

## *Utricularia striatula* Sm. (Lentibulariaceae) - an addition to Carnivorous plants of Telangana state

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### Abstract

*Utricularia striatula* Sm. from Bladderwort family (Lentibulariaceae) was collected first time from Saleshwaram sacred grove of Nallamala forest and reported here as an addition to the Carnivorous plants of Telangana state, India.

### INTRODUCTION

The genus *Utricularia* L. was described by Linnaeus in "Species Plantarum" and commonly known as Bladderworts belongs to the family Lentibulariaceae. *Utricularia* is the largest genus in the family Lentibulariaceae with small carnivorous plants and highly modified vegetative organs. These plants are commonly found in wide range of habitats including wet lands, ponds, lakes, marshy areas and seasonal deserts (Bhowmik & Datta, 2012) and grows usually in low pH, low sunlight, less nutrient soils. The majority of species are found in tropical and sub-tropical regions and their distribution is cosmopolitan (Taylor, 1989; Fischer *et al.*, 2004). Currently, the genus *Utricularia* is represented about 274 species (Taylor 1989; Fleischmann 2012, 2015; Delprete 2014; Kumar *et al.*, 2018; Hong *et al.*, 2021) and in India, it is represented by 39 species (Janarthanam & Henry, 1992; Yadav *et al.*, 2000; Yadav *et al.*, 2005, Kumar *et al.*, 2018).

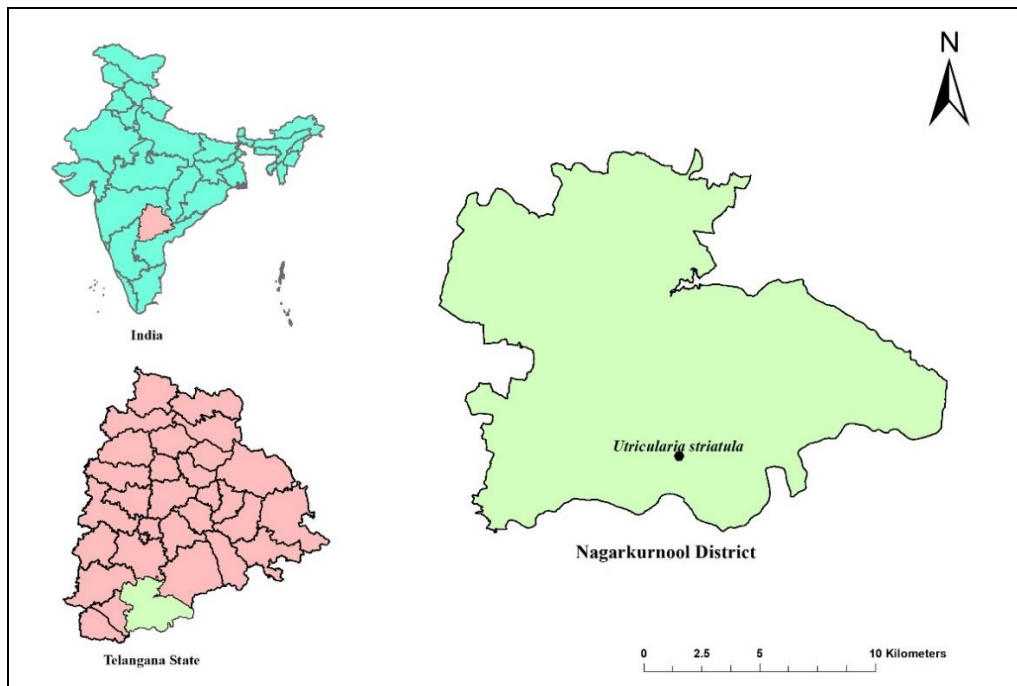
### MATERIALS AND METHODS

While working on floristic studies of Telangana state, the authors were collected few small, semi

aquatic and white coloured flower species of *Utricularia* L. on water drizzling part of moist rocks at Saleshwaram sacred grove in Nallamala forest. The survey of literature revealed the collected specimens was identified as *Utricularia striatula* Sm. (Lentibulariaceae). The herbarium specimens were prepared based on standard methodology (Jain & Rao, 1977) and deposited at Telangana State Herbarium (TBGH), Dr. BRR Government Degree College, Jadcherla, Mahabubnagar district.

