

# *Chenia leptophylla* (C. Muell.) Zand. (Family Pottiaceae), a Generic and Species Record New to Moss Flora of Taiwan

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**ABSTRACT:** *Chenia leptophylla* (C. Muell.) Zand. is reported here as a new generic and species record to the moss flora of Taiwan. In addition to two strictly distributed species in the Andes, i.e., *C. lorentzii* (C. Muell.) Zand. and *C. subobliqua* (Williams) Zand., *C. leptophylla* is the third taxon of this genus with cosmopolitan distribution. *Chenia* is distinguished easily from *Tortula* species and characterized by lingulate leaves with somewhat apiculate apex, crenulate leaf margins, and smooth laminal cells. *C. leptophylla* is closely related to *C. lorentzii* in sharing common stem structure without differentiated central strands, a character that distinguishes them from *C. subobliqua*. *C. leptophylla* is then diagnosable from *C. lorentzii* by its acute leaf-apex and rhizoid tubers. *Pottia truncata* (Hedw.) B.S.G., another pottiaceous mosses with epapillose laminal cells, also shares many gametophytic similarities with *C. leptophylla* except for its differentiated central strand in stem, ventral stereids in costa and excurrent costa.

**KEY WORDS:** *Chenia*, *Chenia leptophylla*, Pottiaceae, Epapillose laminal cells, New generic record, Taiwan.

## INTRODUCTION

*Chenia*, a genus of the Pottiaceae, was created by Zander (1989) based on the type *Tortula subobliqua* Williams. In the same treatment *Physcomitrium rhizophyllia* Sak. of the Funariaceae was also transferred to this genus. Zander (1993) synonymized *C. rhizophyllia* into *C. leptophylla* (= *Phascum leptophyllum* C. Muell) and recognized a third species, i.e. *C. lorentzii* (C. Muell.) Zand. *Chenia* is easily distinguished from *Tortula*, *Phascum* and *Barbula* by the epapillose laminal cells, crenulate leaf margins, and lingulate leaves with somewhat apiculate apex (cf. Zander, 1993). Here, we report *Chenia leptophylla* as a generic and species record new to moss flora of Taiwan.

## Key to species of *Chenia*

1. Central strands well differentiated ..... *C. subobliqua*
1. Central strands barely differentiated
  2. Asexual propagula differentiated, leaf apex acute ..... *C. leptophylla*
  2. Asexual propagula not differentiated, leaf apex apiculate ..... *C. lorentzii*

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***Chenia leptophylla*** (C. Muell.) Zand., Bull. Buffalo Soc. Nat. Sci. 32: 258. f. 104: 9-13. 1993. Fig. 1

*Phascum leptophyllum* C. Muell., Flora 71: 6. 1888.

*Tortula rhizophylla* (Sak.) Iwatsuki and Saito, Misc. Bryol. Lichenol. 6: 59. 1972.

*Physcomitrium rhizophylla* Sak., Bot. Mag. Tokyo 52: 469. 1938.

Plants tiny, in turfs. Stems erect, *ca.* 5 mm long, central strands scarcely differentiated. Leaves involute and crisped when dry, lingulate to oblong spatulate, narrower at bases, *ca.* 1 mm long, 0.5 mm wide, acute at apex. Leaf margins crenulate at upper part and entire below. Costa single, ending below apex, ventral stereids absent, dorsal stereids barely differentiated. Laminal cells hexagonal to rectangular, 15-27 x 13-22  $\mu\text{m}$ , smooth, thin-walled. Basal cells larger and rectangular. Asexual propagula on rhizoid tips, multicellular, irregular rounded to clavate. Sporophytes not seen.

Specimen examined: Taiwan: Taipei Co., Yei-Liu, maritime habitat, terrestrial, on soil at sea level, Jan. 27, 1989, *H. Deguchi s. n.* (HAST).

Illustrations: Saito (1973): Fig. 8; Zander (1993): Fig. 104: 9-13.

