

Rediscovery and range extension of the rare species *Diospyros truncata* Zoll. & Mor. (Ebenaceae) in the State of Manipur, northeastern India

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Abstract. *Diospyros truncata* Zoll. & Mor. is a rare species rediscovered in northeastern India after seven decades. A new locality of *D. truncata* was found in the state of Manipur, which indicates its range extension. A detailed taxonomic description, photographs and location map of this species are provided for easy identification.

Key words: *Diospyros truncata*, rediscovery, Ebenaceae, Manipur, Northeast India

1. Introduction

Distribution of the genus *Diospyros* L., belonging to the family Ebenaceae, is confined mostly to the tropics (Singh 2005). A total of 734 species have been so far reported (POWO 2017), of which *ca* 300 occur in Asia and Pacific, 98 in Madagascar and Comoro Islands, 94 in Africa, 100 in America and 15 in Australia (Wallnöfer 2001). In India, there are 66 species, including five varieties (Singh 2005).

Medicinal plant survey and collection was undertaken in many places of the Manipur State (one of the northeastern states of India), namely Agiidziikhe, Azufii, Chokhuri, Esii Phi, Kapengho, Kapenho-Karale, Karong, Khole, Khungho, Kozii, KoziirKorii, MakhanKhulloen, Punanamai, Sholitokhu, Soprie and Vanee from 2017 to 2018. In Punanamai evergreen forest at the elevation of 1830 m asl, the authors collected an interesting specimen of *Diospyros*. Based on the original description and type specimen available at the Swedish Museum of Natural History Department of Botany (S09-33801), collection number #1156 (Holotype!), the identity of this specimen was confirmed

as *Diospyros truncata*. After critical screening of literature (Backer 1965; Singh 2005) and consultation with relevant herbaria (K, ARUN, CAL, ASSAM), it was found that it is a very rare species in the Northeast India (Singh 2005) and it has not been collected for the past seven decades.

Further screening of the floras (Haridasan & Rao 1987; Kanjilal & Bor 1997; Singh *et al.* 2000, 2002; Singh 2005; Ashiho *et al.* 2017) revealed that this species has not been previously collected and recorded from the Manipur State.

2. Taxonomic note

Zollinger (1846) was the first botanist who collected and described *D. truncata* with the help of female flowers from Java, Indonesia. In India, in 1896, King's collector collected a specimen with male flowers (number 191) in Kohima, Nagaland, and it was deposited at CAL. Later on, Bor collected another specimen (N.L. Bor, 2766 s.n.) with male flowers from Naga Hills at the elevation of 1680 m asl. However, none of them collected either female flowers or fruits (Singh 2005). In



Fig. 1. *Diospyros truncata* Zoll. & Mor.

Explanations: a – inflorescence-twig, b – close up of flower buds, c – close up of flowers with twig

the present survey, after a lapse of 66 years, the authors found and described a specimen with female flowers and took its photographs for the first time in India.

The voucher specimens are deposited at FRLH, National Herbarium of Medicinal Plants, Bangalore. In this paper, *D. truncata* is reported as an addition to the Flora of Manipur and its range extended from Nagaland to Manipur, Northeast India. Detailed description along with phenology, photographs, updated nomenclature, and a distribution map were provided for better understanding of the species.

3. Taxonomic description

Diospyros truncata Zoll. & Mor. in Mor. Syst. Vezeichn. Javan. Pflanzen. No. 1156: 43. 1846; Hiern in Trans. Cambr. Philos. Soc. 12: 172. 1873; Bakh. in Bull. Jard.

Bot. Buitz. Ser. 3. 15(3): 228. 1938. *D. viridis* Craib., in Kew Bull. 1920: 303. 1920. *D. truncata* Zoll. & Mor. vars. *minor* & *major* Bakh. in Bull. Jard. Bot. Ser. 3. 13(3): 230. 1938.

Description: Tree, up to 10 m tall; bark brownish, branches slender, glabrous. Leaves elliptic-lanceolate, 8-13.6×1.7-3.8 cm, cuneate, slightly oblique at base, entire at margins, acute-acuminate at apex, shiny, glabrous, lateral nerves *c.* 14, petiole slightly twisted, 8-11 cm long. Female flowers in fascicles, solitary, axillary, (1)2-4 flowered; pedicel *c.* 2.5 mm long; bracts deciduous. Calyx campanulate, 5-lobed, tube *c.* 2.5 mm, lobe triangular, *c.* 1.5 mm, reflexed at margins, acute-acuminate at apex, outside sparsely hispid, inside glabrous, black when dry. Corolla twisted, white; lobe oblong-lanceolate, undulate at margins, acute at apex, *c.* 5×2 mm long, glabrous. Ovary ovoid, *c.* 2 mm long,

