

Sinske HATTORI\*: A new species of *Frullania* from  
the Bonin Islands

服部新佐\*: 小笠原諸島産ヤスデゴケ属の一新種

Dr. Zennoske Iwatsuki collected bryophytes on the Bonin Islands in August of 1980, and kindly placed at my disposal the *Frullania* materials in his collections which contained a new species, as described below.

**Frullania** (Trachycolea) **zennoskeana** Hatt., sp. nov. Fig. 1.

A *Frullania pedicellata* Steph. differt carinis lobulorum foliorum distinctis, marginibus dorsalibus loborum arcuatis versus bases subtruncatas (haud auriculatas), stylis multi-cellularibus, innovatione rarius inter bracteas femineas.

Plants medium-sized, olive-green to brown, in patches on tree-trunks and -branches; stem ca 3 cm long and 0.18 mm in diam., brown, irregularly pinnately branched, branches obliquely spreading, often again branched and similar to the stem. Lobs of stem-leaves imbricate, widely spreading, dorsally extending ca stem-width beyond the farther edge of stem, slightly convex, distally incurved, when flat widely oblong-ovate, 0.85-0.9 mm long and 0.8-0.9 mm wide, dorsal margins arched toward subtruncate (never auriculate) bases; cavities of marginal cells  $17-20 \times 15-17 \mu\text{m}$ , of median cells  $25-30 \times 20-27 \mu\text{m}$ , of basal cells  $35-45 \times 25-30 \mu\text{m}$ , cavities pale ocher to brownish red, walls thin but with large, subnodulose trigones and intermediate thickenings, hyaline or nearly so (in basal cells often slightly red-brown); lobules galeate or often explanate and canaliculate-lanceolate, when galeate 0.2-0.3 mm long and 0.25-0.4 mm wide, with rounded apices and well-developed, incurved beaks whose apices are obtuse and often slightly extending downward across the ventral margins of lobes, keels connecting with the lobes distinct, 0.1-0.15 mm long, arched; styli minute, filiform, composed of more than 10-celled discs and minute apical teeth of 3-4 uniseriate cells. Stem-underleaves remote, nearly flat, widely obtuse, ca 0.55 mm long and 0.65 mm wide, usually toothed or angular at each shoulder and often also with smaller tooth or angle between shoulder and lobe-tip, 1/3-2/5-bifid, sinus acute, lobes subtriangular, acute (rarely subacute), insertions subtransverse,

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rhizoid-initial areas convex, slightly below the middle, rhizoids brown (subhyaline when young), short, in a bundle. Branch-leaves and -underleaves similar to those of stem (but usually  $\pm$  smaller).

Dioicous. Androecia lateral on stems and branches, usually sessile (very shortly stalked with 1-2 pairs of reduced leaves), rarely terminal on short branches, occasionally innovating from tips, capitate with 2-4 pairs of bracts or shortly spicate with 4 or more pairs of bracts. Gynoecia terminal on stems or more frequently on branches, innovating below or rarely between bracts, innovation again floriferous; bracts 2-3 pairs, grading to subfloral leaves; innermost female bract-lobe subtriangular-ovate with narrowed and obtuse apex, 1.4-1.6 mm long and 0.9-1.1 mm wide, the lobule 2/5 (or slightly less) connate, subtriangular, 1.2-1.25 mm long and 0.65-0.7 mm wide near base, apex narrowly obtuse or almost acute, free margin strongly reflexed and with pilose tooth below middle; innermost bracteole oblong in outline, 1.4-1.6 mm long and 0.9-1.1 mm wide, often with distinct pilose lateral tooth at one side near base, ca 1/3-bifid, sinus obtuse to subacute (and often slightly recurved along margin), lobes lanceolate, attenuate toward  $\pm$  pilose apices; archegonia ca 3 per gynoeceum; perianth semi-exserted, clavate-pyriform; ca 2 mm long and 1.3 mm wide, with 2 sharp ventral keels+2 lateral keels and 1(-2) poorly developed dorsal keels, apex widely obtuse and with small beak (less than 0.08 mm long and 0.05 mm in diam.,  $\pm$  crenulate).

Type: Bonin Isls. Hahajima Isl.: Uchizawa valley near Inokuma-dani valley, 250-300 m, on fallen tree, 11 Aug. 1980, coll. Z. Iwatsuki & T. Suzuki 8741—holotype (NICH 177622); Sekimon, 250-300 m, on branches of tree, 11 Aug. 1980, coll. Z. I. & T. S. 8755; en route between Mt. Sakaiga-dake and Sekimon, 300-350 m, on tree trunk, 11 Aug. 1980, coll. Z. I. & T. S. 8776. Chichijima Isl.: valley near Mt. Chuosan, 250 m, on root of pine tree, 13 Aug. 1980, coll. Z. I. & T. S. 8830.

*Frullania zenoskeana* seems to be rather common in the Bonin Islands and the Volcano Islands; Inoue (1969, 1970) already reported this species as "*Frullania pedicellata* Steph." from Chichijima Isl. and Hahajima Isl. and as "*Frullania zenoskeana* Hatt. (msc.)" from Minamiwo Isl. (Inoue 1984).

