

Some noteworthy updates to the flora of Jabalpur district Madhya Pradesh

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Abstract

Jabalpur is one of the districts in Madhya Pradesh as known "heart of the state" with luxurious and rich floristic biodiversity. But, now a day's drastic changes in environmental conditions, biotic factors, and destruction and loss of habitat, urbanization and industrialization have affected the flora of Jabalpur a lot. After studied "The flora of Jabalpur" and some other researchers updates in existing flora. Thenceforward, in view of it and present study was done based on new digital technology, it is very necessary to update and revise the existing floristic structure of Jabalpur. Digital database preparation is technologically a step ahead in the revision of the flora with new advancement (2011-2015). The present paper enumerates additional some noteworthy dicot taxa collected from Jabalpur district which has under four genera and four different families which are new updates for the district of Jabalpur. The plants name viz. *Annona muricata* L. (Annonaceae), *Leucaena leucocephala* Lam. (Mimosaceae), *Spathodea campanulata* P. Beauv. (Bignoniaceae), *Ficus elastica* Bailley. (Moraceae).

Keywords: Jabalpur district, new updates, digital database, medicinal uses

1. Introduction

Jabalpur district is a district in the "Mahakaushal region" of Madhya Pradesh in central India with great biodiversity of plants with many economically and medicinally important plants and of which, some are rare and endangered plants. The district lies between latitudes 23^o 10 North and 79^o 59 East longitude. The onset of hot season March to Middle June, monsoon/ rainy seasons mid-June to September and winter/ cold season October to mid-March. The city of Jabalpur is located at an altitude 411 meters and area of the district is 10, 160 sq. km. Jabalpur is prominent place for the "Marble Rock" city of India. There is no parallel city in whole India. Thenceforward, publication of Flora of Jabalpur several research works have been done, [12, 13, 17]. However, recent urbanization and industrialization has affected the flora of Jabalpur and its surroundings a lot. So, the main focused on comprehensive taxonomic biodiversity and conservation point of view, because it very necessary to explore existing floristic structure of Jabalpur region update and revise the earlier data. This work was done by using DELTA (Descriptive Language for Taxonomy) software, [1, 2, 3]. Out of the total 4, 20,000 flowering plants reported from the world [5].

2. Material and Methods

Field visits were undertaken to different localities of Jabalpur city and surrounding areas of throughout the year (various seasons). The plant species were identified with help of different floras viz., Flora of Jabalpur [10] Flora of Bhopal [11]; Flora of Madhya Pradesh, [7, 9, 15, 16]. The digital electronic herbarium was constructed and the whole data of plant specimens were fed in the DELTA software with more than 192 morphological characters. The digital images were collected in natural habitat attached to the respective plant descriptions in the database. The traditional herbarium method also adopted from [14, 6] and the prepared

herbarium specimens was confirmed at S.F.R.I., Jabalpur (M.P.). Various experts were also consulted for identification, their systematic position and nomenclature of the species, genera and families and other literatures.

3. Result & Discussion

During extensive survey of this region and surrounding areas of Jabalpur and after going through the literature it was found the four new taxa for the Jabalpur which has been belonging to four different families and genera. These are so many economical, medicinal and ethnomedicinal values. After morphological and microscopic studies, the plant specimens were identified with the help of various floras which have been cited here. It was found that these plant species are a new addition to the Flora of Jabalpur. The photographs of these plant species have been added below in the figure 1, 2, 3 and 4 respectively. The flowering and fruiting seasons, habitats, localities, etc. have been mentioned in the description given as under here:

Annona muricata L.

References: for Oommachan & Shrivastava, 1996 [New update]

Perennial tree. 5–8 Metre. Tap root. Much branched. Stem erect, or branched, woody, Glabrous, cylindrical, greyish. Bark present. Rough, grey. Exstipulate. Petiole present. Glabrous. 1–3 cm. Leaves aerial, alternate, simple, cauline, glabrous, oblong, or lanceolate, acute, entire, reticulate. Flower bract bracteate. Ebracteolate. Inflorescence racemose. Flower stalked, axillary, or leaf-opposite. Flowers 2, or 3, or 5, campanulate, yellow, fragrant. Actinomorphic (regular). Hermaphrodite, hypogynous. Sepals present, 5, equal. Sepals free. Valvate. Petals present. Petaloid 5 - Yellow. Valvate. Petals equal. Androecium present. Many or indefinite. Free. Stamen equal. Filament short. Off white. Dithecus. Anther brown, basifixed. Ovary superior.

Multicarpellary. Apocarpus. Locule 1, or as many carpels. Anatroous. Ovule 1 in each locule. Basal placentation. Fruits present, aggregated, berry. Ovate, or globose. Fruits 8–15 cm. long. Seeds present. Seed ruminant endosperms, ovoid & white.

- **Flowering & Fruiting:** March- June
- **Local name:** Lakshaman Phal
- **Distribution:** Seetla mai ward and near Madan mahal railway station of Jabalpur.
- **Accession No.:** SFRI-8369/2458

Spathodea campanulata P. Beauv. for Oommachan & Shrivastava, 1996 [New update]

References: Fl. Oware. 1: 47 t. 27- 28. 1805. Flora of M.P. II 271. 1997.

