



*Research Paper*

**A NEW DISTRIBUTIONAL RECORD OF *Ceropegia* L. SPECIES OF FAMILY ASCLEPIADACEAE FROM SATANA (BAGLAN) TALUKA OF NASIK DISTRICT (MAHARASHTRA)**

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**Abstract**

Nasik is one of the districts in Maharashtra endowed with enormous diversity of plant flora. The present paper deals with the distribution of *Ceropegia* L. plant species of angiospermic taxa which is rare and endangered plant from Satana (Baglan) taluka of Nasik district. During the field survey of Satana taluka in Nasik District, the author collected the plant from the different locations of Bhilwad (Mangi-Tungi) village. This communication records different new locations of this plant species from the region. The existing population of this plant species is threatened by cattle grazing and excessive consumption by the tribal during monsoon season. The study provides a detailed taxonomic description, photographs and relevant information based on fresh collections of the specimen.

Key words: Kokni, Nasik, Maharashtra, Satana, *Ceropegia*.

**INTRODUCTION**

Nasik is a district in Maharashtra state which lies between 19° 35' and 20° 52' North latitude and 73° 16' and 74° 56' East longitude, with an area of 15,582 km. Nasik district is bounded on the North-West by the Dang and Surat districts of Gujarat State, on the North by the Dhule district, on the East by the Jalgaon and Aurangabad districts, on the South by the Ahmadnagar district and towards the South-West by the Thane district. The Nasik district is divided into 13 talukas viz., Satana (Baglan), Malegaon, Kalwan, Sargana, Peth, Dindori, Chandwad, Nandgaon, Niphad, Yeola, Nasik, Sinnar and Igatpuri. [1]

Family Asclepiadaceae is represented by 250 genera and a 3000 species mainly distributed in tropical and subtropical regions of the world. It is represented by 43 genera and 243 species in India, of which, 31 genera, 82 species, 2 subspecies and 7 varieties are known from the State of Maharashtra. The family is well known for endemism, most elaborate complicated flower of all the dicots and contrivances for pollination. Most of the members of the family are restricted in distribution and many of them fall under some IUCN categories of rare plants. [2]

Majority of *Ceropegia* species in India occurs along steep hill slopes amidst *Strobilanthes callosa* Nees, several others in rock crevices at low to high elevation lateritic plateaus, along with bushes, forest margins, grasslands of dry deciduous forests, shola forest margins and still others prefer to grow at drier habitats. The genus *Ceropegia* L. can be easily distinguished from other genera of Ceropegieae by its cage-like structure of flowers formed by corolla lobes, which are apically connate to various degrees. [3]

*Ceropegia* L. of family Asclepiadaceae is an old world tropical genus and is one of the largest genus in the tribe Ceropegieae. The genus *Ceropegia* has always been a fascination to the botanists because of various reasons like their distinct diversity in reference to habit, habitat, flower structure and ecological adaptations. Among different species *Ceropegia bulbosa* Roxb. is one of the widely distributed species but still threatened. The species is represented by two varieties i.e. *Ceropegia bulbosa* Roxb. var *bulbosa* and *Ceropegia bulbosa* Roxb. var *lushii* (Grah.) Hook.f. The former one is characterized by broad leaves while the later is a narrow leaved variety. Presently the genus is represented by 50 species of which about 38 species were recorded in Western Ghats. Out of these 38 species of *Ceropegia* L. in Western Ghats about 15 are narrow endemic and all of them are highly threatened. Several species of *Ceropegia* L. are facing different threats and are narrow endemics while 16 species are recorded under different categories in Red Data Book. [4]

## **MATERIALS AND METHODS**

The ethnobotanical research work was carried out in Satana (Baglan) taluka of Nasik district during the year 2017 to 2019. The plant species were collected from different locations and the local uses by the tribal about the plants were noted down in the field. The digital photos of the plants were taken in their natural habitat and plant specimens were collected for proper authentication. The plant specimens were identified with

Flora of Maharashtra Vol. III A [5]. The fresh specimens were compared with the earlier collected herbaria from different parts of country for authentication in Blatter herbarium, St. Xavier's College (Autonomous), Mumbai, and Botanical Survey of India (BSI), Pune, Maharashtra. The plants Global position systems (GPS co-ordinates) were also recorded for further reference.

## RESULTS

*Ceropegia bulbosa* Roxb., Almeida, Fl. Maharashtra 3A: 229, 2001; Singh *et al.*, Fl. Maharashtra State 2: 347, 2001.

Key to the varieties

1. Leaves orbicular to elliptic-oblong, apiculate at apex .....var. *bulbosa*

1. Leaves linear-lanceolate, acute at apex .....var. *lushii*

*Ceropegia bulbosa* Roxb.var. *bulbosa*

Tuberous twiners; stems 1 to 2 m long. Leaves 2.4 x 1.5 to 2.3 cm, long petioled. Flowers in lateral, umbellate cymes; corolla grayish - purple, tube 1.0 to 1.7 cm long, inflated at base, narrow in middle, funnel shaped above, lobes 5.8 mm long, linear, hairy inside and along margins; corona biseriate, outer saucer shaped, entire or broadly shallow, inner slender, sickle shaped or divergent. [6] (Fig. 1)

Local name: Gol Kadavi

Flowering & Fruiting: July to October.

