

SCIRPUS MICROCEPHALUS (STEUD.) DANDY NEW DISTRIBUTIONAL RECORDS FOR SATPUDA RANGE OF KHANDESH REGION OF MAHARASHTRA

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ABSTRACT

The present paper deals with addition of *Scirpus microcephalus* (Steud.) Dandy, which is reported for the first time for Khandesh region from different parts of the Satpuda ranges. The herbarium specimens have been lodged in the herbarium of Department of Botany, H. J. Thim College of Arts and Science Mehrun Jalgaon (Maharashtra), India. Detailed description and images are provided.

Keywords: *Scirpus Microcephalus* (Steud.) Dandy Cyperaceae, Khandesh, Maharashtra State

INTRODUCTION

The genus *Scirpus* L. in broad sense appears to be a heterogeneous assemblage of ill-defined species. It includes all the Scirpoid species left out from inclusion in other genera (Clarke, 1893). The characteristic features of the genus are spirally arranged glume and style which is continuous with the ovary. These features, however, are not diagnostic or exclusive of the genus but are shared by other genera as well. Spirally arranged glumes for instance are characteristic for genera such as *Bulbostylis*, *Fimbristylis*, *Eleocharis*, *Fuirena*, *Eriophorum* and *Lipocarpa*. It is therefore necessary to employ other features such as involucre bract, position and nature of inflorescence on the stems, presence and absence of hypogynous structure, habit etc. in the circumscription of different species. Thus, it can be said that there is no satisfactory set of characters that can be employed for characterization of any one species. It is an overall assessment of certain prominent features and field experience that help to distinguish different species of the genus. (W. Khan, 2000)

The genus is comparatively large, comprising more than 200 species distributed throughout the world and represented by over 25 species in India (Clarke, 1893). Generic and infrageneric delimitation are as follows

Besides, external morphology, the genus appears to be heterogeneous from anatomical as well as embryological point of view. These features are variable even within the smaller groups of species. Thus there is no correlation of characters at any level of the genus and this has posed the existing problems in the taxonomy of the genus. Obviously, there are diverse opinions regarding the delimitation of the genus as well as its Subgenera and Sections. Some cyperologists treat the genus in a broad sense with different species groups under sections, others split the genus into several distinct genera (W. Khan, 2000).

Various genera of small size have been recognized by employing chiefly anatomical features (Palla, 1888-89) or their distinctiveness at present is supported by the embryological differences, in genera such as *Bulboschoenus* Palla, *Schoenoplectus* Palla, *Blysmus* Panz. ex Schult. *Hemicarpha* Nees, *Isolepis* R. Br. *Kyllingiella* R. Haines & Ley, *Rikliella* J. Raynal, *Baethryon* A. Dietr. *Actinoscirpus* Ohwi. *Eleogiton* Link, *Websteria* S. N. Wright and a few others.

The narrow generic limit has been accepted by Hooper, (1976), Koyama (1958 and 1985), Goetghebeur & Simpson, 1991, Bruhl J. (1995), Cook CDK 1996, Simpson & Koyama (1998) and a few others.

The genus *Rikliella* has been now merged in to *Lipocarpha* by Goetghebeur and Van den Borre (1989). The new concept of this genus is based on the interpretation of reduction in inflorescence and flower structure. On the basis of SEM studies, Pandey *et al.*, (1996) and secondary metabolites, Ragan (1993) supported the merging as above. Kunth (1837), Boeckeler (1869-70), Pax (1888), Clarke (1893, 1908), Chermeson (1937), Kern (1974), Rao and Verma (1982), W. Khan (2000), are in favour of taking the genus in broad sense including various small sections with more or less closely related species. This course has been followed in the present text as it appears to be more convenient, less problematic. That's why the name of collected species is *Scirpus microcephalus* (Steud.) Dandy is given.

