

International Journal of Scientific Research and Reviews

***Utriculariajanarthanamii* Yadav et al. and *Leucaslanata* Benth. are new distributional records for Satpuda range of Khandesh region of Maharashtra, India**

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ABSTRACT

Diversity assessments and floristic inventory are necessary to understand the present diversity status and conservation of biodiversity. During the botanical explorations of satpuda range of Khandesh region of Maharashtra, India. Two interesting rare taxa *Utriculariajanarthanamii* Yadav et al. and *Leucaslanata* Benth. are collected from the restricted locations and various habitats for the first time from Satpuda range of Khandesh region. All the species have been described along with colored photographs.

KEYWORDS: New records, Satpuda range, Khandesh region, Maharashtra.

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INTRODUCTION:

The study of vegetation wealth of an area gives us correct understanding of bio-resources for the welfare of human beings. Khandesh region consist of three districts Jalgaon, Dhule and Nandurbar. The forest of Satpuda range is mostly of the dry mixed deciduous type and one of the important forests of Maharashtra in India. The flora shows much more diversity with the change in topography. The vegetation varies considerably with the change in altitude, soil, temperature, humidity and rainfall.

The family Lentibulariaceae is represented by two genera, viz. *Pinguicula* L. and *Utricularia* L. in India. The species of *Utricularia*, popularly termed as, "Bladderworts" have attracted attention of number of botanists, naturalists and enthusiasts due to their peculiar insect eating habit and attractive flowers. It is represented by about 215 species, widely distributed mostly in tropics and subtropics and a few are temperate. In India, it is represented by about 35 species (Janarthanam & Henry, 1992)¹ and most of them are found in Peninsular India. In Maharashtra 14 species of *Utricularia* L. were recorded (Singh 2001)².

EXPERIMENTAL SECTION:

During our intensive and extensive survey on plants of Khandesh region, two interesting plants one is Bladderworts *Utricularia janarthanamii* Yadav et al. and another is *Leucas lanata* Benth. were collected at high elevation of Satpuda range of Khandesh region. On critical analysis, these plants specimens turned out to be new distributional records for Khandesh region, which are described and photographs in the present paper. Dr. Milind Sardesai, (Department of Botany, Savitribai Phule Pune University, Pune.) and Dr. R.Kr. Singh (BSI Southern Regional Centre Coimbatore.) they confirmed the identity of these species.

Taxonomic treatment:

Utricularia janarthanamii Yadav et al. in Journal Rheedeia Vol. 10 (2) 107-112.2000. Plate-I.

Herbs; stolons up to 8 cm long, profusely branched. Leaves spatulate, 0.5-1.5 cm long and 1-4 mm wide, rounded at apex, scattered along stolons, 3-nerved; stalk upto 1 mm long; mouth basal with two simple, subulate, glandular appendages; glands on appendages stalked and elsewhere sessile. Flowers in racemes on peduncle and solitary on leaves and stolons; peduncles up to 8 cm long, angular, grooved on one side, glabrous; scales basifixed, 1-2 x 0.3-0.7 mm, 1-nerved, acute at apex. Flowers bracteate, basifixed, 1-1.5 x 0.5-1 mm, 1-nerved, acute at apex; bracteoles absent; pedicels 0.4-0.8 cm long, erect at anthesis and recurved in fruit. Calyx lobes unequal; upper lobe 1.5-2 x 1-1.3 mm, ovate, acute or minutely dentate at apex; lower lobe 2-2.4 x 1-1.3 mm, ovate-elliptic, obtuse or minutely dentate at apex. Corolla blue; upper lip 3-3.3 x 1-1.2 mm, linear-oblong, crested

at centre, rounded or notched at apex; lower lip 3-3.3 x 3.5-4.5 mm, obovate, hairy in throat, bigibbous at base, rounded at apex; spur 2-6 mm long; conical, descending, acute at apex. Stamens 2, 1-1.3 mm long; filaments strap-shaped, slightly curved. Pistil 0.8-1 mm long, dorsally compressed; style short, distinct, flat; stigma 2-lipped, truncate at apex. Flowers on stolons and leaves: those on stolons minutely pedunculate; peduncle up to 2.3 mm long, those on leaves sessile; scales basifixed, 0.1-0.2 mm long, 1-nerved, acute at apex; bracts basifixed, 0.2-0.3 mm long, 1-nerved, acute at apex; bracteoles absent. Calyx lobes unequal; upper lobe 0.5-0.6 x 0.4-0.5 mm, broadly ovate, acute at apex; lower lobe 0.5-0.7 x 0.4-0.5 mm, ovate-elliptic, obtuse or minutely dentate at apex. Corolla hyaline, cleistogamous; upper lip shortly 2-lobed, overlapping lower lip; lower lip shallowly lobed; spur almost absent. Stamens 2, 0.4-0.5 mm long; filaments strap-shaped, slightly curved at apex. Pistil 0.3-0.4 mm long, dorsally compressed; style short, distinct, flat; stigma 2-lipped, truncate at apex. Capsules 1.7-2 x 1-1.3 mm, obliquely ovoid, wall uniformly membranous. Seeds numerous, subglobose, 0.5 mm across; testa cells more or less isodiametric.

