



New additions to the Flora of Nagpur District, Maharashtra

Rahul B. Kamble, Sandeep Hate and Alka Chaturvedi

P.G. Department of Botany, RTM Nagpur University, Nagpur, India- 440 033

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ABSTRACT

Nagpur is the most prominent district of Eastern Maharashtra. It lies between latitudes $20^{\circ} 35'$ and $21^{\circ} 44'$ north and longitudes $78^{\circ} 15'$ and $79^{\circ} 40'$ east and has an area of 9930 square kilometers. In this region there are many taxa which are not reported yet as in the form of flora documentation. In this study, the authors collected some taxa from the different locations and various habitats for the first time. Specimens were collected, identified by the reference of different floras and authenticated it.

Key Words: New additions, Flora, Nagpur.

INTRODUCTION

Central India is very well flourished by natural vegetation including major part of Madhya Pradesh and Eastern part of Maharashtra mainly Vidarbha region. Vidarbha constitutes 11 districts namely Amravati, Akola, Bhandara, Buldhana, Chandrapur, Gadchiroli, Gondia, Nagpur, Wardha, Washim and Yawatmal contributing the major forest cover and rich biodiversity in the Maharashtra State. Amongst, Nagpur is the sub capital of Maharashtra State and worthy of being the 'Gateway to the Central Indian Forests'. In this region there are many taxa which are not reported yet as in the form of flora documentation. Documentation of the vegetation is very important aspect in the field of the taxonomy. Without documentation many important plant species may be ignored from the particular region. Frequent visits in every season are necessary for floristic survey. The paper deals with the reporting of addition of some taxa to the floristic records of Nagpur district.

MATERIAL AND METHODS

Study Area

Nagpur is the divisional headquarter of Eastern Maharashtra. It lies between latitudes $20^{\circ} 35'$ and $21^{\circ} 44'$ north and longitudes $78^{\circ} 15'$ and $79^{\circ} 40'$ east and has an area of 9930 square kilometers. The district has an average elevation between 275.50 and 305m above sea level & its relief features are characterized by large residual hill ranges of Satpudas and their detached members. District is

divided into 14 talukas viz. Bhiwapur, Hingna, Kalmeshwar, Kamptee, Katol, Kuhi, Mouda, Nagpur, Nagpur Rural, Narkhed, Parseoni, Ramtek, Saoner and Umred (Fig. 1). Earliest documentation on floristic exploration of this area was done by Ugemuge (1986). According to Flora of Nagpur District (Ugemuge 1986) there are 1136 plant species which fall under 669 genera and 142 families.

Several visits were made in the district for the floristic survey during whole year. The identification and authentication has been done with the pertinent literature different floras, research papers and reports viz., Flora of Nagpur District (Ugemuge 1986), Flora of Maharashtra State Vol. I (Singh & Karthikeyan 2000), Flora of Maharashtra State Vol. II (Singh *et al.* 2001), The Flora of Maharashtra (Almeida 1998), Flora of Marathwada (Naik 1998) and also confirmed from Central National Herbarium, Botanical Survey of India, Kolkata. The voucher specimens of the collection has been deposited at the Herbarium, Department of Botany, RTM Nagpur University, Nagpur.

OBSERVATIONS AND RESULTS

Authors collected some specimens belonging to families Spigeliaceae, Verbenaceae, Caesalpiniaceae, Solanaceae, Oxalidaceae and Apocynaceae. After critical microscopic observations and authentication with the help of floras, the specimens illustrated below. The flowering and fruiting seasons, habitats and the localities in the district of the plants also cited in the text.

Corresponding author:

