

Spatoglossum Kützing, 1843

DICTYOTALES, DICTYOTACEAE

Thalli erect, arising from a matted rhizoidal holdfast, up to 80 cm long, complanate, divided into sub-dichotomous to sub-palmate segments, 0.5-5 cm broad, with undulate to dentate margins, lacking midrib or veins. Growth initiated from a short row of apical cells. Thallus 2-10 cells thick, with an outermost layer of small cortical cells overlying larger, multi-layered medullary cells, not arranged in rows in transverse section. Hair tufts scattered with hairs arising from a depression in thallus.

- Guiry, M.D. in Guiry, M.D. & Guiry, G.M. 2021. *AlgaeBase*.

Species reported from Sri Lanka

Spatoglossum asperum J. Agardh, 1894 [Durairatnam, 1961:34] Type locality Sri Lanka

Spatoglossum schroederi (C. Agardh) Kützing, 1859

syn. *Taonia schroederi* (C. Agardh) J. Agardh, 1848 [G. Murray, 1887]

- Silva et al, 1996

Description of species

***Spatoglossum asperum* J. Agardh, 1894**

Morphology Thalli attached by a thick holdfast giving rise to a number of erect fronds, growing up to a height of 30 cm, mostly much smaller (ca. 10-12 cm). Basally narrow (5 -10 mm), the fronds expand rapidly to 4 cm wide in the largest thalli. Branching irregular, sub-dichotomous, all in the same plane (complanate), irregular in shape but tending to be linear-ovate or strap-shaped, the margins slightly ruffled with large, irregularly placed teeth. Apices often damaged in large specimens, bluntly rounded in undamaged, young fronds.

Anatomy Apical meristem in surface view a single row of rectangular cells 30 μm x 55 μm perpendicular to the surface. In transverse section there are three rows of cortical cells, the outermost layer of the cortex is higher than wide, or square:- 50-55 μm x 25-27 μm . Medullary cells are large, polygonal with rounded corners, or rectangular. The number of rows vary with the thickness of the thallus. The cells pigmented throughout, but chromatoplasts concentrated in the outer one-third of the outermost row.

Ecology Subtidal, epilithic. Shallow (2.5 - 3 m) reef off Colombo subject to much surge, growing in scattered, small clumps or forming small sheets composed of short thalli (ca. 10 cm). Taller thalli usually in hollows, sheltered from the surge. More abundant closer to the discharge from the Wellawatte canal. Associated with *Sargassum ilicifolium* (Turner) C. Agardh, 1820 (= *Sargassum cristaefolium* C. Agardh, 1820). Olive-brown in life, turning dark green when fixed.

Discussion The collections from Wellawatte appeared similar to the Peradeniya herbarium specimens determined as *S. schroederi*. Durairatnam, 1961 referred his specimens from Delft to *S. asperum*, with no indication of the differences between *asperum* and *schroederi*. Aisha et al, 2010 from Karachi point to the presence in *S. asperum* of a dentate margin and basal proliferations, both features being rare in *S.*

