

## RESEARCH ARTICLE

**Some Noteworthy Addition to the Flora of Nagpur District (M.S.), India****Gadpayale Jagannath V<sup>1</sup>, Somkuwar Subhash R<sup>1\*</sup> and Alka Chaturvedi<sup>2</sup>**<sup>1</sup>Department of Botany, S. N. Mor College of Arts, Comm. and Smt. G. D. Saraf Science College, Tumsar, India<sup>1\*</sup>Dept. of Botany, Dr. Ambedkar College, Deekshabhoomi, Nagpur, India-440 010.<sup>2</sup>P.G.Department of Botany, RTM Nagpur University, Nagpur, India-440 033.\*Corresponding author's E-mail: [ssomkuvar@gmail.com](mailto:ssomkuvar@gmail.com)

Manuscript details:	ABSTRACT
<p>Date of publication 18.10.2014</p> <p>Available online on <a href="http://www.ijlsci.in">http://www.ijlsci.in</a></p> <p>ISSN: 2320-964X (Online) ISSN: 2320-7817 (Print)</p> <p><b>Editor: Dr. Arvind Chavhan</b></p>	<p>Nagpur is the most prominent district of Eastern Maharashtra. During the field survey of Nagpur District, the authors collected some uncommon taxa from the different locations and habitats which are not reported yet in the floristic documentation. The present paper deals with the study of findings of four new taxa, collected for the first time. Some taxa have very small population size in the study region. Specimens were collected, identified with the help of different floras and recent literature for their authentication.</p> <p><b>Key Words:</b> New Additions, Flora of Nagpur District, Maharashtra, India.</p>
<p><b>Cite this article as:</b> Gadpayale Jagannath V, Somkuwar Subhash R and Alka Chaturvedi (2014) Some Noteworthy Addition to the Flora of Nagpur District (M.S.), India, <i>Int. J. of Life Science</i>, Special issue, A2 : 35-38.</p> <p><b>Acknowledgements:</b> The authors are grateful to Dr. M R. Almeida (Taxonomist) Savantwadi, for their support, herbarium facility and scientific advices during the identification of plant. The authors acknowledge the essential help of Dr. Rahul Kamble for getting study access to the second author.</p> <p><b>Copyright:</b> © Author(s), This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.</p>	<p><b>INTRODUCTION</b></p> <p>Nagpur district is a part of Eastern Maharashtra lies in between the latitudes 20° 35' and 21° 44' North and longitudes 78° 15' and 79° 40' east and has an area of 9930 square kilometers contributing the major forest cover and rich biodiversity in the Maharashtra State having number of the protected area networks (national parks and sanctuaries). The earliest documentation of floristic exploration in 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. Many workers during botanical explorations of the district reported additions to the Flora of Nagpur District, viz. Bhuskute (1989; 1990), Thakre and Srinivasu (2012a; 2012b) and Kamble <i>et al.</i> (2013a; 2013b; 2013c; 2014).</p> <p><b>MATERIAL AND METHODS</b></p> <p>Several visits were made in the district for the floristic survey during the last two years in different seasons. The identification and authentication of collecting plant samples have been done with the relevant literature, Flora of Nagpur District (Ugemuge 1986), Flora of Maharashtra State Vol. I (Singh &amp; Karthikeyan, 2000), Flora of Maharashtra State Vol. II (Singh <i>et al.</i>, 2001), The Flora of Maharashtra (Almeida 1998), Flora of Marathwada (Naik, 1998) and research papers and reports. The voucher specimens of the collected plant species has been deposited at the Herbarium, Dept. of Botany, RTM Nagpur University, Nagpur. The identifications were further confirmed after a critical perusal of monographs and other allied material and matching with the</p>

authenticated specimens housed in P.G. Dept. of Botany RTM Nagpur University herbarium and verified by comparing the specimens housed at the Magdelin Almeida Environmental Centre (ST. Teresa Socio, Eco and Educational Trust) Charatha, Savantwadi.

**RESULTS AND DISCUSSION**

The authors collected four different plant specimens belonging to families Orchidaceae, Sapindaceae, and Moraceae. After critical morphological and microscopic observations, the plant specimens were identified with the help of various flora's which have been cited here. It was found that these plant species are a new addition to the Flora of Nagpur district and the Vidarbha region. The photographs of these plant species have been added below in the figure 1 and 2 respectively. The flowering and fruiting seasons, habitats, status, localities, etc. have been mentioned in the description.