planet.raahul27@gmail.com

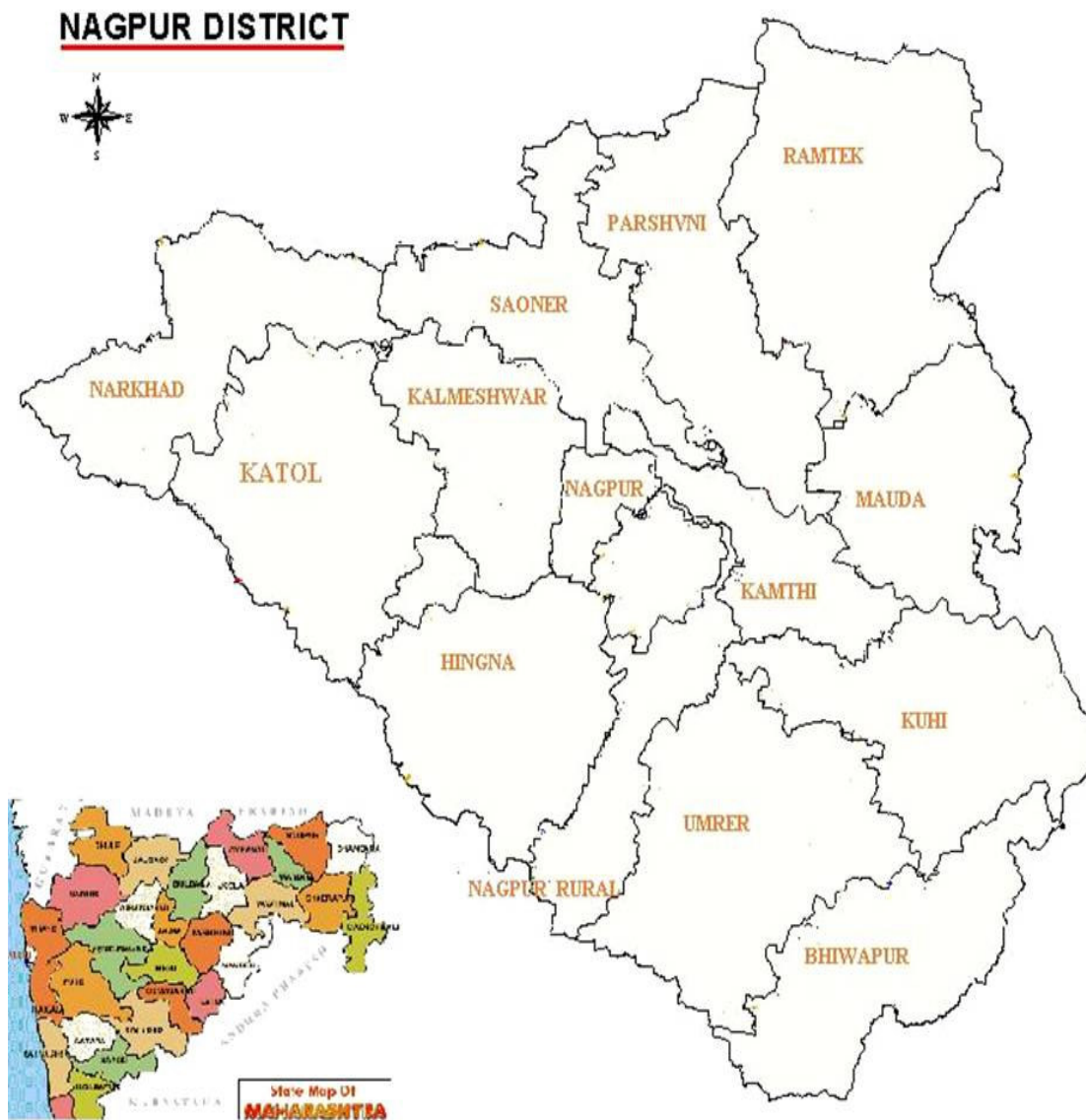


Figure 1. Map of Nagpur district showing Tahsils.

1. Family: Spigeliaceae

Spigelia anthelmia L., Sp. Pl. 149, 1753. *S. multispica* Steudel, Flora 26: 764, 1843. *S. killipii* Ewan, Caldasia 4: 302, 1947

Herb, annual, stem ascending, hollow, leafless below, the apical leaf four in number, whorled (the apical whorl actually consists of 2 decussate), Leaves are subsessile, blades 6cm- 8cm long, lanceolate- oblong to lanceolate-elliptic, apically acute, petiolate, marginally ciliate. Flowers closely aggregated on the tip of spike, soon separated by 3-4mm by internodal elongation.

Corolla campanulate tubular, whitish with prominent pink bands along midrib region of corolla lobes, glabrous, the tube 1.3-1.5cm long; 2-4 mm broad at the throat, 1.5-2mm broad at the base. Carpels 2, syncarpous, superior, ovary ca 0.8mm long, subglobose, the style extending to the opening of corolla throat and deciduous. The persistent cupular base navicular pointed at the ends. (Fig. 2a)

Flowering and Fruiting: September- December.

Habitat: Wet patches, besides water streams.

Location: Gorewada, Satnavari.

