

HYLOCOMIUM BREVIROSTRE VAR. *CAVIFOLIUM* AND
RHYTIDIADELPHUS TRIQUETRUS IN TAIWAN¹

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Abstract

Hylocomium brevirostre (Brid.) B.S.G. var. *cavifolium* (Lac.) Nog. and *Rhytidiadelphus triquetrus* (Hedw.) Warnst. are reported for the first time from Taiwan. The geographical distribution of *R. triquetrus* now extends further southward to Taiwan.

While examining the mosses distributed at the conifer forest zone and the alpine tundra in Taiwan, we discovered specimens of both *Hylocomium brevirostre* (Brid.) B.S.G. var. *cavifolium* (Lac.) Nog. and *Rhytidiadelphus triquetrus* (Hedw.) Warnst. The occurrence of the two taxa in Taiwan represents two new additions to the moss flora of Taiwan. It also represents a genus (*Rhytidiadelphus*) not previously recorded from Taiwan.

Hylocomium brevirostre (Brid.) B.S.G. var. *cavifolium* (Lac.) Nog., Journ. Jap. Bot. 36:117, 1961. (Fig. 1)

Plants medium-sized to robust, greenish yellow to greenish brown. Stems stiff and wiry, 10 cm long, 2-2.5 mm wide with leaves, irregularly 2-3-pinnate in horizontal frond in a \pm step-wise arrangement. Branches short, 0.5-2 cm long, 1-1.5 mm wide with leaves, gradually tapering to the terminals. Paraphyllia numerous, filamentous and branched. Stem leaves broadly ovate to broadly oblong-ovate, strongly concave and plicate, 2-2.3 mm long, 1 mm wide, abruptly narrowed to a long acumen, broadest at base, distinctly auriculate; margins serrulate all around; costa double, short; laminal cells linear-oblong, smooth, becoming shorter and

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narrowly hexagonal toward margin, moderately thick-walled, subporose; alar cells scarcely differentiated, porose, thick-walled. Branch leaves narrower and shorter, 1.5-2.3 mm long, 0.6-0.9 mm wide, often with longer costae. Sporophyte not seen.

Specimen examined: Ilan Hsien, Tai-ping Shan, on soil, July 5-9, 1981, T.-Y. Chiang 812 (in Herbarium of Tunghai Univ.).

Distribution: Japan and Taiwan. (New to Taiwan)

Hylocomium brevirostre var. *cavifolium* is similar to *Rhytidiadelphus squarrosus* (Hedw.) Warnst. (Crum, 1976) in leaf shape and areolation. But the former has spreading leaves and abundant paraphyllia, while the latter has strongly squarrose leaves and lacks paraphyllia.

Rhytidiadelphus triquetrus (Hedw.) Warnst., Krypt. Fl. Brandenburg 920:996, f. 926, 1906. (Fig. 2)

Plants robust, yellow-green to brownish green. Stems prostrate at lower parts, gradually ascendant toward upper parts, ca. 7 cm long, 8 mm wide with leaves, irregularly branched. Branches several, small and short, 1-1.18 cm long, 2 mm wide with leaves, tapering toward the terminal; cortical cells in cross-section of stem undifferentiated; central strand lacking. Paraphyllia and pseudoparaphyllia usually absent. Stem leaves broadly ovate at base, long acuminate toward apex, minutely auriculate, distinctly plicate; leaf margin slightly undulate, serrulate all around; costae double, straight and parallel, reaching midleaf or slight beyond midleaf; laminal cells linear, coarsely dentate-papillose at back by projecting cell ends, crassate and porose; cells at insertion dark brown, strongly crassate and porose; alar cells narrower and shorter, scarcely differentiated. Branch leaves smaller, erect. Sporophyte not seen.

Specimen examined: Hsin-chu Hsien, Ta-pa-chien Shan, under *Abies* forest, on humus, alt. 3,200 m, May 23, 1983, T.-Y. Chiang 4729 (in Herbarium of Tunghai Univ.).

Distribution: Taiwan, China, Bhutan, Himalaya, Korea, Siberia, Japan, Europe and North America. (New to Taiwan)

Geographically, Taiwan is the southern distribution limit of *Rhytidiadelphus triquetrus*. The genus is also recorded for the first time from Taiwan.

Literature Cited

- Crum, H. 1976. Mosses of the Great Lake Forest, 2nd Ed. University of Michigan, Michigan, 404 pp.

