Materials to the Bryophyte Flora of Taiwan (I) – *Cephaloziella microphylla* (Steph.) Douin (Cephaloziellaceae)

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ABSTRACT: *Cephaloziella microphylla* (Steph.) Douin is reported in Taiwan for the first time. Taxonomic description, a key to all recorded species of the family Cephaloziellaceae in Taiwan and SEM photos of the *Cephaloziella microphylla* are provided to assist in identification.

KEY WORDS: *Cephaloziella microphylla*, Cephaloziellaceae, liverwort, new record, Taiwan.

INTRODUCTION

Cephaloziella (Spruce) Schiffn. belongs to the family Cephaloziellaceae, which is characterized by seta being composed of four epidermal and four much smaller inner cell rows (Schuster, 1972). The classification of Cephaloziellaceae is currently placed under suborder Cephaloziineae with other members of Cephaloziaceae, Jackiellaceae and Adelanthaceae (Crandall-Stotler and Stotler, 2000). However, phylogenetic study based on molecular evidence suggested that it was related to alliance of Scapaniaceae/Lophoziaceae and far from Cephaloziaceae and Adelanthaceae (Forrest et al., 2006). This family includes 8 genera, i.e., *Allisoniella*, *Amphicephalozia*, *Cephalojonesia*, *Cephaloziella*, *Cephaloziopsis*, *Cylindrocolea*, *Kymatocalyx*, and *Stenorrhipis* (Crandall-Stotler and Stotler, 2000). Three species belonging to 3 different genera were previously recorded in Taiwan including *Cephaloziella* sp, *Cephaloziopsis pearsonii* (Spruce) Schiffn., *Sphenolobopsis pearsonii* (Spruce) Schust., and *Cylindrocolea recurvifolia* (Steph.) Inoue (Kuo and Chiang, 1988; Lin, 2000). Recently, the first author collected a tiny liverwort from Shihtoushan, Hsinchu County, and it was proved to be *Cephaloziella microphylla* (Steph.) Douin. Since a bryophyte flora of Taiwan is still waiting to be done, the present work provided a key to all recorded species of the family Cephaloziellaceae in Taiwan, and taxonomic description and photos taken by scanning electron microscope (SEM) of *Cephaloziella microphylla*.

TAXONOMIC TREATMENTS

Key to the 3 recorded species of Cephaloziellaceae in Taiwan

1. Leaves dentate at margin and mammilose on abaxil surface ……..
……..….. *Cephaloziella microphylla*
1. Leaves entire at margin and smooth on abaxil surface ……..….. 2
2. Leaves divided less than 1/2; lobes obtuse at apex ……..
……..…….*Cylindrocolea recurvifolia*
2. Leaves divided more than 1/2; lobes acute at apex ……..
…….. *Cephaloziopsis pearsonii*

Cephaloziella (Spruce) Schiffn. in Engler & Prantl, Nat. Pflanzenfam. **1(3)**: 98. 1893; Gao & Lai, Ill. Bryophyt. China, p. 850, 2003.

Cephaloziella microphylla (Steph.) Douin in Mem. Soc. Bot. France **29**: 59, 1920; Nichols in Mazzetti, Symb. Sinic. **5**: 22, 1930; Kitagawa in Acta Phytotax. Geobot. **21(3-4)**: 110, 1965; Iwatsuki & Mizutani, Col. Ill. Bryophyt. Japan, p. 320, *pl. 42: 683*, 1972; Gao & Lai, Ill. Bryophytes China, p. 857, *fig. 383: 1-6*, 2003.

小葉擬大萼蘚（新擬）Figs. 1-3

Cephalozia microphylla Steph., Spec. Hepat. **3**: 343, 1908.

Plants green, small, creeping and ascending at upper portion. Branches about 0.03-0.05 mm broad, smooth. Lateral leaves transversely inserted at branches, alternate, not overlapped, in two rows, about 0.06 mm long, 2-lobed; lobes dentate at margin, abaxial surface mammilose; ventral leaves absent. Cylindrical perianth on top of short perichaetial branches; perichaetial bracts 2-lobed, with relatively few serration at margin. Capsule ovate, about 0.3 mm long, 0.18 mm broad.

Specimen examined: Hsinchu County: Shihtoushan, Liuliao hiking trail, *S.-F. Huang*, *s.n.* June 17, 2008 (deposited in the Department of Applied Science, National Hsinchu University of Education).

Habitat: On soil of damp and shady slope, mingled with *Fissidens* species.

