



RESEARCH ARTICLE

## ***Boerhavia crispa* heyne ex hook. F (Nyctaginaceae) - a new distributional record for Madhya Pradesh state, India**

**K. Chandramohan<sup>1</sup>, D. Ravivarma<sup>2</sup> and G. Ravi<sup>3</sup>**

© The Indian Botanical Society 2022

**Abstract** *Boerhavia crispa* Heyne ex Hook.f. is reported for the first time from Madhya Pradesh State, India. Detailed description, photo plate and relevant notes are provided.

**Keywords:** Crisp leaf margin, Endemic, Madhya Pradesh, Peninsular India

### **Introduction**

*Boerhavia* L. (Nyctaginaceae: Nyctagineae) is a genus with 40 species widely distributed in tropics and subtropics (Douglas & Spellenberg 2010). In India, the genus is represented by six species (Ravichandran *et al.* 2020). Of these, *Boerhavia crispa* Heyne ex Hook.f. is a less known endemic species and so far, known from Tamil Nadu (Gamble 1921, Hentry *et al.* 1987) & Maharashtra (Chandramohan 2020). There is no record of its occurrence in Madhya Pradesh (Mudgal *et al.* 1997).

### **Materials and methods**

While assessing the forest resources in Madhya Pradesh state, the first author collected a species of *Boerhavia* from open areas in Birona village (Chhattarpur district), Sajwani beat (Barwani dist.) and Nisarpur (Dhar district), Madhya Pradesh. On the critical examination, it was identified as *Boerhavia crispa* (Hooker 1885, Gamble 1921, Ravichandran *et al.* 2020, Chandramohan 2020). As a result, it is reported as an addition to flora of Madhya Pradesh. For simple identification, a

detailed description and photographs are provided. Voucher specimens are deposited at Botanical Survey of India, Deccan Regional Centre (BSID), Hyderabad, Telangana.

### **Observations and results**

***Boerhavia crispa*** Heyne ex Hook.f., Fl. Brit. India 4: 709. 1885; Gamble, Fl. Pres. Madras 2: 1163. 1921; Sharma, Fl. Karnataka 226. 1984; Henry *et al.*, Fl. Tamil Nadu 2: 188. 1987; Singh, Fl. East Karnataka 2: 529. 1988; Bramadhyayalaselvam & Rajasekaran, J. Econ. Taxon. Bot. 18(2): 499. 1994; Pramanick *et al.*, J. Global Biosci. 4(3): 1705. 2015; Ravichandran *et al.*, Phytotaxa 455(4): 279. 2020; Chandramohan, J. Econ. Taxon. Bot. 44 (1-4): 18-20. 2020. B. rugosa Rottler ex Wall., Numer. List [Wallich] sub n. 6771. 1832. B. rottleri Steud., Nomencl. Bot. [Steudel], ed. 2.1: 213. 1840. (Figure 1)

Perennial, prostrate, stout, scaberulously pubescent herb. Roots stout, woody. Stems cylindrical, woody at the base, pubescent, pale brown or light pinkish, swollen at nodes. Leaves opposite, simple, oblong or ovate-oblong, 2-3.5 × 1.2-2.3 cm, obtuse at apex, undulate, margins crisp, rounded at base, coriaceous, scabrid on both the surfaces; veins 5-6 pairs on each side of lamina, distinct beneath, pinkish; lamina green above, whitish beneath; petioles stout, slender, 0.5-1.2 (2) cm long, puberulous, sulcate above, convex beneath, pinkish; exstipulate. Inflorescence axillary or terminal laxly branched panicle composed of few capitate flowers; peduncles

