Ficus altissima Blume var. *fergusoni* King. Ann. R. Bot. Gard. Calcutta 1: 31, pl. 31, 1887; Trimen, Hand b. Fl. Ceylon 4 : 87, 1898. (Fig. 2).

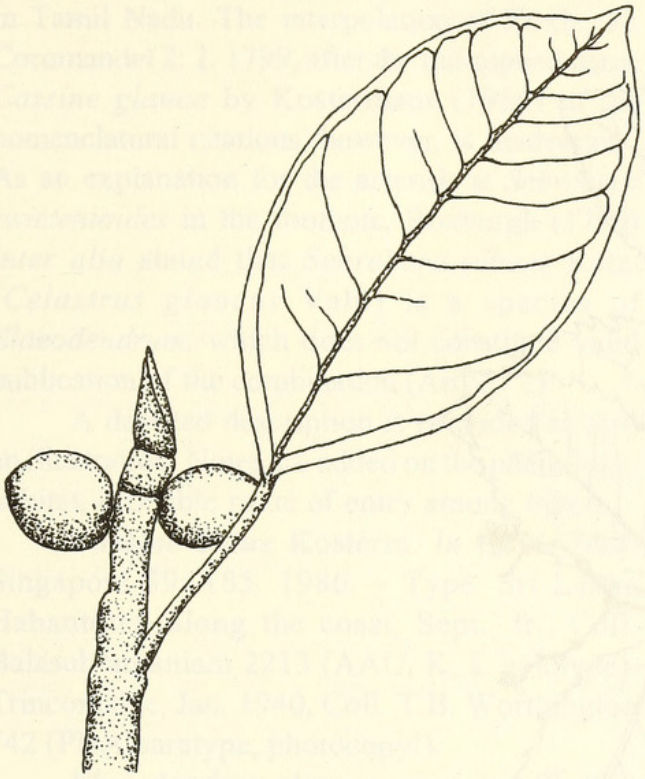

Fig. 2: *Ficus fergusoni* (King) Worthington; leafy twig with figs

Large, spreading, glabrous tree with many aerial roots. Leaves in helix on 0.5-0.8 cm wide twigs; stipulate lanceolate, acuminate, 1.5-2 cm long; petiole stout, 3-5 cm long; lamina thickly coriaceous, elongate - elliptic, acuminate at apex, obtuse at base, 8-18 x 6-9 cm, entire, 3 ribbed at base with 8-10 pairs of lateral nerves, those towards the middle at an angle of 50-70° to the midrib, anastomosing submarginally. Figs sessile, paired in the leaf axils towards the tip, ellipsoid, 15-20 cm long, early stages not enveloped in calypteriform bracts, pale green in phase A-C, reddish yellow in phase D and orange red in phase E; male flowers dispersed, pedicellate, perianth of 4 tepals; gall and female flowers with gamophyllous perianth.

Status: Naturalised (?), rare

Distribution: endemic to Sri Lanka.

Exsiccate: HZDC - III/1 Kerala, Trivandrum, Ponmudi, coll. DRP, 9.x.1990.

Note: This is the first report of this species outside Sri Lanka.

ACKNOWLEDGEMENTS

I thank Dr. C.C. Berg, Norwegian Arboretum, Store Milde, Norway, for help in identifying the specimens; Prof. N. Ravi, Scientist Emeritus, TBG & RI, Thiruvananthapuram, Kerala, for kindly reviewing the manuscript and Prof. U.C. Abdurahiman, Department of Zoology, University of Calicut, Kerala, for constant encouragement. I also thank University of Calicut, Kerala for financial assistance.

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30. *CASSINE BALAE* KOSTERM. — NEW TO THE CELASTRACEAE OF INDIA

(*With a text-figure*)

Cassine balae, described as a new species from Ceylon by Kostermans (1986) based on material which was earlier retained as a part of *Elaeodendron glaucum* (Rottb.) Pers. (= *Cassine*

