



## ***Canthium vembanadensis* (Rubiaceae) a New Species from Kerala, India**

**S. Soja and T. Sunil Kumar**

Postgraduate and research department of Botany, Sanatana Dharma college, Alappuzha, Kerala, India

### **Abstract**

*Canthium vembanadensis*, a new species allied to *Canthium travancoricum* Bedd. is described along with colour photographs and illustrations. Comparison with allied species is included.

**Keywords:** *Rubiaceae*, *Canthium*, new species.

### **Introduction**

The genus *Canthium* is represented by 17 species and 3 varieties in India and neighbouring countries. At present, out of which, only 11 species have been accepted under the genus *Canthium*. Among them, 5 species were reported from Kerala region with two strict endemics of southern Western Ghats. The genus is coming under the Rubiaceae family and is composed of dicotyledonous trees, shrubs, lianas or herbs and each genus are well distinguished by simple, opposite leaves, interpetiolar stipules and gamopetalous, actinomorphic flower. *Canthium* Lam. is coming under the tribe Vanguerieae. The genus *Canthium* has some general characters such as thorny stem with interpetiolar stipules and opposite decussate leaves.

During the survey on the status and distribution of *Canthium* in Kerala, an interesting species belong to the genus *Canthium* has been collected from Muhamma, Alappuzha, Kerala. After a thorough scrutiny of different Floras and examination of the specimens or images of allied species housed at various herbaria (CALI, MH, KFRI, TBGT) it has been concluded that the species is a new one. So, it is described and illustrated here.

### **Materials and Methods**

The specimens were collected from Muhamma (Altitude: 11 m, long: 76.34, lat: 9.62) close to Vembanad lake, Alappuzha district, Kerala, India. A thorough scrutiny of

different Floras and examination of the specimens or images of allied species housed at various herbaria (CALI, MH, KFRI, TBGT) were done for the confirmation of new species. The photograph of habit was taken at the field and the microcharacters were recorded using stereomicroscope (Olympus).

### **Result and Discussion**

*Canthium vembanadensis* S. Soja., T. Sunil sp.nov.

Type: - India, Kerala: Alappuzha district, Muhamma, alt: 11 m, long: 76.35, lat: 9.62, 07 August 2022 S. Soja and T. Sunilkumar, 10595 (Holotype, Isotype, KUBH)

Small tree, perennial, erect, to 8 m high. Stem round, branched, glabrous, dark brown; Internode 4-5 cm long, gradually decreasing in length near apex (4-7 cm in main branches); Rudimentary spines are found in early stage; stipules 0.4-0.6 cm long. Leaves simple, opposite decussate; petiole 0.7-1.5 cm long, glabrous, ovate elliptic, base round, apex acuminate with blunt tip. 4-5 pairs of veins, veins are glabrous, measures 6-9 × 5-7 cm. Inflorescence is an axillary cyme, very rare, peduncle glabrous, 0.9-1.2cm long; pedicel glabrous, 0.6-0.7 cm long. Calyx 4 lobed, cup shaped, each lobe is acute in shape length upto 0.05 cm., diameter upto 0.15-0.20cm, calyx mouth is glabrous. Corolla 4 partially segmented, greenish yellow, inflated, numerous white hairs on the mouth, each

petal is ovate in shape and measures 0.35-0.4 x 0.1cm. Stamens 4, epipetalous with short filament (0.20 cm), anther bilobed, stamens moderately exerted. Stigma capitate, slightly lobed, yellow in colour. style is greenish white in colour and measures 0.25-0.30 cm. style is moderately raised, ovary glabrous, 0.25-0.30 cm in diameter. (Plate 1)

