Zeuxine longilabris (Orchidaceae): a new record for the flora of Uttar Pradesh, India

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Abstract

Zeuxine longilabris, a terrestrial orchid, is known to show wide global distribution. The species also occurs in India but, so far, it has not been recorded from Uttar Pradesh. In our survey the species was found on the forest floor of natural sal-dominated forest in Sohagi Barwa Wildlife Sanctuary of north-eastern Uttar Pradesh. The species stands as a new addition and thus a new distributional record to the flora of Uttar Pradesh. In this short communication the species is described with the help of suitable illustrations and photographs to facilitate the identification in the field.

Résumé

Zeuxine longilabris, une orchidée terrestre, est connue pour avoir une large distribution mondiale. L'espèce est également présente en Inde mais, jusqu'à présent, elle n'a pas été observée en Uttar Pradesh. Dans notre étude, l'espèce a été trouvée sur le sol d'une forêt dominée par le sal (Shorea...
Dans le réserve naturelle de Sohagi Barwa, au nord-est de l'Uttar Pradesh. Cette découverte se présente comme une nouvelle addition à la flore de l'Uttar Pradesh et élargit l'aire de distribution de l'espèce. Dans cette courte note, l'espèce est décrite à l'aide d'illustrations et de photographies appropriées pour faciliter l'identification sur le terrain.

Mots clés : orchid, Sohagi Barwa Wildlife Sanctuary.

Keywords: orchidées, Réserve naturelle de Sohagi Barwa.

Introduction

Zeuxine Lindley est un genre de grande taille composé de environ 80 espèces (Chen et al., 2009) appartenant à la famille Orchidaceae Jussieu, dont 19 espèces sont présentes en Inde (Bhattacharjee et al., 2011). La plupart des espèces sont largement distribuées de l'Afrique tropicale à l'Asie centrale et l'ouest du Pacifique, principalement croissantes en prairies humides (Govaerts et al., 2018; http://www.eol.org/data_objects/31893912). Pendant l'inventaire du paisage forestier (24 février & 7 mars 2009) de la Réserve naturelle de Sohagi Barwa (27.28°N & 83.59°E à environ 95 m d'élévation), un petit nombre d'individus d'une espèce Zeuxine ont été observés sur le sol forestier sous le sous-bois de la forêt de sal (Shorea robusta C.F. Gaertner) -dominée de la Terhighat et Kushmahawa areas under Lachhamipur et South Chowk Ranges de la Division Forestière de Gorakhpur. Cependant, les sites sont politiquement inclu dans le District de Maharajganj de l'Uttar Pradesh (Fig. 1). Après une étude critique de la littérature (Hooker, 1894; Trimen, 1885; Punekar, 2002; Bhattacharjee & Sabapathy, 2010) et comparaison de notre plante avec l'image en ligne de l'herbarium disponible sur Digital Flora of Karnataka (http://florakarnataka.ces.iiisc.ernet.in/hjcb2/herbsheet.php?id=3079&cat=1), Kew Herbarium London (http://apps.kew.org/herbcat/getImage.do?imageBarcode=K000895717), Muséum National d'Histoire Naturelle, Paris, France (http://coldb.mnhn.fr/catalognumber/mnhn/p/p00345084), le spécimen collecté a été identifié comme Zeuxine longilabris (Lindley) Trimen. Le sondage des travaux floristiques régionaux publiés préalablement (Duthie, 1915; Kanjilal, 1933; 1966; Srivastava, 1976; Mishra, 1978; Shukla & Pandey, 2000; Saini et al., 2010; Kumar et al., 2015) a révélé que la plante n'avait pas encore été signalée de l'Uttar Pradesh. Cependant, un spécimen de plante a été collecté en avril 1975 dans la zone de Nagwa, qui est maintenant le District de Madhoulia Forest Range de la Réserve naturelle de Sohagi Barwa Wildlife Sanctuary, par Anis Ahamad Ansari et a été soumis à l'herbarium de
the Department of Botany, Gorakhpur University (now D.D.U. Gorakhpur University) with deposit number G.P.U. 2986 (Fig. 2). At that time the plant could not be identified. This species has been reported from eight States in India, namely Arunachal Pradesh, Assam, Karnataka, Kerala, Maharashtra, Tamil Nadu, Tripura and West Bengal along with Nepal, Sri Lanka, Cambodia, Myanmar and Thailand (Govaerts et al., 2018). Our voucher specimen has been deposited in the angiospermic herbaria of the Department of Botany, D.D.U. Gorakhpur University (DDUGKP-AH), Gorakhpur with deposit no. DDUGKP-AH 035.

