

## OCCURRENCE OF *LIMNOPHILA AQUATICA* (ROXB.) ALSTON IN BANGLADESH

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The genus *Limmophila* R. Br. is represented in Bangladesh by 13 species (Rahman, 2009) including *L. cana* Griff. which is endemic to this country (Khan *et al.*, 2001). Rahman (2009) cited *L. aquatica* (Roxb.) Alston referring to Datta and Mitra (1953), and stated that “this species has not been collected after it was first reported by Datta and Mitra more than 50 years ago”. However, Datta and Mitra did not cite the name *L. aquatica* (Roxb.) Alston although they recorded seven species of *Limmophila*.

The name *L. aquatica* was established by Alston in 1929 based on *Cyrilla aquatica* Roxb. (1978). Therefore, previous works like Hooker (1884), Prain (1903) did not include the name but the specimens now known as *L. aquatica* were treated by them as *L. racemosa* Benth. Hooker (1884) mentioned Bengal as its occurrence (without any specific locality) whereas Prain (1903) mentioned North Bengal and Central Bengal as the places of occurrence but also without indicating any specific locality. Datta and Mitra (1953) recorded *L. racemosa* Benth. from the then greater Dacca.

Khan and Halim (1987) recorded only four species of *Limmophila*, viz. *L. cana* Griff., *L. heterophylla* (Roxb.) Benth, *L. indica* (L.) Druce and *L. sessiliflora* Blume but not *L. aquatica* or *L. racemosa*. The record of Khan and Halim (1987) compounded the situation that whether *L. aquatica* is at all available in Bangladesh or it was miss identified for *L. indica* as both the species bear many identifying characters in common. There is no record of herbarium specimen of *L. aquatica* or *L. racemosa* in any of the herbaria of Bangladesh. Others workers like Heinig (1925), Sinclair (1955) did not cite neither *L. racemosa* nor *L. aquatica*. In February 2019, some specimens of *L. aquatica* (Roxb.) Alston were collected from the Joydia baor, Safdalpur union of Kotchandpur upazila of Jhenaidah district of Bangladesh for the first time. These specimens have finally been considered as the evidence of specific occurrence of *L. aquatica* (Roxb.) Alston in Bangladesh.

The plant materials were collected following Alfasane *et al.* (2020). The collected plant samples were examined and transported to the Phycology, Limnology and Hydrobiology Laboratory, Department of Botany, University of Dhaka. Some materials were preserved as a herbarium sheet in this laboratory. The rest of the samples were cultured in a concrete house (1 × 0.5 m length, depth 0.40 cm) in the Botanical Garden, Department of Botany, University of Dhaka, for *ex-situ* conservation. A detailed taxonomic account along with photographs of the species has been furnished based on the fresh specimen (Fig. 1).

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***Limnophila aquatica*** (Roxb.) Alston., Ann. R. Bot. Gard. Peradeniya 11:205 (1929)

Synonym: *Cyrilla aquatica* Roxb. (1805), *Diceros aquaticus* (Roxb.) Moon (1824), *Limnophila hyssopifolia* Roth (1821), *L. racemosa* Benth. (1835), *Terebinthina racemosa* (Benth.) Kuntze, *Ambulia racemosa* (Benth.) Baill. *ex* Wettst. (1891).

