

Kohsaku YAMADA\*: **Tasmanian species of *Radula* (Hepaticae)**  
**collected by Mrs. A. V. Ratkowsky**

山田耕作\*: ラトコウスキー夫人採集による  
 タスマニア産ケビラゴケ属苔類

Recently Dr. D. A. and A. V. Ratkowsky sent me *Radula* collections made by Mrs. Ratkowsky in Tasmania, in which I found two species new to Tasmania, and one new to science. Previously the following 12 species reported by Bastow (1888), Rodway (1917), and/or Castle (1963) from Tasmania: *Radula aneurysmalis* (Hook. f. & Tayl.) Tayl., *R. buccinifera* (Hook. f. & Tayl.) Tayl., *R. compacta* Castle, *R. mittenii* Steph., *R. novae-hollandiae* Hampe, *R. physoloba* Mont., *R. plicata* Mitt., *R. tabularis* Steph., *R. tasmanica* Steph., *R. wifera* (Hook. f. & Tayl.) Tayl., *R. watsiana* Steph., and *R. weymouthiana* Steph. Castle (1963) reduced *R. aneurysmalis* to a synonym of *R. cavifolia* Hampe, and in 1965 reduced *R. weymouthiana* to a synonym of *R. fauciloba* Steph. However, I think both *R. aneurysmalis* and *R. weymouthiana* are independent species.

To save space the collector's name, Mrs. A. V. Ratkowsky is omitted. All the collections are kept in hb. of Dr. D. A. & A. V. Ratkowsky, and their duplicates in hb. of Yamada. An asterisk (\*) indicates the species not previously reported from Tasmania.

1) ***Radula australiana*** Yamada\*, J. Hattori Bot. Lab. 51: 323 (1982).

Specim. exam. Mt. Wellington, near summit, 81/7; Mt. Wellington, near Zig-zag Track, 80/149.

Distr. Australia.

2) ***Radula buccinifera*** (Hook. f. & Tayl.) Tayl. in Gott. et al., Syn. Hepat.: 261 (1845).

*Radula mittenii* Steph., Hedwigia 3: 148 (1884), syn. nov.

Specim. exam. Mt. Wellington, Myrtle Gully, 79/185; Hastings forest near Lune river, 78/185; Mt. Wellington, 78/178; Mt. Wellington, near S. Trig., 80/144; Australia. Zamtree river, Pentzke (hb. Mitten), olim *Radula austaliensis*

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Steph. ms. holotype of *Radula mittenii* Steph. (G 20747).

I examined the holotype of *Radula mittenii* which proved to be conspecific with *R. buccinifera*. Castle (1967) said: "*Radula mittenii* somewhat closely resembles *Radula buccinifera* in its vegetative features. In the Stephani species, however, the lobe of the leaf is somewhat more falcate and somewhat less narrowed in the outer portion. . . . and the perianth is shorter and lacks the narrow and terete, elongate base characteristic of the Taylor species". However, I think the above differences were caused by environmental conditions.

Distr. Australia (Tasmania), New Zealand.

3) ***Radula compacta*** Castle, Rev. Bryol. Lichénol. 32: 43 (1963).

Specim. exam. Mt. Field National Park, Lake Webster, 78/187; Sentinels, S. W. Tasmania, 78/188; Hartz Mts. National Park, Keoghs Falls, 77/185; Sch-nells Ridge, 78/179; Cradle Mtn., Waldheim Chalet, 79/46; Mt. Wedge, 81/8; Mt. Marian, Wellington Range, 81/6; Mt. Wellington, Myrtle Gully, 80/148; Mt. Rufus, Lake St. Clair National Park, 77/200, 78/217; Mt. Roland, near summit, 80/146, 80/156; Walls of Jerusalem Nat. Park, near Damascus Gate, 80/147.

Distr. Endemic to Tasmania.

This species is characterized by 1) moderately to densely imbricate, widely ovate leaf-lobes usually with incurved, rounded apices, 2) thin walls, large trigones and smooth cuticle of cells of leaf-lobes, 3) contiguous to loosely imbricate, subquadrate leaf-lobules whose margins abaxially arched and adaxially usually decurrent to the ventral margins of leaf-lobes, 4) sinus between the keel and the ventral margin of leaf-lobe wide or nearly absent, 5) keel spreading at angles of 75-90° with the stem, and 6) unisexuality.