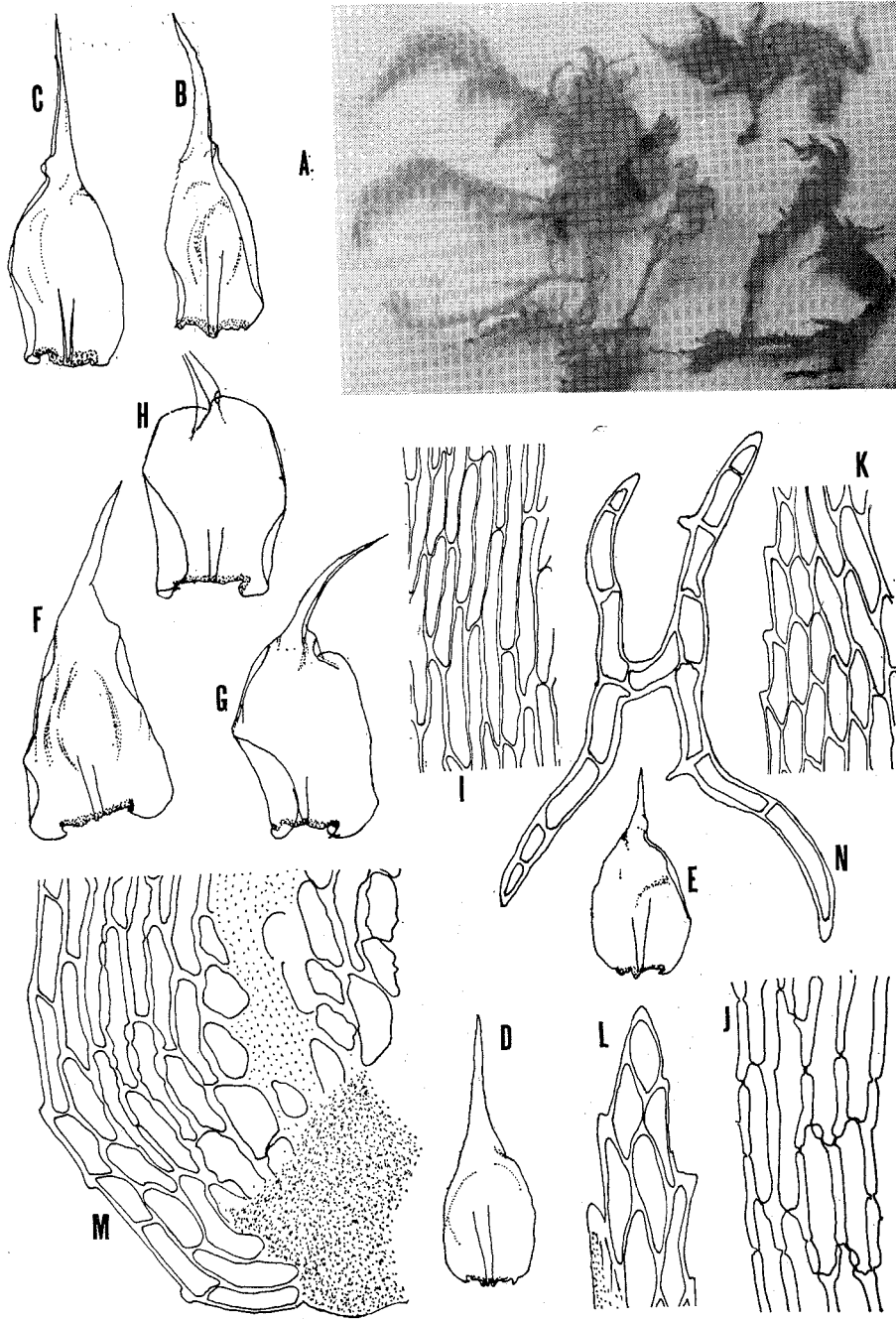


Fig. 1. *Hylocomium brevirostre* var. *cavifolium*. A) plants, $\times 0.6$. B-E) branch leaves, $\times 19$. F-H) stem leaves, $\times 19$. I) median leaf-cells, $\times 430$. J) basal leaf-cells, $\times 430$. K) marginal leaf-cells, $\times 430$. L) apical leaf-cells, $\times 430$. M) alar cells of leaf, $\times 430$. N) paraphyllium, $\times 430$.