*Frullania pedicellata* Steph., which is distributed in the southern flank of Japan, may be only species closely related to the present new species. But in *F. pedicellata* the keel of leaf-lobule connecting with the lobe is usually poorly

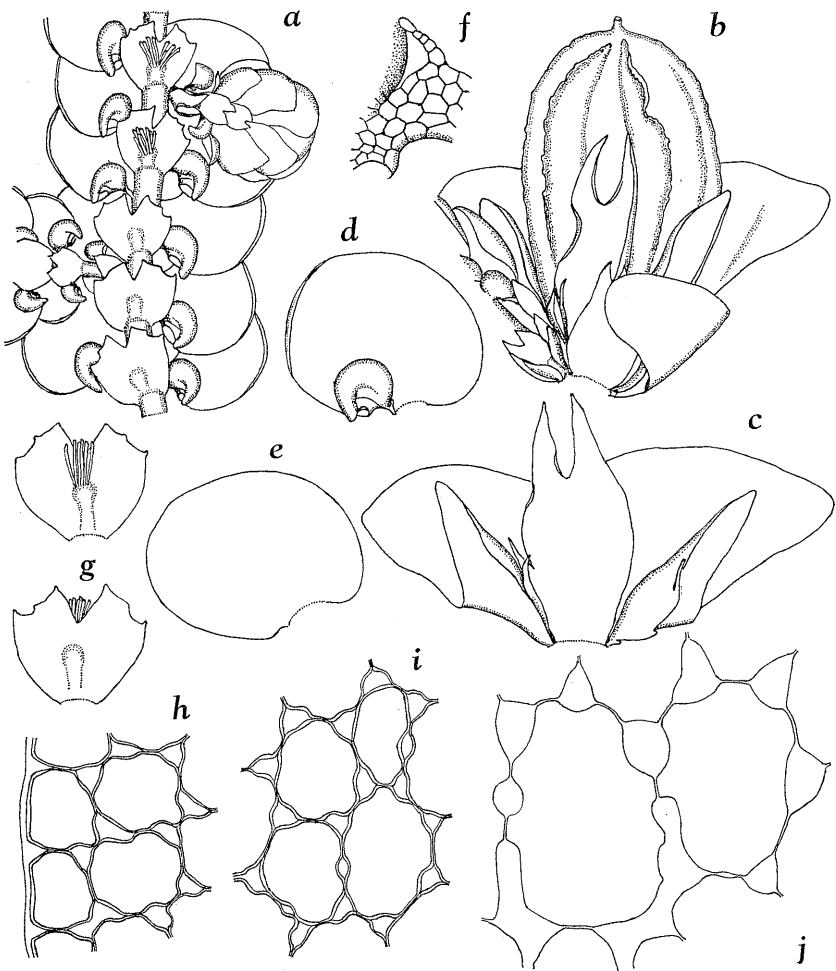


Fig. 1. *Frullania zemoskeana* Hatt. a: Portion of stem with androecium, ventral view,  $\times 22$ . b: Gynoecium, ventral v.,  $\times 22$ . c: Innermost female bracteole and pair of bracts,  $\times 29$ . d-e: Stem-leaves, e, flattened and lobule removed,  $\times 29$ . g: Stem-underleaves,  $\times 29$ . h-j: Cells of lobe of stem-leaf, h from margin, i from middle, j from base, all  $\times 455$ . a, d-j drawn from the specim. Z. I. & T. S. 8755; b-c from the specim. Z. I. & T. S. 8830.

developed, the subfloral innovation always develops below the bracts that are of 3 pairs each gynoecium, the leaf-lobe has an arched and more or less auriculate dorsal base, and the stylus is filiform and 3-4-celled.

In the present species the subfloral innovation occasionally develops between female bracts that are often in 2-pairs each gynoecium and the keel of leaf-lobe connecting with the lobe is 0.1-0.15 mm long. In other species the keel is much shorter or nearly absent except for the members of subgen. *Chonantheria*, and the subfloral innovation usually develops below the gynoecium.

#### Literature cited

- Inoue, H. (1969). Hepaticae, in Inoue & Iwatsuki: Bryophytes of the Bonin Islands and the Volcano Islands (1). Bull. Nat. Sci. Mus. Tokyo 12: 291-309.  
 — (1970). — (3). Ibidem 13: 475-489. — (1984). — (4). Bull. Nat. Sci. Mus. Ser. B 10: 101-106.

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岩月善之助博士が1980年8月小笠原諸島に採集された蘚苔類の中からヤスデゴケ属の標本を筆者に提供された。そのうち1新種 (*Frullania zennoskeana*) を認めたが、未発表のままであった。昨年南硫黄島調査の採品のうち蘚苔類を井上浩博士が担当されたが、その報告に本種がのせられている。本種は本州西南部から四国、九州に産する *F. pedicellata* に近縁で、同種の祖型が小笠原で分化したものとも考えられるが、葉下片のキール（上片との連結部）が長く、新枝が雌苞葉間から出ることがあり、葉上片背面基部がふくれず、stylusが10細胞以上の基部と3-4細胞の頂刺から成る点などで区別される。

□神奈川県植物ときのこの会（編）：神奈川の植物ときのこ 227 pp. 1984. 暁印書館，東京。¥2800。「写真で綴る文化シリーズ・神奈川2」として、神奈川県在住の植物研究家15名が、神奈川県内の植物的自然について取りまとめたもの。県内の植生概観を大場達之氏がまとめ、これにつづいて種子植物、シダ類、蘚苔類、海藻類、地衣類、菌類（きのこ）を取り扱っている。その扱いは普通の植物誌的方法ではなく、例えば種子植物のアンタバの項には「明日になるとまた若葉のぞく」という副題がつけられているように、県内の植物の中から各群で特徴的なものを選び、写真、随筆的解説をつけたものである。植物に親しみをもたせるには格好の一冊である。（井上 浩）