

## Miscellanea hepaticologica 291-300

(291) *Acromastigum cunninghamii* (STEPH.) A.EVANS in Ann. Bryol., Suppl. 3: 106. 1934

≡ *Bazzania cunninghamii* STEPH. in Hedwigia 32: 205. 1893.

TYPE: Chile. Prov. Capitán Prat [formerly part of Prov. Magellanes], 48° 57'S, Puerto Gray ["Gray Harbour" erroneously as "Hay Harbor" in STEPHANI 1893: 205], November 1868, A. CUNNINGHAM 147 (lecto [designated by FULFORD 1966: 177]: BM!).

≡ *Mastigobryum cunninghamii* STEPH., Sp. Hepat. 3: 540. 1909.

TYPE: Chile. Prov. Capitán Prat [formerly part of Prov. Magellanes], Halt Bay, April 1868, A. CUNNINGHAM 96 (holo: G-024705!, iso: BM!, NY [EVANS 1934: 107]).

Illustrations: EVANS 1934 fig. 24; GROLLE 1961 fig. 1; FULFORD 1966 fig. 1, 3; ENGEL & SMITH MERRILL 1994 fig. 3; STEPHANI 1985 (Icon. nos. 7373, 7374). — Excluded has to be HERZOG 1954 fig. 9: e-j (as *A. cunninghamii*), which belongs to *A. laetevirens* (SANDE LAC. ex STEPH.) A.EVANS.

Range: Chile [40°-49°S], New Zealand [South Island] (ENGEL & SMITH MERRILL 1994), new to Auckland Islands and Tasmania.

Specimens examined: **Auckland Islands.** Ecological Regional District, Ranui Cone, 1 Feb. 1944, B. FENCIAN, hb HODGSON (MPN-24520 as *A. colensoanum*). **Tasmania.** S. J. JARMAN 83/1, 83/2, 88/2, 89/2 (JE). Mt Kate, 920 m, 1997, A. MOSCAL (c. per.; JE, HO-28912).

(292) *Cololejeunea trichomanis* (GOTTSCHE) STEPH. in Hedwigia 34: 252. 1895

≡ *Lejeunea trichomanis* GOTTSCHE in Abh. Naturw. Ver. Bremen 7: 362. 1882

≡ *Physocolea trichomanis* (GOTTSCHE) STEPH., Sp. Hep. 5: 912. 1916.

TYPE: Australia. Queensland, Bellenden Ker Range, 3000 ft, 1881, KARSTEN (Lecto [designated here]: G-17352 !, iso: MEL (THIERS 1988)). — Holotype in B destroyed.

≡ *Lejeunea goebelii* GOTTSCHE in Ann. Jard. Bot. Buitenzorg 7: 49. 1888; nom. nud.

≡ *Lejeunea goebelii* GOTTSCHE ex SCHIFFN. in Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 60: 240. 1893. ≡ *Cololejeunea goebelii* (GOTTSCHE ex SCHIFFN.)

SCHIFFN. in Bot. Jahrb. Syst. 23: 581. 1897. ≡ *Leptocolea goebelii* (GOTTSCHE ex SCHIFFN.) A.EVANS in Bull. Torrey Bot. Club 38: 265. 1911.

TYPE: Indonesia. Java, on *Hymenophyllum*, GOEBEL (holo: FH [ZHU & SO 2001: 292]).

This species is widespread in E and SE Asia and has been very well described and illustrated by THIERS 1988 and ZHU & SO 2001 under the name *C. goebelii*. They overlooked, however, the existence of *Lejeunea trichomanis* GOTTSCHE 1882. Hence, *C. trichomanis* is the correct name of the species.

(293) *Lejeunea* (subg. *Heterolejeunea*) *schusteri* GROLLE, **nom. nov.**

≡ *Rectolejeunea* (subg. *Heterolejeunea*) *denudata* R.M.SCHUST. in J. Hattori Bot. Lab. **89**: 143. 2000. - Known only from North Island of New Zealand. [non *Lejeunea denudata* (PEARSON) J.J.ENGEL in Bryologist **78**: 361. 1975 from New Caledonia].

