

II, A NEW SPECIES OF APONOGETON FROM INDIA

Aponogeton appendiculatus van Bruggen, *sp. nov.* — Type: Aleppy, Nov. 1893, *M. A. Lawson 113* (K, 2 sheets, one indicated holotype, the second isotype). — Fig. 5.

Tuber c. 1 cm \emptyset , probabiliter elongatum atque repens. *Folia* omnia submersa, 25—40 cm longa, usque ad 3 cm lata, plana vel subundulata, basi anguste cuneata, apice anguste cuneata, acuta vel obtusa; costa dilatata, in utroque latere nervis parallelis 2—4 comitata; petiolus 13—25 cm longus. *Pedunculus* usque ad 1 m longus, inflorescentiam versus sensim incrassatus; spatha 5—6 cm, caduca, attenuata; inflorescentia sat laxiflora, c. 15 cm longa, e spica singula composita. *Flores* omnifarii, exigui. *Tepala* 2, fere semper latiora quam longiora, $\frac{3}{4}$ —1 by 1—1 $\frac{1}{2}$ mm, probabiliter alba, unicostata. *Stamina* (4—)5(—6), c. 1 mm, filamentis basin versus dilatatis. *Ovaria* 2(—3), c. 1 \times $\frac{1}{2}$ — $\frac{3}{4}$ mm, uniovulata. *Fructus* 1 $\frac{1}{2}$ \times $\frac{1}{2}$ — $\frac{3}{4}$ cm, rostrata, rostro terminali. *Embryo* valde insolitus, c. 1 \times $\frac{1}{2}$ cm, obovatus, tuberosus, verticillo appendicium linearum tortuosorum coronatus; appendices usque ad 5 \times 1 $\frac{1}{2}$ mm, apice obtusi vel acuti; testa probabiliter simplex.

Tuber \pm 1 cm \emptyset , probably elongate and creeping. *Leaves* all submerged; leaf-blades 25—40 by up to 3 cm, flat or slightly undulate; base narrowly cuneate, apex narrowly cuneate and acute or blunt; midrib wide with 2—4 slender parallel nerves on either side; petiole 13—25 cm. *Peduncle* up to 1 m, gradually thickening towards the inflorescence; spathe 5—6 cm, attenuate, caducous; inflorescence rather laxly flowered, about 15 cm, spike solitary. *Flowers* turned towards all directions, very small. *Tepals* 2, nearly always wider than long, $\frac{3}{4}$ —1 by 1—1 $\frac{1}{2}$ mm, probably white, 1-ribbed. *Stamens* (4—)5(—6), \pm 1 mm, filaments widened towards the base. *Ovaries* 2(—3), \pm 1 by $\frac{1}{2}$ — $\frac{3}{4}$ mm, ovule 1. *Fruit* 1 $\frac{1}{2}$ by $\frac{1}{2}$ — $\frac{3}{4}$ cm, with a terminal beak. *Embryo* very unusual, \pm 1 by $\frac{1}{2}$ cm, obovate, tuberosus, crowned with a whorl of linear, tortuous appendages of up to 5 by 1 $\frac{1}{2}$ mm with a blunt or acute tip; testa probably simple.

Distribution: S.W. India, between Cochin and Aleppy: Aleppy, *M. A. Lawson 113* (K); Vembanad Lake between Cochin and Aleppy, *K. Vencoba Rao 4073* (K); Canal near Ambalapuzha (= Aleppy), *K. Rungachari s.n.* (K).

Ecology: Submerged in shallow water; flowered in November.

Notes. With regard to the shape of the embryo *A. appendiculatus* shows resemblance to *Cryptocoryne ciliata* (Roxb.) Fisch. ex Wydl. *C. ciliata* is known to live mostly in mangroves, saltwater creeks and brackish river-mouths (*Nypa*-formation). The shape of the embryo is sometimes considered to be an adaptation to this environment. If the Vembanad Lake is also brackish—and this is not unlikely—the similarity of the shape of the embryo might be ascribed to parallel evolution in a similar habitat. A closer investigation is desirable.

Though the collections cited above were not all mentioned in Gamble, Fl. Pres. Madras 3 (1931) 1597, C. E. C. Fischer labelled them as *A. crispus* Thunb. for the Flora of Madras. *A. crispus* Thunb., however, has hitherto only been found in Ceylon and does not occur in India.

In habit *A. appendiculatus* shows resemblance with *A. rigidifolius* van Bruggen from Ceylon, which has, however, a much shorter spathe (\pm 2 cm), 2 ovules, and a normal embryo. By the structure of the embryo *A. appendiculatus* cannot be confused with any other species of *Aponogeton*.

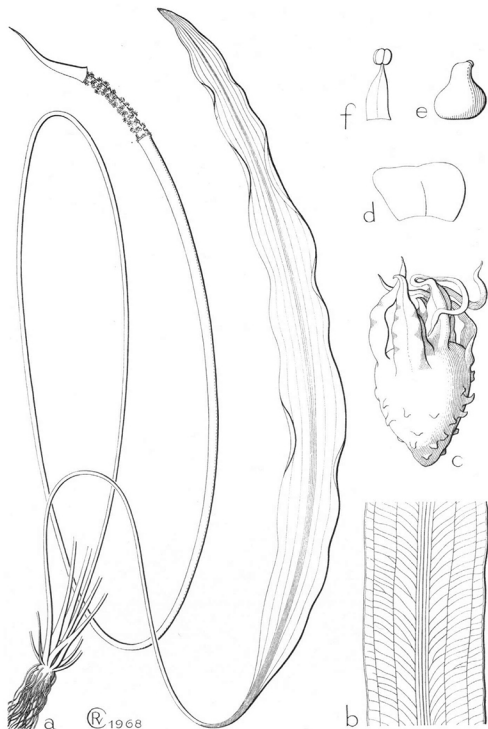


Fig. 5. *A. appendiculatus* Bruggen. a. Habit, $\times \frac{1}{2}$, b. detail of leaf, nat. size, c. embryo, $\times 5$, d. tepal, $\times 14$, e. ovary, $\times 14$, f. stamen, $\times 14$. (a—b, d—f Lawson 113, c. Vencoba Rao 4073).