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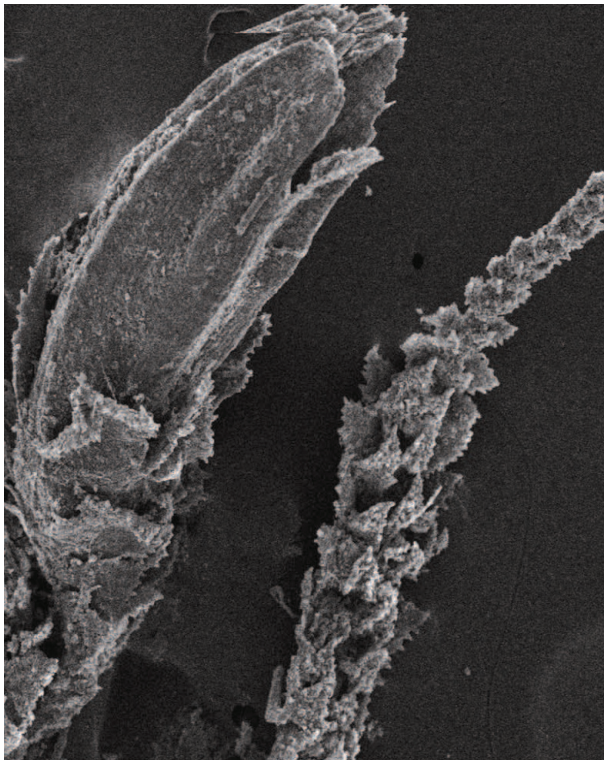


Fig. 1. *Cephaloziella microphylla* (Steph.) Douin. Left side: a perianth on top of a short perichaetial branch. Right side: a portion of branch with 2-lobed and dentate leaves.

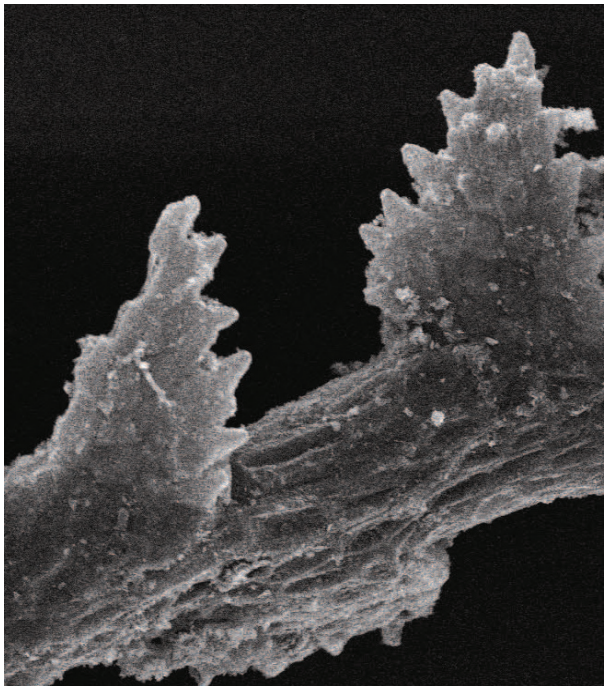


Fig. 2. Portion of a branch of *Cephaloziella microphylla* (Steph.) Douin. The transverse insertion of leaves.

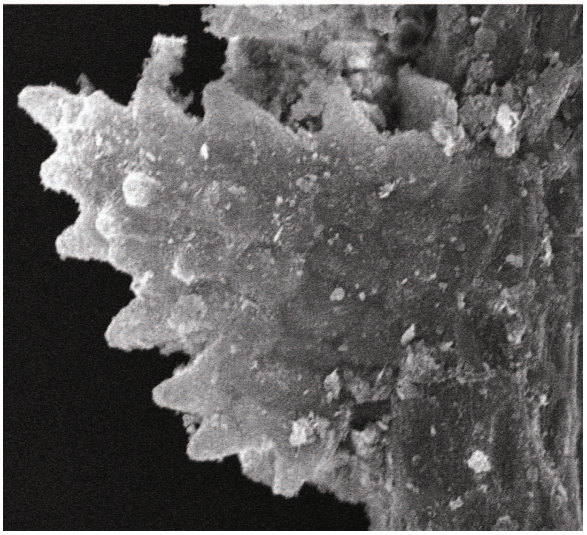


Fig. 3. The lateral view of *Cephaloziella microphylla* (Steph.) Douin. A dentate leaf with mamilla on abaxial surface.

Distribution: China, Japan, Thailand and Sikkim. New record to Taiwan.

Diagnosis: This species is characterized by stem smooth and lateral leaves with 2 lobes dentate at margin and mammillose on abaxial surface.

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臺灣苔蘚植物誌資料 (一)：小葉擬大萼蘚 (擬大萼蘚科)

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摘要: 本文首次報導小葉擬大萼蘚 (*Cephaloziella microphylla* (Steph.) Douin) 存在於臺灣。文中附有該種的分類描述，區別本種在臺灣該科植物的檢索表及掃描式電子顯微相片作為鑑定之參考.

關鍵詞：小葉擬大萼蘚、擬大萼蘚科、蘚、新紀錄、臺灣。

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