

# On the occurrence of 'African Teak', *Milicia excelsa* (Moraceae) in India

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## Abstract

The occurrence of *Milicia excelsa* (Welw.) C.C. Berg (Moraceae), commonly known as 'African Teak' is reported from India. Three trees (approximately 70 years old) were found in the forest plantation area of Alimukku, Punalur Forest Division, Kollam district, Kerala state. Detailed description, illustration and photographs are provided.

**Keywords:** Ex-situ conservation, India, Kerala, New Report.

## Introduction

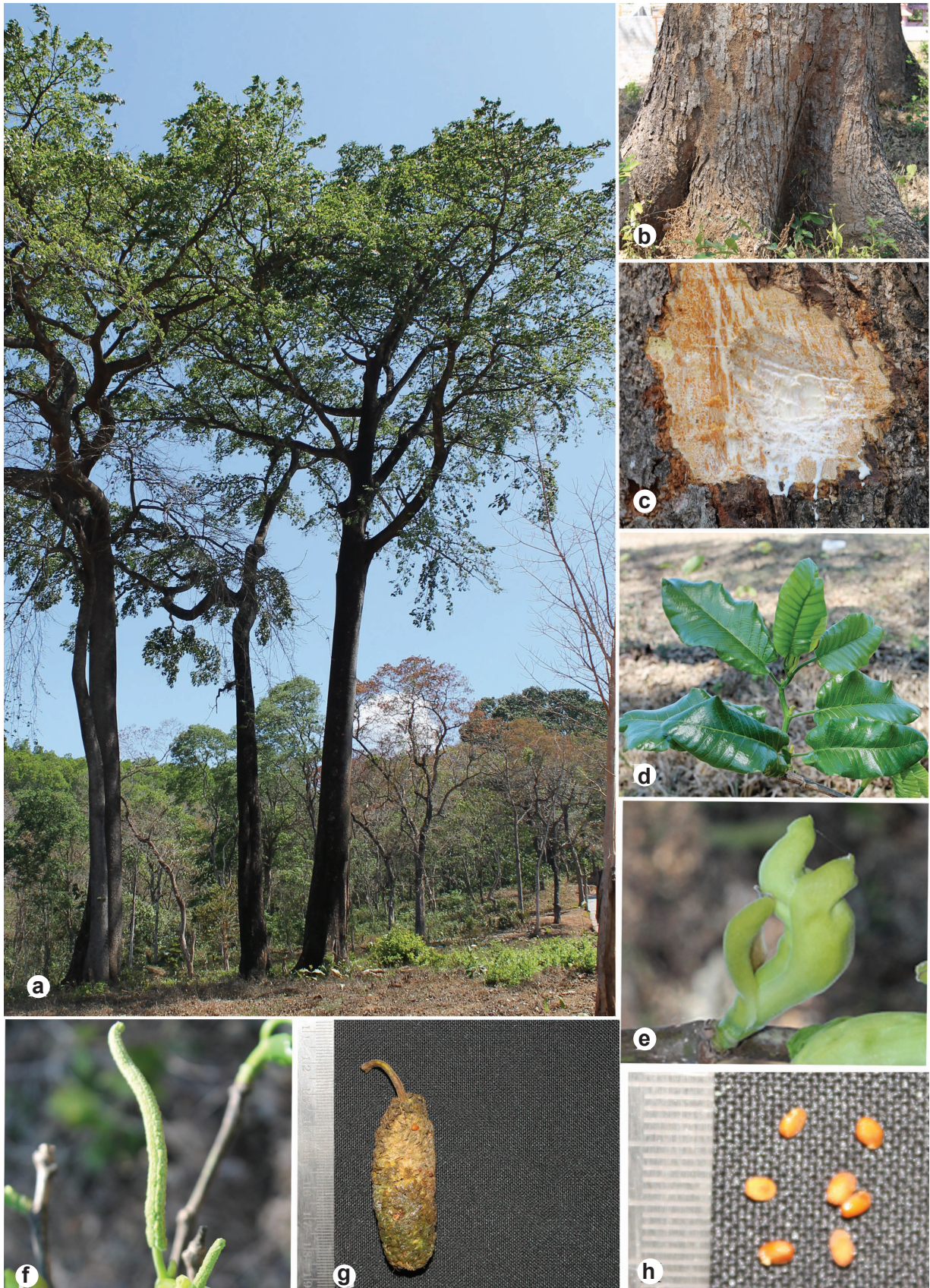
During an exploration to the forest areas of Punalur Division in Kollam district in 2013 we could collect fallen male and female inflorescences of a tree resembling the genus *Artocarpus* (Moraceae), growing in the plantation area of Forest Department at Alimukku near Punalur. After detailed study of flowering and fruiting specimens, collected further during 2014–15 period, we could not find any matching specimens of Moraceae in any Indian flora or Herbaria. Later the specimens (both herbarium and material for molecular analysis) were sent to Nyree Zerega, a world expert on Moraceae, who after morphological and molecular comparison confirmed it as the African tree, *Milicia excelsa* (Welw.) C.C. Berg, commonly known as 'African Teak' (Berg, 1977, 1982; Chevallier, 1912). With this information we cross-checked with the Working Plan for the Punalur Forest Division and found that 'African Teak' was introduced and planted in a 2.5 acre plot in Punalur, way back in 1957 (Krishnamoorthy, 1977). But even after repeated explorations in the area, we could find only three grown up trees. Since no account of this tree is available in any of the regional floras, a detailed description, illustration and photographs are provided here for easy identification.

