

Hironori DEGUCHI* & Tohru MATSUI*: *Pleuridiella*
Robins., a new synonym of *Pleuroidium* Rabenh.

出口博則*・松井 透*: キンチャクゴケ属の新異名
Pleuridiella Robins.

Pleuridiella Robins. is a monotypic genus belonging to the family Ditrichaceae, with a cleistocarpus species *P. colei* Robins., which has been considered to be endemic to Assam, India. Since the original description (Robinson 1964), no taxonomical comments have been made concerning this genus, and no reports of new localities have been recorded. In the course of our study of Japanese species of the Ditrichaceae, we discovered a pigmy moss previously unknown to the Japanese moss-flora among the specimens determined as *Pleuroidium* in our herbarium, and noted to be conspecific with *P. colei* after an examination of the type specimen. This discovery enabled us to study this species and the nature of the genus in detail. The following description, based on the Japanese material, will supplement the original description.

Plants small, 2-3 mm high, forming caespitose patches; stems mostly unbranched, occasionally branched, with central strand, bearing transparent rhizoids at base, distantly foliate below, densely foliate above; upper leaves 1.4-2.3 mm long and 0.3-0.5 mm wide, lanceolate, keeled above, with recurved margins which are denticulate by the projection of the upper corner of marginal cells; costa percurrent, asperate on dorsal surface from the projection of cell-corners, with epidermal layer of large, thin-walled cells and narrow stereid band of small, thick-walled cells; lamina unistratose except margins where often bistratose, but confined to extreme marginal cell row; laminal cells elongate rectangular (usually 5-9: 1), with smooth, moderately thickened walls at mid-leaf, (48-)56-110(-130) μm long, 14-26 μm wide, becoming longer and wider toward leaf-base where thin-walled, appearing swollen in cross-section. Synoicous, occasionally paroicous; antheridia few, usually 2, small, attaining ca. 100 μm long, transparent, with very thin walls. Bracts similar to vegetative leaves, but with more or less

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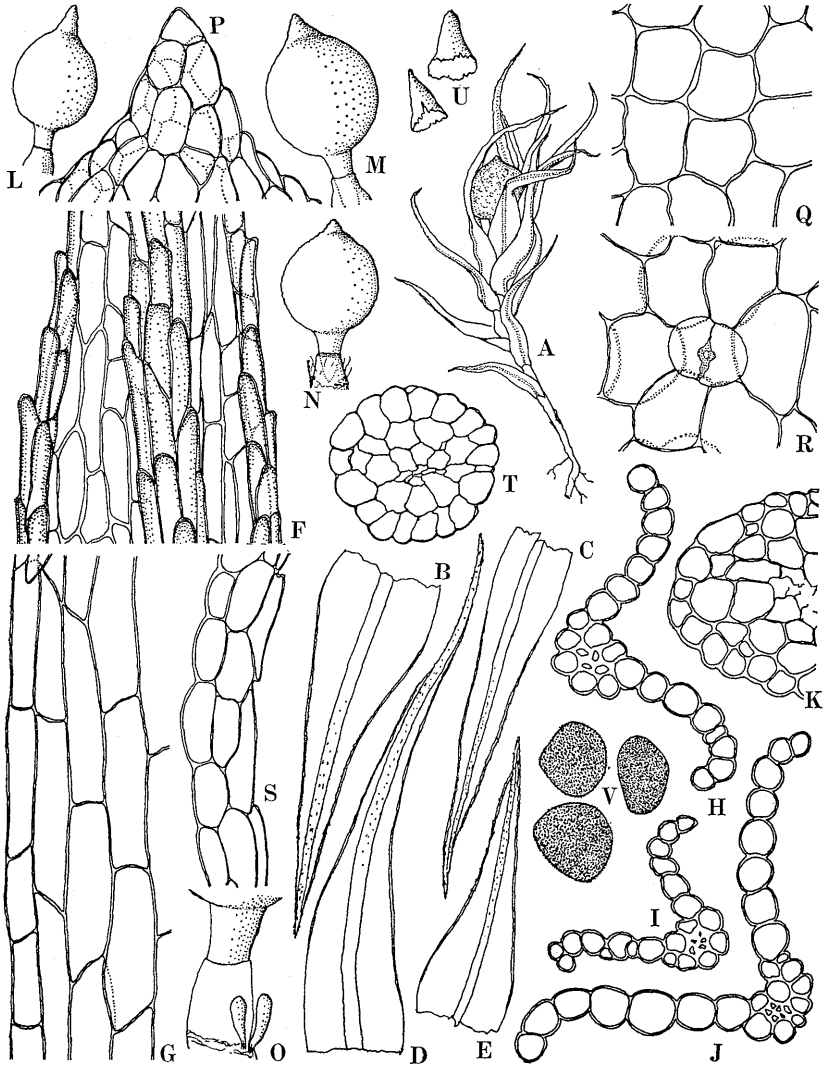


