

## APONOGETON UNDULATUS ROXB. (APONOGETONACEAE), A NEW ADDITION TO THE FLORA OF KERALA, INDIA

Biju P<sup>1\*</sup>, Josekutty E. J<sup>2,3</sup> and Jomy Augustine<sup>3</sup>

<sup>1</sup>Department of Botany, Government College, Kasaragod, Vidyanagar P.O., Kasaragod-671123, Kerala, India

<sup>2</sup>Department of Botany, Government Brennan College Thalassery, Dharmadam P.O., Kannur-670106, Kerala, India

<sup>3</sup>Department of Botany, St. Thomas College, Pala, Arunapuram P.O, Pala-686574, Kerala, India

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### ABSTRACT

*Aponogeton undulatus* collected from a stream in Paliyeri, Kerala, India is reported as a new addition to the Flora of Kerala. A brief description and photographs of the species are given.

#### Key words:

*Aponogeton*, Bullbil, Kannur.

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### INTRODUCTION

Aquatic genus *Aponogeton* L. F. is represented by approximately 57 species all over the world (Chen 2015). Yadav and Gaikwad (2003), in their revision work reported 7 species of *Aponogeton* from India. Later on a new species, *Aponogeton nateshii* was reported from, Maharashtra, India (Yadav 2015). Sasidharan (2013) and Ansari *et al.* (2016) reported 3 species of *Aponogeton* from Kerala, India.

During the floristic exploration in the wetlands of Kannur District of Kerala, the authors collected specimens of *Aponogeton* with bulbils from a stream. The detailed study of the specimen showed that, it is *Aponogeton undulatus*. This viviparous species (Van Bruggen 1970) is not reported from any districts in Kerala, India and it is a new addition to flora of Kerala.

#### Taxonomy

*Aponogeton undulatus* Roxb. (Fig. 1) in Hort. Beng. 26, 1814, nom. inval. nom.nud.; bruggen, Blumea 18 (2): 465. 1970; C. D. K. Cook, Aquat. Wetl. Pl. India 49. 1996; Yadav & Gaikwad, Bull. Bot. Surv. India 45: 66. 2003; Bhat, Fl. South Canara 81. 2014.

Aquatic, submerged, perennial, tuberiferous herbs, 1-2 m high. Tuber obovoid-cylindrical, brownish, 2-3 × 1.2-2 cm, covered by adventitious roots. Roots many, arise from the top of the tuber, yellowish brown, 2-15 cm long, secondary

branches capillary. Leaves submerged, simple, petiolate; petioles 30-170 cm long, length varies with depth of the water, obtusely triangular, greenish; lamina oblong-elliptic, brownish green, obtuse or shallowly emarginate at the apex, 18-30 × 3-8 cm, round at the base, midrib prominent at the base with 4-6 parallel nerves, closely arranged thin nerves



Fig 1 *Aponogeton undulatus* Roxb. A. Habit; B. Habitat; C. Bulbils. "

\*Corresponding author: Biju P

Department of Botany, Government College, Kasaragod, Vidyanagar P.O., Kasaragod-671123, Kerala, India

connects parallel nerves, margins undulate. Inflorescence not found. Reproduce by bulbil formation. Bulbils developed on long inflorescence like axis, detaches at maturity by the decay of the axis; axis 1-2 mm long, produce bulbils at an interval of 10-30 cm; bulbils many with tuberous base and 4-8 small leaves; tuberous base globular, 0.8-1.2 × 0.8-1.2 cm; leaves petiolate; petiole 4-20 cm long, obtusely triangular, green; lamina 5-12 × 1.5-3 cm, midrib prominent at the base with 4-6 parallel nerves.

#### **Specimens examined**

India. Kerala, Kannur District, Paliyeri. Biju & Jomy 1133, (St. Thomas College Herbarium, Pala, Kottayam, Kerala, India.)

#### **Distribution**

India: Assam, Bihar, Karnataka, Maharashtra, Orissa, Punjab, Uttar Pradesh, West Bengal. Recorded for the first time in Kerala.

#### **Habitat**

Freshwater stream

#### **Notes**

The newly collected *Aponogeton undulatus* is growing in the streams of Paliyeri, Kerala, India, it reproduce by the formation of bulbils on long peduncle like axis. At maturity bulbils are separated by the decay of the axis. The formation of inflorescence is not found in this population. This population of *Aponogeton undulatus* grow in association with *Nymphoides hydrophylla* and *Rotala macrandra*.

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