Annals of Plant Sciences 8.6 (2019) pp.3563-3566

ANNALS OF PLANT SCIENCES
ISSN: 2287-688X
OPEN ACCESS
www.annalsofplantsciences.com

Research Article

A new distributional record *Solanum erianthum* D. Don from family Solanaceae to the flora of Nasik District (Maharashtra), India.

Sachin D. Kuvar[1]* & R. D. Shinde[2]

[1]Department of Botany, Siddharth College of Arts, Science & Commerce, Fort, Mumbai, India.
[2]Department of Botany, St. Xavier's College, Mahapalika Marg, Mumbai – 400001, Maharashtra, India.

Abstract: Nasik is one of the districts in Maharashtra endowed with enormous diversity of cryptogamic and phanerogamic flora. The present paper deals with the addition of 1 new plant species of angiospermic taxa to the flora of this district. During the field survey of Nasik District, the authors collected the plant from the different locations of the study region, which were not reported so far in the florists documentation of the district. This plant species has very small population range and occupancy. The plant specimens were collected, identified with the reference of different floras and recent literature for their authentication. The study provides a detailed taxonomic description, photographs and relevant information based on fresh collections of specimen.

Key words: Cryptogamic; Kokni; Nasik; New record; Maharashtra; Phanerogamic; Satana; *Solanum erianthum*

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 Dangs 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, Surgana, Peth, Dindori, Chandwad, Nandgaon, Niphad, Yeola, Nasik, Sinnar and Igatpuri.

The climate of this district is characterized, by dryness except in the south-west monsoon season. The year may be divided into four seasons, the cold season from December to February followed by the hot season from March to May and the south-west monsoon season from June to September followed by the post-monsoon season during October and November. The south west monsoon breaks by the middle of June, however, regular rainy season starts by the end of June and continues till the middle of October.

The richness of vegetation has attracted many botanists in pre and post-independence period.

The diverse content of floristic elements is primarily due to its physiographic and climatic conditions, as also courses of several tributaries of the main rivers and its soil texture. The vegetation of Nasik district may be broadly classified in following three main types (1) Moist tropical forests (2) Dry tropical forests (3) Western sub tropical hill forests.

In pre-independence period, a large number of botanists visited the Nasik district for botanical explorations. These are Graham, Dalzell and Gibson, Nainare, Lisboa, Woodrow, Cooke, Edgeworth, Talbot, Kanitkar, Bhiwa, Wadekar and few others. Some researchers from Botanical Survey of India, Pune like Puri, Jain, Vasavda, Gangurde, A.S. Rao, Rolla Rao, Cherian and Pataskar botanized in the district.

Lakshminarsimhan and Sharma (1991) surveyed the district floristically and published their floristic account, covering as many as 943 plant species belonging to 108 families. They obviously paid cursory attention to the economic significance of the plant wealth of the region. They gave some information on ethnobotanical line as a part of their routine floristic studies. Patil and Patil (2006) had carried out ethnobotanical work

***Corresponding Author:**
Mr. Sachin D. Kuvar,
Department of Botany, Siddharth College of Arts,
Science & Commerce, Fort, Mumbai – 400001, Maharashtra, India.
E-mail: coolsac.sachin@gmail.com

in Nasik district and given a list of 364 plant species belonging to 298 genera and 92 families used by local inhabitants for various purposes. Yadav and Dhanke (2010) had come up with a check list of plants of Nasik district and listed 1658 plant species from Nasik district.

Materials and Methods

Different tribal localities of Nasik district were surveyed during the ethnobotanical research work in the year 2014 to 2018. The plant *Solanum erianthum* D. Don was found growing wildly on roadsides near villages Jaitapur and Devthan in Satana (Baglan) taluka of Nasik district. The digital photos of the plant were taken in their natural habitat and plant specimens were collected for proper authentication. The plant specimen was identified with Flora of Maharashtra Vol. III B (Almeida, M.R., 2001) and other floras. The fresh specimens were compared with the earlier collected herbarium from different parts of country for authentication in Blatter herbarium, St. Xavier's College, Mumbai, Maharashtra. The plants GPS location was also recorded for further reference. The plant specimens were preserved and housed in Blatter herbarium, St. Xavier's College, Mumbai, Maharashtra. (BLAT)

Discussion

During the ethnobotanical study of Nasik district and after going through the literature of the district and herbarium study at Blatter herbarium St. Xavier's College, Mumbai, herbarium study at Agharkar Research Institute (ARI), Pune and Botanical Survey of India (BSI), Western circle, Pune, it was found that this plant species is found to be new to Nasik district which has ethnomedicinal properties used by the Kokni tribal of the region. The brief description of new distributional record of plant along with its ethnomedicinal uses is given below.