Khandesh consist of 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 forest of the Khandesh region is of dry deciduous type. Khandesh region though botanically rich in biodiversity have not been explored extensively except a few sporadic reports on floristic of Karnik (1959), Salunkhe (1995), Mathew (1988), Garud (1999), Yadav (2003), Kshirsagar (2008), Patil (2003), Tanveer and Chaudhari (2014).

RESULTS AND DISCUSSION

Satpuda ranges, which is one of the major hotspot of plants in Khandesh region. While working on plants of Khandesh region of Maharashtra State, we undertook frequent collection tours in every season during the month of July-September to collect Specimens. During botanical explorations of Khandesh region of Maharashtra state, one interesting specimens belonging to Cyperaceae were collected from wet open grasslands on hill slope and margins of water courses. Close examination with the help of literature and herbarium specimens reveal that they were not recorded earlier from Khandesh region. Which is identified as *Scirpus microcephalus* (Steud.) Dandy, it is new records for Khandesh region. Identification of this taxa is confirmed by Dr. Mujaffar Shaikh, (Department of Botany, S.N.P.G. Govt. College, Khandwa (M.P), who confirmed the identity of the species and also comparing the specimens with those of by BSI western circle, Pune. Detailed descriptions are given below:

Scirpus microcephalus (Steud.) Dandy in F. W. Andrews, Fl. Pl. Sudan 3: 366. 1956. W. Khan in Cyperaceae of W. Ghat, W. Coast and Maharashtra 342. 2015. *Kyllinga microcephala* Steud. in Fl. 25: 597. 1842. *Isolepis kyllingioides* A. Rich. Tent. Fl. Abyss. 2: 502. 1851. *Scirpus kyllingoides* (A. Rich.) Boeck. (superfl. name) in Linnaea 36: 733. 1870. Clarke in Hook f. Fl. Brit. India. 6: 662. 1893. W. Khan in Naik Fl. Marathwada 2: 968. 1998, et in Rheede 10 (1) 27. 2000. *Kyllingiella microcephala* (Steud.) R. Haines & Lye in Bot. Notis. 131: 176. f. 1. 1978. Karthik. *et al.*, Fl. Indic. En. (Monocots): 61. 1989. Fig.1.

Perennial 15-25 cm tall; rhizome short, vertical; stems 1-2, trigonous, 0.5-0.8 mm wide, acutangular, slender. Leaves: sheaths glabrous, blades 0.5-1 mm wide, basal, coriaceous, with strongly incurved margins, shorter than the stems. Inflorescence solitary, globose, terminal head 4-6 mm in diam. Involucral bract 2-3, foliaceous, often deflexed, the longest 2.5 cm long. Spikelets ovoid or obpyramidal, 2.5-3 mm long, white to dusky brown; rachilla wingless. Glume narrowly linear oblong 1.3-1.5 x 0.2-0.3 mm, very loosely imbricated shallowly concave; keel with a strong mid-nerve, extended in recurved awns; sides nerveless, with narrowly hyaline margins, acute at apex. Stamen 3; anther elliptic, 0.4-0.5 mm long. Style 3 fid, shorter than the nuts, hypogynous bristles absent. Nuts trigonous, narrowly oblong, obvoid, ca 0.5-0.2 mm, discoid at base, smooth or obscurely puncticulate, apiculate.

Flowering and Fruiting: July to September.

GPS Reading: (N 21° 18'88.14" E 75° 35'37.27", Elevation 604 m)

Distribution: Rare, In wet rocky situations, open grasslands. In Maharashtra reported only from Kolhapur and Nanded.

Note: *Kyllinga microcephala* Steud. (1842) appears to be earliest name and as a rule should become basionym for the above taxon. The same basionym was also used by R. Haines and Lye for this species under their new generic name *Kyllingiella*. *Isolepis kyllingoides* Rich. (1851) (= *Scirpus kyllingoides*) (Rich.) Boeck. superfl. name), which is of common erroneous use. Habitually with its white heads very similar to the species of *Kyllinga* but the spirally arranged several flowers glume and trigonous nuts distinguish it from the former.

