

Plagiochila furcifolia Mitt. (Marchantiophyta: Plagiochilaceae) from India

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ABSTRACT

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Plagiochila furcifolia Mitt. is described here from Gibbon Wildlife Sanctuary, Assam, India. The plants are characterized by the presence of pseudo-dichotomous branching and caducous leaves which are up to 4 times longer than broad, rectangular and deeply bilobed at apex with 1-3 dentitions.

Key-words: *Plagiochila*, Plagiochilaceae, Marchantiophyta, Assam, India.

INTRODUCTION

Plagiochila (Hepaticae) comprises more than 400 species (So & Grolle 2000). In India, the genus is represented by 3 subgenera, viz. *Metaplagiochila* Inoue, *Plagiochila* Carl and *Paraplagiochila* Inoue. Subgenus *Plagiochila* shows maximum dominance in Indian territory, including a number of species in various sections (Rawat & Srivastava 2007). During a recent exploration of liverworts in Gibbon Wildlife Sanctuary of Assam, some plants of *Plagiochila furcifolia* Mitt. were found, which belong to sect. *Subtropicae* Carl. This species, earlier known from China, Japan and Vietnam, was recently reported from North Lakhimpur, Assam

(India) without any description and illustration (Singh & Barbhuiya 2012). A description of Indian plants is provided here.

KEY TO INDIAN SPECIES OF SECT. SUBTROPICAE CARL

1. Leaves highly fragmented; complete leaves very rare, mostly found at apex only; leaf apex truncate, never bilobed 2
1. Leaves usually persistent; fragile leaves occasional, present mostly on basal and older parts of shoot; leaf apex bilobed 3
2. Dentition ciliate, up to 10-11 cells long
..... *P. subtropica* Steph.

2. Dentition spinose, never ciliate, up to 5-6 cells long *P. parvifolia* Lindenb.
3. Leaves 1.3-1.9 times longer than broad; leaf apex shortly bilobed *P. hattorii* Inoue
3. Leaves up to 4 times longer than broad; leaf apex deeply bilobed *P. furcifolia* Mitt.

DESCRIPTION

Genus: *Plagiochila* (Dumort.) Dumort. 1835
nom. cons.

Plagiochila furcifolia Mitt., Trans. Linn. Soc.
London, Bot. 3: 194. 1891.

Plagiochila fissifolia Steph., Sp. Hepat. 2: 298.
1903.

Text-figures 1-18

Description: Plants green, up to 30 mm long, up to 1.3 mm wide, with aerial shoots arising from rhizomatous axis; branched; branching pseudo-dichotomous; stem up to 12 cells across diameter, cells differentiated; cortical cells thick walled, arranged in 2-3 layers, 84-118×67-84 μm; medullary cells slightly thickened; 67-101×50-67 μm. Leaves imbricate; delicate; rectangular; 0.50-0.79×0.12-0.32 mm in size, length width ratio 2.1-4.2: 1; dorsal base moderately decurrent, ventral base short decurrent; dorsal margin straight, ventral margin straight to slightly arched at base, dorsal and ventral margins almost parallel in young leaves; apex deeply bilobed, 1/3-1/4 of the total leaf length, up to 2/3 in young apical leaves, lobes spinous, ending in a ciliate apex; marginal tooth spinous, 1 to 3, one to two teeth on ventral margin, dentition absent or one tooth on ventral margin, rarely one tooth between the apical lobes. Apical cells 84-135×67-84 μm, median cells 84-150×50-84 μm, basal cells 135-185×84-101 μm, trigones small to large, nodulose; underleaves vestigial to large, bilobed. Dioecious?. Male plants not found. Gynoecia terminal, with 1-2 subfloral

innovations; bracts larger than the leaves, with more dentitions on ventral margin. Perianth young, campanulate, with large irregular dentitions on mouth. Sporophyte not found.

Specimens examined: Assam: Jorhat, GWLS, alt. ca. 127 m; 29.11.2011, P. K. Verma and Party, 126/2011, 126A/2011, 135/2011, 136/2011, 137/2011 (RFRI).

