

FISSIDENS LINEARIS
(FISSIDENTACEAE: BRYOPHYTA)
A NEW RECORD FOR INDIA

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Fissidens linearis var. *obscurirete*, is reported as a new record of occurrence to India from the Western Ghats of Kerala.

Key words: *Fissidens linearis* var. *obscurirete*, Fissidentaceae, India, Kerala, new record, Western Ghats

INTRODUCTION

The genus *Fissidens* is a widely distributed species (Imura and Iwatsuki 1988, Ishihara and Iwatsuki 1992, Iwatsuki *et al.* 1999, Wijk *et al.* 1962, 1969). From India more than 100 species have been reported, but now only 78 of them are validly accepted (Dandotiya *et al.* 2011, Daniels 2010, Frahm *et al.* 2013, Gangulee 1969, Manju *et al.* 2008, Verma *et al.* 2011). During the field trip through the Western Ghats, we could collect an interesting species of *Fissidens* from the Western Ghats of Marayur of Idukki District and Agasthyamalai of Thiruvananthapuram District of Kerala. On detailed examination it proved as *Fissidens linearis*, which was not recorded earlier from India. *F. linearis* includes four varieties, as var. *aeruginosus*, var. *angustifolius*, var. *linearis* and var. *obscurirete*. The present collection shows similarity with var. *obscurirete*. This variety is earlier known from China, Japan, Korea, Taiwan and New Caledonia. This species is described here with its variety *obscurirete* as new record for India.

Fissidens linearis var. *obscurirete* Broth. et Paris
(Fig. 1)

Fissidens linearis var. *obscurirete* Broth. et Paris in Brotherus, Oefv. Finsk. Vet. Soc. Foerh. 51: 7. 1909.

= *F. micro-serratus* Sak., Bot. Mag. Tokyo 47: 738. 1933.

= *F. nitidocostatus* Toy., Acta Phytotax. Geobot. 4: 215, f. 3. 1935.

= *F. tokioensis* Sak., Bot. Mag. Tokyo 51: 8, f. 1. 1937.

= *F. jinguensis* Sak., Bot. Mag. Tokyo 65: 90, f. 1. 1952.

Plants small, 2–6 mm long, 1–1.7 mm wide including leaves, tip curled inwards when dry, 7–17 pairs of leaves, alternate, more crowded towards tip, usually unbranched with yellowish green coloured stem. Leaves lanceolate,

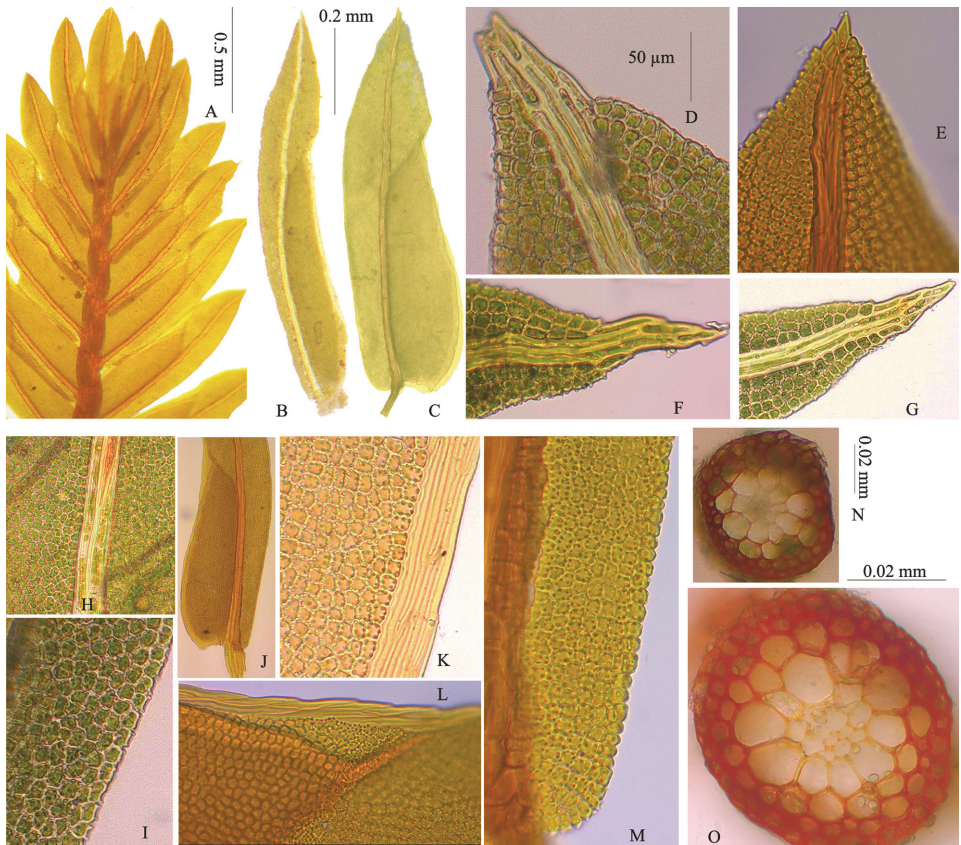


Fig. 1. *Fissidens linearis* var. *obscurirete*. A = habit-tip; B–C = leaf; D–G = leaf tip variations; H = leaf middle cells; I = leaf middle marginal cells; J = sheathing lamina; K = limbidium; L = apical lamina and sheathing lamina joining; M = dorsal lamina base; N–O = cross section of stem (B–C and J same size; D–I and K–M same size)

acute to narrowly acute at apex, 0.85–1.2 mm long, lower part 0.21–0.29 mm wide, 0.13–0.31 mm wide at upper part, lower leaves small or reduced, longer than wide, sheathing lamina open, unequal, reaches half the length of apical lamina, dorsal lamina base round, wedge shaped, margin of apical and dorsal lamina finely crenulate by projection of multipapillate cells; costa prominent, yellowish green, percurrent to shortly excurrent; cells compactly arranged, quadrate to irregularly hexagonal, multipapillate, cells at base of sheathing lamina elongate, smooth, limbidia found only on sheathing lamina of upper and perichaetial leaves, usually on the lower half, limbidia hyaline, elongate, smooth with 1–4 rows, tip cells $20 \times 5 \mu\text{m}$, lower cells $5\text{--}10 \times 3.75\text{--}5 \mu\text{m}$; stem 0.12–0.14 mm in diameter, central strand lacking, marginal cells coloured, $3.75\text{--}5 \times 7.5 \mu\text{m}$, inner cells large, $7.5\text{--}17.5 \times 12.5\text{--}22.5 \mu\text{m}$. Sporophyte not observed.

Microhabitat: On roots of higher plants along the tea plantation and on earth bank.

Distribution: China, Japan, Korea, Taiwan, New Caledonia, India (Kerala: present collection).

Specimens examined: Kerala, Idukki, way to Munnar from Marayur (1,200 m), coll.: Manjula and Chandini (996), 05.02.2014 (ZGC); Thiruvananthapuram, Agasthyamalai Biosphere Reserve (1300 m), coll.: Rajilesh (732a), 12.12.2013 (MBG).

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