Perennial. Tree. Terrestrial. 10–12 Metre. Tap root. Stem branched. Woody, or solid. Glabrous. Flattened, or slender, or rounded. Brown, or greyish. Bark rough, or scaly. Brown, or grey. Buds axillary. Exstipulate. Tall petiolate. Green. Glabrous. 2–6 cm. Leaves compound. Opposite. Imparipinnate. Glabrous. Oblong, or elliptic. Obtuse. Rounded. Entire. Reticulate. Leaf let present. Leaf-lets opposite. Leaf-let 7 pairs. Entire. Apex acuminate. Obtuse. Prominent on lower side. Flower bracteate 1. Scaly. Bracteolate 2. Scaly. Racemose. Terminal. Flower stalked. Pedicellate, or axillary. Campanulate, or ball shaped. Red, or orange. Cyclic. Zygomorphic. Complete. Hermaphrodite. Hypogynous. Pentamerous. Sepals 5. Sub-equal. Sepaloid. Brown. Sepals united. Imbricate. Spathaceous. Pubescent. Petals 5. Red, or orange. Gamopetalous. Imbricate. Petals sub-equal. Campanulate. Lobed clawed. Androecium 4. Free. Stamen didynamous. Filament long. Orange. Dithecus. Anthers brown. Apicifixed. Extrorse. Ovary inferior. Bicarpellary. Syncarpous. Locule 2. Horizontal. Ovule 1 in each locule. Axile placentation. Short. United half. Stigma 2. Bilobed. Fruits capsule. Cigar shaped. Glabrous. Fruits 5–12 cm. Brown. Seeds winged. Dark brown.

- **Fls. & Frts.:** January- June
- **Local name:** Pichkari
- **Distribution:** Planted at the road side and garden in Jabalpur.

Leucaena leucocephala (Lam.) De Wit. For Oommachan & Shrivastava, 1996 [New update]

References: Taxon 10: 54, 1961. *Mimosa leucocephala* Lam. Encycl. 1: 12. 1783. *Leucaena glauca* Benth. In Hook. London J. Bot. 4: 416. 1842; Baker in Hook. F. Fl. Brit. India 2: 290. 1878; Fl. of M.P. 166.1992.

Evergreen shrubs or small trees, 5-10 m tall. Leaves 2 pinnate; rachis 6-15 cm long; pinnae 3-7 pairs, sessile, linear- oblong, apex acute, base obliquely rounded. Heads across, dense, white, solitary or in pairs. Calyx 2-3 mm long, tubular- campanulate. Corolla- lobe spatulate, oblong. Pods 10- 15 cm long, linear- oblong, flat, braked base narrowed into stalk, Seeds long oval, with a U shaped mark on each

side, dark brown.

- **Local name:** Show babul
- **Fls. & Frts.:** September- March
- **Distribution:** Usually in the edges of gardens or throughout of Jabalpur

Ficus elastica Bailey. For Oommachan & Shrivastava, 1996 [New update]

Perennial. Tree. Terrestrial. 20 meter. Tap root. Branched. Stem much branched. Woody, or solid. Glabrous. Stout. Greyish. Bark smooth. Grey. Milky. Buds axillary. Stipulate. Scale like/scarious, or Intrapetiolar, or bud scale 2–3. Acute, or triangular. Petiole green. Glabrous 2–4 cm. Leaves simple. Alternate. Leathery. Glabrous, or shining. Oblong, or ovate. Acute. Entire. Reticulate. Flower bracteate 1–3. Scaly. Ebracteolate. Cymose, or hypanthodium, or receptacles. Flower stalked, or sessilis. Axillary. Flowers cup shaped, or pear shaped. Greenish yellow. Actinomorphic. Incomplete. Unisexual monoecious, or hypanthodium monoecious. Hypogynous. Trimerous. Male flower Pedicellate, 2–3 scale like bracts, tapels 3, unequal, creamy white, single oblong ovate stamen. Female short than male flowers, sessile, below the male flowers, bract 2, linear, scale like, 3–4 tepals, free, ovary sessile, creamy, style, stigma pointed. Gall flower lower side, hypanthodium, rotund shaped, 4 tepals, sessile, style short and stigmas dilated. Perianth 3–4. Monochlamydeous. Lanceolate. Sub-equal. Creamy. Imbricate (descending). Androecium 1. Free. Stamen equal. Filament short. White. Anther white. Basifixed. Extrorse. Disk present, or hypanthodium. Ovary superior. Monocarpellary. Apocarpous. Locule 1. Ovule 1 in each locule. Basal placentation. Short. Free. Stigma 1. Pointed. Fruits syconus. Globose. Glabrous. Fruits 1.5–2 cm. Red, or yellow. Seeds ovoid. Cream

- **Fls. & Frts.:** March- June
- **Local name:** Rubber tree
- **Distribution:** Some part of South civil line, Gorakhpur and Ranjhi area of Jabalpur

4. Conclusion

Present work has involved in important components, which are focused on identification of proper taxonomic point of view and provide knowledge to different local communities. It deals directly to conserve wild plants in the natural habitat and in botanical gardens. It is a fact that plants and human beings are closely related to each other. Man's need from the nature, utility of plant resources and environmental degradation due to various factors cause a great damage to the floristic diversity. It is necessary to evolve effective conservation strategies of plants so that they can be conserved and used sustainable in the interest of humanity. In this point of view, botanical gardens have important role in conservation. Basic knowledge about the threatened, endemic, medicinal species is very much essential for their conservation.



Fig 1: *Annona muricata* L.



Fig 4: *Spathodea campanulata* P. Beauv



Fig 2: *Leucaena leucocephala* (Lam.) De Wit.



Fig 3: *Ficus elastica* Bailey

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