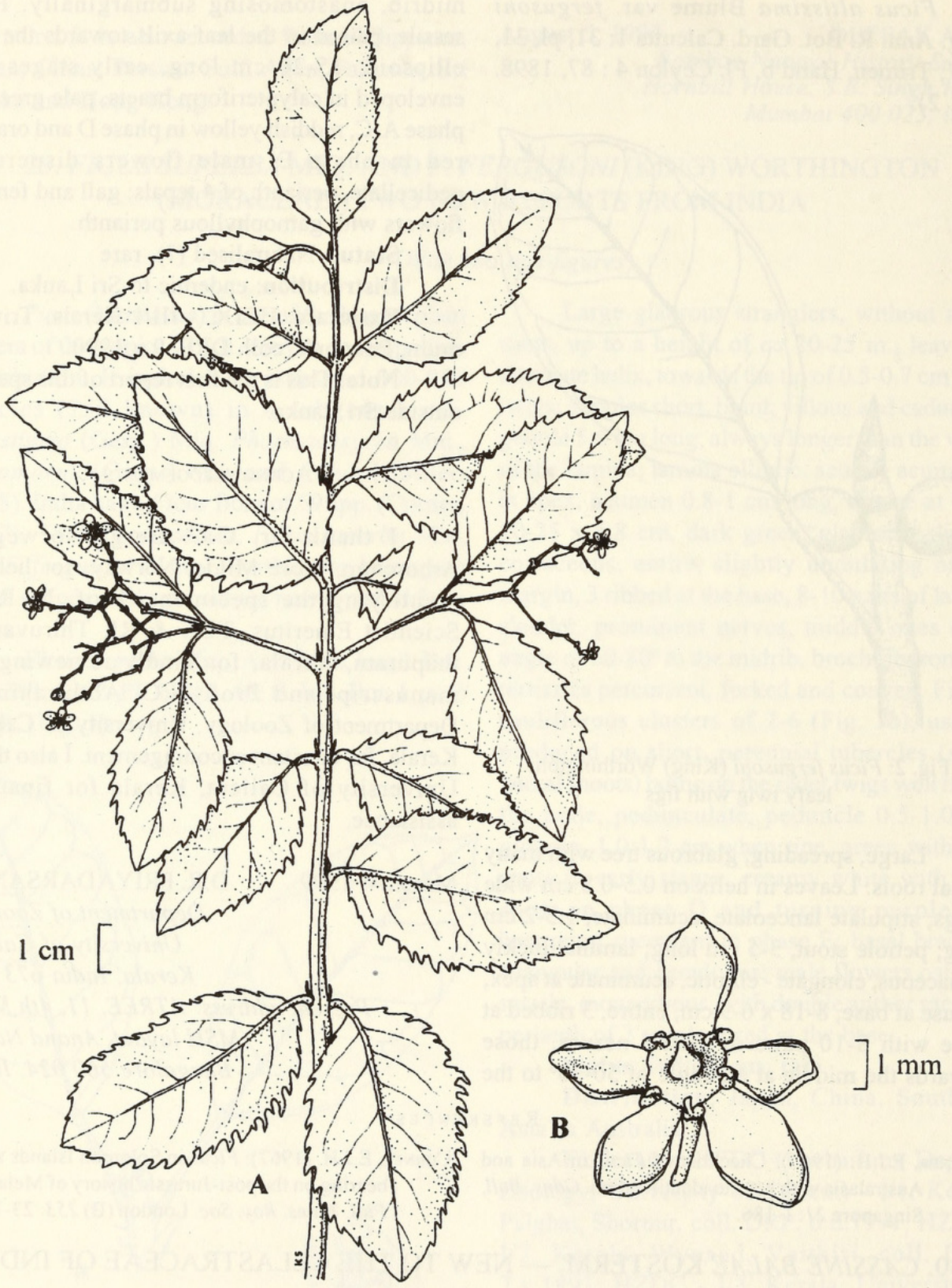

Fig. 1: *Cassine balae* Kosterm: A. Twig; B. Flower.

glauca (Rottb.) Kuntze (*vide* nomenclatural citations; also *vide* Kostermans 1986: 181-185) and reportedly endemic to Sri Lanka is added to the Indian flora from the Gulf of Mannar coast in Tamil Nadu. The interpolation of Roxb., Pl. Coromandel 2: 2. 1799, after the misapplied name *Cassine glauca* by Kostermans (1986) in the nomenclatural citations, however, is inadvertent. As an explanation for the asterisk at *Schrebera swietenioides* in the footnote, Roxburgh (1799) *inter alia* stated that *Schrebera albens* Retz. (*Celastrus glaucus* Vahl) is a species of *Elaeodendrum,* which does not constitute valid publication of the combination (Art. 33.1).

A detailed description is provided as also an illustration. Notes are added on the phenology, habitat, probable route of entry among others.

Cassine balae Kosterm. *In* Gard. Bull. Singapore 39: 185. 1986. – Type: Sri Lanka Habantotta, along the coast, Sept., fr., Coll. Balasubramaniam 2213 (AAU, K, L holotype). Trincomalee, Jan. 1940, Coll. T.B. Worthington 742 (PDA paratype, photocopy!).

Elaeodendron glaucum auct. non (Rottb.) Pers. 1805: Roxb., Fl. Ind. 2: 639. 1832, excl. syns. *Mangifera glauca* Rottb. 1783, *Celastrus glaucus* (Rottb.) Vahl 1791 & *Schrebera albens* Retz. 1791 (as '*Elaeodendrum*'); Voigt, Hort, Suburb. Calcut. 167. 1845, p.p., quoad cit. Ceylon; Lawson in Hook. f., Fl. Brit. India 1: 623. 1875, p.p., quoad cit. Ceylon; Trimen, Handb. Fl. Ceylon 1: 271. 1893, p.p.

