

#### 4. APONOGETON, Thunb.

APONOGETONACEAE

Flowers hermaphrodite. Perianth of 2 segments one on each side. small or in species not Australian petal-like. Stamens usually 6. Carpels of the ovary usually 3, with 2 to 6 ovules in each carpel all erect from the base. Seeds ovoid or oblong, erect. Embryo straight, with a more or less prominent plumula in a groove on the inner face.—Aquatic herbs with erect or floating or submerged leaves usually oblong or narrow. Scapes leafless except a very deciduous membranous bract or spathe enclosing the young spike, but almost always fallen away before the flowering, leaving an annular scar. Flowers sessile in a terminal spike, simple in the Australian species but divided into two in some African and Asiatic ones.

The genus extends over tropical Asia and tropical and southern Africa. Of the two Australian species one is a common Indian one, the other appears to be endemic. The specific characters derived from the bulb-shaped rhizome may not be constant, having been observed only in a very few dried specimens to which the roots remain attached.

Bulb-shaped rootstock covered with filamentous remains of leaf-sheaths and emitting roots from the base. Leaves under 6 in. long. Fruit-carpels tapering into a short recurved style . . . . .

1. *A. monostachyus*.

Bulb-shaped rootstock without filaments, emitting fibrous roots from the apex. Leaves above 6 in. long. Fruit-carpels obtuse with the rudimentary style almost lateral . . . . .

2. *A. elongatus*.

2. *A. elongatus*, F. Muell. in Herb. Hook.—Tuberous rootstock formed below the uppermost fibrous roots and without the filamentous covering of *A. monostachyus* (at least in the specimens seen). Leaves submerged, very tender, from 6 in. to above 1 ft. long, and  $\frac{1}{2}$  to  $1\frac{1}{2}$  in. broad, contracted at the base or very rarely produced on one or both sides into a short basal auricle, with 5, 7 or 9 longitudinal nerves. Spikes simple as in *A. monostachyus* but more slender and the flowers not so close. Perianth and stamens as in that species. Carpels of the ovary very short with scarcely prominent styles and in fruit they are ovoid-globular, 2 to 3 lines long, very obtuse, with the very short remains of the style almost lateral. Seeds usually 3 or 4 in each carpel, narrow oblong, the outer membrane not striate, the inner one exceedingly delicate. Embryo with a narrow groove, the small plumula at the base of the groove below the middle of the embryo.

**N. Australia.** Roper and Van Alphen Rivers, F. Mueller.

**Queensland.** Brisbane River, F. Mueller; Bailey.

**N. S. Wales.** Richmond River, Fawcett; Clarence River, Wilcox (the latter without fructification and the leaves all reduced to long petioles, but probably a state of the same species).

This species is referred by F. Mueller, Fragm. viii. 216, to *A. crispus*, Thunb. or *A. undulatus*, Roxb., which however has the carpels shortly rostrate except when deformed by insects, and ripens only one or rarely two seeds in each carpel, and these seeds are of an ovoid shape with a broad open groove to the embryo.

NIP

APONOGETONACEAE

*Cyanogeton procerus*