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PHYLLANTHUS TENELLUS ROXB. (EUPHORBIACEAE) — AN ADVENTIVE IN INDIAN FLORA AND ITS TYPIFICATION

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ABSTRACT

Phyllanthus tenellus Roxb., a native of Mascarene Islands, though originally described from a population raised in the Indian Botanic Garden, is reported as an adventive from Salem district in Tamilnadu and from Greater Bombay in Maharashtra. It is also being lectotypified with Roxburgh's unpublished Flora Indica drawings.

INTRODUCTION

This species, a native of Mascarene Islands, was first introduced in the Indian Botanic Garden in 1802 by Captain Tennent (Roxb. Hort. Beng. 69. 1814 & Fl. Ind. 3 : 668. 1832). The plant appears to have been collected last in the Botanic Garden on 20 December, 1814 by Buchanan-Hamilton (vide specimen Wall. Cat. 7892A *p.p.* in K-W), and was never reported from within or outside the limits of the Garden.

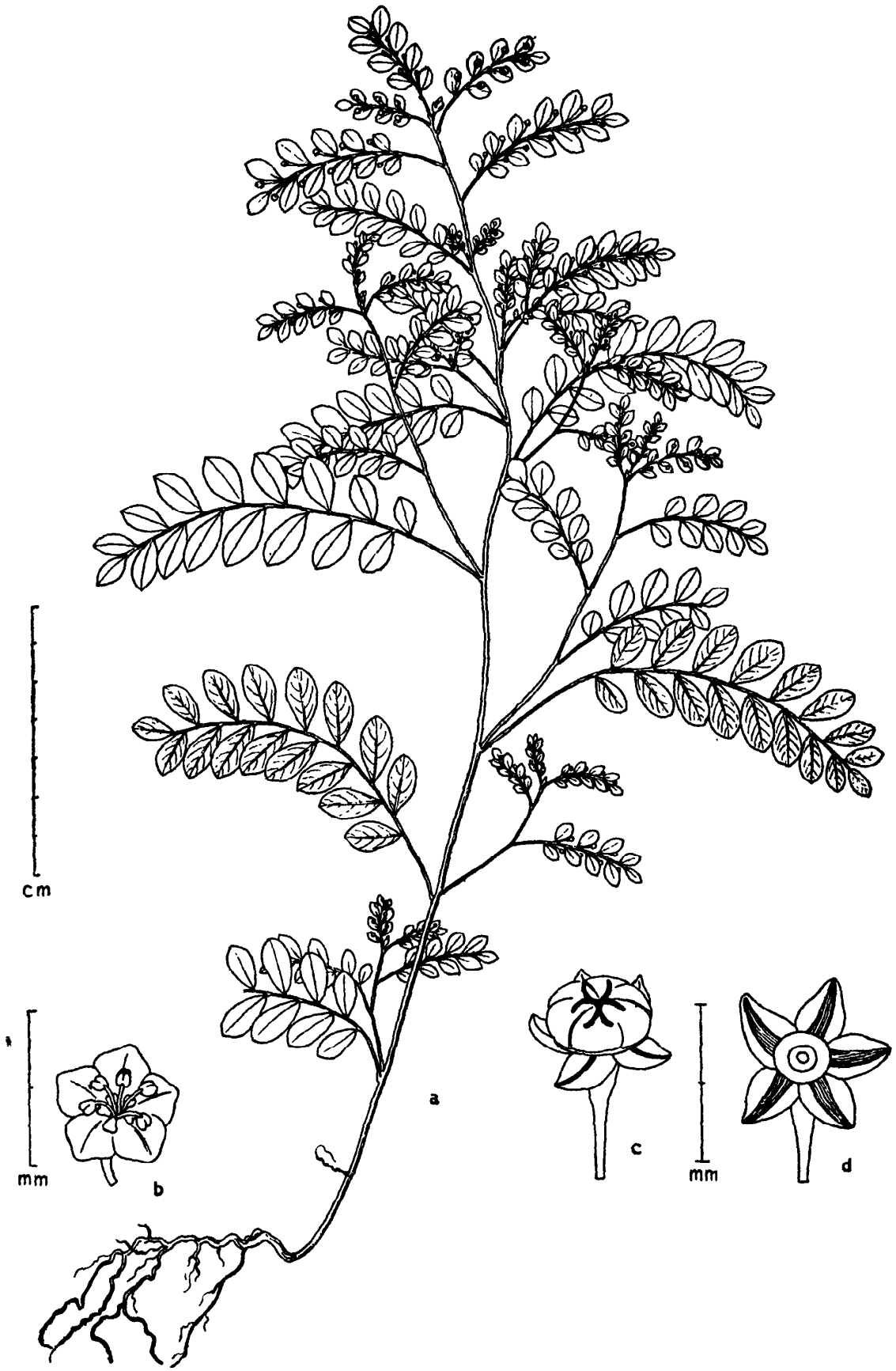
Recently, while examining the specimens of *Phyllanthus*, the author located three different collections from Yercaud in Salem district, Tamilnadu, and one each from Goregaon and Trombay in Greater Bombay from among the unidentified/misidentified materials in Calcutta and Blatter herbarium. The earliest of these collections is from Yercaud in 1948, and evidently it got introduced from sources independent of Calcutta Garden.