*English name:* Giant ambulia

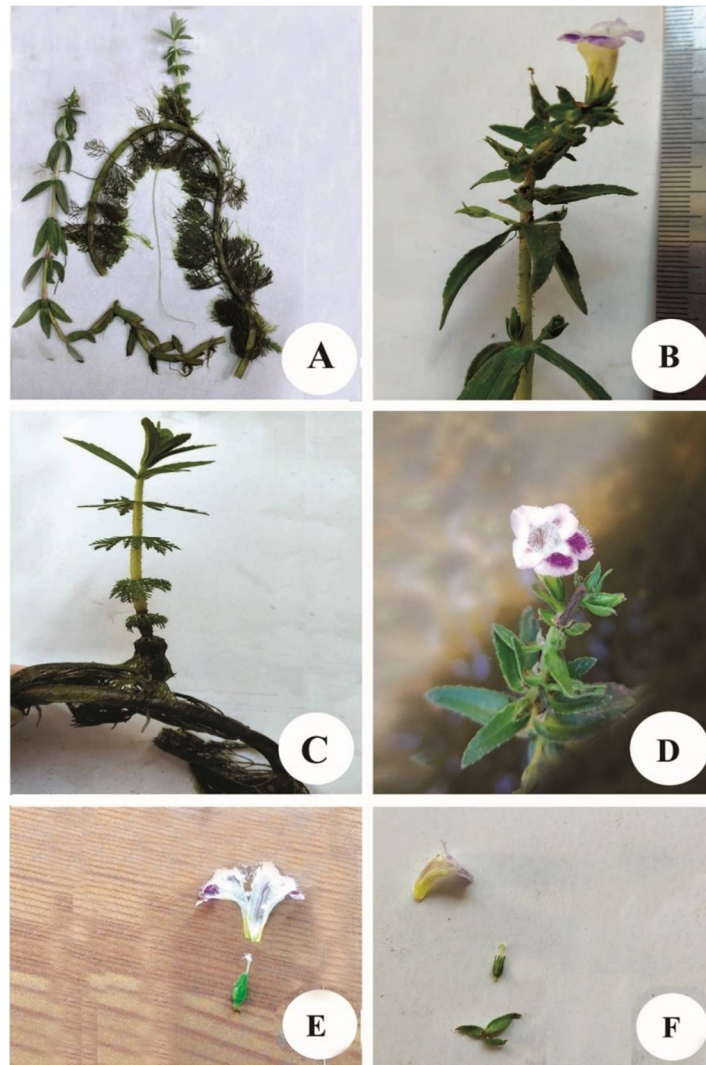


Fig. 1. *Limnophila aquatica* (Roxb.) Alston. A. A view of habit B. Mature plant with flower, C. Two types of whorled leaves, D. Open flowers with different lobes. E-F. LS of flower with different parts.

Stem rooting at lower nodes, erect, up to 50 cm high, 7-16 cm width, basal part usually submerged, thick, tumid at nodes. Leaves fine, pine-like, bushy, upper leaves crenulate, opposite or in verticals of 3, ovate-lanceolate to oblong-lanceolate, 2.7-6.8 x 0.7-2.0 cm, rounded and semi-amplexicaul at base, acuminate at apex, finely spinulose-serrate, strongly 3-5-nerved at base,

glabrous on both surfaces, punctate above; lower leaves whorled, in verticals of more or less 10-12, pinnately dissected, up to 6 cm long, frequently deflexed and root-like. Terminal racemes 5-18 cm long, peduncles finely glandular-hispid. Bracts ovate to broadly lanceolate, 5-7 x 3-4 mm, apex subacuminate, finely glandular-pubescent on both surfaces, bracteoles linear-lanceolate. Flowers numerous; pedicels up to 5 mm long, finely glandular-pubescent; calyx segments deltoid-ovate, acute, tubes 2-3 mm long, lobes more or less equal, ovate-lanceolate, 1.8-2.8 x 0.75 mm, long acuminate, scarious at margins; corolla tubes pale greenish, white, 8-11 mm long, finely pubescent, limb whitish pale blue, lobes of upper lip broadly orbicular with pale purple blotch at center, lower lips 8-16 mm across, middle lobes broader than lateral ones; stamens 4, posterior filaments 1.5-2.5 mm long, anterior ones longer; anther cells horizontally placed; styles glabrous. Capsules globose, 2.9-3.8 x 2-2.8 mm, enclosed by longer calyx lobes, fruiting calyx not striate.

*Flowering and fruiting:* June-April. It grows well in very high to medium sun light, preferably in mud soil and water prominent area.

*Distribution:* Bangladesh, Chinese, Indonesia, Japan, Sri Lanka and Taiwan (Ahmed *et al.*, 2009).

*Specimens examined:* Jhenaidah: Joydia baor, M.A. Alfasane, 1721(PLHL), 17.07.2019; 1722(PLHL), 22.12.2019; 1723(PLHL), 07.06.2020; 1724(PLHL), 07.04.2021; Dhaka: 1725(PLHL), 09.09.2020; Botanical Garden, Department of Botany University of Dhaka.

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