### RESULTS AND DISCUSSIONS

The literature survey on Flora of Telangana revealed that the genus of *Utricularia* L. comprises nine species viz., *Utricularia aurea* Lour., *Utricularia australis* R.Br., *Utricularia bifida* L., *Utricularia caerulea* L., *Utricularia gibba* L., *Utricularia graminifolia* Vahl, *Utricularia polygaloides* Edgew., *Utricularia scandens* Benj., *Utricularia stellaris* L.f.. The present collection of *Utricularia striatula* Sm. has not been recorded from within the geographical boundary of Telangana state (Pullaiah, 2015; Reddy, 2018), hence, it was reported here as an addition to carnivorous plants of Telangana state along with



**Figure 1:** Map showing the location of *Utricularia striatula* Sm. in Telangana State, India.



**Figure 2:** *Utricularia striatula* Sm., **A.** Plant habit and habitat with association of mosses, **B.** Foliar organs at base of the plant, **C & D.** Flower top and Side views.

description, distribution, location map and photos for its easy identification.

#### Taxonomic treatment

*Utricularia striatula* Smith. Rees, Cyclop. 37, No 17(1819). *Utricularia pusilla* sensu Graham, Cat. Pl. Bombay 165, 1839, non vahl, 1804. *Utricularia orbiculata* Wall. ex A. DC. in DC., Prodr. 818, 1844.

Small, annual, lithophytic, stolonerous herbs, 5-8 cm tall and microscopically papillose. Rhizoids 2-2.5 cm long, few, stolons 5-8 cm long, simple, capillary with many small light brownish transparent bladders. True leaves absent, but many green photosynthetic foliar organs present at base of inflorescence axis or on stolons, subsessile, 10-15 mm long, orbicular to obovate, base rounded or cuneate, apex rounded, margin entire, scattered on stolons, thinly fleshy, veins dichotomously branched. Bladders 1-1.5 mm across, globose to obliquely ovoid, mouth lateral, appendages glandular, hairy. Inflorescences is raceme, erect, 5-8 cm long, peduncle terete, glabrous, 4-8 flowered. Bracts 0.5-2 mm long, medifixed, limbs unequal, narrowly ovate to oblong; bracteoles 0.6-1.7 mm long, medifixed, limbs unequal. Flowers 7-10 mm long; pedicels 2-7 mm long, filiform, spreading in anthesis, pendulous and withered fruit. Calyx lobes unequal, papillose, upper lobe 1-4 x 2-4 mm, obovate to orbiculate, emarginate, truncate or obtuse at apex, lower lobe 0.5-2 x 0.5-2 mm, oblong to elliptic, smaller than upper lobe, truncate, notched or rounded at apex. Corolla white or violet, pink, lilac, often yellow spot-on base of flower lower lip; upper lip 0.5-2 mm across, subovate to deltoid, bidentate, irregular at apex; lower lip 3-8 x 3-10 mm, 3 to 5 lobed, throat hairy; spur 1-5 mm long, cylindrical or conical, obtuse, acute or retuse at apex. Stamens 1.2 mm long, filaments ca. 0.5 mm, straight, strap-shaped, curved, anther thecae subdistinct. Pistil 1-1.2 mm long, ovary ovoid to depressed globose, attached to base of upper calyx-lobe, style very short, distinct; stigma 2-lipped, lower lip semi-orbicular, upper lip obsolete. Capsule globose, dorsiventrally compressed, dehiscence by single longitudinal ventral slit. Seeds numerous, 0.3-0.5 mm long, clavate, cylindrical or obovoid, glochidiate.

**Distribution:** India - Andhra Pradesh, Assam, Gujarat, Uttar Pradesh, Karnataka, Kerala, Maharashtra, Tamil Nadu and Telangana (present study).

**Flowering and Fruiting:** June-November.

**Specimen examined:** Saleswaram, Nallamala forest, Nagarkurnool district, Telangana state, India. B. Sadasivaiah, (2399), (Date: 26.06.2012)

**Ecology:** It grows along with mosses on moist rock faces with dripping water in shady conditions or on tree trunks.

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