



Cassipourea ceylanica (Gardn.) Alston (1925) (Rhizophoraceae) in Karnataka

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During a medicinal plant collection survey tour in September 2008, *Cassipourea ceylanica* (Gardn.) Alston belonging to the family Rhizophoraceae was collected from Uttara Kannada (North Kanara) District in the central Western Ghats of Karnataka. The voucher specimen of the collection is deposited at the Herbarium of Regional Medical Research Centre (ICMR), Belgaum. The identity was confirmed by comparing with specimens housed at the Madras Herbarium (MH), Botanical Survey of India, Southern Circle, Coimbatore.

The family Rhizophoraceae is represented by 17 genera and 120 species (Zhong et al. 2002). It is pantropical and all members are either trees or shrubs; many are mangroves, widely distributed along tropical coastlines, while some species of *Carallia*, *Blepharistemma* and *Cassipourea* grow both in primary and successional moist inland forests. The genus *Cassipourea* includes 40 species, and *C. ceylanica* is known to be distributed only in southern India and Sri Lanka. In India it has been recorded earlier from Tamil Nadu (Nair & Henry 1983), Kerala (Beddome 1872; Nayar et al. 2006), Orissa (Brahmam 2001) and Goa (Prabhugaonkar et al. 2007). From Sri Lanka it was

reported by William & Fosberg (1981).

Trimen (1984) mentions its commonness in low country in the dry districts and rarity elsewhere in most regions of Sri Lanka. Gamble (1935) reported it from Western Ghats of Tamil Nadu, in the hills of Tinnevely, Tamil Nadu and Travancore (presently belong to Kerala) at low elevations. Haines (1925) reported it from Chilka lake of Orissa. The plant was documented again by Saxena & Brahmam (1995) from the same locality. Recently it has been reported from northern Western Ghats in Goa, near a water fall, with a population of only 12 individuals (Prabhugaonkar et al. 2007). The earliest record of this plant in Karnataka was by Hooker (1878) who reported the distribution range as "Maison and Carnatic" where Maisore is likely to be the Mysore of Karnataka. Since its first report, this plant has not been reported by any other subsequent workers in Karnataka. However, Gadgil et al. (2004) mention that *C. ceylanica* is a threatened species in Karnataka, based on the WCMC (UNEP) report without quoting any voucher specimen. Therefore the present record of this plant from Karnataka, after a gap of about 130 years reaffirms its existence in the state.

The plant was sighted along a stream bank in the evergreen forest patch of Ankola Taluka (Uttara Kannada District) with a population of around 15 individuals. The detailed description of the plant with figures of different parts and photographs (Fig. 1; Images 1-3) are provided to enable its easy identification.

Cassipourea ceylanica (Gardn.)

Alston in Kew Bull. 1925: 251; Nayar et al. in Flower. Plants of Kerala, 2006; Prabhugaonkar et al. in *Ind. J. For.* 30(1), 81-82, 2007. *Weihea zeylanica* Baill., in *Adansonia* iii, 38, 1862; Hooker in *Fl. Brit. Ind.* ii. 441, 1878; *Anstrutheria zeylanica* Gardn. in *Calc. Journ. Nat. History* vi. 344, 1846; Bedd., in *Fl. Sylv. t.* 194, 1872; *Weihea ceylanica* Baill., Brandis, *Ind. Trees* 306, 1906; Bourdillon, *For. Trees of Travancore*, 171, 1908; Gamble, *Flora Pres. Madras*, 1, 460, 1935.

