**Habenaria richardiana** (Orchidaceae), a little known endemic orchid from Nilgiri Biosphere Reserve (India)

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**Abstract**

*Habenaria richardiana* Wight is a little known orchid species endemic to Nilgiri Biosphere Reserve, in the Western Ghats, Tamil Nadu (India). A specimen has been collected from its type locality after 48 years. A short description and colour photographs are provided here for easy identification and further collection.

**Résumé**

*Habenaria richardiana* Wight est une orchidée peu connue, endémique de la Réserve Nalgiri Biosphere Reserve, dans les Western Ghats, Tamil Nadu, Inde. Un spécimen a été découvert et collecté dans la localité type, 48 ans après la dernière collecte. Nous proposons ici une courte description morphologique assortie de photographies pour en faciliter l’identification, en vue de futures collectes.

**Keywords**: Anamalais, Fischer, Gamble, ICN, typification.
**Mots clés**: Anamalais, Fischer, Gamble, ICN, typification.
Introduction

Habenaria Willdenow (1805: 44) (Orchidaceae) is a major genus consisting of about 876 taxa (Govaerts et al., 2018; Batista et al., 2013; Prasad & Venu, 2015) dispersed through the tropical and subtropical regions of the Old and New Worlds (Pridgeon et al., 2001) with centres of diversity in Brazil, Southern and Central Africa and East Asia (Batista et al., 2013). Of the total number of species recorded in India (ca 72), 45 species are found in the Western Ghats (Kumar et al., 2016) and 16 species are reported from Nilgiri hills (Joseph, 1987). Among them, 30 species are endemic to India and 21 species are endemic to the Western Ghats (Misra, 2007; Sathish Kumar & Manilal, 1994; Prasad & Venu, 2015; Kumar et al., 2016).

During the systematic studies on the plants endemic to the Nilgiri Biosphere Reserve, the senior author collected an interesting Habenaria species in high altitude grasslands of the Blue Mountains (Nilgiri). After detailed studies of literature (Wight, 1852; Hooker, 1890; Fischer, 1928; Joseph, 1987), and of herbarium specimens, it was identified as Habenaria richardiana Wight (1852: 14).

This species was first collected by Robert Wight. Based on this collection he described this species in 1851 in his work Icones Plantarum Indiae Orientalis. After that, three collections are available at MH: one was collected in 1883 by an unknown collector from Doddabetta, Nilgiris without collection number; a second one was collected in the same year by Gamble (Collection Number 13098) from Lovmon Peak, also in Nilgiris; however the latter was first identified by Gamble as H. decipiens Wight (1852: 14) now considered as a synonym of H. longicornu Lindley (1835: 322); later it was correctly identified as H. richardiana by C.E.C. Fischer. The third specimen was collected by Vajravelu from Viewpoint, Kodanad, Nilgiris in 1970. Thereafter it has not been collected nor reported from the Nilgiris.

Robert Wight mentioned its occurrence in Anamalais but it is uncertain because there is no representative collection from that place till now. The present collection represents the rediscovery of the species after a lapse of 48 years, from the type locality.

There are two herbarium sheets at Kew collected by Robert Wight from the Nilgiris for the name Habenaria richardiana. The locality name (Neilgherries, Nilgiris) is mentioned in the protologue. From the two herbarium sheets (K000247430! & K000247431!), it is clear that each of them may be the original material used by Robert Wight while describing this species. In
accordance with to the Article 9.3 & 9.4 (ICN, 2018), the first material from the left hand side present on the sheet K000247430 is here designated as a lectotype because it matches well with the protologue and it contains all the parts viz. tuber to the flowers (Fig. 1).

Taxonomic treatment

*Habenaria richardiana* Wight, *Icones Plantarum Indiae Orientalis* t. 1713 (1852); Fischer, *Flora of Presidency of Madras*: 1470 (1928 - reprint edition 3: 1027 [1957]); Joseph, *Orchids of Nilgiris* 87 (1987). **Type:** India, Tamil Nadu: Nilgiri District, s.n. s.d. Robert Wight (lectotype K000247430, first material from the left hand side, here designated; isolectotype K000247431, second material from the left hand side, here designated). (Fig.1).

Terrestrial herbs, up to 15-25 cm high, stem short, leafy at base. Tubers two, oblong, ca. 3 × 1 cm. Leaves alternate, simple, 4-6 × 1-1.5 cm, sessile, ovate-lanceolate, membranous sheathing at base, apex acute-acuminate, channelled, leaf margin entire. Inflorescence 5-15 cm, loose spike 6-8 cm long, 8-12 flowered. Flowers white, 2 cm diam., bisexual, zygomorphic. Bracts ca. 2 × 0.5 cm, ovate-lanceolate, apex acuminate, shorter than the ovary. Dorsal sepal ca 0.6 × 0.4 cm, ovate-cordate, cucullate, apex acuminate, 3-5 nerved, margin entire. Lateral sepals 0.7-0.9 × 0.5-0.6 cm, slightly pubescent, oblong-lanceolate, spreading, apex acuminate and reflexed, margin entire. Petals 0.5-0.7 × 0.3-0.5 cm, ovate-lanceolate, apex obtuse, margin slightly ciliate. Lip 0.6-0.9 × 0.3-0.5 cm, fan shaped, trilobed, side lobes fimbriated, middle lobe slightly longer and sometimes smaller than side lobes; spur 2.5-3 cm, longer than the ovary, with an upper part white and a lower part green, cylindrical, clavate at apex, decurved. Ovary ca 1.5 cm long, pendulous (Fig.1).

Flowering: August to October.

Habitat: *Habenaria richardiana* is restricted to high altitude grasslands above 2000 masl.

Conservation Status. The species is restricted to high altitude grasslands of Nilgiri district of Tamil Nadu state. The senior author has made extensive exploration in Nilgiri Biosphere Reserve during the years 2012-2018 and located a single population with less than twenty individuals. Before this, we can register only three collections from Nilgiris in the year 1850 (Robert Wight), 1883 (Gamble) and 1970 (Vajravelu). During the documentation of Orchids of Nilgiris by Joseph (1987) the species could not be collected. Based on the study of literature, herbarium data and field observations from 2012 to 2018, *Habenaria richardiana* is currently categorized as Critically Endangered: D (IUCN 2012).

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**Literature Cited**