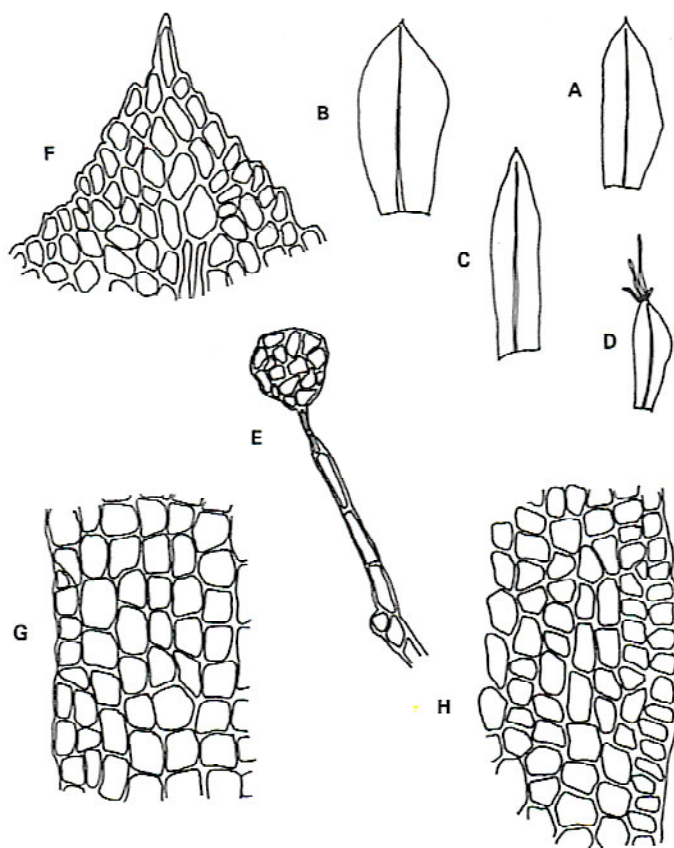


Fig. 1: *Chenia leptophylla* (C. Muell.) Zand. A-C: Leaves ( $\times 33$ ), D: Leaf with rhizoids ( $\times 33$ ), E: Rhizoid propagula ( $\times 330$ ), F: Apical cells of leaf ( $\times 330$ ), G: Marginal and middle laminal cells of leaf ( $\times 330$ ), H: Basal cells of leaf ( $\times 330$ ). Drawn from *Deguchi s. n.*

Distribution: worldwide distribution (Eur, As2, As4, Oc, Afr2, Afr4, Am1, Am2, Am4, Am5, Am6, Austr)

*Chenia leptophylla* is closely related to *C. lorentzii*, an Andean species (Zander, 1993), in sharing common stem structure with no differentiated central strands, a character distinguishes them from *C. subobliqua*. *C. leptophylla* is then diagnosable from *C. lorentzii* by the acute leaf apex and differentiated asexual propagula (Reese, 1967) versus apiculate leaf apex and propagula absent in the latter species. The asexual propagula on rhizoid tips is a unique character in *C. leptophylla*.

Another pottiaceous mosses with epapillose laminal cells, *Pottia truncata* (Hedw.) B.S.G., is also similar to *Chenia* in many gametophytic characters. The differentiated ventral stereids in costa and excurrent costa in the former species are distinguishable from *Chenia* species.

Here, this genus is new addition to the moss flora of Taiwan.

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# 薄葉陳氏苔(叢苔科)，台灣苔類植物誌新紀錄屬、種

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## 摘 要

薄葉陳氏苔 (*Chenia leptophylla*) 為台灣產苔類植物新紀錄屬、種，本屬全球共計三種，除了分布於安地斯山的勞倫氏陳氏苔 (*C. lorentzii*) 及近透明葉陳氏苔 (*C. subobliqua*) 外，本種廣汎分布於世界各地；有別於牆苔屬 (*Tortula*) 植物，本屬具有舌狀葉形及尾狀葉尖、微鋸齒葉緣及平滑的葉細胞壁，薄葉陳氏苔與勞倫氏陳氏苔近緣，兩種皆缺乏莖之中央束，而有別於近透明葉陳氏苔，而上述兩種最大差異在前者有漸尖的葉先及無性繁殖體，另外，與本種近似的叢苔 (*Pottia truncata*) 則具有分化的莖中央束，在中肋分化的腹細胞及突出的中肋足以區別。

關鍵詞：陳氏苔屬、薄葉陳氏苔、叢苔科、無疣的葉身細胞、新紀錄屬、台灣。

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