Cottoniella Børgesen, 1919

CERAMIALES, DELESSERIACEAE

Thallus small, tufted, with prostrate and erect axes, attached by rhizoids and terminal haptera. Growth by a prominent transversely dividing apical cell. Apices initially arcuate but straightening at maturity. Structure with a conspicuous primary axis, each axial cell with 4 pericentral cells. Lateral pericentral cells each cutting off 2 flanking cells. Unbranched monosiphonous filaments arising from the concave side of young branches, 1 or 2 from each segment. Basal cells of monosiphonous filaments forming secondary pit connections with a proximal pericentral cell.

- M.D. Guiry in Guiry, M.D. & Guiry, G.M. 2021. *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. http://www.algaebase.org; searched on 21 February 2021.

- page link - http://www.algaebase.org/search/genus/detail/?genus_id=35528

Species reported from Sri Lanka.

Cottoniella amamiensis Itono, 1972 [HMF 071; Mallikarachchi, 2004 as *C. filamentosa;* Coppejans et al, 2009]

Description of species

Cottoniella amamiensis Itono, 1972

Morphology Filamentous thalli forming tufts 2-4 cm high on larger littoral algae or forming thick mats on rocks in deep water. Red coloured in sunny locations, greenish in shade; purple iridescence in sunlight underwater. Filaments branching, apices hooked; under a hand lens appear feathery owing to the short monosiphonous filaments that arise from the midline of the dorsi-ventrally flattened main axes.

Anatomy Main axes polysiphonous (many rows of cells), basal parts terete with flattened upper parts, apices hooked. Flat lateral branches produce monosiphonous (a single row of cells) branches from a flat surface. Tetrasporangia borne on elliptical stichidia (spore-bearing structures). (See drawing below.)

Ecology Dadalla: epiphytic on large algae in the lower intertidal zone.
Galle, Boossa, the offshore Pahalagala rocks, depth 20 m: forming thick mats up to 30 cm diameter on rock surfaces.

Discussion This alga was first collected from Sri Lanka by Fernando in 1997 (HMF 71, unpublished data) but remained undetermined. It was subsequently collected from Dadalla in 2001 by Mallikarachchi who identified it as a *Cottoniella* (Mallikarachchi, 2004) and assigned it to the species *filamentosa* (Howe) Børgesen based on the description and figures of Islam (1976). Wynne & R. Norris (1991) have pointed out that Islam's plant is *C. amamiensis* Itono and not *C. filamentosa* (Silva *et al*., 1996). The type locality is in Japan. Coppejans et al, 2009 remarked that *C. amamiensis* differs from *C. filamentosa* by its short and stubby monosiphonous filaments.

Distribution

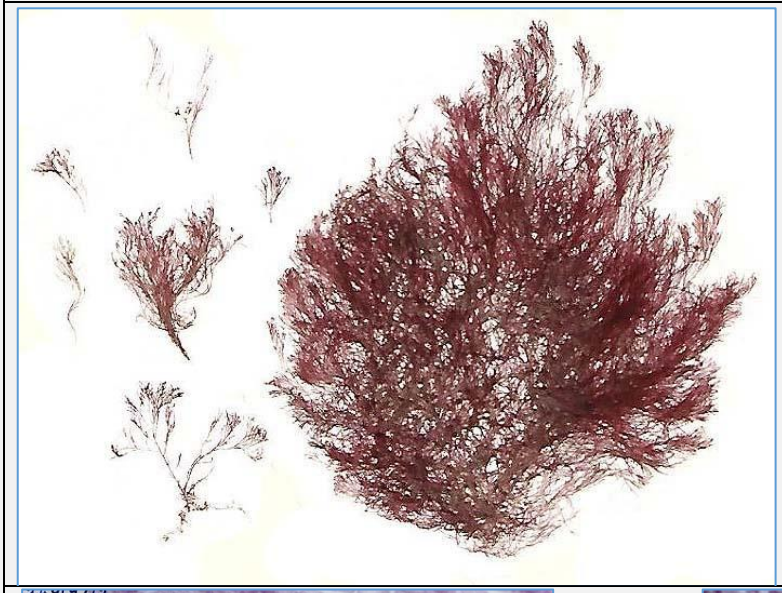
Galle: Dadalla (Mallikarachchi, 2004). Galle: off Boossa, Pahalagala (Fernando, unpublished data). Kalpitiya, Bar reef (Coppejans et al, 2009).
Also found in Bangladesh and South Africa in the Indian Ocean (Silva et al, 1996).