Distribution: Satana Taluka: Village - Bhilwad (adjoining hills of Mangi-Tungi hills called as Dudhali Dongar in Marathi). Many plants are located on these hills.

GPS coordinates:

20°49.974'N and 74°4.276'E, 20°49.994'N and 74°4.276'E, 20°49.974'N and 74°4.226'E, 20°49.574'N and 74°4.226'E

*Exsiccata*: SDK – 698

*Ceropegia bulbosa* Roxb. var. *lushii* (Grah.) Hook. f. Singh *et al.*, Fl. Maharashtra State 2: 349, 2001. Almeida, Fl. Maharashtra 3A: 229, 2001 (Fig. 2)

Tuberous twiners. Leaves 6.7 x 1.2 to 2.1 cm, acuminate. Flowers in axillary cymes; corolla 1.0 to 1.1 cm long; corona biseriate. [6]

Local name: Gavati Kadavi

Flowering & Fruiting: July to October.

Distribution: Satana Taluka: Village - Bhilwad (adjoining hills of Mangi-Tungi hills called as Dudhali Dongar in Marathi). Many plants are located on these hills.

GPS coordinates:

20°49.994'N and 74°4.256'E, 20°49.874'N and 74°4.226'E, 20°49.899'N and 74°4.291'E,  
20°49.899'N and 74°4.191'E

*Exsiccata*: SDK – 699 (BLAT)

Ethnomedicinal uses by Kokni tribal:

Tubers of both the varieties are consumed to improve digestion. Females eat raw tuber to increase their fertility. Leaves and tubers are used as vegetable by tribal. Small children eat raw tuber to satisfy their hunger in forest while grazing cattle during monsoon season.

*Ceropegia hirsuta* Wight & Arn. Almeida, Fl. Maharashtra 3A: 231, 2001; Singh *et al.*, Fl. Maharashtra State 2: 350, 2001.

Twining herbs; stems terete, 1 m long. Leaves petiolate, 5.6 x 3.5 to 3.8 cm, variable, lower ovate, those about middle ovate to lanceolate, those near upper end lanceolate, acute, ciliate at margins, pilose on both sides. Flowers few, in lateral, umbellate cymes; peduncles, pedicels and calyx hairy; corolla 5.8 cm long, tube 2.4 cm long, depressed inflated at base, funnel shaped above, lobes 8-18 mm long, broadly oblong or oblong - obovate, hairy inside and along margins; corona biseriate, outer of 5 deltoid, bifid hairy lobes, inner linear, erect. [6] (Fig. 3)

Local name: Khorpudi

Fl. & Fr.: July to November.

Distribution: Satana Taluka: Village - Bhilwad (Mangi-Tungi hills). Many plants were located on these hills and few plants near fields of Bhilwad village.

GPS coordinates:

20°50.110'N and 74°4.991'E, 20°50.110'N and 74°4.998'E, 20°50.210'N and 74°4.988'E,  
20°49.610'N and 74°4.969'E.

*Exsiccata*: SDK – 702

Ethnomedicinal uses by Kokni tribal:

Tuber is eaten to cure stomach disorders and used as vegetable by the tribal. Leaves are directly chewed to relieve stomach ache. The tubers are eaten raw by the cow boys who graze cattle in the forest area.



**Fig. 1 - *Ceropegia bulbosa* Roxb. var. *bulbosa***  
Leaves orbicular to elliptic-oblong.



**Fig. 2 - *Ceropegia bulbosa* Roxb. var. *lushii* (Grah.) Hook. f.**  
Leaves linear-lanceolate.



**Fig. 3 - *Ceropegia hirsuta* Wight & Arn**  
Leaves lower ovate, those about middle ovate to lanceolate, those near upper end lanceolate, acute.

## DISCUSSION

During my exploration, I had found new locations of *Ceropegia bulbosa* Roxb. var. *bulbosa*, *Ceropegia bulbosa* Roxb. var. *lushii* (Grah.) Hook. f. and *Ceropegia hirsuta* Wight & Arn. on the Mangi-Tungi hills, adjoining hills and around Bhilwad village which shows the diversity of these plants from the region. The plants were found growing in abundance at Mangi-Tungi hill forest and adjoining hills of Bhilwad village of Satana taluka of Nasik district where rainfall is abundant.

Earlier studies done by researchers on these plants from the region had been able to locate just one plant of *Ceropegia bulbosa* Roxb. and *Ceropegia hirsuta* Wight & Arn from this region. [7] This may be due to over exploitation of these plant species by the tribal people of the area and grazing cattle, the population of plant may have decreased.

The study observed that all the collected species were known from different locations in the study region, which is under high biotic pressure such as cattle grazing and the consumption of tuber by the tribal on large scale. In view of this, detailed field studies should be conducted on plants for gaining more information regarding its status and trends in the wild. The *in-vitro* conservation studies should be taken up to overcome the extinction rate of such species. The local tribal people should be made aware about the conservation of these plants so that these rare and endangered plants species will flourish in coming future in this region. The awareness can be created among the tribal people by conducting meeting, having a dialogue with tribal head from the village and informing the people about the rare status and value of the plant.

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