4) ***Radula multiamentula*** Hodgs.\*, Rec. Dom. Mus. Wellington 4: 122 (1962).

Specim. exam. Mt. Sprent, 78/186; Mt. Cullen, 78/177.

Distr. New Zealand, Australia (Tasmania).

Two species of sect. Amentulosae, *Radula wifera* and *R. multiamentula* have been known. These two can be distinguished from each other, as follows:

1. Leaf-lobules with strongly arched keels; amentulose branches rather few; perianth walls with numerous longitudinal, warty ridges in the median portion. . . . . *R. wifera*
1. Leaf-lobules with substraight or slightly arched keels; amentulose branches numerous; perianth walls smooth in the median portion. . . . . *R. multiamentula*
- 5) ***Radula plicata*** Mitt., in Hook. f., Flora Nov.-Zel. 2: 154 (1854).

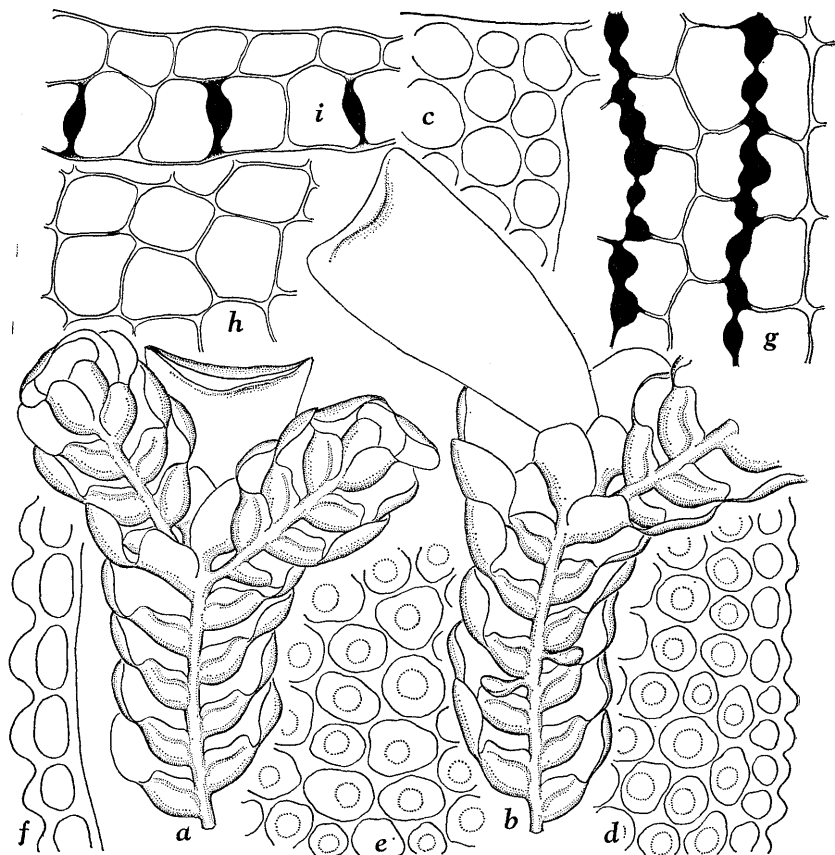


Fig. 1. *Radula ratkowskiana* Yamada, *a, b*. Portions of stems with perianths, ventral view.  $\times 24$ . *c*. Portion of cross-section of stem,  $\times 480$ . *d, e*. Cells of lobe of stem-leaf, *d* from margin, *e* from middle, both  $\times 480$ . *f*. Cross-section of stem-leaf, showing dorsal papillae,  $\times 480$ . *g, h*. Capsule walls, *g* from outer view, *h* from inner view, both  $\times 480$ . *i*. Portion of a cross-section of capsule,  $\times 480$ . Drawn from Holotype.

Specim. exam. Adamsons Peak, 80/14; Hartz Mtn. Nat. Park. 78/181.

Distr. New Zealand, Australia (Tasmania).

6) *Radula tasmanica* Steph., Spec. Hepat. 4: 212 (1910).

