeastern United States.

Platanthera pallida P. M. Brown, sp. nov. TYPE: United States. New York: Long Island, Suffolk County, Montauk, C. S. Bryan, 10 Aug. 1948 (holotype, AMES 65176). Figure 1.

Platanthera ecratae (Michaux) Lindley similis, sed ab ea perianthio in alabastro perpallide aurantiaco post anthesin eburneo, labelloo recurvato ligulato fimbriato, petalis obovatis ad apicem fimbriatis, fimbrias plerumque furtatis, calcari obtuso 5-6 mm longo, sepalo medio integro, sepals lateralis valde reflexis differt.

Plants (20–29)65(–84) cm tall, glabrous and distinctly glaucous; lower leaves 2-3, sheathed, strongly keeled, conuplicate, to 25(–30) cm long and 3(–5) cm wide when flattened; upper leaves reduced to 3-5 linear bracts below the inflorescence. Inflorescence racemose, (18–)24–80(--112)-flowered, (5–)10–20(--27) cm long, 2.5–4 cm diam., densely flowered except in very tall individuals; lower floral bracts usually equal to or often exceeding the pedicellate ovary and decreasing in length upward, about 2.2 cm long. Perianth very pale orange-yellow in bud opening to pale cream, petals and lip closely related taxa by the following key.

Key to the Small-flowered (Lip less than 9 mm long), Fringed Species of Platanthera sect. Blephariglottis of North America

1a. Spur less than 10 mm long; shorter than ovary.
   1b. Lip recurved, lateral sepals reflexed, dorsal sepal entire, spur 5–6 mm long, obtuse;

Illustration. Photograph in Rickett (1966: plate 20) as Habenaria cristata.


Etymology. The term pallida, pale, is chosen for its appropriate description in comparison to P. cristata (Michaux) Lindley and other brightly colored, related species. In the past, these plants have commonly been called the “pale cristata” or “pale fringed orchis.” The latter is recommended for a common name.


Platanthera pallida is distinguished from other closely related taxa by the following key.

2b. Lip projecting forward, lateral sepals erect, dorsal sepal emarginate, spur 7–8 mm long, acute; perianth orange to yellow

3a. Spur 10–15 mm long, exceeding ovary . . . . Platanthera × canbyi (Ames) Luer

3b. Spur greater than 15 mm long; greatly exceeding the ovary; raceme usually 3 cm or more in diameter . . . . Platanthera × bicolor (Raf.) Luer

The simple-lipped, fringed species of Platanthera constitute a significant part of section Blephariglottis, and are some of the showiest members of the Orchidaceae in eastern North America. Of the five species that comprise this group, three, P. blephariglottis (Willd.) Lindley, P. ciliaris (L.) Lindley, and P. cristata, are widespread throughout the East (Luer, 1975), while two, P. chapmanii (Small)
Luer emend. Folsom (Folsom, 1984) and P. integrilabia (Correll) Luer (Zettler & Fairey, 1990), are of restricted and local distribution. Platanthera blephariglottis includes variety blephariglottis, variety conspicua (Nash) Luer, and forma holopetala (Lindley) P. M. Brown (Brown, 1983). Three putative hybrids occur, P. × bicolor (Rafl.) Luer (P. blephariglottis var. conspicua × P. ciliaris), P. × canbyi (Ames) Luer (P. blephariglottis var. conspicua × P. cristata) (Luer, 1975), and P. × channelii Folsom (P. ciliaris × P. cristata) (Folsom, 1984). Several other hybrids have been reported, but none have received binomials. The description of Platanthera pallida (Fig. 1) adds a new species to this list.

Growing among Pinus rigida in dry, interdunal hollows on eastern Long Island, New York, is a Platanthera with small flowers, short spur, and a superficial resemblance to P. cristata. The most obvious difference is the uniform pale cream color of the small flowers. Unlike typical P. cristata in the north, the plants are locally abundant.

Detailed examination and observations of P. cristata throughout its range, including all known populations from Long Island, have been made to see if they reveal morphological differences. Measurements were taken of the critical characters, i.e., petals, sepals, lip, spur, cilia, and column, of 327 herbarium specimens and 128 living specimens, including 78 plants growing on Long Island. Numerous photographs and drawings, published and unpublished, were also reviewed. Special attention was given to those designated as “light yellow or pale” in coloration. With the exception of the plants in question, all specimens and living material examined fell well within the criteria for typical P. cristata (Correll, 1950; Luer, 1975).

Sheviak suspected that the pale plants from eastern Long Island were polyploid and of hybrid origin. He collected material, did a chromosome count, and determined that they are diploid with a count of 2n = 42 (C. Sheviak 1606, NYS).

Herbarium specimens and living plants of the northern hybrids, P. × canbyi, P. × bicolor, and P. ciliaris × P. blephariglottis var. blephariglottis (reported from Michigan), were also examined to see if they might be similar to the Long Island plants. They were found to be distinct in all respects.

Platanthera pallida shows insufﬁcient features to assume its parentage is the same as P. × canbyi. Although the small flower size and pale coloration can be found in many plants of P. × canbyi, the longer spur characteristic of that hybrid is lacking in P. pallida. The reﬂexed sepals and recurved lip, which are critical features of P. pallida, are also present in P. blephariglottis var. blephariglottis. Comparison with plants from Michigan that appeared to be the cross between P. ciliaris and P. blephariglottis var. blephariglottis showed no similarities; the putative hybrids are much larger than P. pallida and the spur much longer, as it is in both parents.

One of the remarkable aspects of P. pallida is the uniformity of its floral morphology. All the critical floral characters, i.e., perianth dimensions, color, positioning of floral parts, have little, if any, variation throughout all populations.

Platanthera pallida occurs as three populations in two sites in the Town of East Hampton, eastern Long Island. The plants appear to have been ﬁrst discovered by Roy Latham in 1926 (Latham, 1940). By 1948, and in subsequent years, the stations had been visited by several botanists and orchid enthusiasts (Lamont et al., 1988).

Latham’s initial site near Montauk supports two distinct current populations. They are separated by nearly ¼ mile of duneland. In each of these populations the plants are widespread and somewhat scattered, but retain their habitat preference. Adjacent to the areas that support P. pallida are numerous swales and bogs. Typical P. cristata, if present, would be found in these wetter areas, as it is in the Pinelands of New Jersey, a region of similar topography. Careful searches have revealed no other species of Platanthera in either the immediate area or for several miles around.

The other population is located west of Napeague Harbor. Several specimens collected by Latham (NYS) in 1928–1929 and simply labeled “Napeague” may be from this site. It was not until 1975 that G. E. Lotowycz found the current site and collected her ﬁrst specimen—as P. cristata—from there. In contrast to the Montauk site, where the plants are widely scattered, here P. pallida is concentrated in a much smaller area and in larger numbers. Again, there are adjacent swales and small bogs, but no other Platanthera species to be found. Companion plants are essentially the same in both locales. Platanthera pallida is consistently observed to be restricted to the oldest, most stable Pinus rigida stands within the dunes.

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