**1. Family:-Sapindaceae**

*Cardiospermum microcarpa* kunth, Nov. Gen. Sp. 5: 104. 1821; Almeida, Fl. Mah.1: 276. 1996; Naik, Fl.

Marathwada 1: 229. 1998. *C. canescens* Wall. Pl. As. Rar. 1: 14. 1830; Hiern in Hook. F. Fl. Brit. India 1: 670. 1875; Cook, Fl. Pres. Bombay 1: 281. 1958 (Repr.).

Climbing herbs or undershrubs; stems furrowed, pubescent. Leaflets 3.5-5.0 x 1-3 cm, ovate to obovate, apex in laterals obtuse, base cuneate to cordate, in terminal one apex mucronate, margins coarsely serrate. Flowers 0.6-1.5 cm long, white in umbellate cymes; peduncles 4-12 cm long. Capsules 2.5-4.0 cm long, globose, 3-angled. Seeds 0.3-0.5 cm across, globose, black, arillate.

**Flowering & Fruiting:** July - February

**Ecology:** Occasional on hill slopes.

**Location:** Veltur, Channa, Kuhi.

**Distribution:** Konkan (Cooke, op. cit) and Marathwada (Naik, op. cit)

**Status:** Rare

**Note:** It is the first record for Vidarbha

**Key identification features :** Tendrilar herbaceous climber, leaves biternate & pubescent, inflorescence with basal tendrils, capsules 3-angled.

**1. *Geodorum densiflorum* (Larnk.) Schltr.**



A. Habit



B. Capsules



C. Tuberous root

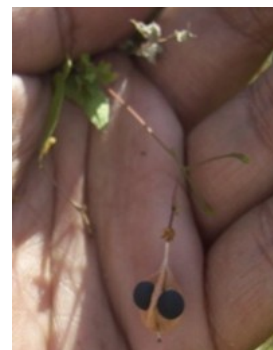
**2. *Cardiospermum microcarpa* kunth**



A. Habit



B. Fruiting twig



C. Seeds

**Fig.1. Photographs of *Geodorum densiflorum* (Larnk.) Schltr. and *Cardiospermum microcarpa* kunth**

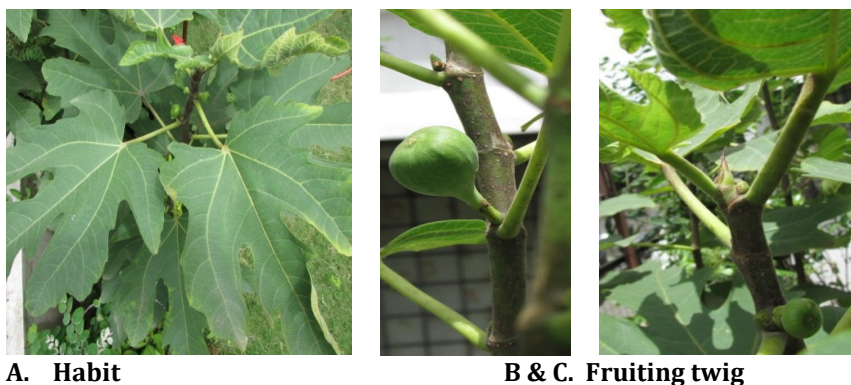


Fig.2. Photographs of *Ficus carica* L. and *Ficus amplissima* J.E. Sm.

## 2. Family:-Orchidaceae

*Geodorum densiflorum* (Larnk.) Schltr., Fedde. Report. 4: 259.191 9; Fischer in Gamble, Fl.Pres. Madras 1437 (1004). 1928. *Limodorum densiflorum* Lamk., Eucyl. 3: 516, 1792.

Terrestrial herbs with tuberous root stock, stem arising laterally from the rootstock. Flowers purplish white, crowded in decurved racemes. Lip sessile, subpandurate, rounded at apex, emarginate or 2 - fid, streaked with purple, disc with a median yellow channelled ridge, ventricose at the base. Leaves 2 or 3, elliptic - lanceolate, plicate.

