

Genus *Sterophyllum* from Lonavala

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Abstract

Mosses are highly developed groups of bryophytes having a unique position between lower cryptogams and vascular plants preferring marshy swamps or wetland habitats for their abundant growth. They play an important role in conservation of buffer zones or edges between wetland and forest ecosystems habitats.

Lonavala is a beautiful hill station in the Western Sahayadri ranges about 102 km from Mumbai. It is surrounded by hills, valleys, wetlands and dense green forest. Mosses grow there abundantly.

Present paper deals with diversity, ecological habitats and growth forms of species of moss *Sterophyllum* Mitt, investigated at Lonavala.

Mosses are a highly developed group of Bryophytes, occupying unique position between lower cryptogams and vascular cryptogams. They like lower cryptogams, have filamentous protonema looking like some green filamentous algae and like high cryptogams they have a conducting stands.

Systematic studies on some members of this group are available in the form of Moss floras of Eastern India (monographic work of Gangulee⁷, North West Himalayas⁴ and Nilgiris⁶, Mosses of Western Ghats (Dixon, 1909), The flora of Khandala on the Western Ghats of India, *Rec. Bot. Surv. India* XVI (Santapau, 1967), A third list of mosses from Western India (Sedgwick L.J., 1913). For the preparation of the manuscript, relevant literature has been consulted¹⁻⁸.

Mosses are highly sensitive to atmospheric pollution. They can absorb heavy metals from the atmosphere. They show several injury symptoms on exposure to metal pollutants. Thus they serve as very good bio-indicators to pollution. This aspect is of very much importance to environmentalists and of great relevance in conserving ecosystems especially in popular hill stations like Lonavala.

The present paper highlights diversity of moss *Sterophyllum* around dense forest of Lonavala, their ecological habitats and growth forms. The abundance of mosses in any region reveals highly unpolluted environment and is indicator of forest conditions and they play a key role in ecosystem conservation.

Area under study: Lonavala is a

beautiful hill station in the Western Sahayadri ranges about 102 km from Mumbai. It is surrounded by hills, valleys, wetlands and dense green forest. Mosses grow their abundantly.

The mosses were collected are from dense forests admist the Valvan dam, Bhushi dam, extending upto Sunsight point, Rye wood Park. The mosses collected were identified, dried and preserved in packets of 13.5cm x 13.5cm. The data regarding botanical name, locality of collection was noted on the packets.

Genus – Sterophyllum : Mitt. (Derived from Greek – *Stereos* – rigid *Phyllum* leaf)

Plants prostrate, irregularly branched, leaves crowded, nerve single ending about the mid-leaf cells rhombic to linear alar cells normally numerous, Peristome perfect, operculum short.

This genus is represented by four species viz. *Sterophyllum wightii* (Mitt.) Jaeg, *Sterophyllum tavoyencse* (Hook.) Jaeg, *Sterophyllum fulvum* (Harv. In Hook), Jaeg., *Sterophyllum anceps* (Bosch and lac) Broth, in and from the area under study.

Sterophyllum wightii (Mitt.) Jaeg

The plants are slender, glossy yellowish green 2-2.5 cms in height. Main stem is creeping, irregularly branched giving rise to erect pinnately branched shoots. The leaves are lanceolate with acute apex and dentate margin, 1.5mm long. Leaf cells rhomboidal to elliptical wider at the base. Sporophyte present on main branch with slender seta, reddish,

smooth, capsule erect to horizontal. Peristome normal, double with 225 teeth. Spores round to elliptical, smooth, yellow brown in colour.

Distribution : It grows was collected from Valvan dam road, Lonavala Also distributed in Kodaikanal India, M.P, Dehradun, Mussorie, India.

Sterophyllum tavoyense (Hook) Jaeg.

