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UTRICULARIA GEMINISCAPA BENJ. (LENTIBULARIACEAE): A NEW ANGIOSPERMIC RECORD FOR BANGLADESH

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Utricularia L. is an insectivorous genus comprises of 214 species. *Utricularia* is distributed throughout the world with the highest species richness in the tropical regions (Taylor, 1989). Freshwater Lentibulariaceae of Bangladesh represented by eight species, namely *Utricularia aurea* Lour., *U. bifida* Linn., *U. caerulea* Linn., *U. gibba* Linn., *U. inflexa* Forsk., *U. minutissima* Vahl, *U. scandens* Benj. and *U. stellaris* L.f. (Ahmed *et al*., 2009).

The plant materials of this study were collected through a hydrobiological expedition carried out from February 2019 to January 2020 in a natural *Baor* of Bangladesh namely Baluhar Baor at Kotchandpur Upazilla under the district of Jhenaidah, Bangladesh. The location of the baor is 23°27′ to 23°50′ North latitude and 88°55′ to 89°05′ East longitudes. Baluhar Baor (Ox-bow Lake) is an immemorial and immense water reservoir. The total area of the Baor is 282 ha having a mean depth of 5.88 ± 0.701 m. It is a perennial water body and mostly rain fed. Well managed aquaculture has been carried out in the Baor. The sample was collected from 0.5 m depth of the middle point area of the Baor with other submerged vegetation. The collected plant samples was then put in a large air tight ice bag with some water inside. It was then transported to the Phycology, Limnology and Hydrobiology Laboratory, Department of Botany, University of Dhaka. Some fresh materials were preserved as a herbarium sheet in this laboratory. The remaining plant sample was transferred 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 and further detailed study.

The specimen has finally been identified as *Utricularia geminiscapa* Benj., consulting Fassett, 1957; Subramanyam, 1979; Oliver, 1859; Clarke, 1884; Kamienski, 1895; Barnhart, 1916; Taylor, 1989; Crow, 1992. Gamble, 1924; Komiya, 1972.

Utricularia geminiscapa Benj. was not reported earlier in the previous studies or literature, *viz*. Hooker (1888), Prain (1903), Datta and Mitra (1953), Khan and Halim (1987), Uddin *et al*. (2000), Rahman (2005) and Ahmed *et al*. (2009) from the areas that now fall under the territory of present Bangladesh. Hence, it is reported here as a new record for Bangladesh.

A detailed taxonomic account along with photographs of the species has been furnished based on the fresh specimen (Fig. 1).

Utricularia L., Sp. Pl. 1, 18 (1753)

Utricularia geminiscapa Benj., *Linnaea* 20(3), 305 (1847), Berlin

(Syn. *U. clandestina* Nutt. ex A.Gray, Manual (Gray) 287 (1848)

English name: Hiddenfruit bladderwort

Plants perennial, suspended aquatic, glabrous; stolons filiform, sparingly branched. Stems up to 58 cm long, c. 0.5 mm diam., internodes < 10 mm long. Bladders on the scattered leaves. Leaves without spines except at the tips of the divisions. Leaves 10–24 mm long, divided from