**Flowering:** March to May

**Habit:** Geophyte.

**Ecology:** Fairly common in the moist deciduous and semievergreen forest.

**Taxonomic status:** Still not stabilized (in someliterature, it is reported as an endangered terrestrial orchid, which has long been used traditionally for various medicinal purposes in the Indian subcontinent)

**Location:** Weltur and Marupar

**Key identification features :** Terrestrial, herbaceous plant, pollinia waxy, cells of anther usually confluent. Leaves on pseudobulbs, plaited and nerved, lip not spurred.

## 3. Family : Moraceae

1. *Ficus amplissima* J.E. Sm. in Rees, Cyclop. 14. n. 68. 1810; Corner in Dassan.& Fosb. Rev. Handb. Fl. Ceylon 3: 242, f. 9. 1981. *F. tsiela* Roxb. Ex Buch.-Ham.in Trns. Linn. Soc. 15: 149. 1826; King in Hook.f. Fl. Brit. India

5: 515. 1888; Cooke Fl.Pres. Bombay3: 150 1958 (Repr.); Talb.For.Fl. Bombay Pres. & Sind 2: 518, f. 526. 1911.

Well branched tree, c 15 m high; main trunk gregarious, often marked with vertical clefts, bark smooth, light colored, pale – green, whitish or grayish. Leaves ovate or ovate- lanceolate, bright green, shining above, 5-12 x 2-6 cm, base rounded, apex acute or cuspidate, entire along the margins, 3-nerved, membranous. Figs axillary, sessile, globose in pairs, c 1.5 cm across; basal bracts 3, ovate, glabrous or puberulous. Tepals 2-3, reddish, ovate-acute, free. Male flowers: few, pedicels 0.2mm long. Female flowers: sessile, tepals 3-4, ovary white.

**Receptacles:** - April - September

**Ecology:** Wet places (in forest areas)

**Location:** Nagpur, Satnavri, Thana, Kargaon, Wanadongri

**Status:** Not evaluated

**Key identification features :** A large spreading tree, sometimes with aerial roots. Leaves symmetrical at base, with a gland at the back of the petiole, Petiole 3 cm long, leaf blade ovate, slightly acuminate at the apex to 10cm long, 6 cm broad, leathery. Monoecious, figs often with interfloral bracts, sessile, bracts small and scaly.

2. *Ficus carica* L. Sp. Pl. 1059. 1753; Cooke Fl. Pres. Bombay 3: 155. 1958 (Repr.); Naik, Fl. Marathwada 2: 810. 1998.

Trees, 5-10 m tall, deciduous; branches pubescent. Leaves 8-13 x 8-17 cm, broadly ovate, cordate at base,

usually 3-5 lobed, hairy on both sides. Receptacles pyriform, 3-5 cm across, in axils of leaves, ripens greenish-purple, finely hairy outside. Achenes 1.5 – 2.0 cm long, ovoid, brown.

**Receptacles:** - March - May

**Ecology:** Dry places (grown on a small scale in orchards).

**Location:** Near Itwara Railway station and Ravinagar Nagpur

**Status:** Rare

**Note:** It is the first record for Vidarbha

**Key identification features :** Achenes are axillary, 1.5 – 2.0 cm long, ovoid, brown, usually pear shaped. The fig is sweet, and juicy when ripe and gummy with latex before ripening. Seeds vary greatly in size and number from 30 to 1600 per fruit.

Note: shows many similarities with *Ficus palmata* ssp. *Virgata* (Roxb.) Browicz.

## CONCLUSION

In the recent years there is a great interest in plant diversity studies in general and floristic studies in particular while regional floristic studies got much importance. The major region of Nagpur district has many protected forests, because of which some taxa had not been documented earlier in the Flora of Nagpur District. This study added some noteworthy plants like *Cardiospermum microcarpa* Kunth, *Geodorum densiflorum* (Larnk.) Schltr., *Ficus amplissima* J.E. Sm. and *Ficus carica* L. to the flora and collected for the first time from this region with their status. The significance of this field research is the detection of narrative additions to a floristic region, which subsequently improve the basic understanding of phytogeography and species diversity in the study region.

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