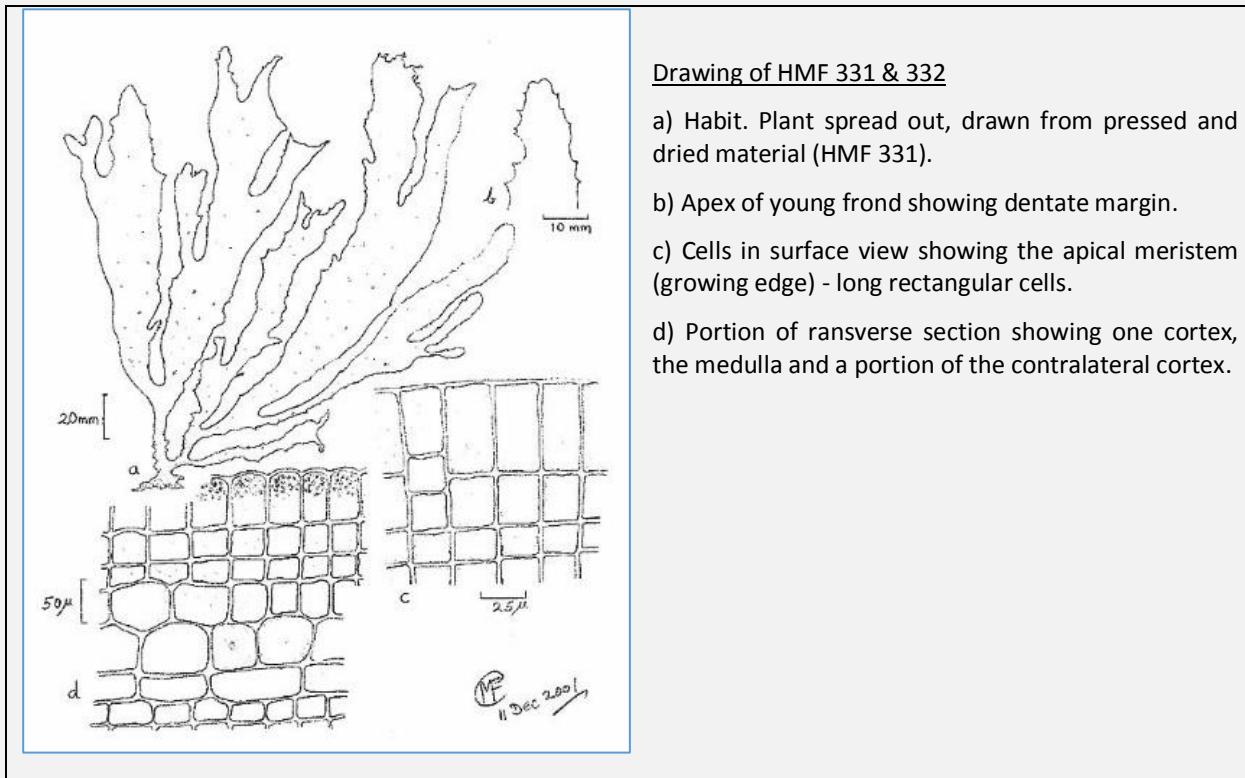
schroederi. *S. asperum* is described with more cell layers seen in transverse section than in *S. schroederi*. The Wellawatte collections are referred to *S. asperum*.

Material examined HMF 331, 091201, Wellawatte, Kinross first reef, 2-3 m, epilithic on the highest terrace, Green, erect, gregarious in small patches. Tallest plants in a sheltered hollow. More robust towards canal than away from it. Two sheets 1 & 3: #3 contains the more numerous small plants, #1 a larger plant from a sheltered hollow. HMF 332, 161201, Wellawatte, Kinross first reef, 2-3 m, epilithic on the highest terrace, Green, erect, gregarious in small patches. Plants considerably larger than those collected on 9.12.01. Many of the tallest plants, like these, becoming detached as a result of the swell. HMF 530, 10.1.2010, Colombo, Wellawatte, Kinross 1st Reef, 3 m, epilithic, highest terrace. Dark brown. Scattered clumps. Many short thalli - one 12 cm mounted - few tall thalli.

National Herbarium, Peradeniya: ca 254, Panadura; ca 54, Bentota, both determined as Schroederi, undated. In the same cover, an undetermined collection by Ferguson from Galle Face, dated 23.1.87.

References Aisha et al, 2010: **19** pp. 33-44
Durairatnam, 1961:34
G. Murray, 1887





Drawing of HMF 331 & 332

- a) Habit. Plant spread out, drawn from pressed and dried material (HMF 331).
- b) Apex of young frond showing dentate margin.
- c) Cells in surface view showing the apical meristem (growing edge) - long rectangular cells.
- d) Portion of transverse section showing one cortex, the medulla and a portion of the contralateral cortex.



BIBLIOGRAPHY

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MF: 17.6.2021.