Material examined HMF 071, 24. 1. 1997, Galle, Boossa, Pahalagala rocks, 20 m, epilithic. Thick carpet on rock surface, greenish in shade, iridescent purple in sunlight, 10 - 20 mm high.

References

Islam, A.K.M.N. 1976: 63-64, pls. 59, 70.
Itono, H. 1972: 57-59, fig. 4.
Mallikarachchi, M.U. 2004:32, 96, photo 109.
Silva et al, 1996: 454.
Coppejans et al, 2009: 208, Fig. 177.
M.D. Guiry in Guiry, M.D. & Guiry, G.M. 2021. *AlgaeBase*.

Cottoniella amamiensis Itono, 1972

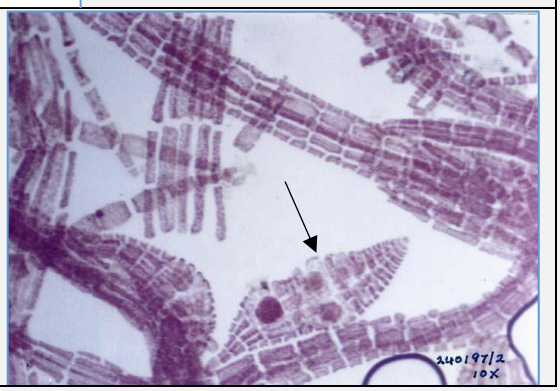


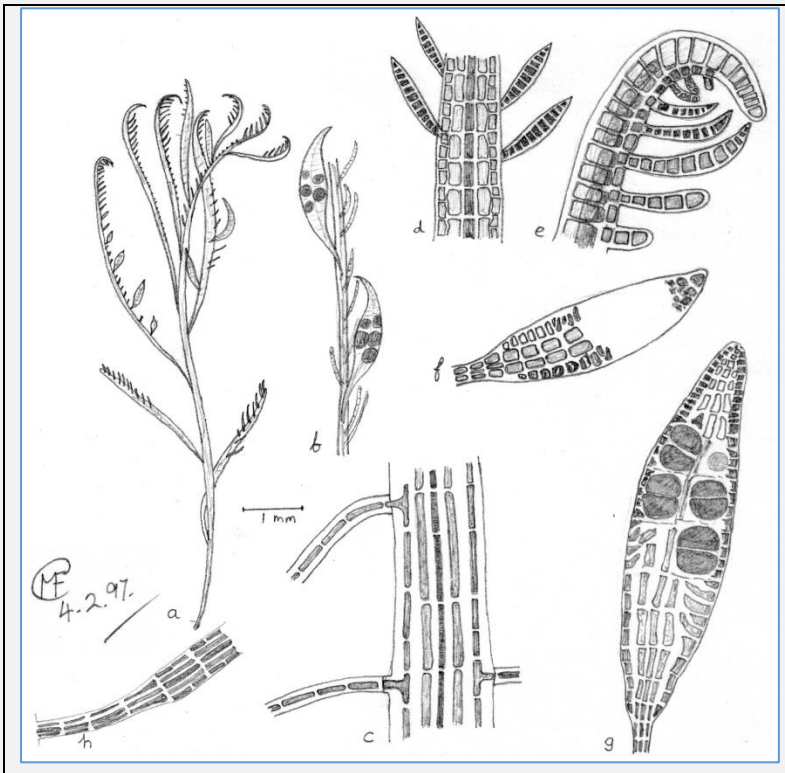
Left: Scanned image of herbarium specimen HMF 071, 24. 1. 1997.

Below: Photomicrographs of *Cottoniella amamiensis* filaments.

At left: A frond with monosiphonous filaments (arrowed).

At right: A number of polysiphonous fronds and a stichidium (arrowed).





Drawing of HMF 071

(a) Habit: upper part of young frond with immature stichidia.

(b) Portion of older frond with mature stichidia.

(c) Basal portion of frond enlarged showing rhizoids.

(d) Dorsiventral view of upper part of frond, monosiphonous filaments arising from the hidden surface. Each pair of pericentral cells with two cells on the outside.

(e) Lateral view of apex of frond with monosiphonous filaments. Growth is by transverse division of apical cells.

(f) Immature stichidium.

(g) Mature stichidium with tetraspores.

(h) Origin of a major branch.

Note: Scale bar refers to (a) only.

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