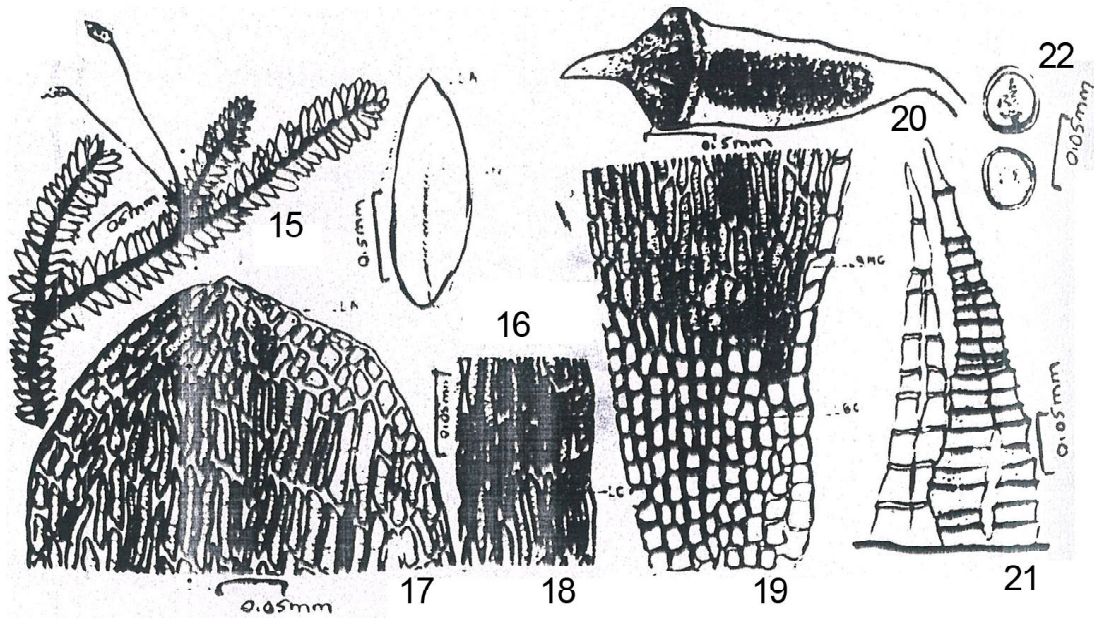
The plants are tufted, light green to dark green glossy on tree bark, 2-3 cm in height. The primary branch is horizontal giving out erect secondary branches. The leaves are ligulate to lanceolate acuminate, 1.5 mm long. Nerve upto half of the leaf. Leaf cells rhomboidal to linear, thick walled, leaf margin entire, slightly undulate. Alar cells quadrate to rectangular, broad htick walled. Sporophytes present on secondary stems, foot cylindrical with long brownish seta, capsule cylindrical, peristome double, outer teeth and inner teeth 16. Spores oval, brown in colour.

Distribution : It was collected from bark of trees at Rye wood park, Lonavala Also distributed in Kodaikanal India, M.P, Dehradun, India.

Sterophyllum fulvum Harv. In Hook Jaeg.

The plants are medium sized, golden green in colour. The main stem is creeping, giving rise to erect branches. Leaves are elliptic-lanceolate, concave, narrows apex acute, dentate margin. Costa singles less than ½ of the leaf length. Leaf cells rhomboid, elongated, Alar cells quadrate to irregularly rectangular.

PLATE-3

**Sterophyllum anceps (Bosch. Et Lac.) Broth.**

Text Fig. 15 – 22

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|--|-----------------------------|
| 15. Entire plant with sporophytes x 20 | 16. Entire leaf x 100 |
| 17. Leaf apex x 760 | 18. Median leaf cells x 760 |
| 19. Leaf base cells x 760 | 20. Capsule x 450 |
| 21. Pristome teeth x 760 | 22. Spores x 760 |

Seta, capsules erect. Spores spherical, small yellowish brown.

Distribution : This epiphytic species was collected from tree trunk at Sunset point, Lonavala. A common species in India, Ceylon, Nepal etc.

Sterophyllum anceps (Bosch. Et Lac.) Broth.

The plants grow on bark of trees, greenish yellow in colour, 2 cm in height,

irregularly branches, secondary branches about 1 cm, leaves 1.5 to 2 cm, oblong lanceolate, entire below, minutely denticulate on upper side, nerve single more than $\frac{1}{2}$ of the leaf, laminar cells linear rhomboid. Alar cells quadrate to rectangular, Seta straight, capsule horizontal brown peristome teeth 32, yellowish brown, 16 outside, 16 inside, spores spherical, light brown.

Distribution: This epiphytic moss was collected fromo bark branch of trees at Bhushi dam,

Lonavala. It is also reported from Kodaikanal, Assam, Cochin, Mahabaleshwar.

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