

# OCCURRENCE OF *ROTALA RITCHIEI* (CLARKE) KOEHNE (LMHRACEAE) IN PERIYAR TIGER RESERVE, KERALA

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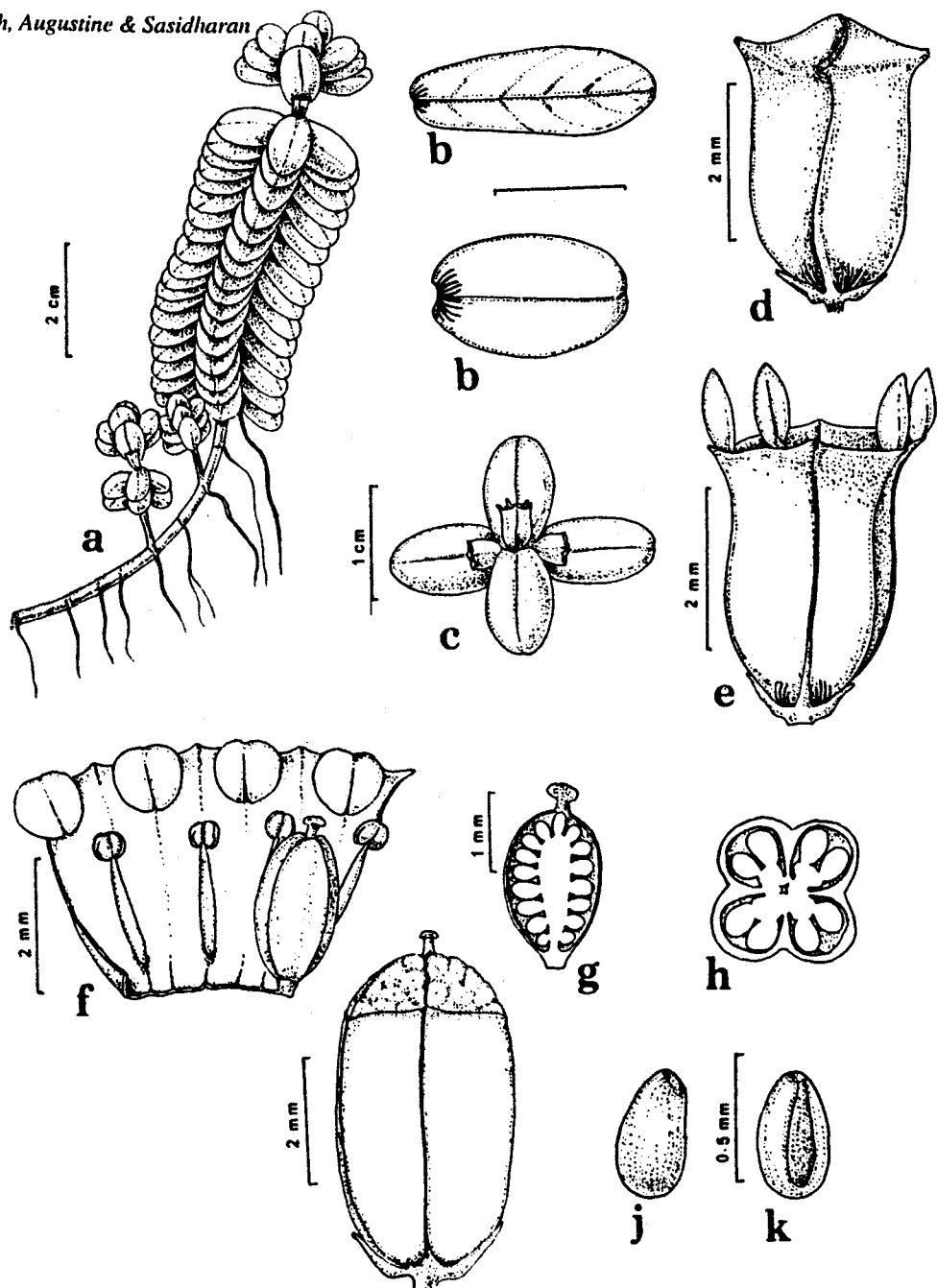
**Rotala ritchiei** (Clarke) Koehne is based on *Ammannia ritchiei*, described by C.B. Clarke (Hook.f. **Fl.** Brit. India 2 : 566. 1879) on the specimens collected by Ritchie from Belgaum, Karnataka in rice fields. Cooke (1903) also cited Ritchie's collection and noted the species as 'very rare' in the erstwhile Bombay Presidency. After the type collection, the plant had not been recorded until Janardhanan (1981) reported it from Pune, Maharashtra, based on his collections made in 1966. Thomas Mathew and Ahmedullah (1992) recorded the occurrence of this plant in Devarakerai, *ca.* 1575 m alt., in Coimbatore hills of Tamil Nadu based on the specimen collected by C.E.C. Fischer in 1903, which was earlier identified as *Ammannia pentandra* Roxb. The plant is listed in the **Red Data Book of Indian Plants** (Nayar & Sastry, 1987), under the category vulnerable.