Specimens Examined: India, Maharashtra, Jalgaon Dist. Devjiri, TAK 2109; Pal, TAK 2178. Nandurbar Dist. Toranmal, TAK 2218.

CONCLUSION

We have gone through all pertinent literature (Kshirsagar, 2008; Patil, 2003; Clarke, 1893; Cook 1996; Lakshminarsimhan, 1996; Yadav and Sardesai 2002; Prasad and Singh 2002, Khan 2017 and Khan 2019) and by consulting the BSI Herbarium Pune. To find out the occurrence, distribution and habitat of species. We found that, these species were not reported in any of the Khandesh floras. This clearly reveals that, this species is rare to flora of Maharashtra State, even India as a whole. This species is new record to the flora of Khandesh region of Maharashtra State. The voucher specimen is deposited in the herbarium of Department of Botany, H. J. Thim College of Arts and Science Mehrun Jalgaon, Maharashtra. On close examination of herbarium specimens and detailed scrutiny of literature published till today on this taxa, it can be claimed that this is new records for Khandesh region from Maharashtra.

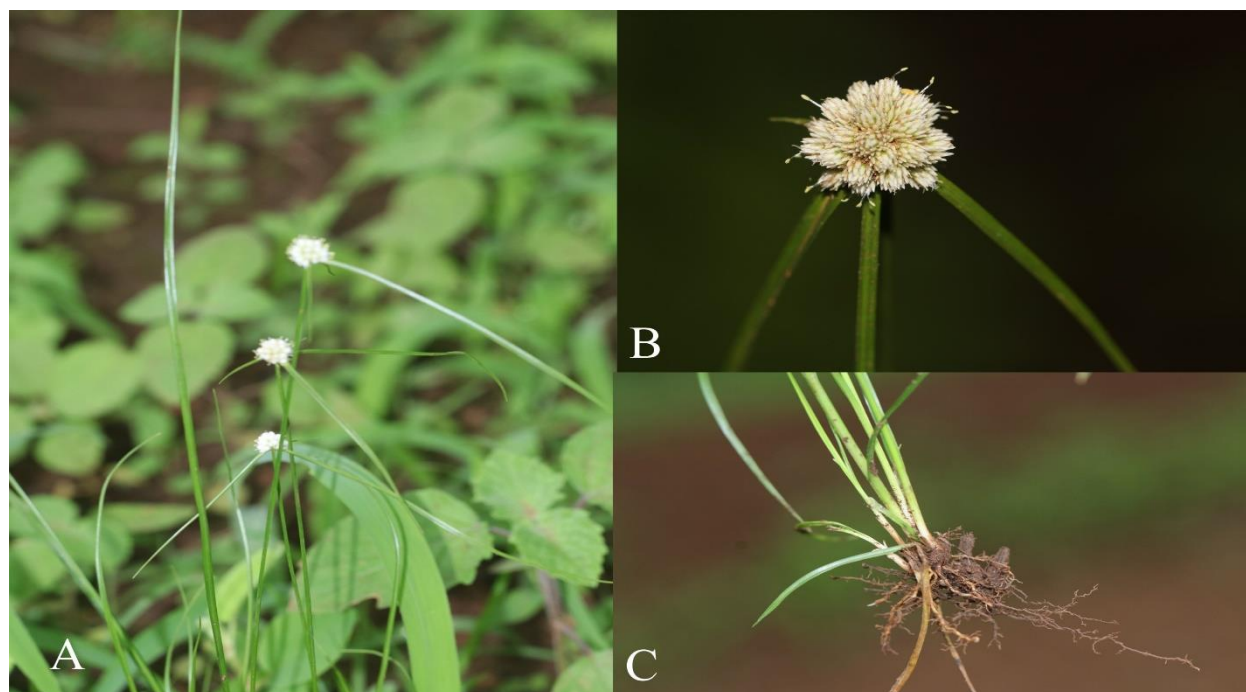


Fig. 1. *Scirpus microcephalus* (Steud.) Dandy
A. Habit B. Inflorescence C. Rhizome

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