Fig. 1. Location of Sohagi Barwa Wildlife Sanctuary in Uttar Pradesh
2 red spots within sanctuary showing places of occurrence of Zeuxine longilabris

Taxonomic description
Fig. 2. Herbarium specimen
submitted by Anis Ahamad Ansari in the herbarium of the Department of Botany, Gorakhpur University (deposit number G.P.U. 2986)


Type: Sri Lanka, near Julio Mts, *Macrae s.n.* (K).

Terrestrial leafy herb, perennial, rhizomatous, 13-35 cm tall; rhizomes up to 3-5 cm long, 4-10 mm thick, fleshy, greenish brown, swollen at the nodes with thick roots; roots 1-3 cm long, 2-4 mm thick, brown black, fleshy with distinct root-hairs; stems 4-6 cm long, 1.5-3 mm thick, brownish green turning into copper white when dry, erect above, unbranched, tomentose, with a few membranous sheaths formed by leaf-bases; leaves generally 3-5, crowded at the base of the inflorescence, yellowish green or olive green, subcoriaceous, with whitish green midrib often becoming paper-like membranous on drying, 3-5 × 1.2-2 cm, ovate-lanceolate, acute, entire, 7-nerved, mid nerve prominent with 3 faint, lateral ones; petioles loosely sheathing the base of the stem, up to 2 cm long with several nerves; inflorescence a terminal raceme, laxly 4-8 flowered, greenish brown, pubescent, peduncle 8-22 cm long, terete, densely and retroversely villous tomentose; floral bracts 0.5-2.5 cm long, ovate, lanceolate, acute, entire, 3-nerved; flowers 1-2 cm long (including ovary), resupinate; sepals oblique, greenish brown, 1-nerved, the dorsal one 7 × 5 mm, concave, ovate rhombic, the lateral ones 5 × 2.5 mm, ovate, subfalcate; petals greenish white, 7 × 2.5 mm, slightly shorter than the dorsal sepal; lip white, longer than the sepals, 11 mm long, claw 3-5 mm long with a small globose pouch-like sac at the base, pubescent outside, conduplicate, spreading into a broad white limb which is about 8 × 4-6 mm and 2-lobed, lobules obliquely oblong, irregularly toothed on the outer margin; pollinia 2, pyriform, clavate or oblong, lamellate with an oblong tapering caudicle and a small, ovate-orbicular gland; stigmatic surfaces 2, pale brown in color; ovary brownish green, 1-1.5 cm long with long woolly hairs. Fig. 3 & 4.
Fig. 3. *Zeuxine longilabris*
A. Habit; B. A single flower; C. Sepals and petals with lip (Dr. Balmukund Chaurasia)
Fig. 4. *Zeuxine longilabris*
A. plant in natural habitat; B. enlarged view of flower; C. uprooted whole plant; D. enlarged view of rhizome (Photo: Dr. Balmukund Chaurasia)
Other specimens examined: India: Uttar Pradesh, Maharajganj, Terighat Forest (within Sohgi Barwa Wildlife Sanctuary) 07.03.2009, B. Chaurasia DDUGKP-AH 035 (DDUGKP); Karnataka, Mysore, Yethinahalla, 11.03.1971, T.P. Ramamoorthy, HFP 1476 (CES, IISc., Bangalore); Karnataka, Mysuru, Stream before Devalkore, 28.01.1971, T.P. Ramamoorthy, HFP 1383 (CES, IISc., Bangalore); Malabar, Concan, J.E. Stocks & J.S. Law s.n. (P 00345084); Sri Lanka: J.D.H. Hooker 332 (K); 13.03.1985, J.G. Champion s.n. (K 000895715); J.G. Champion s.n. (K 000895716); 1829, J. Macrae 4 (K 000895717).

Common English name: Long-lipped Zeuxine.

Habitat and Ecology: The species is found growing among decaying leaves and loamy soil of the moist forest floor under the shade of understorey vegetation of sal-dominated forests.

Flowering: February–March.

Uses: Entire plant is used to prepare medicine for whooping cough by the Kadar tribe of southern India (Rajendran et al., 1997).

Occurrence & conservation: The plant was found at Terhighat and Chowk areas (Fig. 1) during the dry period of winter (February–March 2009). A trip was made to the same localities during the same period the following year. The species was present in Terhighat area but it could not be found in the Chowk area. The sites were visited for the third time in 2011. This time the species was found but about 6 km away from the original site in Terhighat. It could not be traced at Chowk site. The species, evidently, is uncommon across the region. Due to high human pressure and disturbances such as unregulated forest destruction, live-stock grazing, recurrent fire and urban expansion in the area, the species habitat is largely fragmented and might have led to the rapid depletion of orchid habitats and orchid populations. This may result in local extirpation of the species. Thus, its habitat needs special attention for its conservation in this region.

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References


