

AMORPHOPHALLUS KONKANENSIS HETT. AND ROTALA MALAMPUZHENSIS NAIR ARE NEW DISTRIBUTIONAL RECORDS FOR KHANDESH REGION OF MAHARASHTRA

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ABSTRACT

The present paper deals with addition of two new flowering plants and are new distributional records reported for the first time from different parts of the Satpuda ranges of Khandesh region of Maharashtra. These species are *Amorphophallus konkanensis* Hett. (Araceae) and *Rotala malampuzhensis* Nair (Lythraceae) are reported for the first time from Khandesh region of Maharashtra. The study provides a detailed taxonomic description, photographs and relevant information based on fresh collections.

Keywords: Two flowering Plants, New Records, Satpuda Ranges, Khandesh Region

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INTRODUCTION

The vegetation of Khandesh region is quite varied and interesting and divided into three districts Jalgaon, Dhule and Nandurbar. It lies at the Northwestern corner of the Deccan plateau, in the valley of the Tapti river, and is bound to the north by the Satpuda ranges, to the east by the Berar (Vidarbha) region, to the south by the hills of Ajanta, belonging to the Marathwada region of Maharashtra, and to the west by the Northern most ranges of the Western Ghats, and beyond that the coastal plain of Gujarat. Khandesh region lies between 20° 8' and 22° 7' North latitude and 73° 42' and 76° 28' East longitude. The forests of Khandesh region are tropical, dry deciduous type where in the Teak (*Tectona grandis* L.) is the predominant species. The vegetation varies with the changes in altitude, aspect and rainfall. The vegetation of various places depends totally upon the changes in altitude and rainfall. While working on floristic of Khandesh region of Maharashtra we undertook frequent collection tours in every season to study plants.

DISCUSSION

During botanical explorations of Khandesh region (Satpuda ranges) in Maharashtra State two interesting specimens *Amorphophallus konkanensis* Hett. (Araceae) and *Rotala malampuzhensis* Nair (Lythraceae) were collected from wet open grassland on hill slope and margins of waters courses. These species were identified with the help of pertinent literature (Almeida, 1998 and 2009, Lakshminarasimhan *et al.*, 1996, Shaikh *et al.*, 2012, Singh *et al.* 2001.) 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.

Taxonomic description

Amorphophallus konkanensis Hett., S.R. Yadav & K.S. Patil, *Blumea* 39:289.1994; Shaikh *et al.*, *Science Research Reporter* 2(3):298. 2012. Figure 1.

Tuberous herb. Tubers globose or depressed globose, 3-6 cm diam. and 1.5-2.5 cm thickness in vegetative phase; 6-9 cm diam. and 4-5 cm thickness in reproductive phase, skin pale brownish; roots 3-10 cm long. Petiole 20-70 cm long, 0.7-1.5 cm diam. at base, pale brownish or greenish-brown with pale yellowish-green to white stripes and pinkish mottling. Lamina 35-80 cm diam., rhachises winged, leaflets linear-lanceolate, 6-20 cm long and 1.5-4.5 cm broad, acuminate at apex. Inflorescence long-peduncled; peduncle smooth, 25-60 cm long, at base, colour and pattern of mottling same as that of petiole. Spathe broadly ovate in outline, when spread flat, opening at the top, dark purple brown veins outside, dark maroon within. Spadix much longer than the spathe, 15-20 cm long; female zone 1.2-1.8 cm long, staminodial zone 0.7-1.3 cm long, male zone 3-4.2 cm long; spadix appendix 10-15 cm long. Female flowers: Ovary globose, pale green, becoming purplish near the top, usually 3-locular, rarely 2 or 4-locular; style very short, 0.2-0.3 mm long, stigma 3-or 4-lobed, verruculate, pale yellowish; neuter flowers rhomboid, slightly convex, whitish or purplish. Male flowers: c. 0.8 x 1.3 mm, whitish, connective brownish; spadix appendix cylindrical. Fruits seeded berries, greenish, turning brownish-red at maturity; usually 3-seeded. Seed ovoid.

Flowering and Fruiting: May-July.

GPS Reading: N 21° 22' 2.50" E 75° 20' 24.54" (Elevation 380 m)

Distribution: Rare. In satpuda ranges grow in forest clearing areas, wet open grassland on hill slopes. In Maharashtra reported only from Sindhudurg and Gondia.

Specimens examined: India, Maharashtra, Jalgaon District: TAK 4806 (CAL), Date: 19.06.2022, Devjiri forest; TAK 4853 (CAL), Date: 26.06.2022.