Bushy shrub, *c* 1.5 m high, glabrous; branches many, slender; bark furrowed. Leaves simple, opposite, ovate or elliptic-oblong, cuneate at base, deeply serrate with pungent serrations along margins, acute or obtuse-subacute at apex, 3-7 x 1.5-4 cm, coriaceous, glabrous, dark green; lateral nerves 5-7 (up to 9) on each side, prominent; petioles 0.4-1 cm long, glossy; stipules minute, scaly. Panicles axillary, loose, *c.* 4 x 4 cm; cymes dichotomous, few-flowered; peduncles slender, 1-2 cm long; bracts and bracteoles minute, subulate; pedicles filiform, *c.* 3 mm long. Sepals 5, broadly ovate, obtuse at apex, *c.* 1 mm long, green, valvate. Petals 5, oblong, obtuse at apex, concave, *c* 3 mm long, pale green, valvate. Stamens 5; filaments short, *c.* 1 mm long, inserted in disk, curved down when mature; anthers globose. Ovary immersed in cushion-like disk; style short, conical, stigma simple. Drupes oblong, *c.* 2 cm long, greenish.

Fl. & Fr.: January - ?

Habitat: Coastal scrub jungle, on sandy soil, under shade of *Acacia planifrons* trees; rare, only about 10 plants seen.

Distribution: Sri Lanka and southern India (Tamil Nadu).

Notes: The Sri Lanka plant is a tree, up to 20 m tall and up to 90 cm dbh, older trees massive and the leaves shallowly and remotely serrate. However, under *Note* Kostermans (1986 : 186) stated that in northeast Sri Lanka on dunes and sterile sandy coastal areas, the plant is a many-short-boled bushy shrub. Its leaves are sharply serrated along margins, and he never saw it in flower. The Indian plant has similar habit and leaves. It was also found to occur in a sterile sandy coastal area under the shade of *Acacia planifrons* trees which are almost ubiquitous throughout the Gulf of Mannar coast in Tamil Nadu. Despite our continuous monitoring for almost three years, we managed to collect material in flower and fruit only once. The factors that govern flowering and fruiting in this habitat on either side of the Gulf of Mannar need further investigation.

The putamen splits into two halves after a prolonged period of soaking and rotting (Kostermans, 1986). The fruits are green to boot, and unlikely to be picked up by birds, so the seeds might have reached the Indian shores by seawater. That the plant might have reached India through a human agency (the Tamil refugees from Sri Lanka) may not be ruled out.

Specimens examined: INDIA. Tamil Nadu, Ramanathapuram dist., Mandapam Camp, CMFRI Campus, under *Acacia planifrons* trees, on loose sandy soil, 10.i.1996, P. Daniel & P. Umamaheshwari 106696 (MH). Kalpituya, Jan. 1882, C.D. Vigros s.n. (PDA photocopy!).

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31. OCCURRENCE OF *GONIOPHLEBIUM AMOENUM* (WALL. EX METT.) J.SM. IN BIHAR

While exploring the flora of Singhbhum dist., Bihar during 1993-94, we collected a specimen of *Goniophlebium amoenum* (Wall. ex Mett.) J.Sm. at Meghahatuburu (1200 m above msl). A critical review of the existing literature (Haines 1924; Mooney 1950; Chowdhury 1973 and Dixit 1984) reveals that this species has not so far been recorded from the state and is being reported for the first time.

Goniophlebium amoenum (Wall. ex Mett.) J.Sm. in Hook. Gen. Fil. t.51.1840; Bedd. Ferns Brit. India t. 5. 1965; Handb. Ferns Brit. India 317. 1883. *Polypodium amoenum* Wall. ex Mett. Abh. Senckneb. Naturf. Ges. 2: 80.1857.

Lamina devoid of stellate hairs, glabrous or sparsely scaly, simple to pinnate. Veins forming regular rows of areoles along either sides of costae, free outwards, included veinlets solitary, simple, lamina pinnatisect, lowest pair of pinnules slightly reduced, deflexed downwards; rachis sparsely scaly on ventral surfaces; sori at the tip of included veinlets, biseriate along the costae.

The plant was an epiphyte as well as rarely growing on the forest floor.

Specimen examined: Bihar, Singhbhum district, Meghahatuburu (1200 m), S.N. Basu. The specimen is deposited in the Department of Botany, Ranchi University, Ranchi.

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32. ON THE OCCURRENCE OF *UTRICULARIA BRACHIATA* OLIVER (LENTIBULARIACEAE) IN GARHWAL HIMALAYA

(*With one text-figure*)

During routine plant collections from remote localities of Garhwal Himalaya, we collected a few specimens of the genus *Utricularia* from Rudranath area, Chamoli dist.



Daniel, Pitchai, Umamaheswari, U., and Sampath Kumar, Krishnachandran. 1999. "Cassine Balae Kosterm. new To the Celastraceae of India." *The journal of the Bombay Natural History Society* 96, 493–496.

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