



**A LITTLE KNOWN SPECIES OF *POTAMOGETON*
(*P. PERFOLIATUS* L.-*POTAMOGETONACEAE*)
FROM KERALA, S. INDIA**

**V.K. RAJILESH, K.P. ANOOP, P.V. MADHUSUDANAN AND
R. PRAKASHKUMAR**

*Malabar Botanical Garden,
Kozhikode-673 014, Kerala, India*

Potamogeton perfoliatus L., a little known submerged species is reported from Kerala. The taxon is described and illustrated. Detailed morphology, palynology, habitat, etc. are given.

Key words: Ecology, Morphology, Palynology, *Potamogeton perfoliatus*.

The genus *Potamogeton* L. is one of the most diversified genera of aquatic macrophytes with ca. 90 species. They are generally known as pondweeds, provide food and shelter to aquatic wildlife and are cosmopolitan in distribution. Some of these are used as ornamental plants in ponds and aquaria. *P. natans* is known as pickarel weed on the belief that they give birth to young pikes. N₂ fixing bacteria are reported from the rhizosphere of *Potamogeton* spp. (Lipschultz *et al* 1979). 14 species of *Potamogeton* are described from India of which five taxa are found in South India. *P. malaianus* is found in central India (Madhya Pradesh and Bihar) and eight species are distributed in the Himalayan region (Cook 1990, 1996). Probably, the earliest description of *Potamogeton perfoliatus* from India was by Hooker (1893) who described 10 species of *Potamogeton* from India. Matthew (1981) reported four species of *Potamogeton* from Tamil Nadu Carnatic including *Potamogeton perfoliatus*. Sasidharan (2004) reported three species of *Potamogeton* from Kerala viz., *P. nodosus*, *P. octandrus* and *P. pectinatus*. Sunil and Sivadasan (2009) recovered *Potamogeton octandrus* from the brackish water of Kayamkulam in Kerala. Fassett (1992) while giving a systematic treatment for this

genus commented that, "identification of species of *Potamogeton* is notoriously difficult." Fischer (1956) reported four species of *Potamogeton* from the Madras Presidency area including *Potamogeton perfoliatus* as occurring in Chingleput lake and Ooty lake, but did not give detailed descriptions

A few species of *Potamogeton* such as, *P. crispus*, *P. gayi*, *P. wightii* are cultivated in aquaria and garden ponds. *P. nodosus* and *P. crispus* (curly pond weed) are invasive (originally European, which were later introduced to Asia and the New World) and became notorious in ponds and lakes creating formidable impediments to water sports and transportation (Nichols and Shaw 1986, Stuckey 1979). The distribution of *Potamogeton* in Japan has been investigated by Kodono (1982). Haynes *et al.* (1998) described the family Potamogetonaceae in "Families and Genera of Vascular Plants" edited by Kubitzki. A revision of North American *Potamogeton* was done by Haynes (1975). Isozyme studies on the determination of parent of a hybrid of *Potamogeton* spp. were done by Fant *et al.* (2001).

During an exploration of aquatic plants of Kerala, we could find a large population of *Potamogeton perfoliatus* in the shallow waters

of the Karapuzha Reservoir (700 m alt.) in the Wayanad District of Western Ghats. *Potamogeton* spp. are rare in Kerala and information on their morphology, distribution, ecology is meagre and hence the species is described here in detail.

MATERIALS AND METHODS

The plants were collected from Wayanad District (Coll. No.: MBG; 5607) during the post monsoon season (Sep,-Oct.) of 2010 and 2011, from the shallow region of Karapuzha reservoir (700m). Herbarium sheets were prepared using the standard wet method and deposited in the Herbarium of Malabar Botanical Garden. A specimen was also deposited in the Calicut University Herbarium (CALI).

Morphological observations done using a LABOMED stereomicroscope and illustrations of flower, etc. were made with the help of camera lucida. Photographs were taken using a Sony Digital Camera DLSR-A200

TAXONOMIC DESCRIPTION

Potamogeton perfoliatus L. Sp. pl. 126, 1753 Fl. Brit India 6: 566, 1893; C. Fischer, Fl. Madras Pres., 3: 1116. 1931; Subramanyan K. Aq. Angiosperm 95. 1962; Matthew KM, Fl. Tamil Nadu Carnatic 370. 1981; Fassett, Manual aquatic Pl. 57. 1992; Cook. C.D.K. Aquatic and Wetland Pl. India. 334. 1996.

Fig. 1 (A-F); Plate 1 (A & B)

Submerged plants; stolon rhizomatous, creeping branched. Stem \pm 2m long usually branched above, terete Leaves sessile, translucent, brownish green, elongate, ovate to lanceolate, 6-12 cm long 1-1.5 cm wide, rounded to cordate at base, the lobes clasping the stem (amplexicaul), 5-12 veins, midrib prominent, the margins minutely serrate (teeth

not visible to the naked eye) and wavy, the tip acute to rounded; stipules very thin, deciduous, 1-2 cm long, Inflorescence compact spikes, up to 3 cm long; peduncle rigid, erect emergent, 2-5 cm long. Flowers small, many, sessile Perianth 4, concave. Anthers 4, sessile incurved, pollen inaperturate, spherical, smooth, 30 μ in diameter. Carpel 4, sessile, united at base; stigma free, sessile. Druplets obovoid, smooth, bluntly keeled, up to 3 mm long with beak 1 stigma free, sessile. Druplets obovoid. smooth, bluntly keeled, up to 3 mm long with beak 1 mm long; seeds subreniform.