## Taxonomy

*Milicia excelsa* (Welw.) C.C. Berg., Bull. Jard. Bot. Natl. Belg. 52(1-2): 227. 1982. *Morus excelsa* Welw.,

Trans. Linn. Soc. London 27: 69. 1869. *Maclura excelsa* (Welw.) Bureau in DC., Prodr. 17: 231. 1873. *Chlorophora excelsa* (Welw.) Benth. & Hook., Gen. Pl. 3(1): 363. 1880; C.C. Berg, Bull. Jard. Bot. Natl. Belg. 47: 349, t.19. 1977. *Chlorophora tenuifolia* Engl., Bot. Jahrb. Syst. 20(1-2): 139. 1894. *Milicia africana* Sim., For. Fl. Port. E. Afr. 97. 1909. *Chlorophora alba* A. Chev., Bull. Soc. Bot. France 58 (Mem. ed. 8): 209. 1912. **Figs. 1 & 2.**

Trees, 35–50 m tall. Trunk 2–5 m in diam. The high umbrella crown grows from a few primary branches; ultimate branches hanging down. Bark greyish with brown patches; inner bark pale brown, exuding white latex. Leaves simple, alternate, 24–29 × 8–10 cm, elliptic-ovate, cordate at base, cuspidate at apex, hairy on both surfaces; mid-veins prominent on both surfaces; lateral nerves 12–18, alternate or sub opposite, arched; petioles 2–5 cm, hairy, slender; stipules 1–3 cm long, hairy, yellowish-green, caducous. Staminate inflorescence in drooping catkins, axillary and lateral, solitary, cylindrical, 15–21 × 0.8–1 cm; peduncle 2–3 cm long, hairy; perianths 3, c. 0.2 cm long; anthers sagittate. Pistillate inflorescence, cylindrical, 2–3 × 0.5–0.6 cm; peduncle 1–2 cm long, hairy; perianths 4, 0.2–0.3 cm long; ovary c. 0.1 cm; stigma 2, one large, 0.3–0.6 cm, other reduced to c. 0.1 cm. Bracts spatulate, 0.5–1.5 cm, puberulous. Infructescences cylindrical, like a long green mulberry, 4–5 cm × 1.3–2 cm, fruits ferment rapidly on the ground. Seeds numerous, small, oblong, 0.2–0.3 cm, brownish embodied in the pulp.



**Fig. 2.** *Milicia excelsa* (Welw.) C.C.Berg. **a.** Trees in the field; **b.** Base of the trunk; **c.** Exudation from cut bark; **d.** Leafy twig; **e.** Pistillate inflorescence enclosed in spathe; **f.** Staminate inflorescence; **g.** Infructescence; **h.** Seeds.

