

A new species of *Cheilolejeunea* (Spruce) Schiffn. from Panama

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SUMMARY

Cheilolejeunea (subgen. *Strepsilejeunea*) *norisiae* G. Dauphin & Gradst. sp. nov. is described and illustrated. The new species differs from other members of the genus *Cheilolejeunea* by the lacinate leaf margins and the large pre-apical tooth.

KEYWORDS: Panama, Lejeuneaceae, *Cheilolejeunea norisiae*, new species.

During a field excursion in the framework of the international, EU-sponsored workshop on 'Bryophytes – indicators of biodiversity' held in Panama, 11–23 March 1996, the first author collected a species of *Cheilolejeunea* that is apparently new to science. The species is dedicated to the organizer of the course, Noris Salazar Allen from the University of Panama, and the Smithsonian Tropical Research Institute.

Cheilolejeunea norisiae G. Dauphin & Gradst. sp. nov. (Fig. 1). TYPE: Panama: Panamá, Cerro Azul, Sendero el Cantar, open secondary growth area next to forested area, 9°12'57"N, 79°24'32"W, 800–900 m, 20 March 1996, G. Dauphin 96–23 (holotype, PMA; isotypes, GOET, NY); C. Chung 2007 (paratype, PMA).

Plantae parvae sterilis, marginis foliorum dentatis, apicis foliorum acutis, cellulis foliorum papillois, corporis oleorum magnis segmentatis (1–4 pro cellula), apice lobulorum longus, papilla hyalina distalis, proietum dentiformis ad coniunctionis apice quillorum et margo liberum lobulorum, amphigastriae leviter incisae, lobus obtusatus rotundatus.

Plants thread-like, yellowish green, very small; leafy shoots 0.5–0.7 mm wide, sparsely branched, branching *Lejeunea*-type. Stems very thin, ca 50 µm in diameter, in cross-section composed of seven epidermal cells surrounding 8–9 much smaller medullary cells, all cell walls strongly thickened; ventral merophyte two cells wide. Leaves slightly imbricate, leaf lobes ovate-falcate, 170 × 290–320 µm, apex acute-acuminate, dorsal margin coarsely 3–6-toothed, teeth variable in size, often developed as laciniae, 1–6 cells long, 1–4 cells wide at base, margin between the teeth crenate, with occasionally bulging cells; median leaf cells mostly isodiametric, 12.5 × 22.5 µm, with a large, low papilla

projecting from the dorsal surface, cuticle otherwise smooth; oil-bodies 1–4 per cell, spherical to ovoid, very large, 5.5–20 µm long, coarsely segmented. Lobules inflated, constricted at the apex, 0.3–0.7 times lobe length, keel spinulose-tuberculate due to high-projecting papillae, free margin involute; apical tooth long and curved, 3 cells long and 1–2 cells wide at the base, usually hidden; hyaline papilla minute, in a small sinus distal to the apical tooth; keel apex at the juncture with the free margin produced as a conspicuous, upright, 1–2 cell prolongation ('pre-apical tooth'). Underleaves distant, orbicular to obovate, 110–120 × 120–130 µm, bifid to 1/3, lobes rounded to obtuse, slightly divergent, margins entire, base with shallow insertion line. Gametoecea and sporophyte not seen.

Because of its acute-acuminate leaf lobe *Cheilolejeunea norisiae* is a member of *Cheilolejeunea* subgen. *Strepsilejeunea* (Spruce) R.M.Schust. (= subgen. *Euosmolejeunea* (Spruce) R.M.Schust. according to Zhu, So & Wang, 2002). The new species can immediately be separated from other species of the genus *Cheilolejeunea* by the coarsely toothed-lacinate leaf margins and the large, tooth-like projection in the sinus at the junction of the keel apex and free margin of the lobule ('pre-apical tooth'). Both are unusual features in Lejeuneaceae, lacinate leaf margins being found in *Lejeunea paucidentata* (Steph.) Grolle (= *Dactylolejeunea acanthifolia* R.M.Schust. (= fide Reiner-Drehwald & Goda, 2000) and in *Blepharolejeunea saccata* (Steph.) Van Slageren & Kruijt, and a pre-apical tooth in the genus *Drepanolejeunea* and in *Acrolejeunea pycnoclada*. Because of its lacinate leaf margins the new species was identified originally as *Dactylolejeunea* in the field. However, under the microscope the distal hyaline papilla, the papillose leaf cells and the very

