

THE GENUS MYLIA GRAY IN TAIWAN

by

HIROSHI INOUE⁽¹⁾ and BAO-YU YANG⁽²⁾

The genus *Mylia* has been included in the Plagioclilaceae since Mueller (1951-54) and this disposition was accepted by Inoue (1958) and Schuster (1959). However, Grolle (1963) proposed the Jungermanniaceae subf. Mylioideae which differs from the Plagioclilaceae by the dense rhizoids on the postical side of stem, presence of gemmae, and uniseriate antheridial stalk.

In Taiwan, only a single species of the genus *Mylia*, *M. verrucosa*, has been reported by Horikawa (1934) and Inoue (1961). Although the most important characteristic of *M. verrucosa* is the peculiar protuberances on the lower half of perianth wall, the Taiwan specimens of *M. verrucosa* on which the previous reports were based had no protuberances at all, and had a perianth just like that of *M. taylori*. Several specimens of *Mylia verrucosa* collected in Taiwan were carefully compared with *M. taylori* and *M. verrucosa*, and we have concluded that the Taiwan species is obviously an undescribed species.

In the field, *M. taylori* is very easily separated from the undescribed *Mylia* (*Mylia nuda*, sp. nov.) by the naked eye, for its oblong leaves with strongly incurved dorsal margins are just like those of *M. verrucosa*. However, the sterile plants of *M. nuda* are almost indistinguishable from *M. verrucosa*, although the plants with female or male inflorescences are easily distinguishable. The differences between these three species are shown in the following key:

1. Leaves oblong-ligulate, with dorsal margins strongly incurved.....(2)
 1. Leaves suborbicular or widely oblong, with dorsal margins plane.....*M. taylori*
 2. Perianth wall with many, irregular-sized protuberances on the lower half; cilia at the mouth of perianth nearly equal in length (2-3 cells long); antheridia 3-5 (mostly 3) per bract.....*M. verrucosa**
 2. Perianth wall completely smooth; cilia at the mouth of perianth irregular in length (2-6 cells long); antheridia 4-7 (mostly 6) per bract.....*M. nuda*
- Mylia nuda* Inoue et Yang, sp. nov.

Habitu similis *Mylia verrucosae*, sed perianthia nuda, ore perianthiorum irregulariter ciliata, ciliis 2-6 cellulas longis, androecia 4-7.

Plants 2-4 cm. long, approximately 4 mm. wide, green or yellowish green, often with purplish pigmentation, prostrate on substrata in compact mats or among other

(1) Division of Cryptogams, National Science Museum, Tokyo, Japan.

(2) Department of Botany, National Taiwan University, Taipei, Taiwan, Republic of China.

* *Mylia verrucosa* is known from Japan, Sakhalin, and Amur. The record from Himalaya was rejected by Grolle (1965).

mosses. Stem about 0.5 mm. thick, pale green, poorly branched dichotomously, branches terminal of the *Frullania*-type. Leaves closely imbricate, horizontally spreading, more or less inflated at the base, dorsal margins long decurrent, strongly incurved near apex, ventral margins not decurrent, sometimes slightly ampliate at the base, apex rotundate or rounded, margins entire throughout or often coarsely crenulate by the slightly projecting marginal cells at the postical base. Cells in the middle of the leaf $43-52 \times 50 \mu$, walls thin throughout, trigones large, nodulose, intermediate thickenings absent or very rarely present in the middle to basal portion of leaves. Oil bodies 8-15 per cell at the leaf-middle, $7-11 \mu$ if globose, or $6-9 \times 9-12 \mu$ if short elliptical; pale brownish gray, with numerous granules. Underleaves small, lanceolate, about 3 cells wide at the base and 4-6 cells long, hidden among numerous colorless rhizoids. Dioecious. Male inflorescences terminal or intercalary, bracts closely imbricate, strongly inflated, distal half obliquely spreading; antheridia 4-7 per bract antheridial stalk 1 cell wide. Female inflorescences terminal on stem, with 1-2 innovations from postical side, bracts similar to the leaves in size and form, more strongly inflated at the base; perianth large, 4-7 mm. long and 3 mm. wide, dorsal side of upper half strongly curved to the ventral side, surface of perianth wall smooth throughout, mouth narrow, truncate, with several cilia of irregular size. Gemmae not seen.

Type: Mt. Ali, Chiayi Hsien, ca. 2200 m. alt., on decaying logs, leg. *H. Inoue* 18590 (TNS; duplicates in TAI, NICH, JE, NY).