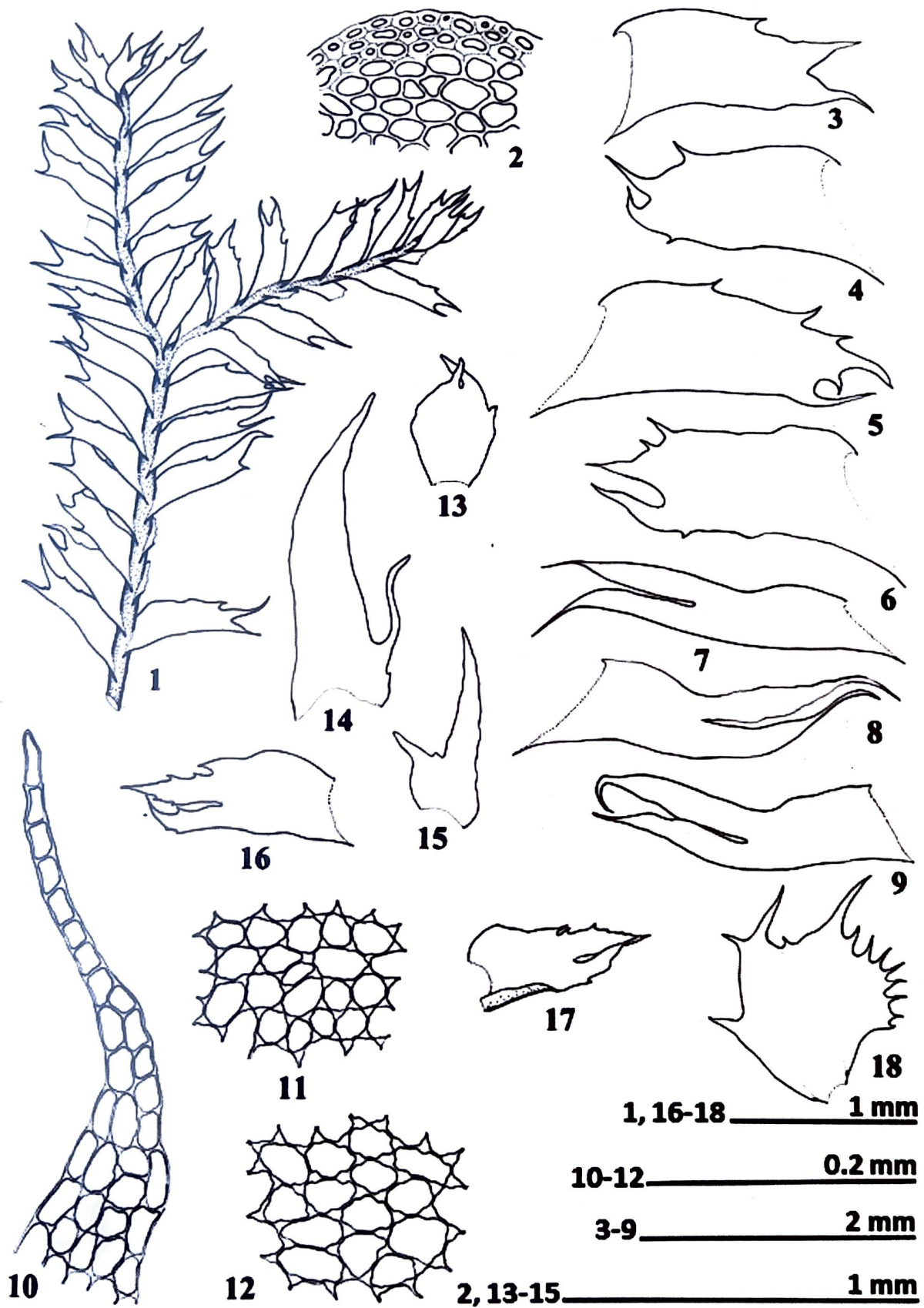
Distribution: China, Japan, Vietnam (So 2001), India: Assam - North Lakhimpur (Singh & Barbhuiya 2012); Gibbon Wild Life Sanctuary (present study).

CONCLUSION

Plagiochila furcifolia (sect. Subtropicae Carl) is characterized by the presence of pseudo-dichotomous branching and caducous leaves. Plants also approach to sect. Dendroideae due to presence of gregarious branching observed in some plants. However, it is not a common feature and plants may also be simple, unbranched to remotely branched as observed in the same population. The rectangular shape of leaves also relates it with some members of sect. Dendroideae, viz. *P. assamica*, *P. fruticosa* and *P. frondescens*. It also approaches to *P. detecta* of sect. Cobanae in shape and deeply bilobed nature of leaves. The characteristic deeply bilobed nature of leaves is more pronounced in the young leaves at apex where the leaves are bilobed up to 2/3 of the length, whereas leaves near basal part of plant are bilobed up to 1/4 of the length.

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Text-figures 1-18. *Plagiochila furcifolia* Mitt. 1. Habit of plants, dorsal view. 2. Cross section of stem. 3-6. Leaves from apical portion of plant. 7-9. Leaves from median portion of plant. 10. Apical cells of leaf. 11. Median cells of leaf. 12. Basal cells of leaf. 13-15. Underleaves. 16-17. Female bracts. 18. Young perianth (all figures drawn from 126A/2011-RFRI).

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