**G. Ravi**  
gollamandalravi2@gmail.com

**1 Forest Survey of India, Central Zone, Nagpur, Maharashtra**

**2 Forest College & Research Institute, Mulugu, Hyderabad**

**3 Bharatiya, Engineering Science and Technology Innovation University, Anantapur, Andhra Pradesh**

capillary, 0.5-1.6 cm long, pinkish. Flowers pink, sessile or sub sessile, hermaphroditic, hypogynous, actinomorphic, 2-2.5 mm long; bracts ovate-lanceolate, 0.8-1.2 mm long, acute, entire, scabrid, rough, 1-veined, greyish, caducous; bracteoles 2, ovate to lanceolate, 0.5-1 mm long, acute, entire, sub-cordate, rough, 1-veined, caducous. Perianth light purple, corolliform, connate, tubular at base, infundibuliform at apex; limb 5-lobed, pink. Stamens 2; filaments capillary, 0.5-1.5 mm long, included; anthers 2-celled, orbicular, dehiscence longitudinal, extrorse, yellow. Carpel 1; ovary ellipsoid, 0.5-1 × 0.3-0.5 mm, glandular hairy, light green; ovule solitary, basal; style filiform, 0.5-1 mm long, glabrous; stigma 1, capitate, included. Anthocarp indehiscent, obovoid to obconical, 5-ribbed, truncate at apex, 2.5-4 × 2-2.5 mm, pale

pink, glandular hairy throughout; 1-seeded.

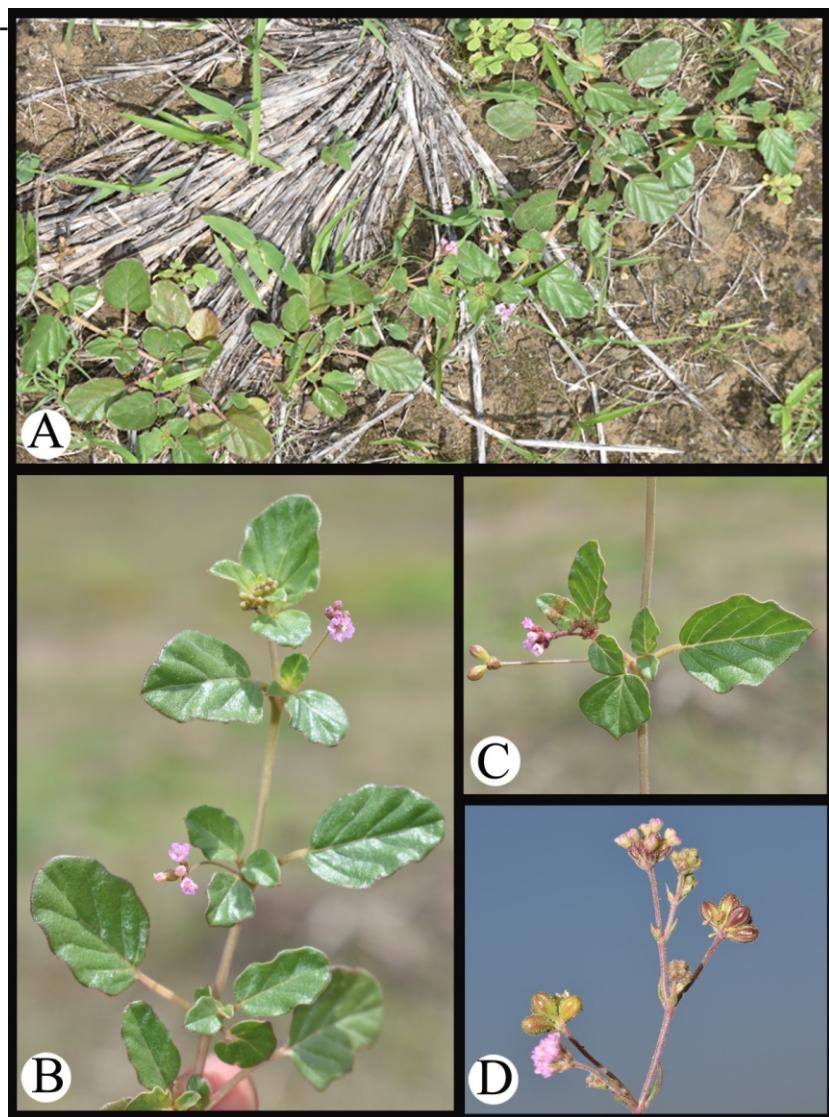
**Distribution:** INDIA (Tamil Nadu and Maharashtra, present report from Madhya Pradesh)