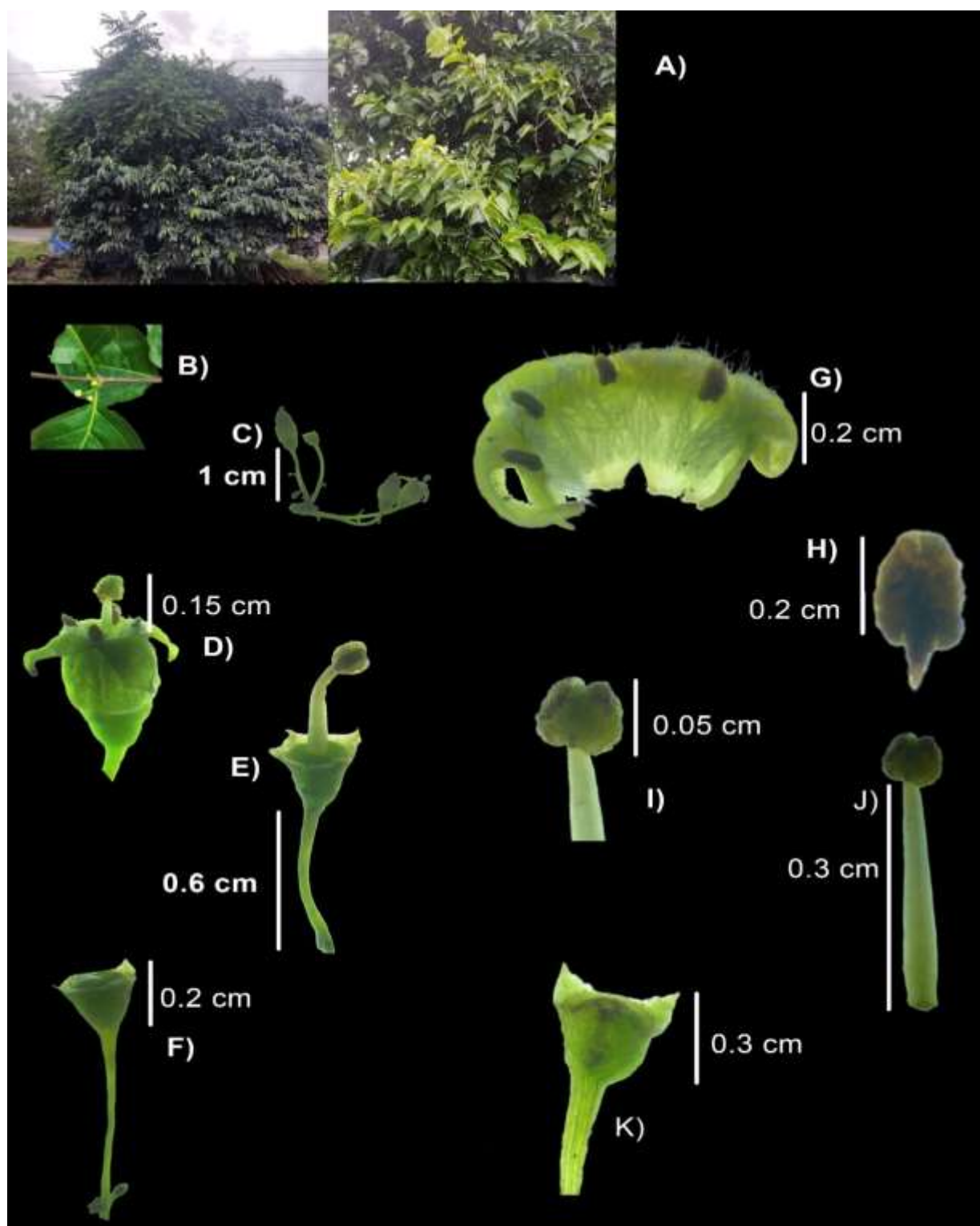
**Etymology:** The specific epithet is given as *vembanadensis* because it is located in a place Muhamma near to TheVembanadu Lake.

**Flowering and Fruiting:** May-August.

**Associated plant:** *Quassia indica* (Gaertn.) Nooteboom.

**Table 1:** Comparison between *Canthium travancoricum* Bedd. and new *Canthium vembanadensis* S.Soja and T Sunil

Characters	<i>C. travancoricum</i>	<i>C. vembanadensis</i>
Habit	A much-branched small tree	Small tree
Stem	Branched glabrous stem.	Less branched glabrous stem.
Internodal length	2.5-4 cm in length	4-5 cm in length
Nature and number of spines	Rudimentary spines are found in early stage.	Rudimentary spines are found in early stage.
Stipule	0.2-0.25 cm long.	0.4-0.6 cm long.
Leaf arrangement	Opposite decussate or pair of leaves on either side of nodes.	Opposite decussate or pair of leaves on either side of nodes.
Petiole	0.5-1.4 cm long, pubescent.	0.7-1.5 cm long, glabrous.
Leaf	Simple, bright green in colour, elliptic or ovate, base acute, apex acuminate, 4-5 pairs of veins, veins are glabrous. Leaves measures 4.7-5.3 x 2.9-4.3 cm.	Simple, green in colour, elliptic or ovate, apex acuminate with blunt tip, 4-5 pairs of veins, veins are glabrous. Leaves measures 6-9 x 5-7 cm.
Inflorescence	Inflorescence is an axillary cyme with 6-10 flowers. 2-4 inflorescence are coming from a single node. Peduncle is 1.2-1.5 cm. Pedicel is 0.2-0.5 cm., pubescent	Inflorescence is an axillary cyme with 4-5 flowers, very rare. Peduncle is 0.9-1.2 cm. Pedicel is 0.6-0.7 cm, glabrous
Calyx	Cup shaped lobed at 4 ends, each lobe length upto 0.05 cm. calyx diameter 0.15-0.20 cm. 2-3 hairs on the mouth of the calyx cup.	Cup shaped toothed at 4 ends. each lobe length upto 0.05 cm. calyx diameter 0.15-0.20 cm. calyx mouth is glabrous.
Corolla	4 segmented, greenish yellow, inflated, numerous white hairs on the mouth. Each petal is ovate in shape and measures 0.5 x 0.1 cm.	4 segmented, greenish yellow, inflated, numerous white hairs on the mouth. Each petal is ovate in shape and measures 0.35-0.4 x 0.1 cm
Androecium	Stamens 4, epipetalous with short filament (0.15 cm), anther bilobed, stamens exerted.	Stamens 4, epipetalous with short filament (0.20 cm), anther bilobed, stamens moderately exerted.
Gynoecium	Stigma globose sulcate, yellow in colour. style is white in colour and measures 0.20 cm. style is less raised (0.05 cm seen outside). ovary inferior, bicarpellary, syncarpous.	Stigma capitate, slightly lobed, yellow in colour. style is greenish white in colour and measures 0.25-0.30 cm. style is moderately raised (0.15 cm seen outside). ovary inferior, bicarpellary, syncarpous.



**Plate 1:** *Canthium vembanadensis*. A. Habit; B. A twig; C. Inflorescence; D. Single flower; E. Pedicel; F. Calyx cup; G. Corolla split open; H. Stamen; I. Stigma; J. Style; K. Ovary L.S

### Conclusion

The new species of *Canthium* is similar to *Canthium travancoricum* in morphology (**Table 1**). Calyx shape is similar in both species and the characters like glabrous petiole, pedicel

and calyx mouth, inflorescence frequency, shape of stigma, etc. are different.

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