During the study on the Flora of Periyar tiger Reserve (9° 18' & 9°40'N., 76°55' & 77°25' **E**) in Idukki district, Kerala, an interesting specimen of **Rotala** was collected and was referred to C.D.K. Cook. He informed that the specimen is similar to *R. ritchiei* (Clarke) Koehne (Cook 1995. Pers. Comm.) Further studies confirmed the identity of the specimen.

Though Janardhanan relocated the species in 1966 from Pune, Maharashtra due to the construction of a highway along the area, the only then known habitat was destroyed (Nayar & Sastry 1987). No further populations of the species could be located later on (Cook, 1979, K.T. Joseph & V.V. Sivarajan 1989, Thomas Mathew and M. Ahmedhullah, 1992). Hence the relocation of viable populations of this vulnerable species from the Periyar Tiger Reserve, an already protected area is significant. A brief description and illustration based on the collections are provided to facilitate easy identification.

**Rotala ritchiei** (Clarke) Koehne in Engl. Bot. Jahrb. 4 : 386. 1833; Cook, Boissiera 29 : 71. 1979; Janardhanan. Bull. Bot. Surv. India 21 : 230. 1979; *Ammannia ritchiei* Clarke in Hook.f., Fl. Brit. India 2 : 566. 1879.

Emergent aquatic herbs, rooting at lower nodes and creeping when water recedes. Young stem 4 angled. Leaves opposite decussate, variable, oblong, subcordate at base, obtuse at apex 10-20 x 5-15 mm; stipules few, bristle - like, caducous. Flowers axillary, solitary, 3.5 x 1 mm, pedicels 0.2-0.4 mm; bracteoles lanceolate, 0.7 mm long, with few caducous bristles at base. Calyx tube 4 angled, 3 x 1 mm, slightly winged



Figures a-k : *Rotala ritchei* (Clarke) Koehne (a) Habit (b) Leaf (c) Node showing flowers (d) Flower bud (e) Flower (f) Flower cut open (g) Ovary L.S. (h) Ovary C.S. (i) Fruit (j) Seed - dorsal view (k) Seed Ventral view

with 4 erect subulate appendages. Petals pink, orbicular, caducous 0.5 x 0.5 mm. Capsule 4 - valved, with persistent stigma, longer than calyx tube, 5 x 1 mm; seeds numerous, oblong - ovoid, brownish, 0.5 mm long.

**Ecology** : Growing in seasonal ponds in grasslands at 1000 - 1200 m. alt. in association with *Myriophyllum obliganthum*, *Nymphoides parvifolium*, *Rotala indica*, *R. macandra* and *R. rosea*. Flowering November - December and sets fruits during January - March.

**Note** : C.D.K. Cook (1979) points out the close resemblance of *R. ritchiei* with *R. fluitans*, an African species. After examining our material he doubts these two are conspecific (1995 Pers. Comm.), which demands further study.

**Specimens examined** : India, Kerala, Idukki District. Periyar Tiger Reserve. 1200 - m alt. 28. December 1993 *Jomy Augustine*. 13006 (KFRI). *Ibid*. 1200 m alt. 24 November 1994, *K.P. Rajesh* 14251 (KFRI), *Ibid*. 1000 m alt. 12 March 1995 *K.P. Rajesh* 14877 (KFRI).

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