A large shrub or small evergreen tree, branched from the base; young parts glabrous. Leaves simple, opposite, 4.5-11.5 x 2.5-5.5 cm, broadly ovate, rounded at base, obtusely acuminate, entire, glabrous, shining above, rather paler beneath; petioles ca. 6mm long; stipules interpetiolar, lanceolate, acute, ciliate, ca. 4mm long. Flowers bisexual, axillary, solitary, or rarely 2 or 3 on short curved pedicels; buds small, globular, completely enclosed by two thick, cup-shaped, rounded, ciliate bracts. Calyx-tubes shortly turbinate, adnate to the ovary; segments 4-5, oblong-lanceolate, 11 x 8 mm, acute, spreading, valvate, densely silky outside, persistent, accrescent, ultimately deflexed. Petals 4-5, hypogynous, inserted under the margin of an obscure disk, clawed, spatulate, 15 x 10 mm, fimbriate, white, cauducous. Stamens 16-30, hypogynous, inserted on the disk; filaments filiform; anthers oblong. Ovary superior, 3-celled with two pendulous ovules in each cell; styles filiform, persistent; stigma obscurely 3-lobed. Fruit a fleshy capsule, globose, tipped with long persistent style, splitting into 3-4 valves, 3-celled, the cells 1-2-seeded. Seeds ovoid, arillate.

Flowering and fruiting: July-September. In the present locality the plant was observed bearing flower buds almost throughout the year. Hooker also mentions the prolonged nature (six months) of flower bud existence.

Habitat: Found along the streams on steep slopes in

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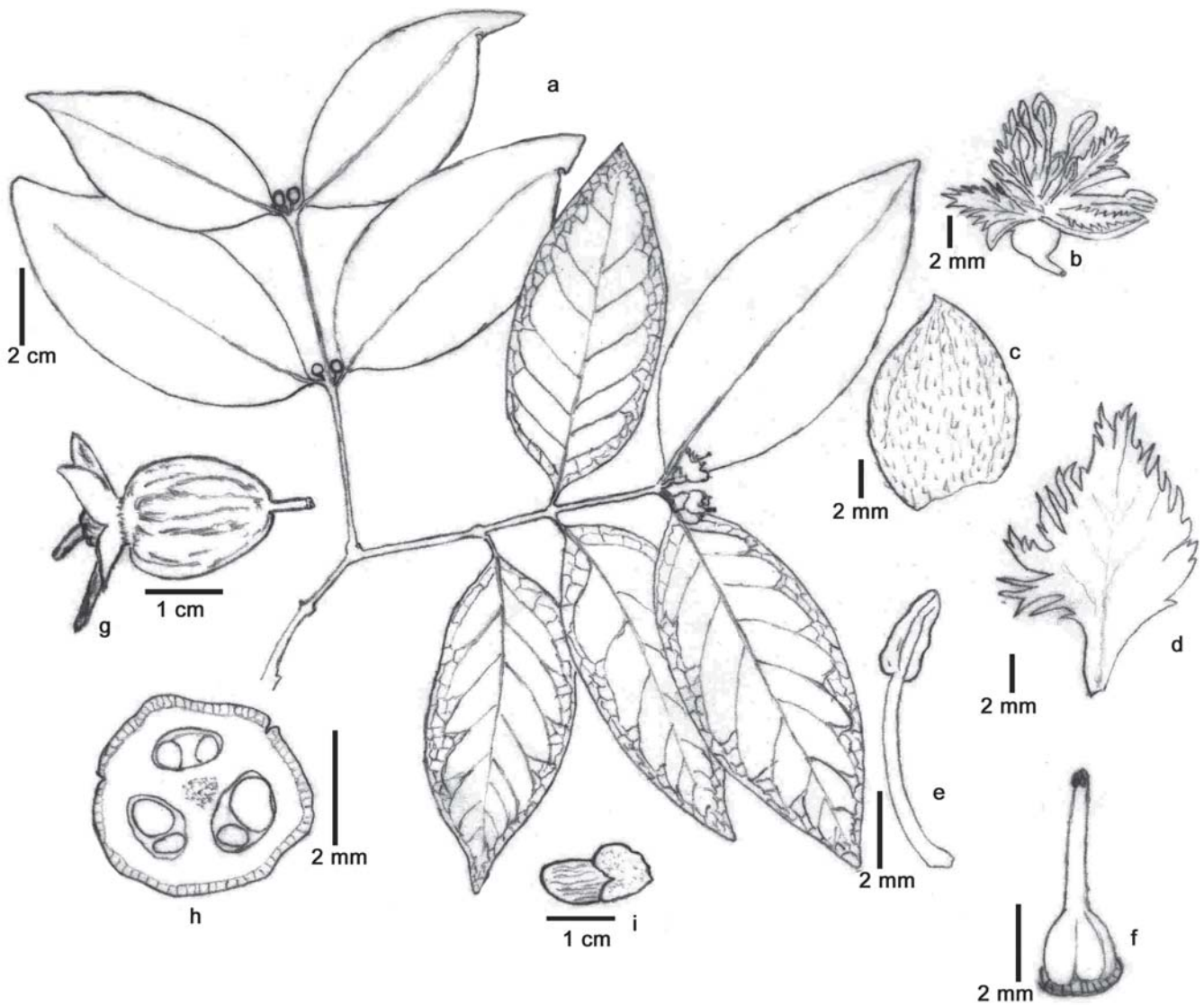