Exsiccata: Bot/9289

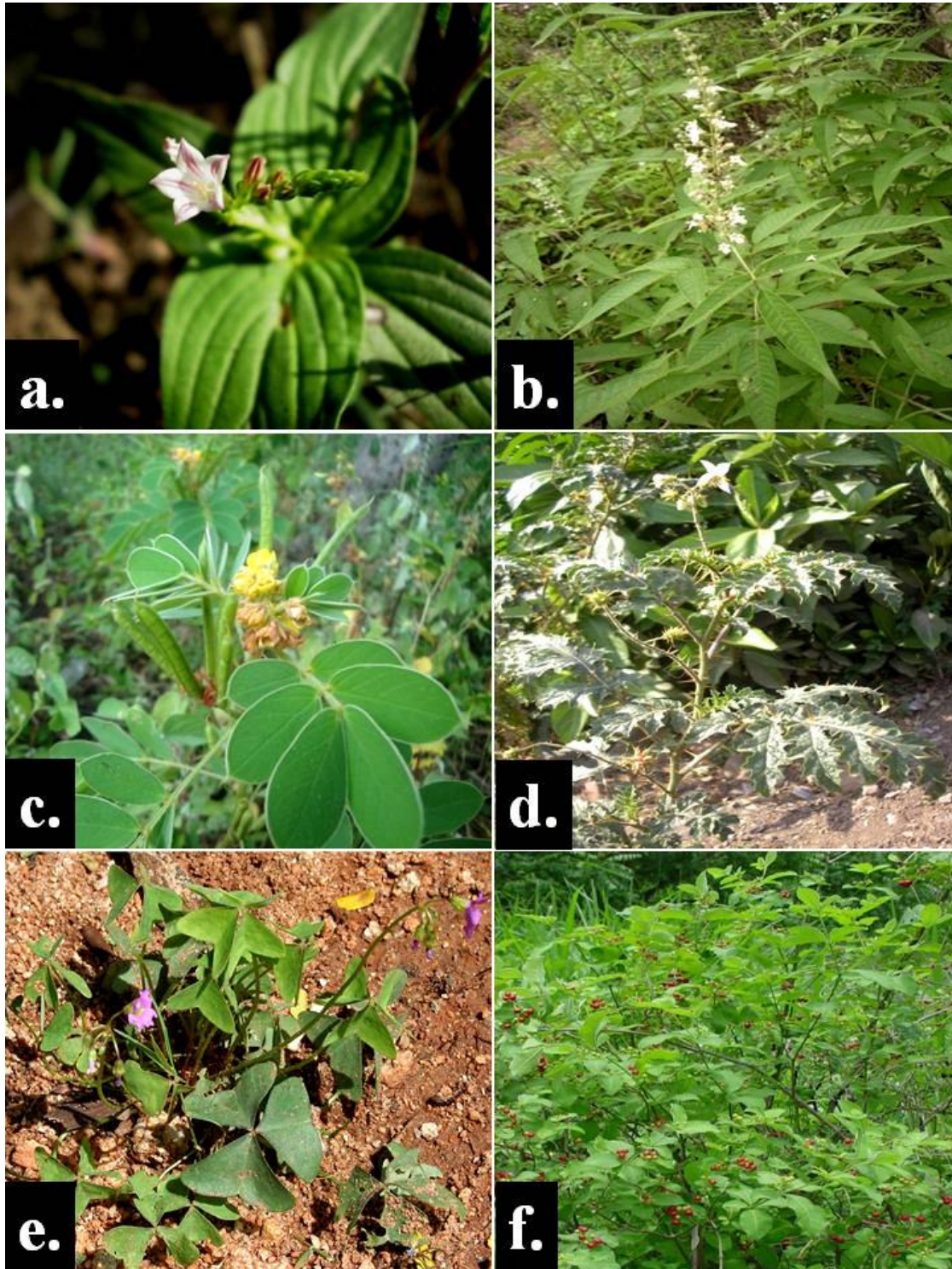


Figure 2. New additions to the Flora of Nagpur District, a) *Spigelia anthelmia* L.; b) *Vitex trifolia* L.; c) *Cassia uniflora* Mill Gard; d) *Solanum sisymbriifolium* Lam; e) *Oxalis dehradunensis* Raiz; f) *Rauvolfia tetraphylla* L.

2. Family: Verbenaceae

Vitex trifolia L.Sp. Pl.638. 1753 (trifollis); C.B.Cl. in Hook f. Fl. Brit. India 4: 583.1885; Cooke, Fl. Pres. Bombay 2: 508.1958 (Repr.)

Woody shrubs upto 4m tall, young vegetative parts grayish-tomentose. Leaflets 3-7 X 1-3 cm, terminal leaflet subsessile, lateral leaflet sessile, apex obtuse to subacute, base cuneate-attenuate, white tomentose beneath, glabrous above. Inflorescence of terminal, tomentose panicles about 13cm long. Flowers c 1.3 cm long, white. Drupes c 0.5 X 0.4 cm, globose (round in shape). (Fig. 2b)

Flowering & Fruiting: August- February.

Habitat: Roadsides, Open patches.

Location: Parsheoni Tahsil.