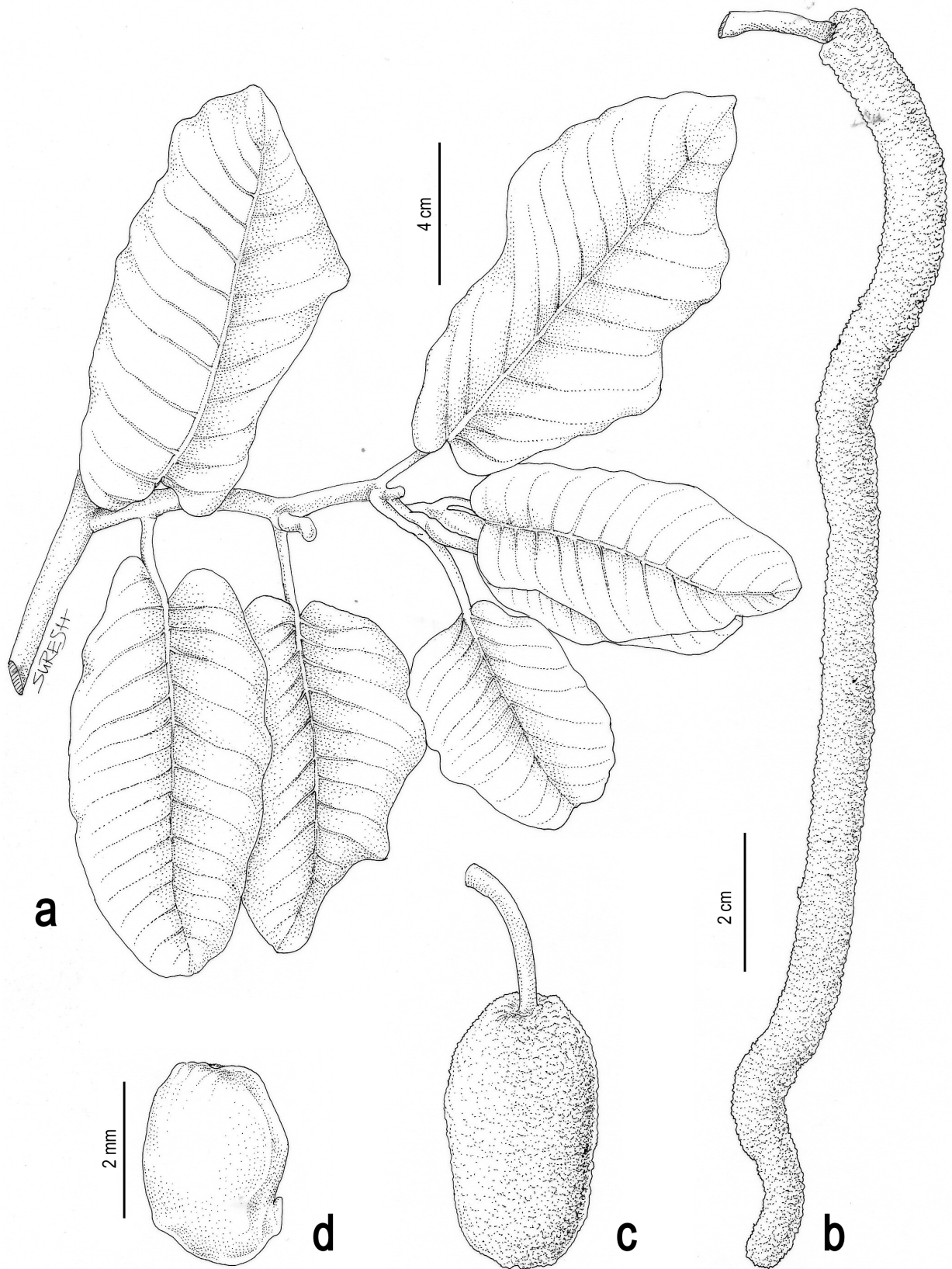


Fig. 1. *Milicia excelsa* - a. Leafy twig; b. Staminate inflorescence; c. Infructescence; d. Seed.

**Flowering & fruiting:** Peak flowering is observed during October–December. Flowers appear a few weeks after the partial or complete shedding of leaves or with the new leaves. Fruiting period is from December to January.

**Distribution:** *Milicia excelsa* is distributed in Tropical Africa (Guinea-Bissau east to Ethiopia and south to Angola, Zimbabwe and Mozambique) and is commonly seen in deciduous, semi-deciduous or evergreen forest, with an apparent preference for drier forest types, up to elevations 1,200 m. Because of its high timber quality the species has been greatly over-exploited in the wild, where it is becoming much rarer. The plant is classified as 'Near Threatened' in the IUCN Red List of Threatened Species (2017).

**Conservation measures:** The seeds collected were germinated at Jawaharlal Nehru Tropical Botanic Garden and saplings were planted at the Arboretum as part of ex-situ conservation. The identity and occurrence of the tree has been reported to Kerala Forest Department, Punalur Forest Division to enable protection of the existing trees and for further multiplication and planting.

**Uses:** *Milicia excelsa* is one of the most popular timber species in East Africa. The wood is attractive brown in colour, which darkens on exposure and with oiling. The hard, dark heartwood is durable, works easily, heavy, strong, open grained and resistant to termites. It resembles teak, hence popularly known as 'African teak' and is mainly used for outdoor construction work, furniture, boats, cabinet work, panelling, frames and floors (Orwa et al., 2009).

**Specimens examined:** INDIA, Kerala, Kollam district, Punalur, Alimukku, 06.02.2013, *Rajvikraman* 76608 (TBGT); *ibid.*, 26.02.2014, *Sabu* 72663 (TBGT).

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