Specim. exam. Mt. King William I, 77/186; Cradle Mtn. Nat. Park, 79/39, 79/47; Mt. Wellington summit plateau, 79/103; Mt. Wellington, upper N. W. Bay river, 80/13; Scotts Peak Road, near Nature Trail, 81/9; Zion Hill, Walls of

Jerusalem Nat. Park, 80/145; Mt. Anne, summit rocks, 81/5; Milligans Peak, King William I Range, 81/11; Mt. Snowy South, above Lake Skinner, 81/10.

Distr. Australia (Tasmania).

7) ***Radula ratkowskiana*** Yamada, sp. nov. (Fig. 1)

Planta minor, rigida, compacta, corticola; caulis 6-8 mm longus, cum foliis 1.2-1.4 mm latus, irregulariter pinnatim ramosus; lobi foliorum caulinarum moderate vel dense imbricati, valde concavi, in plano ovati,  $\pm$ falcati, apicale late rotundati, valde incurvo, margine leviter denticulato; cellulae medianae  $17-20 \times 13-16 \mu\text{m}$ , trigonis magnis; cuticula papillata; lobuli remoti, subquadrati, prope carinum valde inflati, carina arcuata; dioica (gynoecia non vidi)? perianthia planocylindrica.

Plants small, rigid, compact, creeping on bark, dull yellow in herb. Stem 6-8 mm long, 0.07 mm in diam., with leaves 1.2-1.4 mm wide, irregularly pinnately and scarcely branched, branches 1-2 mm long, 0.06 mm in diam, with leaves 0.8-1 mm wide; cross-section of stem 6 cells thick, cortical cells somewhat smaller than medullary cells, dull yellow, medullary cells subhyaline, somewhat thick-walled with medium-sized trigones. Leaf-lobes moderately to densely imbricate, strongly concave, ovate,  $\pm$ falcate, 0.7-0.75 mm long, 0.6-0.7 mm wide, apices widely rounded, usually strongly incurved, margins slightly denticulate, dorsal base widely rounded to substraight,  $\pm$ auriculate, usually extending slightly beyond the farther edge of stem, insertions nearly inverted J-shaped; marginal cells  $8-10(-12) \times 6-7 \mu\text{m}$ , median cells  $17-20 \times 13-16 \mu\text{m}$ , both cells thick-walled with large trigones (intermediate thickenings not seen), basal cells  $17-20(-23) \times 13-15 \mu\text{m}$ , thick-walled with medium-sized trigones; cuticle papillose; leaf-lobules subquadrate, ca 1/2 the lobe in length, 0.35-0.38 mm long, 0.23-0.25 mm wide, apices obtuse or narrowly rounded, abaxial margins  $\pm$  obliquely subtruncate or slightly sinuate, more or less decurrent to the ventral margins of leaf-lobes, adaxial margins substraight, insertions to the stem almost equal to the lobule-width, long and substraight, carinal regions strongly inflated; rhizoid-initial area  $\pm$ convex, rhizoides a few, subhyaline; keels spreading at angles of 60-70° with the stem, 0.38-0.4 mm long, usually strongly arched, not decurrent, the sinus rounded or nearly none.

Dioicous (androecium not seen)? Gynoecium terminal on stem or branch, with one or two subfloral innovations, bract-lobe narrowly ovate with narrowly incurved, rounded to obtuse apex, bract-lobule subquadrate with rounded apex

(often with a minute and blunt protruding) and sinuate keel; perianth flat-cylindric, ca 2.6 mm long, 0.9 mm wide at mouth, mouth truncate or  $\pm$  sinuose, not two-lipped; capsule wall in two layers, thin, cell-walls of inner layer with poorly developed secondary thickenings, outer layer thin-walled with light brown, secondary thickenings in alternately.

Specim. exam. Tasmania: Lake St. Clair Track to Echo Point, Nov. 12, 1978. Coll. A. V. Ratkovsky 78/180—holotype (NICH; isotype in hb. D. A. & A. V. Ratkovsky).

Distr. Known only from the type collection.

The diagnostic characters of this new species are 1) the rigid, compact, dull yellow plants when dry, 2) the moderately to densely imbricate, ovate,  $\pm$  falcate leaf-lobes usually with strongly incurved and widely rounded apices, 3) the leaf-cells with a dorsal papilla over each lumen and large trigones, 4) the subquadrate leaf-lobules inserted to the stem almost equal to the lobule-width and usually with a strongly arched keel, and 5) the bisexuality.