Fig. 1. *Pleuridium colei* (Robins.) Deguchi & Matsui. A. Plant with sporophyte, $\times 20$. B-E. Leaves, $\times 30$. F. Cells of upper part of leaf (dorsal view), $\times 250$. G. Cells of basal part of leaf, $\times 250$. H-J. Cross-sections of leaf, $\times 250$. K. Part of cross-section of stem, $\times 250$. L-N. Sporophytes with vaginula, $\times 25$. O. Two antheridia at the base of vaginula, $\times 75$. P. Cells of apical part of capsule, $\times 250$. Q. Exothelial cells from middle part of capsule, $\times 250$. R. Stoma, $\times 250$. S. Part of cross-section of capsule wall, $\times 250$. T. Cross-section of seta, $\times 250$. U. Calyptrae, $\times 25$. V. Spores, $\times 250$. Drawn from Deguchi no. 5637.

loosely areolate leaf-base. Capsules immersed, spherical, with apiculus, but without differentiation of operculum, 0.4–0.52 mm long (incl. apiculus), 0.35–0.38 mm thick, with short straight seta ranging 0.08–0.12 mm long; capsule walls (2–)3 cell-layered; exothecial cells rounded quadrate, with smooth, thin walls; stomata phaneroporous, in 2–3 concentric rows on lower half of capsule. Calyptra small, bell-shaped, flared at base where transparent and eroded, covering only limited portion of capsule, mostly apiculus. Spores more or less angled, finely papillose, 35–40 μm in diameter.

Specimen described. Japan. Honshu. Pref. Hiroshima: Suzugamine, Inokuchi-cho, Hiroshima-shi; ca 100 m alt., on soil in rice field, April 11, 1971, leg. H. Deguchi 5637 (TNS, US, Kochi Univ.).

Robinson (1964) was unable to ascertain the sexuality of this species and described it as "dioica?" with the note that "Careful examination of the specimen revealed no antheridia though capsules are abundant". After our close examination of the Japanese specimen, we determined the sexuality of this species to be usually synoicous, occasionally paroicous: antheridia borne near archegonia, and composed of very thin, transparent walls. Although we confined our dissection to only a single plant from the holotype (since it consists of a rather meager specimen), we were able to observe a paroicous condition in the type, that is, a single antheridium is borne outside of and by the innermost bract enclosing the archegonia.

Based on the type and the Japanese material, a slight morphological difference in the shape of leaf was noted, as the Japanese plants having the leaves with a wider base. We consider this difference to be of little taxonomic importance since this minor difference does not correlate with any other features.

Through the courtesy of the curator of US, we were able to examine another specimen of *P. colei* from eastern Nepal, which was collected by A. H. Norkett (no. 9813), Feb. 4, 1967, on dried floor of cut rice terrace, near Tembe at the altitude of about 5000 feet in Dhankuta Prov., Nepal. This specimen was made up of few stems of this species mixed with another minute-sized moss, presumably belonging to *Ephemerum*.

Robinson (1964) distinguished *Pleuridiella* from the related genera of the family Ditrichaceae on the basis of a combination of the following morphological features: (1) the mitrate calyptra, (2) the lack of an operculum, (3) the stomata confined to near the base of the capsule, and (4) the form of the leaf

with recurved margins and projecting cell angles. Among the Ditrichaceae, the general appearance of *Pleuridiella colei* is most similar to that of *Pleuridium* and *Eccremidium*. The feature (1) mentioned above is commonly found in the known species of *Eccremidium* and *Pleuridium palustre* (Bruch & Schimp.) B. S. G. The feature (2) differentiates this species from *Eccremidium* in which an operculum is differentiated, but it is a feature commonly characteristic of the species of *Pleuridium*. The feature (3) can be observed in some species of both genera. The last feature (4) is known in *Pleuridium arnoldii* (R. Brown ter.) Par. We tried to discover other features that would be sufficient to support the retention of the generic name *Pleuridiella* for this moss, but have labored in vain. The features found in this species are easily integrated in the modern scope of the genus *Pleuridium* Rabenh. Therefore, we would like to propose here the following new synonym and combination:

Pleuridium Rabenh. *nom. cons.*, Deuschl. Krypt. Fl. 2(3) : 79 (1848). Vide Snider & Margadant in *Taxon* 22 : 691 (1973).