Note: It can be identify by tubers globose, lamina leaflets linear-lanceolate, spathe ovate, pale-brown outside, dark maroon within, female flowers ovary globose, 3-locular, rarely 2 or 4 locular, style upto 0.3 mm long, stigma 3-4 lobed, verruculate, male flowers near about 0.8 x 1.3 mm, neuter flowers rhomboid, whitish or faintly purplish or dark purple, 3 seeded, rarely 2 or 4 seeded.

Rotala malampuzhensis Nair (J. Bombay nat. Hist. Soc. 72: 57. 1975 nom invalid) *ex* Cook in Boissiera 29: 98. 1979; Joseph & Sivarajan, *Proc. Indian Acad. Sci. (Plant Sci.)* 99 (3): 186. 1989. Figure 1.

Amphibious, annual herbs growing as dense, deep green carpet, spotted with crimson flowers and fruits. Stem procumbent, profusely branched, spreading. rooting at nodes; erect branches simple, 5-20 cm long; inter-nodes slender, quadrangular, upper ones short. Leaves simple, exstipulate, opposite decussate, subsessile, angustate. 2-4 mm broad, up to 1.5 cm long, deep green veins indistinct. apex microscopically truncate. Flowers solitary, axillary, sessile, crimson, less than 1.5 mm in dia., trimerous, actinomorphic, hermaphrodite, perigynous. Bracteoles 2, lateral, subulate, shorter than calyx. Hypanthium campanulate, less than 1 mm long, with 6 faint vertical veins. Sepals 3, free, triangular, acute, crimson. Accessory teeth 3, very short. acute. Petals 3, free, very small, linear-oblong. acute. crimson. Stamens 3, antisepalous; filaments filiform. white or purplish anthers 2-celled, 4-lobed, introrse, cells semicircular, purplish; pollen white, sub-spherical, smooth, thin-walled. Staminodes 3, alternating with stamens, shorter than ovary, linear, apex purplish, entire, emarginate or slightly bifid. Ovary sub-spherical, incompletely 3-celled, with vestigial septa only at base; placenta axile, fleshy, discontinuous at apex; ovules 3-6 per cell; style short, simple; stigma discoid, papillate. Fruits less than 1.5 mm, sub-spherical, crimson, half-exserted, splitting vertically into 3 valves; pericarp microscopically horizontally striate. Seeds 10-15, crimson, obovoid, inner surface slightly excavated, smooth, shining, exalbuminous.

Flowering and Fruiting: July-October

GPS Reading: N 21° 39' 54.46" E 74° 1' 24.51" (Elevation 612.9 m)

Distribution: Rare. In satpuda ranges grow in waterlogged areas especially in rock outcrops, around temporary pools, ditches or margins of waters courses. In Maharashtra reported only from Ratnagiri and Kolhapur.



Figure 1. *Amorphophallus konkanensis* Hett. A.Habit B.Inflorescence
Rotala malampuzhensis Nair C. Habit D. Flower

Specimens examined: India, Maharashtra, Nandurbar Dist. Toranmal TAK 4875 (CAL), Date: 03.07.2022; Amlibari forest, TAK 4908 (CAL), Date: 17.07.2022.

Note: Profusely branching, tufted, deep green plants with minute but conspicuous crimson spots of flowers and fruits. Erect branches simple, slender, short. Leaves less than 1.5 cm long, 2-4 mm broad. angustate Flowers solitary, axillary, crimson, less 1.5 mm, trimerous. Accessory teeth very short. Petals small, crimson. Staminodes 3. Seeds 10-15. crimson.

CONCLUSION

We have gone through all pertinent literature (Patil, 2003; Khan, 2017 & 2019; Kshirsagar & Patil 2008) and by consulting the BSI Herbarium Pune. To find out the occurrence, distribution and habitat of these species. We found that, these species *Amorphophallus konkanensis* Hett. (Araceae) and *Rotala malampuzhensis* Nair (Lythraceae) were not reported in any of the Khandesh flora. This clearly reveals that, these species are rare to flora of Maharashtra State, even India as a whole. These species are new record to the floras of Khandesh region of Maharashtra State. The voucher specimens are deposited in the herbarium of Department of Botany, H. J. Thim College of Arts and Science Mehrun, Jalgaon.

On close examination of herbarium specimens and detailed scrutiny of literature published till today on these taxa, it can be claimed that these are new records for Satpuda range of Khandesh region of Maharashtra.

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