INTRODUCTION

A specimen of Habenaria Willd. was collected in central Nepal in September 2013 that did not match any species currently known from this country. Collections of a very similar plant were later made in two separate localities in northern Thailand, and these could also not be referred to any species previously found in Thailand. After examining literature and herbarium specimens of surrounding countries, the three plants could be identified as H. iyoensis (Ohwi) Ohwi ex Chin S.Chang, H.Kim & K.S.Chang from Taiwan, southern Japan and southern Korea, based on morphological characters of habit, inflorescences and flowers. We report on this new distribution record below.

Habenaria is the largest genus of the primarily terrestrial orchid subfamily Orchidoideae, comprising about 870 species which are distributed in the subtropical and tropical parts of the world (Pridgeon et al., 2001; Govaerts et al., 2017). Areas of particularly high species richness are sub-saharan Africa and Brazil, but the genus is also well represented in tropical Asia with nearly 200 species (Govaerts et al., 2017).

Habenaria iyoensis (Orchidaceae), a new record for Thailand and Nepal

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ABSTRACT

Habenaria iyoensis (Ohwi) Ohwi ex Chin S.Chang, H.Kim & K.S.Chang is newly recorded from Thailand and Nepal. A description and illustrations are provided.

KEYWORDS: Habenaria iyoensis, Thailand, Nepal, new distribution record.

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TAXONOMIC TREATMENT


In Thailand, Habenaria is represented by 48 species, which are mainly found in savanna or forested habitats (Kurzweil, 2011, 2017; Makerd et al., 2013). Several studies on the taxonomy of this genus in Thailand have been undertaken (Seidenfaden, 1977; Kurzweil, 2009, 2011, 2017), but occasionally new species or new distribution records are still found in this country. There are currently 21 species of Habenaria known from Nepal (Kolanowska et al., 2016; Rokaya et al., 2013).

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Slender terrestrial herb, 10.5–33 cm tall, glabrous. Tubers undivided, to 3 × 0.8 cm. Cataphylls 2–3, elliptic-lanceolate, apex subacute to shortly acuminate and recurved, tubular, sheathing, to 2.5 cm long, sometimes partly withered during flowering. Leaves 4–6 in a basal cluster, spreading, sessile, lanceolate, subacute or acute and occasionally mucronate, 8–14 × 1.2–2.4 cm, margins entire but papillose, veins not prominent. Inflorescence: peduncle cylindrical, slender, 1–3 mm in diameter; sterile bracts 2–4, broadly lanceolate, long-acuminate, 1.4–2.5 × 0.5–0.8 cm, not sheathing, subfoliaceous or foliaceous, margins entire but papillose; rachis (2.5–)9–14 cm long, with 3 to 20 laxly arranged flowers; lower floral bracts ovate-lanceolate, tapering from a broad base, acute to long-acuminate, 10–13 × up to 5 mm, shorter than the ovary, margins entire and papillose like leaves but papillose more densely arranged. Flowers resupinate, ca 17 mm across, light yellowish-green. Median sepal erect, ovate-elliptic, naviculate, obtuse or shallowly retuse, 6–7.2 × 4.5–5 mm, 2–3-veined, margins entire and sometimes pale, margins shortly and irregularly papillose towards the apex; lateral sepals spreading, descending, elliptic to lanceolate-oblong, acute or obtuse, 6.5–7.1 × 2.6–3.2 mm, 3-veined, margins entire and decurved distally, sometimes pale. Petals connivent with the median sepal and forming a hood together with it, lorate with pronounced semi-ovate basal posterior lobe and smaller basal anterior lobe, obtuse, 6.2–7 × 1.2–1.7 mm, 2-veined or veins not significant. Lip 3-lobed from the base, spurred, with an obscure collar in front of the spur mouth; side lobes borne at right angles to the midlobe, transversely divaricate, linear and attenuate with obscure basal posterior lobes to 0.5 × 0.5 mm, acute, 12–13 × 0.8–1.2 mm, semi-terete, longer than the mid-lobe, curved upwards distally; mid-lobe descend linear, terete, obtuse, 6.5–8 × 1–1.3 mm; spur descendent and bent forwards, cylindrical, obtuse, to 31 mm long and 1.3 mm thick, longer than and close to the ovary. Column 3–3.8 mm long, anther loculi erect, parallel, to 2.5 mm long, narrow basal thecae extensions to 2 mm long, connective short and rather broad, central rostellum lobe wide and half as long as anther loculi, stigma stalks short, rather thick, ca 1.8 × 0.8 mm. Ovary indistinguishable from pedicel, 13–15 mm long and 1.5–2 mm in diameter, curved, with insignificant narrow neck [based on the Nepalese and Thai specimens].