Lectotype: *Pleuridium subulatum* (Hedw.) Rabenh., l. c. (Basionym: *Phascum subulatum* Hedw., Spec. Musc. 19, 1801).

Pleuridiella Robins., J. Hattori Bot. Lab. 27 : 125 (1964), *syn. nov.* Type: *Pleuridiella colei* Robins., l. c.

Pleuridium colei (Robins.) Deguchi & Matsui, *comb. nov.*

Basionym: *Pleuridiella colei* Robins., J. Hattori Bot. Lab. 27 : 125 (1964). Type: On termite mound in jungle, Jorhat, Upper Assam, India, Feb. 23, 1944, A. C. Cole 10 (US, holotype).

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Literature cited

Robinson, H. 1964. A small collection of bryophytes from upper Assam, India. *J. Hattori Bot. Lab.* 27 : 124-130.

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インドアッサム地方に固有な蘚として知られていた単型属の *Pleuridiella* が日本 (広島県) にも分布することが正規標準本との比較検討の結果明らかとなった。日本産の標本と正規標準本との詳細な比較, 解剖観察を行った結果, これまで不明であった本種の雌雄性が通常は雌雄共立同株, しばしば雌雄列立同株であることが明らかになった。Robinson (1964) によると *Pleuridiella* は 1) 鐘状のカリプトラを持つ, 2) 口環を欠く, 3) 気孔が朔の基部付近にある, 4) 葉は反曲する葉縁と乳嘴状の細胞を持つ, という形質の組み合わせにより他のキンシゴケ科の属と区別された。しかし本属を, それに最も近縁であると思われるキンシゴケ科の *Pleuridium* と *Eccremidium* と比較した結果, Robinson (1964) が区別した形質はことごとく現在理解されている *Pleuridium* のもつ形質の中に含まれてしまい, また *Pleuridiella* を属として特別に区別する形質が他には見つからない。従って, 筆者らは *Pleuridiella* を *Pleuridium* の異名として取扱った。その結果, *Pleuridium colei* (Robins.) Deguchi & Matsui (マキバキンシゴケ, 新称) なる新組合せを提案した。本報告のもとになった標本は1971年の4月に水田雑草群落を調査していた際, 水田の湿土上に生育していたものである。植物体は全長 2-3 mm と微小で標本から判断して, 一年生の蘚類であると思われる。

□ Schofield, W. B.: **Introduction to bryology** 431 pp. 1985. Macmillan Publ., New York. \$42.50. 蘚苔類に関する基本的な事柄について, 図や写真を豊富に取り入れて解説した入門書であり, 大学等で蘚苔類の研究を始めようとする学生にとって, 格好の教科書となるものである。蘚苔類の主要な群について形態, 発生, 系統等に関する解説, 蘚苔類の細胞学, 生理学, 生態学, 分布論等に加え, 蘚苔類の研究法, 術語解説などを付す。各章には関連する文献が示してあり, より深い研究への足がかりとなっている。本書の基となったものは, 著者の British Columbia 大学における20年間の講義であり, これは蘚苔類が人間をとりまく環境の重要な一員であることを学生に認識させようという目的でなされたものである。本書はこの目的を十二分に果たした教科書である。(井上 浩)

□ Vitt, D. H., S. R. Gradstein & Z. Iwatsuki (ed.): **Compendium of bryology** 355 pp. 1985. J. Cramer, Braunschweig. DM 60. 国際蘚苔類学会 (IAB) の事業の一つとして1976年に “Bryological Herbaria” が出版され, 1979年には “Directory of bryologists and bryological research” が出版されたが, この両方を一体化して改訂増補したものが今回の出版物である。内容は, 世界中の蘚苔類標本の所在 (個人を含む), 蘚苔類の採集家 (1700年代から現代まで), 及び最近の蘚苔類研究者 (50ヶ国, 約600名) とその研究内容の3部から成る。蘚苔類の研究動向を知るためのデータを与えてくれる一冊である。(井上 浩)