**Flowering and Fruiting:** Most of the year

**Ecology:** It is rare and endemic to peninsular India (Ahmedullah and Nayar 1987).

**Specimens examined:** INDIA, Madhya Pradesh, Dhar district, Nisarpur, near forest quarters, 22°15'15.94" N & 74°10'23.92" E, Alt. 265 m asl, 12.02.2021, K. Chandramohan 0346 (BSID); Chhattarpur district, Birona village, 24°51'50.15" N & 79°46'26.92" E, Alt. 245 m asl, 05.12.2020, K.

**Figure 1(A-D): A- Habitat, B & C- Flowering twigs, D- Fruiting twig**



Chandramohan 0341 (BSID); Barwani district, Sajwani beat, comp.49, 21582207N & 74571014E, Alt. 280 m asl. 24.02.2021, K.Chandramohan 352 & 353 (BSID).

### Acknowledgements

The authors are thankful to the Shri. Anoop Singh IFS, Director General, Forest Survey of India (FSI), Dehra Dun and Shri. Chaturbhuj Behera IFS, Regional Director, FSI, Central Zone, Nagpur for facilities and encouragement.

### References

- Ahmedullah M. and Nayar M P 1987. *Endemic Plants of the Indian Region*. Vol I. Botanical Survey of India, Calcutta
- Almeida M R 1968 Notes on *Boerhavia*. *Journal of Bombay Natural History Society*, **65 (1)** 266-268.
- Chandramohan K 2020 On the distribution of less known endemic species *Boerhavia crispa* (Nyctaginaceae) from Peninsular India. *Journal of Economic & Taxonomic Botany* **44 (1-4)** 1820.
- Chen S H and Wu M J 2007 A Taxonomical study of the genus *Boerhavia* (Nyctaginaceae) in Taiwan. *Taiwania* **52 (4)** 332-342.
- Douglas N and Spellenberg R 2010 A new tribal classification of Nyctaginaceae. *Taxon*, **59 (3)** 905-910.
- Gamble J S 1921 *Flora of the Presidency of Madras*. Vol. 2, Adlard & Sons Ltd., London
- Henry A N Kumari G R and Chitra V 1987 *Flora of Tamil Nadu, India*, Series 1: Analysis. Vol. 2, Botanical Survey of India, Coimbatore.
- Hooker J D 1885 Nyctagineae. In: J.D. Hooker, *The Flora of British India* 4: 708 -711. L. Reeve & Co. London
- Liu T S 1976 *Nyctaginaceae* In: Li, H.L. et al. (eds.) *Flora of Taiwan*, Vol 2, Epoch Publication. Co. Taipei, Taiwan.
- Mudgal V Khanna K K and Hajra P K 1997 *Flora of Madhya Pradesh*, Vol. II, Botanical Survey of India, Calcutta.
- Pramanick D D Maiti G G and Mondal M S 2015 A taxonomic revision of the genus *Boerhavia* L. (Nyctaginaceae) in India. *Journal of Global Biosciences* **4 (3)** 1704-1717.
- Ravichandran A P Sardesai M M and Yadav S R 2020 Taxonomic and nomenclatural notes on *Boerhavia* (Nyctaginaceae) in India. *Phytotaxa* **455 (4)** 277-286.
- Sharma B D 1984 *Flora of Karnataka: Analysis*, Botanical Survey of India, Kolkata.
- Singh N P 1988 *Flora of Eastern Karnataka*. Vol. 2, Mittal Publications, Delhi.