Two new species of the genus *Pohlia* (Bryaceae, Musci) from China

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**Abstract** *Pohlia hyaloperistoma* Zhang, Li & Higuchi, and *P. macrocarpa* Zhang, Li, & Higuchi are described as new species from Yunnan and Xizang (Tibet) of China respectively. *Pohlia hyaloperistoma* is characterized by having the hyaline and smooth exostome, and *P. macrocarpa* is characterized by having the large capsules and dioecious sexuality.

**Key words** *Pohlia*; *P. hyaloperistoma* Zhang, Li & Higuchi; *P. macrocarpa* Zhang, Li & Higuchi; New species; China

In the course of our studies on the family Bryaceae from China, we have encountered two distinctive mosses that appear to represent undescribed species.

1 **Pohlia hyaloperistoma** Zhang, Li & Higuchi, sp. nov. Figs. 1–2

Species nova insignis setis rigidis, peristomiis laevipellucidis non papillatis, superne articulatis, membrana basilari humiliore, ca. 1/6 partem inferiorem dentis occupante.

Planta synoechia congesta vel gregaria luteolo-viridis, nitida. Caulis erectus ca. 1 cm altus, simplex, interdum paulo ramosus. Folia lanceolata usque anguste lanceolata, 1.4–2.5 mm longa, apice acuminata, margine fere plana, superne distincte serrulata, costis infra apicem foliorum evanidis, cellulis linearibus vel vermicularibus, 70–150 μm × 7.5–13 μm, tenuibus, basi brevioribus plus minusve latoribus. Seta ca. 1.5–2 cm alta, robusta rigida. Theca horizontalis vel nutans, longe pyriformis vel clavata, dentibus exostomatis lanceolatis ochraceis laevipellucidis non papillatis, superne articulatis, apice rotundato-obtusis, dentibus endostomatis eis exostomatis similibus, sed linearibus longioribus, superne anguste perforatis, membrana basilari humiliore ca. 1/6 partem inferiorem dentis occupante apice eciliata. Sporae ca. 23 μm diam., ochraceae dense minute papillatae.

Synoecious. Plants in tufts or loosely tufted, yellowish-green to green with silky luster. Stems 1 cm high, simple or sometimes slightly branched. Leaves lanceolate to narrowly lanceolate, 1.4–2.5 mm long, acuminate, margins slightly recurved, serrulate near apex, costa strong, ending below apex in lower leaves; median leaf cells linear, ca. vermicular, 70–150 μm × 7.5–13 μm, thin-walled, no more different at both margins, somewhat broad and rectangular at base. Seta stiff,
Fig. 2 SEM micrographs of peristome of \textit{Pohlia hyaloperistoma} Zhang, Li & Higuchi (from Higuchi 25961) 1. Outer view of peristome; 2. Inner view of peristome; 3. Outer surface of lower part of exostome teeth; 4. Basal membrane.

(Scale bars for 1, 2 = 50 \textmu m; 3, 4 = 10 \textmu m)
Fig. 4  Pohlia macrocarpa Zhang, Li & Higuchi  1. Cells in leaf-apex; 2. Cells in middle part of leaf; 3. Cells in basal part of leaf; 4, 5. Cross-section of costa; 6. Part of cross-section of stem; 7. Peristome and spores. (All drawn from holotype)
erect or sometimes slightly curved, 1.5 ~ 2 cm long. Capsules nearly horizontal or nutant, 3 ~ 5 mm × 0.55 ~ 0.9 mm, clavate-pyriform to clavate. Operculum conical. Annulus present. Peristome double; exostome teeth narrowly elongated, tapering, with obtuse tips, slightly irregular in length, smooth, transparent or translucent, on top of 1/3 with similar articulated nodules; endostome teeth longer than exostome teeth; segments narrowly perforate above; basal membrane low, occupying 1/6 of endostome teeth in height; cilia present or rudimentary. Spores finely papillose, ca. 23 μm in diameter.

**China. Yunnan:** Dêqên, Mt. Baimaxueshan, 4100 m, under bushes, on rotten wood, 1994-10-04, D. C. Zhang 489 (holotype, here designated, HKAS); the same locality, 4200 m, under bushes, on rotten wood, 1981-07-14, X. J. Li 81-2036 (HKAS); the same locality, 4350 m, under bushes, on rotten wood, 1994-10-03, Higuchi 25961 (TNS); Zhongdian, Bitahai Lake, 3500 m, on rocky soil, 1994-09-21, D. C. Zhang 168 (HKAS, TNS).