Exsiccata: Bot/9290

3. Family: Caesalpiniaceae

Cassia uniflora Mill Gard. Dict.Ed 8, 5, 1768 non Spreng, Raghavan in Bull.Bot. Surv. India 22: 225 (1980) 1982, Singh in Curr. 66, 1788 & Fl. Ind. Occ. 2(1) : 724, 1798; Singh in Bull. Bot. Surv. India 21: 203, ff. 1-17 (1979) 1981.

Herbs, erect, annuals, young parts pubescent, at length glabrescent. Leaves 6-9cm long, leaflets opposite, 2-4 pairs with a stalked gland (c 3.5 mm long) between each pair, 2.5- 3.5 X 1.2- 2cm, obovate- oblong, base cuneate, apex rounded, apiculate. Flowers 3-4 in axillary racemes. Pods subcompressed, thickened on both the sutures, beaked with persistent style and stigma. Seeds upto 10, subquadrangular, rhomboidal, smooth, dull brown. (Fig. 2c)

Flowering & Fruiting: August- November.

Habitat: Roadsides, Open patches.

Location: Gorewada, Vayusena Nagar, University Campus.

Exsiccata: Bot/9291

4. Family: Solanaceae

Solanum sisymbriifolium Lam. Illus. 2: 25. 1792, Matthew, Exot. Fl. Kodaikanal 162. 1969, Naik Fl. Osmanabad 226. 1979.

Herbs, prostrate, annuals, stems armed with straight sharp pale yellow prickles, thinly clothed with grey tomentum. Leaves 10-15 X 4-6 cm, pinnatifid or lobed, oblong- lanceolate. Flowers white, in short

lateral racemes. Berries globose, yellow, smooth, Seeds large, pitted. (Fig. 2d)

Flowering & Fruiting: June- September.

Habitat: Roadsides, Open patches.

Location: Ravinagar, Sadar.

Exsiccata: Bot/9292

5. Family: Oxalidaceae

Oxalis dehradunensis Raiz. In Suppl. Duthie's Fl.Upp. Gang. Plain 37, 1976. *O. latifolia* auct. Pl. non H.B & K. 1821; *O. Richardiana* Babu, Herb. Fl. Dehradun 104, 1977, *O. Latifolia* H.B & K Nov. Gen et sp. 184, t. 467, 1821, Blatt. In JBNHS 34: 898, 1931

Annual herb, tap root modified into bulbous stocks, conical few with scales; stem reduced 0.5cm high nodes; leaves extipulate, tall petiolated; petiole slender, green and reddish at the base, 3-8 basal leaves irregular, palmately trifoliate, broadly deltoid; inflorescence umbel 21-27cm long, peduncle 18-25cm long green, linear, flower 1-bracteate, ebracteolate, regular bisexual, hypogynous, infundibuliform, pink or violet, androecium 10, united into group, ovary superior, carpels 3, fruit locucidal capsule, seeds ovoid. (Fig. 2e)

Flowering & Fruiting: January

Habitat: Gardens along with lawns, Wet patches.

Location: University Campus, Sakkardara.

Exsiccata: Bot/9293

6. Family: Apocynaceae

Rauvolfia tetraphylla L. Sp. Pl. 208, 1753. *R. canescens* L. Sp. Pl. (ed 2). 303. 1762; Cooke Fl.Pres. Bombay 2: 188, 1958 (Repr.)

Shrubs, upto 1.5m tall. Leaves whorled, 3-4, 5-8 X 3-4 cm, elliptic, ovate, densely pubescent beneath, subacute to acute at both apex and base. Flowers cream coloured, about 0.3 cm across, calyx lobes subacute, corolla lobes ovate. Drupes connate to top 0.6- 0.7 cm. (Fig. 2f)

Flowering & Fruiting: More or less throughout the year.

Habitat: Roadsides, Open patches.

Location: University Campus, Pandharabodi, Gorewada.

Exsiccata: Bot/9294

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REFERENCE

- Almeida MR. 1998. *The Flora of Maharashtra*, Orient Press, Mumbai.
- Naik VN. 1998. *The Flora of Marathwada*, Amrut Publication, Aurangabad.
- Singh NP and Karthikeyan S. 2000. *Flora of Maharashtra State: Dicotyledones, Vol. I (Ranunculaceae to Rhizophoraceae)* BSI.
- Singh, N.P, Lakshminarasimhan P., Karthikeyan S and. Prasanna P.V, 2001. *Flora of Maharashtra State: Dicotyledones, Vol. 2: (Combretaceae to Ceratophyllaceae)*, Botanical Survey of India
- Ugemuge NR. 1986. *Flora of Nagpur District*, Shree Publication, Nagpur