Solanum erianthum D. Don, Prodr. Fl. Nep. 96, 1825; Roe in Taxon 17: 176, 1968; C.B.Cl. in Hook. f. Fl. Brit. India 4: 230, 1883; Cooke, Fl. Pres. Bombay 2: 333, 1958 (Repr.). Deb in J. Econ Tax. Bot. 1: 46, 1980; Bole & Almeida, J. Bombay Nat. Hist. Soc. 81: 379, 1984; Vartak, JBNHS 54, 965, 1957; V.N. Naik, Fl. Marathwada 615, 1998; Almeida, Fl. Maharashtra 3B: 374, 2001; Singh *et al.*, Fl. Maharashtra State 2: 504, 2001.

S. corymbosum Noronha in Verh. Batav. Gen. 5. Ed.1, Art.4: 26, 1790 (nom. nud.)

S. verbascifolius auct. (non. Linn. 1753); Wight, Icon.t. 1398, 1848; Clarke in Hook.f., Fl. Brit. Ind. 4:230, 1884; Santapau in Journ. Bombay Nat. Hist. Soc. 47:653, 1948; Dalz & Gibs., Bombay Fl. 175, 1861; Cooke, Fl. Pres. Bombay 2:263, 1905; Graham, Cat. Bombay Pl. 138, 1839.

S. varibascifolium var. *exstipulatum* O.Kuntze, Rev.Gen. Pl. 2:45, 1891.

S. pubescans Roxb., Fl. Ind. 2:244, 1824 (non Willd., 1794).

A shrub or small unarmed tree 2 – 6 m. high, covered almost all over with a dense yellowish or grey tomentum of scrufy stellate hairs. Leaves 10-20 by 5-15 cm., elliptic-lanceolate, acuminate, entire, velvety-pubescent above, densely woolly beneath, base acute or subrhomboid (rarely rounded); main nerves about 8 pairs; petioles 2 – 4 cm. long. Flowers numerous, in woolly dichotomous corymbose cymes which are at first apparently terminal, afterwards becoming lateral, peduncles stout, 2.5 -10 cm. long, pedicels 3 – 9 mm long, stout. Calyx 6 mm long cup shaped, densely stellately woolly, teeth at flowering time 2.5 mm long, broadly deltoid, acute, enlarged in fruit but not over topping the berry. Corolla white, nearly 1 cm long, deeply divided, lobes 8 mm long, elliptic-lanceolate, acute, stellately hairy outside. Filaments flat, glabrous, anthers 3 mm long, oblong, obtuse. Ovary hairy, style glabrous. Berry 8 mm in diameter, globose, yellow, covered with small stellate hairs. Seeds 2.5 mm in diameter, slightly rugose.

Local name: Ran wange
Flowering & Fruiting: Throughout the year.
Distribution: Satana Taluka: **Villages** - Jaitapur, Devthan.
GPS coordinates: 20°47.468'N and 74°3.608'E
***Exsiccata*:** SDK – 703, 704 (BLAT)

Ethnomedicinal uses by Kokni tribal:
Leaves are heated and paste is applied to the forehead to cure headache. Root decoction is used to treat dysentery, fever and body pains. Fruits are boiled in water and vapours are inhaled to cure toothache and tonsillitis. Fruits are rubbed on hand and legs as an insect repellant while working in the field. The seeds are burnt to ash and given for 7 days to cure sterility in males.

Photo plate I: *Solanum erianthum* D. Don growing in natural habitat

Fig. 1

Fig. 2

Fig. 3

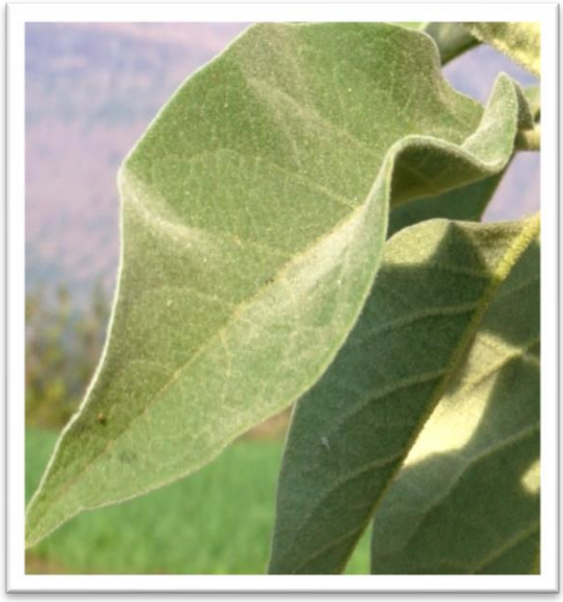

Fig. 4

Figure 1: *Solanum erianthum* D. Don, Habit; **Figure 2:** *Solanum erianthum* D. Don, Flower
Figure 3: *Solanum erianthum* D. Don, Fruit; **Figure 4:** *Solanum erianthum* D. Don, Leaf

