

## NEW PLANT RECORDS FOR GONDIA DISTRICT (M. S.) INDIA

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### ABSTRACT

Present study of floristic investigations of Gondia District (M. S.) India records six additional taxa to the flora of Gondia District viz. *Lindenbergia muraria* (Roxb.) Bruhl., *Nepata hindostana* (Heyne ex Roth) Haines, *Oxalis deharadunensis* Raiz., *Persicaria limbata* (Meissn.) Hara, *Pogostemon purpurascens* Dalz. and *Spigella anthelmia* Linn.

Keywords: New additions, angiosperms, flora of Gondia District, Maharashtra, India.

### INTRODUCTION

Gondia district is situated on North-Eastern side of Maharashtra state. It extends from 20.39° and 21.38° North latitudes and 79.227° to 82.42° East longitudes. The adjoining districts to Gondia are on Northern side Balaghat district of Madhya Pradesh and on eastern side Rajnandgaon district of Chattisgarh. To the South and West are Gadchiroli district and Bhandara district of Maharashtra state.

The district covers an area 4843.12 sq.km. of which 2644.70 sq.km. fall under forest area. Out of the total forest area 830.96 sq. km. falls under reserved forest area and 846.15 sq km under protected forest. Remaining forest area is categorized in to miscellaneous and reserved forests under wildlife.

The district is bestowed with one National Park and one Wildlife Sanctuary namely Navegaon National Park and Nagzira Wildlife Sanctuary respectively.

### PREVIOUS WORK

Floristic investigation of Gondia district probably date backs to 1874 when Brandis wrote "Flora of North-West of Central India and added few species of this locality. Witt

(1908), published list of trees, shrubs, climbers and plants of Economic Importance found in Berar forest circle of the central province. Haines (1912 to 1916) published list of trees, shrubs and Economic herbs of the southern forest circle of the Central provinces.

Paradkar *et al.*, (1977), Paradkar and Munshi (1980), recorded few plants from Navegaon region of then Bhandara district (now part of Gondia district). Malhotra and Rao (1980, 1981a, b) studied the vegetation of Navegaon National Park and Nagzira Wildlife Sanctuary and its environs. Bhuskute (1991) studied the vegetation of Eastern Bhandara district, Yadav and Bhuskute (1999) and Bhuskute (2002) reported *Mollinaria trichocharpa* and *Stylidium tenellum* respectively which are the addition to the state flora. Sardesai *et al.*, (2001) reported twenty species of *Utricularia* from Maharashtra state after intensive and extensive survey. Out of these ten species have been reported from then Bhandara district. Sardesai *et al.*, (2002) reported *Eriocaulin martianum* wall. and *Utricularia minutissima* valls. from Darekasa of Salekasa tahsil and Gonditola (Amgaon Tahsil) respectively which form new records for the states of Maharashtra. Wadood Khan *et al.*, (2003) reported few taxa of Cyperaceae from Gondia district. Kahalkar

(2009) studied the vegetation of Gondia district for Doctorate degree (Ph. D) on the title "Floristic studies on Gondia district of Maharashtra state" and reported 1072 species occurring in the various habitats of the district. Wadood Khan *et al.*, (2011) erected new species *Fimbristylis poklii*. W. Khan *et al.* under new section, *Lineares* of Cyperaceae from Gondia district. Bhuskute *et al.*, (2012) reported *Mitrasacme pygmaea* R.Br. from Mandobai and Mahadev hills (Amgaon). Recently Bhuskute *et al.*, (2016) reported *Soliva anthemifolia* (Juss.) R. Br. from Malhar Tank locality of Amgaon Tahsil.

## MATERIALS AND METHODS

### Area under Investigation

District Gondia (20.39° and 21.38° North latitudes and 79.227° to 82.42° East longitudes).

Frequent field visits were conducted during 2013 to 2017 to various localities of Gondia district and collected many angiospermous specimens which are processed by conventional herbarium technique. All the specimens were identified with the help of standard floras and published research articles. Voucher specimens are preserved in the Herbarium, Department of Botany, Bhawabhuti Mahavidyalaya, Amgaon, Dist. Gondia (M. S.). Six specimens, out of the total collection, came out to be new additions to the Gondia District which are enumerated in the results.

## RESULTS

### Fam. Oxalidaceae

*Oxalis dehradunensis* Raiz. Suppl. Fl. Upp. Gang. Plain 37-38. 1976; Manna in Hajra *et al.*, Fl. India 4: 246. 1997; Singh and Karthikeyan, Fl. Maha. State Vol. 1.

