

***Diospyros montana* Roxb. (Ebenaceae): New Addition to the Flora of Allahabad District, Uttar Pradesh, India**

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Abstract Regular investigations were carried out in the study area and the results have shown that *Diospyros montana* Roxb. is reported for the first time as an addition to the flora of Allahabad district, Uttar Pradesh. The paper discusses the major identification characters of the genus and gives information about current scenario of *Diospyros* L. in Allahabad region. Important characters were recorded for speedy identification.

Keywords Ebenaceae, Additions, *Diospyros* L., Neori.

Introduction

Documentation of taxa is major angle in the field of the floristic exploration and to encourage logical research. Allahabad is one of the largest districts of Uttar Pradesh which is floristically very rich (Khanna et al. 1999). Perusal of literature regarding plant resources of the district Allahabad indicates that a large number of research works have been published by various workers in the form of floristic accounts, ethnobotanical observations and ecological studies. Srivastava (1938) did an extensive work regarding the first floristic survey of the district and a supplement to his flora of Allahabad. He also published a biological

spectrum of Allahabad flora (Srivastava 1944, Srivastava 1949). After a lapse of more than one decade, Botanical Survey of India, central circle, Allahabad undertook a project to bring out an illustrated manual of the flora of Allahabad town (Rajagopal 1965, Rajagopal and Panigrahi 1965 and Rajagopal and Panigrahi 1966). The first floristic work from outskirts of the township was that by Panigrahi and Arora (1962), Panigrahi and Saran (1968). Later Mishra and Verma (1992) added another 17 species to the district flora. Sharma and Pandey (1984) have published an enumerative account of exotic species in district Allahabad. Mishra and Verma (1992) made a complete floristic account of Allahabad district.

The genus *Diospyros* L. belonging to the family Ebenaceae is mostly confined to the tropics (Mabberley 2008). A total of 607 species have been reported, of which about 300 species occurs in Asia and the Pacific area, 98 species in Madagascar and the Comoro Islands, 94 species in African Mainland, about 100 species in America and 15 species in Australia (Wallinofer 2001). In India genus is re-presented by 66 taxa, including five varieties (Singh 2008). But as of World Checklist of Selected Plant Families and the Plant List recognizes about 750 accepted taxa (of species and infraspecific names) in the taxa. Author found that there is no relevant literature found in the flora of Allahabad district with reference to the occurrence of this collected plant specimen, hence this collected specimen i.e. *Diospyros montana* Roxb. of family Ebenaceae, is reported first time for the flora of Allahabad district. A detailed description along with photographs of the collected species is provided here

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in this article. The flowering and fruiting seasons, habitats, localities in the district and field number of the plants have also been cited in the text. A brief description, phenological data, locality, up to date nomenclature, distribution and voucher specimen numbers are given for each species. The confirmed identities of these plant specimens were done with the help of regional floras and herbarium study.

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Materials and Methods

Field studies were regularly arranged to cover entire area in the district Allahabad, Uttar Pradesh. In different seasons the plant samples were collected from different locations in Allahabad district. Observations on the habit / habitat, flower color, fruiting, seeds, including other features of interest were recorded and photographed. The specimens were carefully selected before pressing. It was made sure that specimens are in flowering or fruiting condition and ensured that specimens are free from fungal infection, insect feeding and other pathological symptoms. As a general rule single specimen was pressed in folded pressing paper and to avoid discoloration and molding, blotters were changed frequently depending upon nature of specimen and humidity levels. The specimens were preserved by solution of mercuric chloride and alcohol containing one part of concentrated mercuric chloride solution and 9 parts of absolute alcohol. The solution was applied to the specimens by dipping into it. Then dried specimens were pasted on herbarium sheets and made herbarium by standard methodology. These specimens were deposited in Duthie Herbarium, Department of Botany, University of Allahabad.

Taxonomic Treatment

Diospyros montana Roxb., Pl. Coromandel 1:37. t. 48. 1795; C. B. Clarke in Hook. F., Fl. Brit. India 3 : 555.

1882; Duthie, Fl. Upper Gangetic Pl. 2 : 15. 1911. *D. cordifolia* Roxb., Pl. Coromandel 1 : 38, 1795; *D. glauca* Rottler., Neue Schriften Ges. Naturf. Freunde Berlin 4 : 221. 1803; *D. orixensis* Klein ex Willd; Sp. Pl. 4 : 407. 1805; *D. rugosula* R. Br., Prodr., Fl. Nov. Holl. 526. 1810; *D. bracteata* Roxb., Fl. Ind. ed. 2 : 539. 1832; *D. punctata* Decne., Herb. Timor 79. 1834; *D. microcarpa* Span., Compan. Bot. Mag. 1 : 348. 1836; *D. heterophylla* Wall. ex G. Don., Gen. Hist. 4 : 41. 1837; *D. dioica* Span., Linnaea 15 : 336. 1841; *D. goindu* Dalzell., Hooker's J. Bot. Kew Gard. Misc. 4 : 111. 1852; *D. waldemarii* Klotzsch., Bot. Ergebn. Reise Waldemar 101. 1862; *D. calycina* Bedd., Fl. Sylv. S. India t. 68. 1870; *D. auriculata* Wight ex Hiern., Trans. Cambridge Philos. Soc. 12 : 188. 1873; *D. montana* f. *cordifolia* (Roxb.) Hiern., Trans. Cambridge Philos. Soc. 12 : 222. 1873; *D. humilis* Bourd., J. Bombay Nat. Hist. Soc. 12 : 352. 1899; *D. kanjilalii* Duthie., Indian Forester 31 : 307. 1905; *D. pubicalyx* Bakh., Gard. Bull. Straits Settlem. 7 : 182. 1933; *D. calcarea* Fletcher., Bull. Misc. Inform. Kew : 383. 1937. Vern : Neori, bhoi.

Dioecious trees, upto 20 m high, bark smooth, grey. Leaves ovate-elliptic. 3–10 × 2–5 cm, acute at apex, cuneate - cordate at base, pubescent beneath, always alternate; veins distinct. Male flowers in axillary, short, usually 3-flowered cymes; female flowers solitary. Calyx 3mm long; lobes 4, ovate, imbricate, thick, margin ciliate, obtuse; corolla 6–7 mm long, greenish-yellow. Fruit a berry, 1.5–2 cm across, ovoid to obconical, yellow to orange, seeds 3–6, rough, black. Common along road side areas in patches.

Fl. and Fr. : Apr–Aug.

Kohdar, Meja, Allahabad. S. Kumar : 31156

Discussion and Conclusion

The plant species turned out to be more debilitated because of quick disintegration, deforestation, over brushing and urbanization. Yet, it appears that the good climatic states of the zone and insurance over a drawn out stretch of time have assumed a noteworthy part in making these localities exceedingly species rich. Atmosphere and condition was favorable for species richness and dominance as the environ-



Fig. 1. *Diospyros montana* Roxb.

ment where plant specimens were collected correlates with the occurrence of various tree species. The species is distributed with remarkable increase in diversity and occurrence. Leaves of *Diospyros melanoxyton* Roxb. another species of genus *Diospyros* L. were found to be infected with insects whereas of *Diospyros montana* Roxb. were mostly infection free, it provides food, shelter, fresh air for humans, animals and insects as well (Fig. 1). Plants were observed on revisiting the location several times and it was found that during rainy seasons luxurious fruiting was favored. *Diospyros malabarica* (Desr.) Kostel. was only reported from the district but finding of this species is new hint towards increase in the tree diversity of Allahabad district.

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