Habitat: Stagnant waters and down stream of Karapuzha Reservoir, Wayanad Dt, Kerala S.India. 700 m, tropical humid climate.

Flowering : June - December

Distribution : Kerala (reported only from this locality). Also from Veeranam lake Chengalpet, Ooty lake of Tamil Nadu Cosmopolitan in distribution. **Specimens Examined** : Kerala Wayand Dt., Karapuzha reservoir, Rajilesh V.K. 5607 (MBG), 5607 (CALI).

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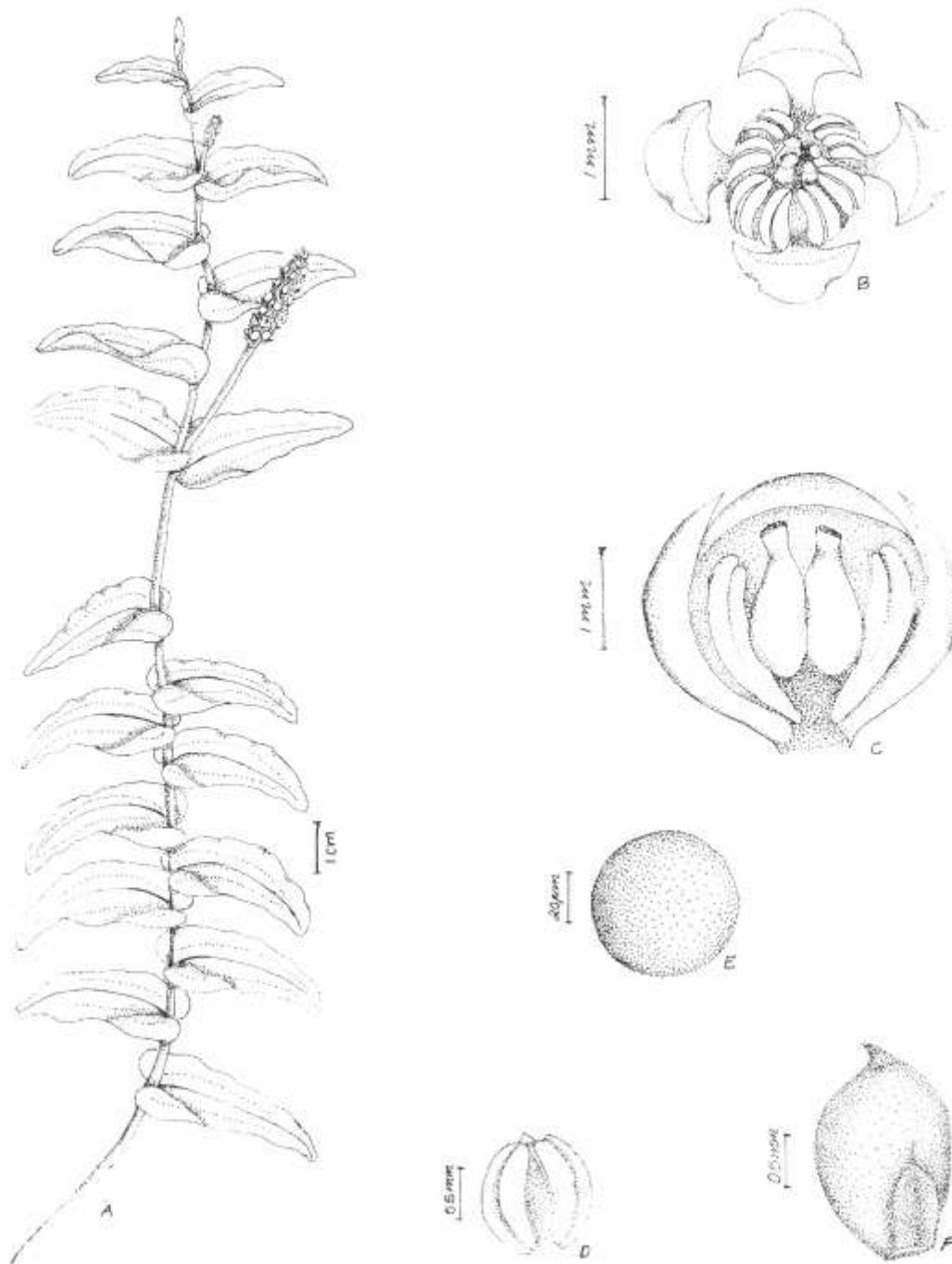


Figure 1 : A-F. *Potamogeton perfoliantus* L. (MBG) 5607
 A. Habit, B. Flower, C. Open flower showing stamens and pistil, D. Anther showing caecae bisaccate nature E. Pollen F. Fruit



Plate 1 : *Potamogeton perfoliatus* L; A-Habit; B-Inflorescence

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