439. 2000, N.P. Balakr. & W. Arisdason in P. Daniel, Fl. Kerala 1: 578. 2005; *Oxalis intermedia* Rich. Ess. Fl. Cuba 315. 1845, non Steud. 1841. *Oxalis richardiana* Babu, Herb. Fl. Dehra Dun 104. 1977. *Oxalis latifolia* auct. Pl. non H. B. & K. 1821; Blatt. In J. Bombay nat. Hist. Soc. 34:898.1931.

A stem less (stem very short) perennial herb, erect, to 25 cm tall, root stock bulbous; bulbs conical, 1 to 2 cm in diameter, composed of few lanceolate scales; Leaves few, erect; leaflets 3, 1.5x2.5 cm broadly obconical, base acute, apex retuse; petiole to 20 cm long. Umbels 4-10-flowered; Flowers violet, pedicellate; sepals lanceolate, green, 4 x 1 mm, margins hyaline and glandular; petals oblanceolate, 10 x 5 mm, violet with yellowish base; stamens 10; filaments alternatively long and short; styles glabrous; fruit capsule, capsule ovoid-cylindrical.

Fls. & Frts.: May-November.

Distribution: in shady wet places, garden weed.

Location: Bhawabhuti Nagar, Tah. Amgaon (N 21°21.216' E 080°23.624')

Exsiccata: SMB 2214.

### Fam. Loganiaceae

*Spigella anthelmia* L. Sp. Pl. 149.1753; Oomachan & Srivastava in J. Bombay Nat. Hist. Soc. vol. 84(3): 730-732.1987; Oomachan & Srivastava Flora Jabalpur 320.1996; Pardesi & Srivastava in Bull. Bot. Surv. India vol 48(1-4):201-204.2006. Plate 1 & 2.

Erect annual herb, 10-45 cm high, sparsely branched. Stem greenish, glabrous. Leaves broadly lanceolate or ovate-lanceolate 3-15 x 0.6-7 cm, acute or

acuminate at the apex, broadly rounded or sub-truncate basely, decurrent on the petioles, membranous, usually ciliate at the margins, sparsely puberulent along the midrib on dorsal side. Inflorescence terminal, second spikes bearing up to 20 bractiolate flowers. Sepals 5, linear-lanceolate 1 to 2 mm long. Corolla of 5-fuse petals, a pair of magenta stripes present on either side of midline of lobes. Stamens five, anthers yellow. Ovary superior. Axile placentation. Fruit 2-lobed capsule, 4-5 mm in diameter. Seeds black.

Fls. & Frts.: July-December

Distribution: Weed of garden, also found in moist grasslands.

Location: Botanical Garden, Bhawabhuti Mahavidyalaya

(N21°21.231' E 080°23.579')

Exsiccata: SMB 2213.

#### Fam. Scrophulariaceae

***Lindenbergia muraria*** (Rox. ex D. Don) Bruhl J. Dept. Sci. Calcutta Univ. 2(Bot.): 27. 1920; Prijanto in Reinwardtia 7: 548.1969; Singh, Lakshminarasimhan and Karthikeyan, Fl. Maha. State Vol. 2. 535. 2001. *Stemodia muraria* Roxb. in D. Don, Prodr. Fl. Nepal. 89. 1825.

*Lindenbergia urticaefolia* Lehm. in Link & Otto, Ic. Pl. Rar. 95, t. 48. 1831 ('urticaefola'); Hook. F. Fl. Brit. India 4:261. 1884; Cooke, Fl. Pred. Bombay 2:379.1958 (Repr.).

Annual herb, 10-40 cm high, glandular hairy. Primary root undeveloped, lateral roots numerous and fibrous. Stem cylindrical, simple or often branched, straight

or ascending. Leaves 2.5-6 x 1-3.5 cm, thin, nearly membranous, finely hairy, Ovate-lanceolate or elliptic, margin crenulate, apex acute to obtuse. Flower c 0.8 cm long, yellow, Pedicel 1-5 mm, hairy. Calyx 4-5 mm, densely hairy; tube membranous; lobes equal, oblong-ovate, apex obtuse to apiculate. Corolla yellow, 8-9 mm; tube slightly longer than calyx, hairy; limb sparsely hairy, lobes oblong-ovate, subequal, and apically obtuse; upper lip truncate, emarginate. Anthers orbicular, stalked. Ovary and style densely long ciliate. Stigma globose, glabrous. Capsule ovoid-globose, hairy, slightly beaked ca. 5 mm. Seeds ellipsoid, pale brown, muriculate and ribbed, c 0.5-0.7 mm.

Fls. & Frts.: October-December

Distribution: Growing on old walls under shady conditions.

Location: Gondia city

Exsiccata: SMB 2217.