Flowering and Fruiting: July-September

GPS Reading: N 21°40' 55.99" E 74°1' 23.88" (Elevation 838.7m)

Distribution: Rare. In Satpuda range grow along the wet hill slopes, marshy rice fields and wet grass lands. In Maharashtra only reported from Kolhapur and Satara.

Specimens examined: Nandurbar Dist., Toranmal, TAK3274; Bhagadari, TAK 3357.

Note: Look similar to *Utricularia uliginosa* Vahl but differs in the absence of bracteoles, gibbous corolla and recurved fruiting pedicel, globose seeds and terminal hilum.

Leucas R.Br. represented by about 150 species; Africa and Arabia to Indo-Malesia. In Maharashtra 21 species of *Leucas* R.Br. were recorded (Singh 2001)².

Leucas lanata Wallich ex Benth. in Wallich, Pl. Asiat. Rar. 1: 61. 1830; Hook. f., Fl. Brit. India 4: 681. 1885; Mudgalet al., in Fl. M. P. 2: 411. 1997; Singh et al. Fl. Maharashtra St. Dicot. 2: 731. 2001. Plate-I.

Herbs, perennial, erect, 0.4-1 m high, much branched from a stout rootstock, softly erect, woolly or subsilky with erect and spreading hairs, obtusely 4-angled. Leaves ovate, 2-7 x 1-3 cm, thick, softly tomentose or silky on both sides, subsessile below, gradually becoming sessile upwards, obtuse or acute at apex, rounded or cuneate at base, margins crenate-serrate. Verticillasters axillary, densely many-flowered; bracts setaceous, densely hairy, much shorter than calyx. Calyx tubular-campanulate, 5-8 mm long, straight, densely silky villous outside, pubescent inside in the

upper part; teeth minute, alternately shorter, deltoid-subulate; mouth truncate Corolla white; tube annulate inside. Nutlets oblong-ovoid, 1-1.5 mm long, obliquely truncate.

Flowering and Fruiting: September-December.

GPS Reading: N 21°40' 24.14" E 74°1' 30.05" (Elevation 727.4m)

Distribution: Rare. In Satpuda range undergrowth on hill slopes, near streams and along roadsides. In Maharashtra reported only from Mumbai and Pune.

Specimens examined: Nandurbar Dist., Molgi, TAK3169; Akkrani, TAK3491; Bhagadari, TAK3287.

Note: It can be identified by its woolly and silky nature, which is more prominent at higher altitudes.

MATERIALS AND METHODS

Satpuda ranges, which is one of the major hotspots of plants in the Khandesh region of Maharashtra. During botanical exploration of the Khandesh region in Maharashtra, two interesting species are *Utricularia janarthanamii* Yadav *et al.* (Lentibulariaceae) and *Leucaslanata* Benth. (Lamiaceae) were collected from along the wet hill slopes, marshy rice fields, near streams, along roadsides and wet grasslands in forest at high elevations. The species were identified with the help of pertinent literature (Mudgalet *al.* 1997, Yadav *et al.* 2000 and Singh *et al.* 2001)^{2,3,4} and the taxa were confirmed by Dr. Milind Sardesai, Department of Botany, Savitribai Phule Pune University, Pune and by consulting the BSI western Circle, Pune, herbarium as well. The voucher specimens have been deposited in the herbarium of Department of Botany, H. J. Thim College of Arts and Science, Mehrun, Jalgaon, Maharashtra. The plants have been described with their Latin names, followed by authors' citations. Detailed descriptions of the taxa, flowering and fruiting period and distributions, precise locations and exsiccate numbers are appended at the end.

RESULT AND DISCUSSION

During the survey of pertinent literature (Valviet *al.* 2006; Kshirsagar and Patil 2008; More, 2013; Khan *et al.*, 2015; Khan and Patil 2019; Khan and Salunkhe 2019)^{5,6,7,8,9,10}. We found that these species were not reported in any of the Khandesh region. This clearly reveals that these species are rare to the Khandesh region, even Maharashtra as a whole. Thus, the described species are new records to the Satpuda range of the Khandesh region of Maharashtra State. On close examination of herbarium specimens and detailed scrutiny of literature published till today on these taxa, it can be claimed that this is new distributional records for the Khandesh region of Maharashtra State.

ACKNOWLEDGEMENT

The authors wish to express their gratitude to Dr. Milind Sardesai, (Department of Botany, Savitribai Phule Pune University, Pune.) and Dr. R.Kr.Singh (BSI Southern Regional Centre Coimbatore.) they confirmed the identity of these species. Thanks are also due to the Principal, H. J. Thim College, Jalgaon, for providing laboratory and library facilities.



Utricularia janarthanamii Yadav et al. *Leucas lanata* Wallich ex Benth.

Plate-I

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