The plant is considered as aggresively weedy in nature owing to its quick growth and reproductive maturity. It is reported to be producing explosively dehiscent capsules while still a seedling of few centimeters high (Webster, *J. Arnold Arb.* 38 : 56. 1957). Therefore, the plant is likely to have colonised the areas of its introduction, if not already a conspicuous element of the weed flora of those places.

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Phyllanthus tenellus Roxb. [Hort. Beng. 69. 1814] Fl. Ind. 3 : 668. 1832 ; Muell.-Arg. in DC. Prodr. 15 (2) : 338. 1866 ; Hook f. in Hook. Ic. Pl. 1569. 1887 ; Webster in J. Arnold Arb. 38 : 52. f. 6. 1957, et 37 : 257. Pl. 1. f. 3. 1956. *P. minor* Fawc. & Rend. J. Bot. 57 : 65. 1919, et in Fl. Jamaica 4 (2) : 257. 1920 (vide Webster l.c.) [Fig. 1].

Erect, annual herbs 20-60 cm tall (perennial and shrubby in cultivation) ; main stem simple with suppressed accessory buds, or with slender to well developed permanent branchlets, terete or subterete below, obtusely 4-gonous and usually channeled above, glabrous. Cataphylls : Stipules *ca.* 1 mm long, lanceolate-acuminate ; blade subulate. Deciduous branchlets 3-10 cm long, ascending, with 9-17 leaves, 4-gonous with decurrent leaf-bases on either side somewhat winged. Leaves 5-18 × 3-9 mm, membranous, obovate to oblanceolate, obtuse or subacute at apex, cuneate at base, dark or bright green above, paler beneath with prominent midrib and 5-9 faintly raised and arching lateral nerves ; petioles 0.5-0.8 mm long ; stipules similar to cataphyll stipules. Flowers in axillary bisexual cymules on deciduous branchlets ; proximal axils with 2-3 male flowers above and 1 or 2 female flowers below (occasionally female flowers wanting in 1 or 2 proximal



Phyllanthus tenellus Roxb.

Fig. 1. a-d : a. Habit. b. Male flower. c. Female flower. d. Female flower after ovary removed (*Subramanyam, K.* 7585).

axils), succeeding axils with solitary female flowers. *Male flowers* : Pedicels at anthesis 0.5-1 mm long. Calyx lobes 5, imbricate, membranous, hyaline, with unbranched midrib, each 0.5-0.7 mm long, about same as broad, broadly obovate, obtuse or rounded at apex. Disc-segments 5, obovate-cuneate and somewhat retuse at apex. Stamens 5, opposite the disc-segments ; filaments free, *ca* 0.3 mm long, deflexed ; anthers dehiscing longitudinally. *Female flowers* : Pedicels 3-5 mm long, capillary, terete, dilated at apex. Calyx lobes 5, each 0.5-0.8 × 0.5 mm, triangular-ovate with an unbranched midrib, somewhat cuculate and acute at apex. saucer-shaped (undulate when dry). Styles 3, free, appressed to ovary, lobed to about 2/3 ; style-arms divaricate. Capsules *ca* 1.7 mm across, oblate, rounded. Seeds *ca* 0.9 mm long, trigonous, semicircular on the back, minutely and closely papilate in rows.