This new species is closely related to *Radula sainsburiana* Hodgs. & Allison from New Zealand, but the latter is distinguished from this new species by the paroicous plants, and the cell-walls of leaf-lobes with minute trigones. This new species is related also to *R. tasmanica* Steph., but the latter is different in the absence of a single dorsal papilla of each leaf-cell.

I am very grateful to Dr. S. Hattori, for his critical advice, and to Dr. D. A. Ratkovsky, for his help with English of this article. I also wish to thank Dr. Gilbert Bocquet (Director), and Dr. Patricia Geissler (Curator), Conservatoire et Jardin Botaniques, Genève, for the loan of holotype specimen of *Radula mittenii* Steph. from the Stephani Herbarium.

#### Literature Cited

- Bastow, R. A. 1888. Tasmania Hepaticae. Pap. Proc. Roy. Soc. Tasmania (1887) : 209-289. Castle, H. 1963. A revision of the genus *Radula*. Part II. Subgenus *Acroradula*. Section 6. *Saccatae*. Rev. Bryol. Lichénol. 32 : 1-48. —. 1965. —. Section 9. *Densifoliae*. Ibid. 33 : 328-398. —. 1967. —. Section 11. *Complanatae*. Ibid. 35 : 1-94. Rodway, L. 1917. Tasmanian Bryophyta. Pap. Proc. Roy. Soc. Tasmania (1916) : 51-143.

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タスマニア在住の D. A. & A. V. Ratkowsky 夫妻からタスマニア産の *Radula* (ケビラゴケ) 属苔類の標本33点が届けられた。標本から検出した7種の内、2種はタスマニアから初記録で、1種は新種であったので記載を行った。同時に、オーストラリアから記載のあった *Radula mittenii* Steph. を調べ *Radula buccinifera* (Hook. f. & Tayl.) Tayl. の異名に落した。

□飯沼愨齋生誕二百年記念のことなど Bicentennial celebration of Yokusai linuma (Tsiodjoun Ynouma, 1783-1865), the author of "Sô mokou Zoussetz" 『草木図説』の著者、飯沼愨齋 (1783. 6. 10~1865. 5. 5) 生誕二百年記念式典が本年5月27日大垣で行われる。記念事業会は1982年11月28日に北村四郎名誉会長、水野瑞夫会長、北村二郎事務局長、遠藤正治委員を選んで発足した。先に母体としての愨齋研究会が発足し、第一回は1982年4月29日に開催され、「愨齋研究会だより」No. 1 は6月15日に発行、現在No. 20 に達している。事務局は〒502 岐阜市三田洞東5-6-1 岐阜薬科大学内北村二郎宛 (電話0582-37-3931) で一般から一口金5,000円の寄附を本年4月末日まで募集、寄附者には催物の案内と記念誌の贈呈がある。

私が同研究会とおつきあいをすることになったことを記そう。1981年日本植物学会年会在岐阜で開催の際、10月3日一の宮から内藤記念くすり博物館を見学、青木允夫氏から遠藤正治氏に会うことを勧められた。4日に大垣に行き江馬家を訪問、前野良沢の門人、江馬蘭齋から6代目の当主、庄次郎氏に面会、氏の御案内で蘭齋の碑、愨齋の平林荘を見、大垣市文化会館で森清一氏に会い、江馬氏と共に愨齋の史蹟保存を御願した。午後大垣図書館の野呂鎮子さんの案内で本を見、ここで江崎俊治さんに迎えられて母上の美奈子さんの御宅に行き、愨齋の『草木図説』の色彩原図その他を拝見し、永年の希望を達した。5日、6日植物学会に出席し、7日に遠藤正治氏宅をはじめて訪問、二人で飯沼順二氏宅訪問、愨齋の多くの原図や愨齋の顕微鏡を拝見、8日名古屋動物園に行き新装なった伊藤圭介翁記念室を見学、そこで会った岡田直久氏のすすめで、圭介や愨齋をもっともよく研究された吉川芳秋氏宅を訪問し暫く話をおききした、1982年富山で日本科学史学会年会在5月29日と30日にあり、帰途岐阜により遠藤正治氏の紹介で水野瑞夫、北村二郎両氏に御会いし、愨齋研究会の話となったのであった。

(木村陽二郎 Yojiro KIMURA)