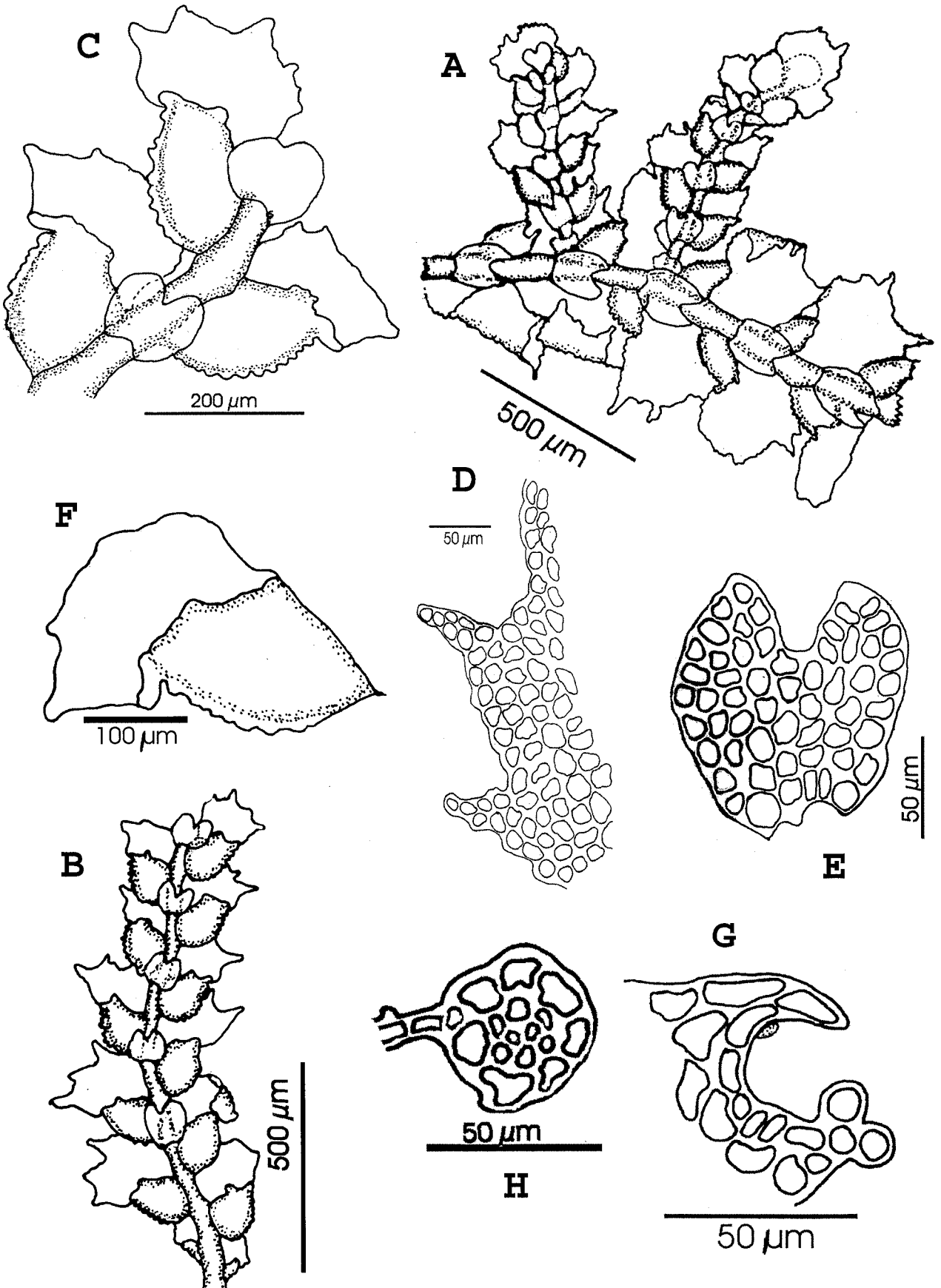


Figure 1. *Cheilolejeunea norisiae* G. Dauphin & Gradst: A, habit; B, branch; C, stem, underleaves and leaves; D, dorsal margin of lobe; E, underleaf; F, leaf; G, apex of lobule; H, stem cross-section. All drawings from the type, excepting G, from the paratype.

large oil bodies indicated that a species of *Cheilolejeunea* was at hand.

By its unusual morphology *Cheilolejeunea norisiae* stands isolated in the genus *Cheilolejeunea*. The large papillae projecting from the keel are shared with the neotropical *Cheilolejeunea inflexa* (Hampe ex Lehm.) Grolle, but the latter has entire leaves, acute underleaf lobes and a smaller lobule tooth, and lacks a pre-apical tooth. Moreover, *C. inflexa* is a much larger plant.

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TAXONOMIC ADDITIONS AND CHANGES: *Cheilolejeunea norisiae* G. Dauphin & Gradst., sp. nov.

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