#### Fam. Lamiaceae

***Nepeta hindostana*** (Heyne ex Roth) Hainnes, Bot. Bihar & Orissa 744. 1922[2:781.1961 (Repr.)]; Mukerjee in Rec. Bot. Surv. India 14 (1) 133. 1940; Singh, Lakshminarasimhan and Karthikeyan, Fl. Maha. State Vol. 2. 739. 2001. *Glechoma hindostana* Roth, Nov. Pl. Sp. 259.182. *Nepeta ruderalis* Buch.-Ham. Ex Bth. in Wall. Pl. As. Rar. 1:64.1831; Hook.f. Fl. Brit. India 4:661.1885; Cooke, Fl. Pres. Bombay 2:556.1958 (Repr.)

Annual or short-lived herb, 10-35 cm high. Stems erect or ascending, slender, Leaves 1-5 x 0.5-4.0 cm broadly ovate or triangular-ovate, hoary, broadly ovate to suborbicular, dentate, petiole up to 2 cm

long. Inflorescence is lax, verticillasters. Flowers pedicellate, up to 3 mm. Bracts linear-subulate, as long as calyx. Sepals 3-4 mm, often purplish, ciliate. tubular, throat oblique, teeth about 1/3 length of tube. Petals lilac to purplish, about 8 mm. Nutlets about 1 x 0.6 mm, oblong-ellipsoid, dull brown, depressed-tuberculate.

Fls. & Frts.: Dec. to Apri.

Distribution: Occasional along banks of nulhas and dried edges of tanks.

Location: Girola, N21<sup>0</sup>32.729' E 080<sup>0</sup>10.161'

Exsiccata: CKP 1921

***Pogostemon purpurascens*** Dalz. in Hook. J. Bot. Misc. 2: 337.1850, Hook. f. Fl. Brit. India 4: 632. 1885; Cooke, Fl. Pres. Bombay 2: 537.1958 (Repr.); Mukerjee in Rec. Bot. Surv. India 14(1): 71.1940; Bhatti & Ingrouille in Bull. Nat. Hist. Mus. Lond. (Bot.)27: 92, Figs. 5a, 16b.1997; Singh, Lakshminarasimhan and Karthikeyan, Fl. Maha. State Vol. 2. 757. 2001.

Herbs, 20-100 cm high, branched, villous; stems and branches quadrangular. Leaves in unequal pairs 6-10 x 2-6 cm, leaves ovate to ovate-lanceolate, membranous, softly hairy on both sides, apexacute, base cuneate, margins irregularly crenate-serrate. Flowers white to purplish whitein dense, villous spikes in close, many flowered whorls; bract ovate-lanceolate, slightly falcate; calyx 0.3-0.5 cm long, pubescent, tube angled; corolla 0.4-0.7 cm long, upper lip 3-lobed, lower one white, broadly ovate. Nutlets ellipsoid-oblong, reticulate with punctuate walls.

Fls. & Frts.: October to March

Distribution: Common, causes menace to grasslands

Location: Nagzira Wildlife sanctuary

Exsiccata: SMB 2215.

### Fam. Polygonaceae

***Persicaria limbata*** (Meissn.) Hara, Fl. East. Himal. 71. 1966 & in Hara et al Enum. Fl. Pl. Nepal 3: 76.1982; Singh, Lakshminarasimhan and Karthikeyan, Fl. Maha. State Vol. 2. 807. 2001. Polygonum limbatum Meissn. In DC Prodr. 14(1): 123.1856; Hook. f. Fl. Brit. India 5:30. 1886; Cooke, Fl. Pres. Bombay 3: 6. 1958 (Repr.).

Herbs, erect. Leaves 12-25 x 2-3.5 cm, lanceolate, scaberulous on both surfaces, tapering at the base; ocreae strigose with a spreading or recurved scabrid limb. Flowers in stout short, erect, paniculate racemes. Perianth white. Nuts orbicular, compressed with rounded margins and concave faces.

**Note: It is collected for the first time from Vidarbha region**

Fls. & Frts.: October to January

Distribution: Occasional along the margins of perennial tanks.

Location: Navtalav (Amgaon) (N 21<sup>0</sup> 21.474' E 080<sup>0</sup>23.314')

Exsiccata: SMB 2216.

### DISCUSSION

The present study reports six species which are addition to the district flora. Thus, the total number of angiospermic taxa raised to 1078. In addition, *Persicaria limbata* (Meissn.) Hara reported for the first time for Vidarbha region. This species is earlier reported from Konkan region (Singh *et al.*, , 2001).

BIONATURE : 2017



***Oxalis dehradunensis* Raiz.**



***Spigella anthelmia* L**



***Pogostemon purpurascens* Dalz.**



*Persicaria limbata* (Meissn.) Hara



*Nepeta hindostana* (Heyne ex Roth) Hainnes



*Lindenbergia muraria* (Rox. ex D. Don) Bruhl J.

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