Specimens examined: Mt. Ali, Chiayi Hsien, ca. 2200 m. alt., on decaying logs, leg. *Iwatsuki* and *Sharp* 247820 (NICH), leg. *Ara* s.n. (TNS, as *Mylia verrucosa*); Mt. Morrison, Chiayi Hsien, leg. *Horikawa* 9171 (HIRO, as *Mylia verrucosa*); on the way to Chu-shan from Mt. Ali, leg. *Yang* 3024 (TAI); Nan-hu-ta-shan, Ilan Hsien 2600-3200 m. alt., leg. *Kao* 2076, 2082 (TAI); Shan-sing-shan, Ilan Hsien, ca. 2000 m. alt., on decaying log, leg. *Kao* 3008 (TAI); Tai-ping-shan, Ilan Hsien, ca. 2000 m. alt., leg. *Chuang* 3118 (TAI); Tai-ping-shan, Ilan Hsien, ca. 2000 m. alt., leg. *Inoue* et *Kao* 3120-25 (TAI).

Mylia taylori (Hook.) Gray, Nat. Arr. Brit. Pl. 1: 693 (1821).

Specimen examined: Mt. Tai-ping-shan, Ilan Hsien, ca. 2000 m. alt., on humus covered rock, leg. *Inoue* et *Kao* 3119 (TAI).

This species is known from Europe, N. America, Japan, China, Himalaya, and it has not been previously reported from Taiwan.

We are very thankful to Mr. M. T. Kao and Miss. F. M. Hsu of National Taiwan University for their kind help in our field studies. Acknowledgement is here expressed for the partial financial support of this investigation through the grant from Japan Society for the Promotion of Science as a part of Japan-U.S. Cooperative Science Program by H. Inoue.

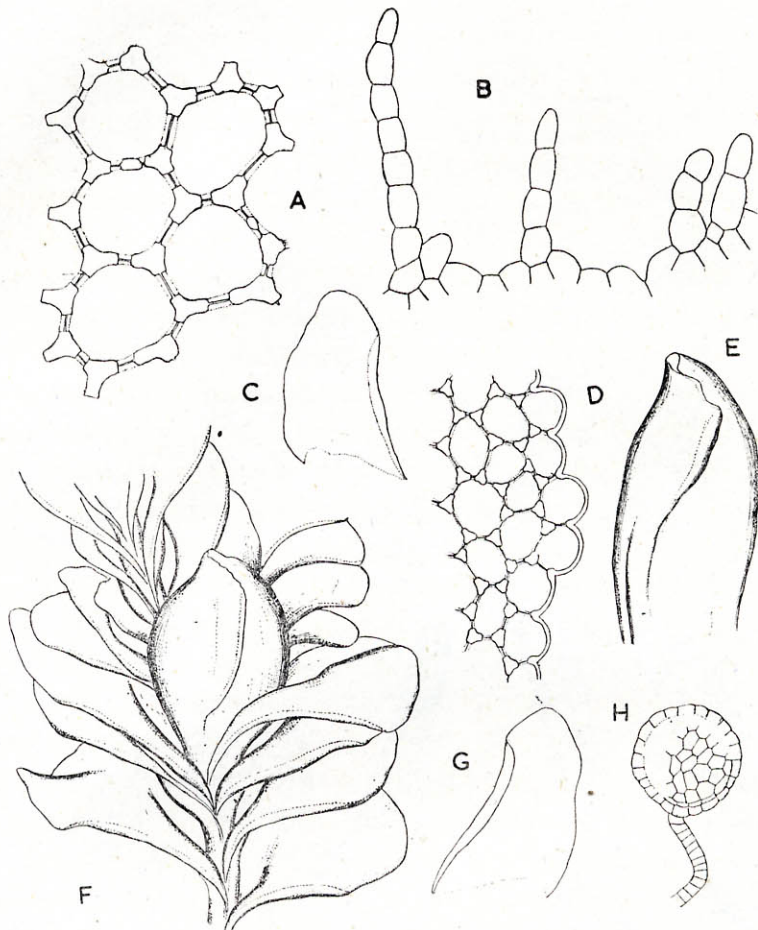


Fig. 1. *Mylia nuda* Inoue et Yang. A. Cells from the middle of leaf, $\times 100$. B. Part of perianth mouth, $\times 33$. C, G. Leaves, $\times 4$. D. Cells from leaf-margin, $\times 33$. E. Perianth, $\times 9$. F. Part of plant, dorsal view, $\times 4$. H. Antheridium, $\times 18$. All figs. were based on type.

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