



**A NEW DISTRIBUTIONAL RECORD OF *Ceropegia* L.
SPECIES OF FAMILY ASCLEPIADACEAE FROM
AKARANI(BHUJGAON) TALUKA OF NANDURBAR
DISTRICT (MAHARASHTRA)**

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Abstract

One of the Maharashtra districts with the greatest diversity of plant flora is Nandurbar. The present paper deals with the distribution of *Ceropegia* L. plant species of angiospermic taxa which is rare and endangered plant from Akarani (Bhujgaon) taluka of Nandurbar district. During the field survey of Akarani taluka in Nandurbar District, the author collected the plant from the different locations of Bhujgaon, lakadihill (Satpuda Hill range) 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 paper offers a thorough taxonomic description, images, and pertinent data based on recent specimen collections.

Key words: Bhil, Nandurbar, Maharashtra, Akarani, *Ceropegia*.

Introduction

Nandurbar is a district in Maharashtra state which lies between 21° 36' and 21° 82' North latitude and 73° 14' and 74° 21' East longitude, with an area of 5955 km. Nandurbar district is bordered Madhya Pradesh state at North, Gujrat state on the north-west, and the Dhule district (Maharashtra) located on the south. The Nandurbar district is divided into 06 talukas viz., Akarani (Bhujgaon), Shahada, Toloda, Akkalkuwa, Nandurbar, Navapur [1]. The 250

genera and 3000 species that make up the family Asclepiadaceae are primarily found in tropical and subtropical areas of the world. In India, it is represented by 43 genera and 243 species, of which the State of Maharashtra is known to have 31 genera, 82 species, two subspecies, and seven variations. The family is well recognised for its endemism, most intricate and difficult bloom of all the dicots, and pollination strategies. The majority of the family's members have limited distribution rights, and many of them fall into one or more IUCN classifications for 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 *Ceropegia* by its cage like structure of flowers formed by corolla lobes, which are apically connate to various degrees [3]. Old world tropical genus *Ceropegia* L. of the Asclepiadaceae family is one of the largest genera in the tribe Ceropegieae. Because of a variety of factors, including its distinctive diversity in terms of habit, habitat, floral shape, and ecological adaptations, the genus *Ceropegia* has long held a fascination for botanists. *Ceropegia bulbosa* Roxb. is one of the numerous species that is extensively dispersed but is still endangered. *Ceropegia bulbosa* Roxb and another variety *Ceropegia bulbosa* represent the species. *Bulbosa* Variant and *Ceropegia Bulbosa* Roxb. Var. *lushii* (Grah) Hook.F. The former has broad leaves, and the latter has a narrow leaf variation. The genus is currently represented by 50 species, 38 of which have been found in the Western Ghats. About 15 of the 38 *Ceropegia* L. species found in the Western Ghats are narrowly endemic, and all of them are under grave danger. While 16 species of *Ceropegia* L. are included in the Red Data Book under various categories, several of these species face various challenges and are narrow endemics [4].

Materials And Methods

The ethnobotanical research work was carried out in Akarani (Bhujgaon) taluka of Nandurbar district during the year 2020 to 2021. 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 apexvar. *bulbosa*
2. Leaves linear-lanceolate, acute at apexvar. *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: GolueKandu

Flowering & Fruiting: July to October.

Distribution: Akarani Taluka: Village –Bhujgaon (adjoining hills of Lakadihill - Tinasmal hills called as OrahiDongar in Marathi). Many plants are located on these hills.

GPS coordinates:

1. 21°49.22.4"N and 74°12'59.7"E,
2. 21°49.22.4"N and 74°4.276'E,

3. 21°49.974'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: Gavatikandu

Flowering & Fruiting: July to October.

Distribution: Akarani Taluka: Village – Bhujgaon (adjoining hills of Lakadi hill - Tinasmal hills called as orahi Dongar in Marathi). Many plants are located on these hills.

GPS coordinates:

21°49.994'N and 74°4.256'E, 21°49.874'N and 74°4.226'E, 21°49.899'N and 74°4.291'E,

21°49.899'N and 74°4.191'E

Exsiccata: SDK – 699 (BLAT)

Ethnomedicinal uses by Bhil 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.

Ethnomedicinal uses by Bhil 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 bulbosa* Pod

Leaves lower ovate, those about middle ovate to lanceolate, those near upper end lanceolate, acute and Pod are cylindrical long.

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 bulbosa* Pod . on the Lakadi hills, adjoining hills and around Bhujgaon village which shows the diversity of these plants from the region. The plants were found growing in abundance at Lakadi hill to orahi hill forest and adjoining hills of Bhujgaon village of Akarani taluka of Nandurbar 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 bulbosa* Pod 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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REFERENCES

- [1] Kuvar, S.D., and Shinde, R.D., 2019, A new distributional record *Solanum erianthum* D. Don from family Solanaceae to the flora of Nasik District (Maharashtra), India, *Annals of Plant Sciences* (8.6) pp.3563-3566
- [2] Kamble, M.Y., Yadav, S.R., 2004. Asclepiadaceae of Maharashtra, *Bull. Bot. Surv. India*. Vol. 46, Nos. 1- 4: pp. 34 - 49.
- [3] Kambale, S.S., Yadav, S.R., 2019. Taxonomic revision of *Ceropegia* (Apocynaceae: Ceropegieae) in India. *Rheedea, Journal of the Indian Association for Angiosperm Taxonomy* Vol. 29 (1): pp. 01–115
- [4] Chavan, S.H., Kamble, A.P., Phate, P.V., 2014. First report of *Ceropegia bulbosa* Roxb. from coastal habitat of Kulaba fort, Alibaug, Maharashtra. *Indian Journal of Plant Sciences*. (Online)Vol. 4 (4), pp.23-27
- [5] Almeida, M.R., 2001. Flora of Maharashtra. Vol III B, Orient Press, Mumbai.
- [6] Singh, N., Lakshminarasimhan, P., Karthikeyan, S., Prasanna, P.V., 2001. Flora of Maharashtra State: Dicotyledons. 2. BSI, Calcutta.

- [7] Maharashtra. *International Journal of Botany Studies*. www.botanyjournals.com Vol. Garud, B.D., Shinde S., 2018. New additions to the flora of Nasik district, 3 (4), pp. 37-38.