Figure 1. *Cassipourea ceylanica* (Gardn.) Alston: a - flowering twig; b - flower; c - sepal; d - petal; e - stamen; f - gynoecium; g - fruit (capsule); h - t.s. of ovary; i - seed with aril

association with *Dimorphocalyx lawianus* J. Hooker and *Tricalysia sphaerocarpa* (Dalz.) Gamble. The location is close to a *Myristica* swamp with some endemic species like *Gymnacranthera canarica* (King) Warb., *Dipterocarpus indicus* Bedd. and two critically endangered tree species namely *Syzygium travancoricum* Gamble and *Madhuca bourdillonii* (Gamble) Lam. (Chandran et al. 2008).

Distribution: Southern peninsula in India and Sri Lanka. In India- along the Western Ghats in Tamil Nadu, Kerala, Karnataka and Goa; Eastern Ghats in Orissa.

The present report of *C. ceylanica* from Karnataka connects the presence between Kerala and Goa States and there is every likelihood of its occurrence elsewhere between these gaps along streams of some relic and evergreen forests. Its rarity in the Western Ghats and Eastern Ghats indicates its thinner population status and therefore warrants immediate actions for its conservation and restoration. Occurrence of Gerrardine (Kato et al. 1984) and Sulfur-containing Amides Cassipoureamide -A and -B in the stem wood (Ichimaru et al. 2000) of its closely related *C. guianensis* Aubl. can be a clue for further study of *C. ceylanica* for its chemical composition and to

explore its potential medicinal value.

Note: Among the Rhizophoraceae this is the only genus with superior ovary. Presence of interpetiolar stipule can mislead it as a member of Rubiaceae. Trimen (1984) mentioned that the structure of flower is completely thalamifloral and stated "hence Gardner and others have referred it to Tiliaceae (Elaeocarpaceae) and Moon to *Elaeocarpus* itself to which its petals so much resemble".

Specimens studied: India, Karnataka, Uttara Kannada District, Ankola, 18.xi.2008, Divakar K. Mesta, Harsha V. Hegde & Vinayak Upadhyay, 468 (RMRC - Regional Medical Research Centre); Tamil Nadu, Kanyakumari District, Inchikuzhi, 5.vii.1964, A.N. Henry & M. Chandrabose, 19275 (MH); Tinavalley, Mundanthurai Ghats, 18.vi.1901, C.A. Barber, 19868 (MH); Panagudi, Kannu Pulicadu, 5.ii.1972, B.D. Sharma, 17955 (MH); Manimuthar Dam, 18.x.1957, K.M. Sebastine, 8795 & 8796 (MH).

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Image 1. *Cassipourea ceylanica* (Habit)Image 3. *Cassipourea ceylanica* (Fruit split open)Image 2. *Cassipourea ceylanica* (Flower)

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