Short communication

Rediscovery of *Dendrobium angulatum* Lindl. (Orchidaceae), from Bngladesh after 198 years

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[Accepted: 30 June 2020]

[Cite as: Sourav MSH, Anwar KB & Sultana M (2020) Rediscovery of *Dendrobium angulatum* Lindl. (Orchidaceae), from Bngladesh after 198 years. *Tropical Plant Research* 7(2): 326–330]

INTRODUCTION

The genus *Dendrobium* Sw. is one of the largest and the most widespread genera in the Orchidaceae with about 800–1400 species (Moudi *et al.* 2013). A total of 188 species of orchid so far recoded from Bangladesh and rich species diversity is found in the genera *Dendrobium* with 27 species (Rahman *et al.* 2017). *Dendrobium angulatum* Lindl. is a poorly known species in Bangladesh and there was only a reported sample preserved in Kew herbarium which was collected by De Silva in 1821 (Rahman *et al.* 2017, Rashid *et al.* 2017).

Sangu Reserve Forest (SRF hereafter) is located in the south of Boro Modok in Thanchi Upazila of Bandarban District, Bangladesh (Fig. 1). The SRF still consists of untouched deep forest patch and remarkable plant species. Due to political instability and the general remoteness of this region, the flora of SRF remains the least explored in that area. Therefore, we conducted an exploration focusing particularly to know the flora, fauna along with river and riverine life that associated with this remote forest during February 2019.

During random walking inside the forest, an orchid plant without flowering was found on a branch of huge tree species of the genus *Dipterocarpus* placed down on the forest floor (Fig. 1). The tree was found inside the forest as chopped down by an unknown and illegal wood collector. Few living plants have been collected for further investigation about flowering, as a sample for the preparation of herbarium specimen and future reference to identify the orchid species.

The plants (Fig. 2) were kept at the resident balcony where adequate sunlight and shade is available in Dhaka city, Bangladesh. The careful observation was made on its flowering and fruiting. At the end of March 2019, several flowering buds evolved from the node of the branch, and the flower finally fully bloomed on 4th April 2019 and other flowers sequentially blooming until July 2019. A single fruit (Fig. 2) also was observed in May 2019, matured, and dried up within one month. A thorough close looked the preserved specimens in Kew Herbarium from the online Kew Herbarium Catalogue (Royal Botanic Gardens Kew 2018), which were collected from India (K000894401, India, Wallich, N.1827) and Myanmar (K001114896, Myanmar, Wallich, N.1827); reviewed of published literatures and through examined of the floral characteristics, the plant finally identified as *Dendrobium angulatum* Lindl., which was previously reported close to 200 years ago. It has reported this species possibly lost from Bangladesh (Rashid *et al.* 2017) and no herbarium specimens are available in Bangladesh (Rashid *et al.* 2017 & Rahman *et al.* 2017). Uddin (2018) noted that *Dendrobium angulatum* was not found from its previous occurring area during their survey and its state of occurrence was unknown. Several literatures suggested it has occurred in Chittagong (Prain 1903) and CHT (Heinig 1925) but no report of herbarium specimens collection (Rashid *et al.* 2017). All of the published literatures suggested regarding its occurrence in Bangladesh based on the Kew herbarium sample that was collected by De Silva in 1821. Hence, we reported *Dendrobium angulatum* Lindl. is rediscovered from Bangladesh after 198 years.

MATERIAL AND METHODS

The fresh specimens from natural habitat were collected during the field trip. Both fresh specimens and digital images of the species were also used to supplement plant identification. The specimen was examined

with the preserved specimens in Kew Herbarium Catalogue (Royal Botanic Gardens Kew 2018) which was collected from India, Myanmar and Thailand. The flower leaf and other plant features were examined with the published photo in Huda (2008), Uddin (2018) and Baishnab & Datta (2019). Specimens with flower preserved at Bangladesh National Herbarium (DACB).

Figure 1. Showing the location where the *Dendrobium angulatum* Lindl. found in Sangu Reserve Forest (SRF), Bandarban District, Bangladesh.

Figure 2. *Dendrobium angulatum* Lindl.: A, Living plants; B, Close up flowers; C, A single fruit. [Photographs by: MSH Sourav]

RESULTS

Species Description

Dendrobium angulatum Lindl., Gen. Sp. Orchid. Pl. 88. 1830.

[Figs. 2 & 3]

Epiphytic herbs. Stem is 40–100 cm long, slender, internodes 3–4 cm long, branched, basal tuber 2.5–12.0 cm long, swollen. Leaves are 3–12 per branch, wide-spaced; blades linear-oblong or linear, 3–5 × 0.6–0.8 cm, obtuse or emarginate. Inflorescence single-flowered, arising from tubercles at upper nodes or leaf axils, bracteate. Flowers small, 1.0–1.2 cm long, white with pink lines on the lip. Dorsal sepal lanceolate; lateral sepals ovate, uncinata, 7-nerved. Petals narrowly oblong-lanceolate, 3-nerved, mentum longer than the sepals. Lip obcordate from a narrow base, lobes small, rounded.

Habitat in Bangladesh: Grows on tree trunks in subtropical rain forests; up to 247.79 m altitude (Fig. 1).

Flowering and fruiting: April to July in Bangladesh based on recent observation.

Global distribution: It is found in India (Assam), Bangladesh, Myanmar, southwestern Thailand and Vietnam (Hooker 1890, Huda 2008, Rashid *et al.* 2017, Baishnab & Datta 2019, Aung *et al.* 2020).

Discussion and threats: No extensive surveys yet to be carried out at its recently found habitat area. But appear to be limited and restricted inside little vegetation patched of SRF of Thanchi of Bandarban District. The population are seems to be decreasing due to host tree feeling by timber poachers and forest clearing for paddy cultivation on hill slope by the indigenous community. It was reported as Critically Endangered (Huda 2008). It is recommended for further extensive investigation on its recently found habitat area to implement future conservation measures and determine the IUCN regional conservation status.

Specimen examined: BANGLADESH: Bandarban, Sangu Reserve Forest; 27.02.2019, M.S.H Sourav, MSHS 04 (DACB 60711).

Figure 3. *Dendrobium angulatum* Lindl.: A, Plant; B, Flower; C, Fruit. [Illustrations by: SB Shovan]

ACKNOWLEDGEMENTS

We thank to every team member of the Isabela Foundation and indigenous peoples of Malingapara for their remarkable supports and help during the field trip. We are grateful to Malik Fida A. Khan, Executive Director of CEGIS of for his valuable supports. The authors also grateful to Dr. Sarder Nasir Uddin (Principal Scientific Officer) of Bangladesh National Herbarium and S. M. Shafi Ul Alam from CEGIS for their kind supports and helps regarding orchid identification, accession number and map.

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