This species resembles *Pohlia cruda*, *P. timmioides*, and *P. longicola* in gametophyte characters, but is easily distinguished by its smooth and transparent exostome, lower basal membranes, and stiff seta.

2 **Pohlia macrocarpa** Zhang, Li & Higuchi, sp. nov. Figs. 3, 4

*P. elongata* similis, sed planta majore, dioica, foliis marginis denticulatis, basi decurrentibus, setis longioribus, sporangis saepe majoribus facile differt.

Planta dioecia; caulis plantae femineae 1 ~ 2 cm altus, erectus simplex vel leviter ramosus, opacus, congestus vel laxe gregarius, luteo-viridis, inferne laxe et superne dense foliosus. Bracteae perichaetiales longiores, extiores ca. 5 mm longae. Planta mascula sterilissque altior ca. 4 ~ 6 cm alta. Bracteae perigoniales breviores, extiores ovato-lanceolatae, interiores ovatae apice apiculatae. Antheridia numerosa. Folia lanceolata vel longe lanceolata, 2 ~ 3.8 mm × 0.5 ~ 1 mm, plana, apice acuminata, basi decurrentia, marginis denticulata, costis infra apicem foliorum evanidus, cellulis linearibus 70 ~ 150( ~ 190) μm × 7 ~ 12 μm, parietibus plus minusve crassis praeditis. Seta erecta, ca. 5 ~ 6 cm longa. Capsulae erecto-patentes vel horizontales, ca. 7 mm × 1.2 mm, collis elongatis, dentibus exostomii anguste lanceolatis, superne crasse papillosis, inferne minute papillosis, dentibus endostomii anguste linearibus, superne laxe papillosis, anguste perforatis, eciliatis. Sporae globosae 13 ~ 20 μm diam., ochraceae, indistincte papillatae.

Dioecious. Plants in tufts or loosely tufted, yellowish-green with brown radicles below, without luster. Stems of female plant 1 ~ 2 cm long, erect, simple or sparsely branched, with numerous leaves above, somewhat distant and smaller leaves below. Stems of male and sterile plant 4 ~ 6 cm long, with slender and somewhat distant leaves; perigonia leaves ovate-lanceolate to ovate, shortly cuspidate; antheridia numerous. Leaves lanceolate to linear-lanceolate, 2 ~ 3.8 mm × 0.5 ~ 1.0 mm, acuminate, twisted at apex, decurrent at base, margins plane, serrulate in the upper 2/3 part of margin; costa strong, ending below apex of leaf; laminal cells narrowly linear, somewhat thick-walled, 70 ~ 150(190) μm × 7 ~ 12 μm in median part of leaf, sometimes slightly flexuose, not constantly narrower towards margin, not laxe at base. Seta erect, thin, 5 ~ 6 cm long. Capsules sub-erect to horizontal, elongated, clavate, ca. 7 mm × 1.2 mm; neck slightly shorter than urn in length; mouth relatively small. Operculum conical. Annulus present, narrow, removable. Peristome double, yellowish-brown; exostome teeth narrowly elongated, tapering, distinctly papillose above, minutely papillose below; endostome teeth as long as exostome teeth; segments sublinear, papillose,
narrowly perforate above; basal membrane low; cilia absent. Spores brown, almost smooth, 13 ~ 20 μm in diam.

**China. Xizang** (Tibet); Mêdog, Hanmi to Nage, 2600 ~ 2800 m, on rocky soil, 1974-08-19, S. K. Chen 78a (holotype, here designated, HKAS; isotype, TNS); the same locality, 1300 ~ 2100 m, on rocky soil, 1974-08-19, S. K. Chen 71 (HKAS, TNS), 74 (HKAS); the same locality, 3200 m, on rocky soil, 1974-08-31, S. K. Wu 5201a (HKAS).

This species is similar to *P. elongata* in appearance, but is distinct by having the large capsules, serrulate leaf margins, and dioecious sexuality.

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摘要 报道了我国丝瓜藓属Pohlia两新种，即产自云南的明齿丝瓜藓 *P. hyaloperistoma* Zhang, Li & Higuchi 和产自西藏的疏叶丝瓜藓 *P. macrocarpa* Zhang, Li & Higuchi。前者主要特征为齿为透明无疣，后者孢子体大型且雌雄异株。

关键词 丝瓜藓属；明齿丝瓜藓；疏叶丝瓜藓；新种；中国

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