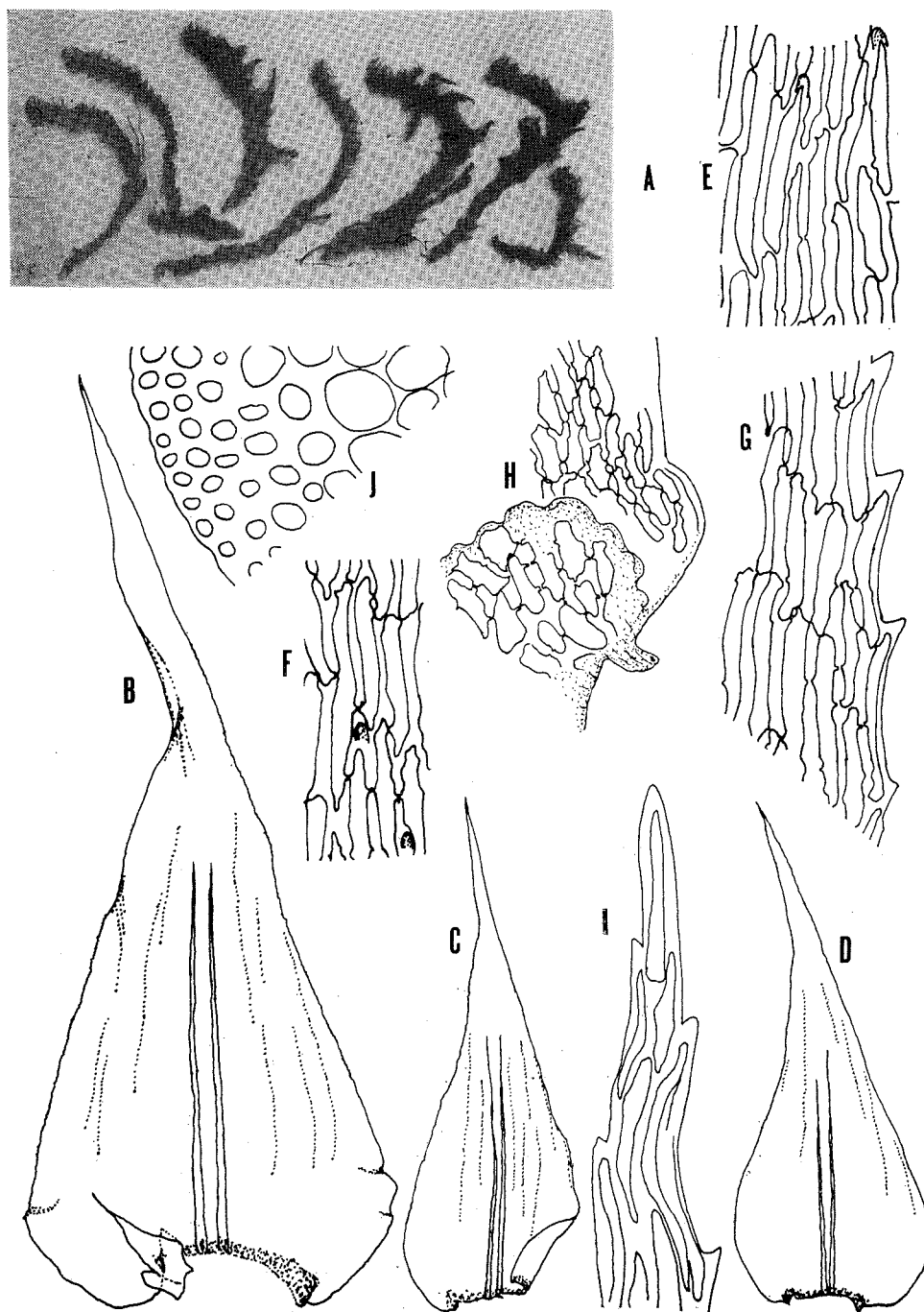


Fig. 2. *Rhytidadelphus triquetrus*. A) plants, $\times 0.9$. B) stem leaf, $\times 20$. C-D) branch leaves, $\times 20$. E) leaf cells at the base of the acumen, $\times 460$. F) median leaf-cells, $\times 460$. G) marginal leaf-cells, $\times 460$. H) alar cells of leaf, $\times 460$. I) apical leaf-cells, $\times 460$. J) a part of cross-section of branch, $\times 460$.

臺灣之短喙塔苔凹葉變種及三稜擬垂枝苔

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短喙塔苔凹葉變種* (*Hylocomium brevirostre* var. *cavifolium*) 及三稜擬垂枝苔* (*Rhytidiadelphus triquetrus*) 首次在臺灣發現。其中三稜擬垂枝苔，非但使其屬名成爲臺灣之新紀錄屬，亦使臺灣地區成爲該種植物在地理分佈上之最南限。（* 表中名新稱）。

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