Conclusion

The plant is generally found in Marathwada region of Maharashtra which is much dried part of the state. The plant grows in districts like Aurangabad, Beed, Latur, Nanded, Osmanabad and Parbhani. The plant is also reported from Pune, Satara, Kolhapur and Solapur districts which have dense forest area. This plant is been reported from dry as well as forested areas of Maharashtra state. The plant was found growing in hilly forest area of Satana taluka of Nasik district where rainfall is abundant. Thus this plant is growing in different climatic conditions in

Maharashtra. The present ethnobotanical study on Kokni tribal of Nasik district indicates that the district is one of the biodiversity rich regions for economical and medicinal plants. The digital database preparation and updating the vegetation maps using GPS of the plants will be a step ahead in the revision of the Flora of Nasik district.

Acknowledgement

The authors are thankful to Principal, St. Xavier's College, Mumbai for providing necessary facilities. Authors are thankful to Shri Kalu Bhoye and Shri Rajaram Chaure, the Kokni informant, for providing ethnomedicinal information about plant from Nasik district.

References

1. Almeida SM. "Flora of Savantwadi". Vol I & II, (1990). Scientific Publishers, Jodhpur. India.
2. Almeida MR. "Flora of Maharashtra". Vol III B, (2001). Orient Press, Mumbai.
3. Bridson D and L Formann. "The Herbarium Handbook". (Repr. ed.). (1999). Royal Botanic Gardens, Kew.
4. Gaikwad SP and KU Garad. "Flora of Solapur District". (2015). Laxmi book publications, Solapur (MS). India.
5. Garud BD and S Shinde. "New additions to the flora of Nasik district, Maharashtra (India)" International Journal of Botany Studies. 3.4 (2018): 37-38.www.botanyjournals.com
6. Jena GS, R Mishra and KB Satapathy. "Four New Flowering Plant Records from Koraput District of Odisha". Indian Journal of Pharmacy and Biological Sciences 13.4 (2018): 23-28.
7. Kamble SY and SG Pradhan. "Flora of Akola district", BSI, Flora of India, Series 3. (1988). Calcutta.
8. Kothari MJ and S Moorthy. "Flora of Raigad district", BSI, Flora of India, Series 3. (1993). Calcutta.
9. Lakshminarasimhan P and BD Sharma. "Flora of Nasik district", BSI, Flora of India, Series 3. (1991). Deep printers, New Delhi.
10. Naik VN. "Flora of Marathwada", Vol II, (1991). Amrut Prakashan, Station Road, Aurangabad.
11. Patil MV and DA Patil. "Ethnobotany of Nasik District". Maharashtra, (2006). Daya Publishing House, Delhi.
12. Patil DA. "Flora of Dhule and Nandurbar districts". Maharashtra, (2003). Bishen Singh Mahendra Pal Singh, Dehra Dun.
13. Patil MB. "Ethnomedicines of Nandurbar district". Maharashtra, (2003). Laxmi Book Publication, Solapur, Maharashtra.
14. Rao GR, DK Mesta, S Chandran and TV Ramachandra. "New plant records for Karnataka from Uttara Kannada district". Journal of Economic and Taxonomic Botany. 35.1(2011): 154-157. Scientific Publishers, Jodhpur. India.
15. Shinde RD. "Cartographic and Vegetational studies on arboreal flora of greater Bombay". Ph.D. Thesis, Blatter Herbarium, Department of Botany, St. Xavier's College, Bombay. (1993)
16. Singh NP, P Lakshminarasimhan, S Karthikeyan, and PV Prasanna. "Flora of Maharashtra State: Dicotyledons". 2. (2001). BSI, Calcutta.
17. Somkuwar SR, JV Gadpayale and A Chaturvedi. "New Plant Records to the Flora of Nagpur District (M.S.), India". IJRBAT, Special Issue-(6), (2015): 93-95. www.ijrbat.in
18. Swarnalatha G. "Two new records of Trypetheliaceae (Lichenized Fungi) from India". Annals of Plant Sciences 7.12 (2018): 3478-3480
19. Thakre MT and T Srinivasu "New plant species records of Flora of Nagpur district (Maharashtra)". Journal of Global Biosciences, 2.6 (2013): 202-205. www.mutagens.co.in
20. Yadav SR and Sardesai "Flora of Kolhapur district", Shivaji University, (2002). Rajhuns Printing Press, Kolhapur.
21. Yadav S and PB Dhanke. "A check list of plants of Nashik District". Nashik Forest Circle. (2010). Orient Press Ltd. Mumbai.

Cite this article as:

Sachin D. Kuvar and R. D. Shinde, 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 (2019) pp. 3563-3566.

http://dx.doi.org/10.21746/aps.2019.8.6.1

Source of support: Nil; **Conflict of interest:** Nil.