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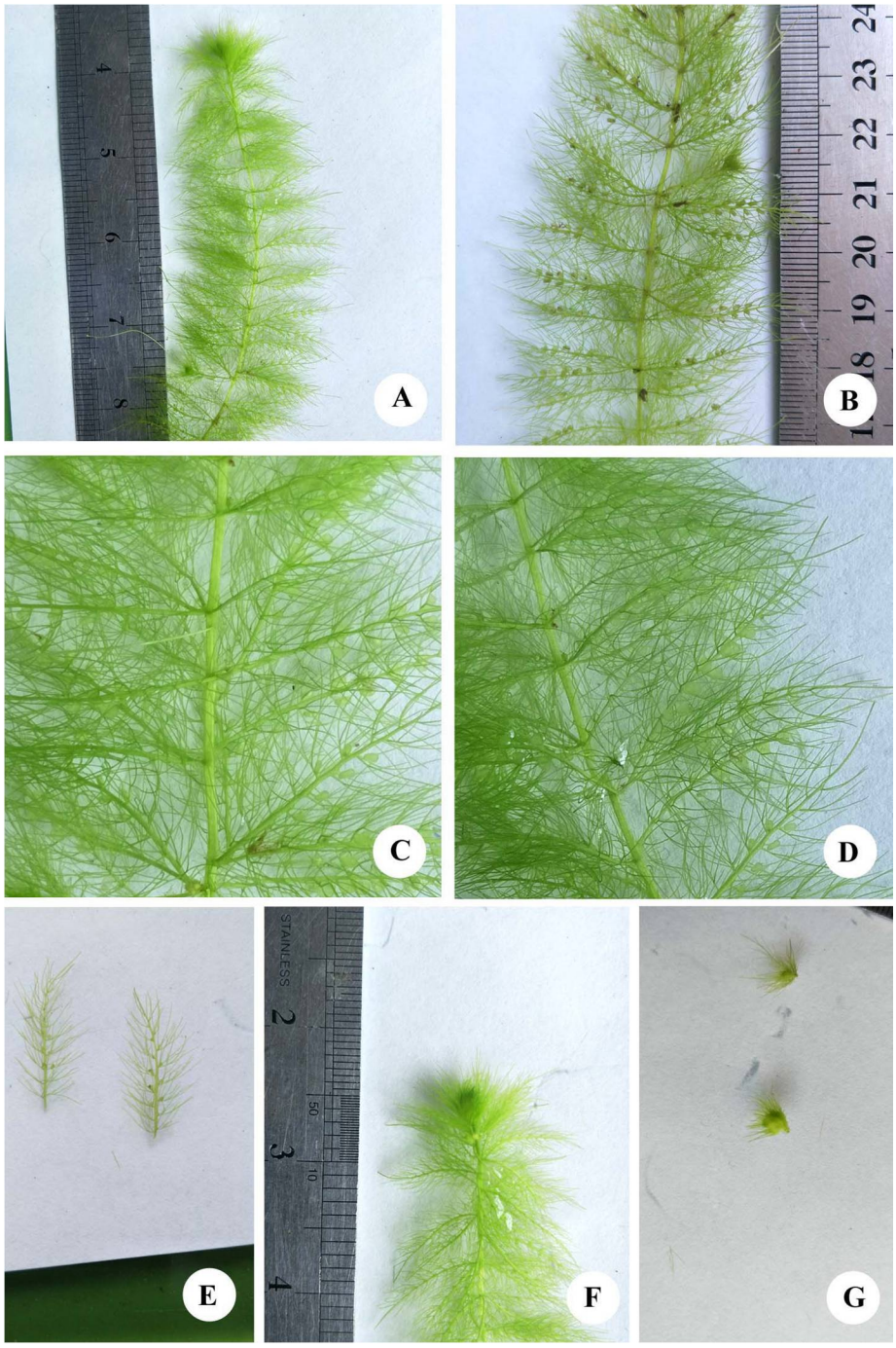

Fig. 1. *Utricularia geminiscapa* Benj.; A. Whole plant; B. Bladders on the scattered leaves C-D. Branch and leaves with filiform segments; E. bladder bearing leaves forking at the base; F. Leaves without spines except at the tips of the divisions with showing flower; G. Winter bud.

base into 2 primary filiform segments, each divided into numerous secondary segments, the ultimate segments capillary and slightly flattened, minutely and sparsely setulose laterally and apically. Cleistogamous infloresences lacking a peduncle; minute flowers which do not open scattered along the stem at the base of the scape, pedicels arise directly from the stolon, are up to 9 mm long, 2-3 flowered, without scales; bracts without basal lobes, calyx 1.0–1.4 mm long, corolla minute or absent. Buds 2-5 mm in diameter.

Region of origin: The east coast of North America, from North Carolina (United States) north to New Foundland (Canada), and west to Iowa (United States) and Ontario (Canada) (Haber 1979; http:// plants.usda.gov). A small population is present near Westport in New Zealand where the species is thought to have recently naturalized- it was first recorded in this area in 1975 (Heenan *et al*. 2004). It is assumed that *Utricularia geminiscapa* may be the disjunct distribution in Bangladesh.

Ecology: U. geminiscapa can easily be distinguished from the other species by the cleistogamous flowers. This plants species were also grown in the habitats of shallow wetlands, slow moving streams, reservoirs or canals, edges of lakes, ponds, sloughs, peatland pools. It can also grow in higher water levels and high-nutrient. The habitat of *U. geminiscapa* in New Zealand is very similar to that in North America where it occurs in low altitude, shallow acid water of peat bogs, ponds, and lakes (Haber 1979; Taylor 1989). In Bangladesh, It was found in the middle area of the *Baor* with other submerged vegetation. The species was grown under the following physico-chemical condition ranges from air temperature 28.5–38.5ºC, water temperature 23.0–33ºC, turbidity 1.6–8.55 NTU, pH 6.5–8.1, conductivity 18.5–55.9 µS/cm, alkalinity 0.4–0.6 meq/l, DO 3.5–12.4 mg/l, TDS 12.4–18.8 mg/l, SRS 1.53–18.9 mg/l, NO_3^-N 0.005–0.35 mg/l, SRP 2.3–84.9 µg/l.

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