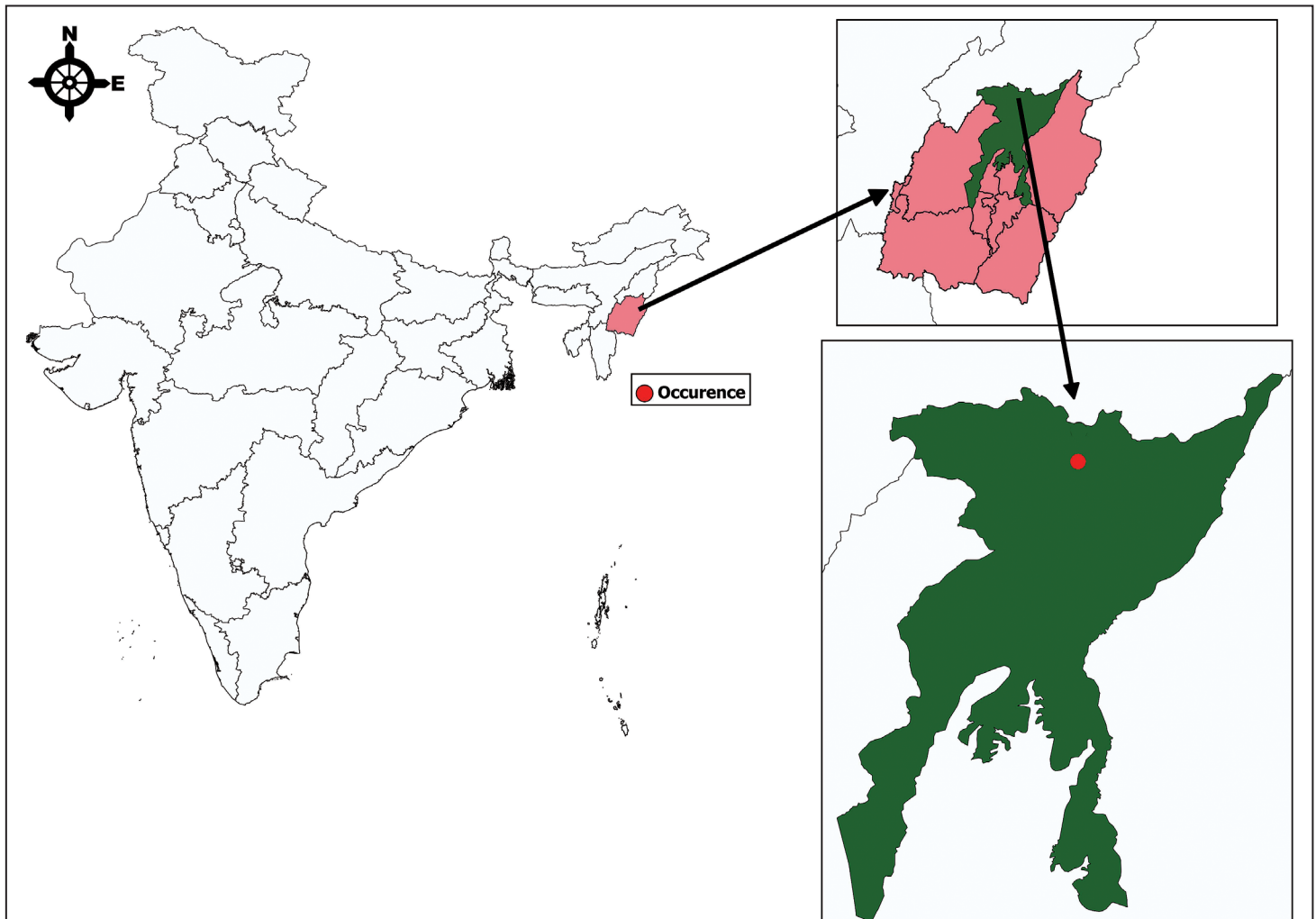


Fig. 2. Location of *Diospyros truncata* Zoll. & Mor. in Punanamai forest, 1831 m, Senapati district, Manipur, India

glabrous, single ovule; style 4, connate at base, glabrous. Stamens 8-10; filament terete, *c.* 2.5 mm long, glabrous; anthers sterile.

Phenology: Flowering & Fruiting: February-March.

Distribution: N. Thailand, W. Malaysia and India (first report from Nagaland, now reported from Manipur).

Specimens examined: INDIA, Manipur, Punanamai forest, Senapati district, 1831 m, (Figure 2-Map) 24th February 2017, *N. Dhatchanamoorthy* 120539 FRLH. (Figure 1.); INDIA, Assam, Hmuntha, Lushai Hills, *Chand, TR* 4492, Catalogue no. L.2659189; *Koelz, WN* 27560, coll. no. 2659190, Naturalis Biodiversity Center, 1951; Dima Hasao, Haflong, *Koelz, WN* coll. no. 27721, Catalogue no. 1515560, MICH (University of Michigan), 1951. Mizoram, Serchhip, Hmuntha, Lushai Hills, *Chand, TR* coll. no. 4492, Catalogue no. 1515561; Serchhip, Hmuntha, Lushai Hills, *Koelz, WN*, coll. no. 27560, Catalogue no 1515562, MICH (University of Michigan), 1951.

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Author Contributions

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