Type : Roxb. Fl. Ind. Ic. 1913 (ined. K. CAL !—lecto.). Webster (l.c. 54. 1957) designated '*Wallich* 7892A ex p. (K)' as the holotype. Of the three specimens mounted on the sheet—*Wallich* 7892A (K), the upper left hand specimen is *P. tenellus* Roxb. According to the original label, the plant was collected in the Calcutta 'Botanical Garden' on '20 Dec. 1814' by Buchanan-Hamilton, the then Superintendent of the Garden. On the right hand corner of the specimen there is a remark in pencil presumably by J. D. Hooker which reads as follows :

"True tenellus Roxb.
fide specimen
Hamilton from
Calcutta Gard.
Cultiv. from Mauritus"

Incidentally, J. D. Hooker in Hook. Ic. Pl. (l.c.), while illustrating the plant remarked (textus) : "During the examination of the Wallichian species of *Phyllanthus* for the 'Flora of British India' I had the occasion to unravel those comprised under the name of *P. tenellus* (No. 7892 of his list) ; and finding amongst them a single specimen of the original plant of Roxburgh, "... I have thought it of sufficient interest to figure here". Both these remarks appear to have led Webster (l.c.) to arrive at the aforesaid conclusion without verification of facts.

Roxburgh left India in March 1813 and died in Edinburgh on 18th February 1815. It is now an undisputed fact that his Flora Indica manuscript and drawings were completed much before Roxburgh left Calcutta in March 1813. Buchanan-Hamilton, who was in-charge of Garden from November 1814 to 23rd February 1815, left India 5 days after the death of Roxburgh, carrying with him all his botanical specimens of the 1807-14 period and gave the same to the Court of Directors of the Company on reaching London. The specimens were handed back to him in 1820 for arrangement and the above noted specimen was included under serial no. 2084 in his 'Catalogue of Dried Plants collected, presented to the Museum of the Hon'ble E. India Company' (MSS 1822). Wallich subsequently incorporated the specimen in his catalogue along with other specimens of Buchanan-Hamilton's original set left in the Company's Museum at India House.

No doubt the above noted specimen collected by Buchanan-Hamilton appears to be one of the last assemblage of the original population of *P. tenellus* raised in Calcutta Garden in 1802, yet Roxburgh did not have even a chance to see this specimen. Therefore its selection as type of *P. tenellus* does not conform with type/holotype concept embodied in ICBN (1983) in any way.

Since 'nowhere is there a complete set of Roxburgh's plants whose identity with the species described by him is beyond question', it is safe and logical to lectotypify his species described in Flora Indica with the Flora Indica drawings, when available.

The historical facts given in King (1895), Prain (1905), Sealy (1956) and de Candolle and Smith (1981), influenced the aforesaid conclusion on lectotypification.

Specimens examined : TAMIL NADU. Salem : Yercaud, 10 Sept. 1948, ± 1066 m ("4500"), *Narayanaswamy, V.* 1496 (CAL) ; Road Cuttings, Ghat road, Salem to Yercaud, 21 Dec. 1958, 1333 m, *Subramanyam, K.* 7585 (CAL) ; Louis Villa, Shevaroys, Yercaud, 11 May 1978, 1450 m, *Mohan, A.* 13624 (CAL). MAHARASHTRA. Bombay : Vicinity of Central Diary, Aarey Milk Colony, Goregaon, 25 Sept. 1958, *Tavakari, S. C.* 1826 (BLAT) ; Trombay, 22 Sept. 1962, *Shah, G. L.* 10599 (BLAT).

There are two sheets in CAL (Acc. no. 402834 & 402835) from Bogor Garden in Indonesia. The sheets bear the annotation "Ex hort. Bogor. (Ceylon)" and "HK 811" (? Herb. Kurz), "HB" (? Herb. Bogor.), respectively and the name *"Phyllanthus maderaspatensis"* in the hand of Kurz (1859-63). Kurz, however, changed the specific epithet to *"niruri"* in the first sheet, while the second sheet was subsequently identified as *"Phyllanthus niruri* L." by A. T. Gage. It appears from the annotation on the first sheet that the plant was introduced to Bogor Garden from Ceylon. Incidentally, Webster (J. Arnold Arb. 37 : 7. 1956), while commenting on the identity of J. Burman's *'Urinaria indica, Erecta vulgaris'*, remarks in the foot note that Hermann's "Icones" (BM) no. 56 'suggests the widespread weedy species of sect. *Menendra, P. tenellus* Roxb.

All these are indicative of the occurrence of *P. tenellus* Roxb., in Ceylon even during Hermann's time (1670-77), although the plant has not been reported so far in any Ceylonese flora.

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