Thailand.— NORTHERN: Mae Hong Son, 2014 (?), Pingyot 19(QBG, QBG [spirit]), Tak, Umphang, Doi Hua Mot, ca 1000 m, 30 Aug. 2014, Watthana 4211 (QBG, QBG [spirit]).

Nepal.— EASTERN: Ilam, Kolbung, Aug. 2013, 1700 m, Raskoti 001399 (KATH).

Distribution.— Habenaria iyoensis (Ohwi) Ohwi ex Chin S.Chang, H.Kim & K.S.Chang is known from Taiwan, southern Japan and South Korea (Ohwi, 1965: 329; Su, 2000: 915; Chen & Cribb, 2009: 158; Govaerts et al., 2017); it is here newly recorded from Thailand and Nepal which is a considerable range extension. A distribution area encompassing Nepal, south-east Asia and Taiwan is not unknown in the orchid family. Examples of orchid species with this kind of distribution include Bulbophyllum affine Wall. ex Lindl., Calanthe tricarinata Lindl., Cremastra appendiculata (D.Don) Makino, Cymbidium lancifolium Hook., C. macrorhizon Lindl., Goodyera foliosa (Lindl.) Benth. ex C.B.Clarke, Habenaria dentata (Sw.) Schltr., Herminium lanceum (Thunb. ex Sw.) Vuijk, Liparis boottonensis Griff., L. nervosa (Thunb.) Lindl. and Phaius flavus (Blume) Lindl.; most of these are terrestrial species. It is apparent that in a distribution area ranging from the Himalayas eastwards, Taiwan is often at the end point (P. Ormerod, pers. comm.). The disjunct distribution of H. iyoensis is particularly interesting. However, the plants of this species are not very conspicuous, and may simply have been overlooked in other regions. It is also possible that plants were misidentified, or mistaken for different species and therefore not collected.
Etymology.— The species is named after the type locality in Iyo Province, a former province of Japan in an area which is today Ehime Prefecture on the island of Shikoku.

Ecology.— In Thailand the plants were found growing terrestrially in open forest on limestone hills. The Nepalese plant was growing at an elevation of 1700 m as a low-level epiphyte on tree trunks in subtropical broadleaf forest. In other parts of the distribution area the plants grow terrestrially on rocky slopes and roadsides in open forest below 700 m (Su, 2000: 916; Lin, 1977: 700 [as Habenaria rupestria(sic)]).

Phenology.— Our plants from Thailand and Nepal were flowering at the height of the rainy season in late August. Plants in Taiwan flower in...

Conservation.— No information regarding the conservation status of the species using IUCN criteria is available as yet (IUCN, 2017). At the single known locality in Nepal, 15 plants were found on the trunks of three trees. Very few plants were observed at the two localities in Thailand. In Japan the species was referred to as ‘very rare’ (Ohwi, 1965: 329).

The species is very widespread, but is currently only known from widely scattered localities in the Himalayas, and in south-eastern and north-eastern Asia. Based on our assumption that its distribution area may be incompletely known we interpret its conservation status currently as ‘data deficient’. However, threat level is probably not high. The flowers are not very attractive and rather small, and plants are therefore not likely to become the target of collectors.

Notes.— From our examination of several descriptions (Ohwi, 1936: 382, 1965: 329; Su, 2000: 915; Lin, 1977: 204; Chen & Cribb, 2009: 158), illustrations (Ohwi, 1936: fig. 3; Lin, 1977: 205; Chen et al., 2010: 210; Nakajima, 2012: 85) and digital copies of herbarium specimens at KPM and TAI, it is apparent that the morphological variation is extensive in this species. Variation is observed mainly in the leaf size; the number, size and orientation of the sterile bracts on the peduncle; the length of the rachis relative to the length of the peduncle; the number of flowers in the inflorescence; as well as the size of the flowers.

In the gynostemium, all three specimens have prominent lobes situated below the stigma stalks which are extensions of the basal portion of the auricles. The pronounced nature of these structures appears unusual in the genus Habenaria, but its distribution in the genus and extent of formation has not been assessed yet. These lobes of the gynostemium of *H. iyoensis* have also been illustrated in Japanese and Taiwanese specimens by Maekawa (1971: fig. 24C) and Lin (1977: 205, figs. 15, 19 & 46) [as *H. rupestris*(sic)]. Morphologically, these lobes are reminiscent of structures labelled “b?” in some African *Habenaria* species where they have been interpreted as staminodial structures (Kurzweil & Weber, 1992: 51).

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