The species has been well described and illustrated by SCHUSTER 2000. Its natural placement, however, is within *Lejeunea* LIBERT, as was tried to demonstrate by GROLLE 1995 and below under 294 on *Microlejeunea ocellata*.

(294) *Microlejeunea ocellata* (HERZOG) GROLLE, **comb. nov.**

≡ *Rectolejeunea ocellata* HERZOG in Trans. Proc. Roy. Soc. New Zealand **77**: 255. 1949.  
TYPE: New Zealand, North Island, Hawke's Bay, Morere Bush near Wairoa, on bark, 21 Jan. 1934, HODGSON 293 (holo: JE-H2290 !). Ibid., HODGSON 472 (para: MPN !).

In a study on *Rectolejeunea* A.EVANS this species has been carefully described and excellently illustrated in two plates by SCHUSTER (2000) as *R. ocellata*. The genus *Rectolejeunea* has been subject to lively discussion recently (GROLLE 1995, HE 1997, REINER-DREHWALD 2000, SCHUSTER 2000). GROLLE (1995) restricted it to New World species with basal ocelli and pycnolejeuneoid gynoeical innovation. This concept has been followed by HE (1997) and REINER-DREHWALD (2000). SCHUSTER (2000) also treats this species group as a natural entity: *Rectolejeunea* A.EVANS subg. *Rectolejeunea*. In a lengthy discussion, however, he defended a broader concept of *Rectolejeunea*, including the subgenera *Chaetolejeunea* R.M.SCHUST. and *Heterolejeunea* R.M.SCHUST., as he had done previously (SCHUSTER 1980), though these differ in the lack of ocelli, lejeuneoid gynoeical innovation and distinctly larger leaf cells. In these features the two subgenera agree with *Lejeunea* LIBERT, where they (or respective species) were placed by GROLLE (1995), WIGGINTON & GROLLE (1996), HE (1997) and REINER-DREHWALD (2000) recently as well as by JONES (1972) and MIZUTANI (1971).

Support for his position is provided by SCHUSTER (2000) by *R. ocellata* HERZOG from New Zealand, which has basal ocelli and small leaf cells as has *Rectolejeunea* s.str. and lejeuneoid gynoeical innovations as has *Lejeunea* s.str. On p. 121, however, he admits: "the species is isolated phytogeographically and taxonomically", within *Rectolejeunea* I agree with this. This problem is resolved by SCHUSTER through a new monospecific subgenus *Notholejeunea* R.M.SCHUST.

But all the characters including basal ocelli, persistent leaves, small leaf cells and lejeuneoid gynoeical innovation of the so-called *Rectolejeunea ocellata* fit well the genus *Microlejeunea* STEPH. as defined by GROLLE (1995: 17-18). Also the autoecy of this species is no obstacle, because further autoicous true *Microlejeunea* species (see JONES 1979) exist as mentioned by GROLLE (1995: 17-18, 104-105).

In my view, therefore, *Rectolejeunea* in the broad sense of SCHUSTER (2000) is an unnatural assemblage of three genera. But if the alien elements are excluded, i.e. *R. ocellata* HERZOG moved to *Microlejeunea* STEPH. and the subgenera *Chaetolejeunea* R.M.SCHUST. and *Heterolejeunea* R. M. SCHUST. to *Lejeunea* LIBERT, than *Rectolejeunea* A.EVANS s.str. becomes a comparatively natural and well delimited genus within the Lejeuneoideae.

Range: New Zealand (North Island), new to Australia.

Specimens examined: **Australia**. New South Wales, Victoria Park, on palm roots, PÓCS 0042-A (EGR, JE). Queensland, Moreton District, Lamington NP, subtropical rainforest, on bark, 300-500 m, THIERS 2813 (AD, JE, NY).

(295) *Radula ankefinensis* GOTTSCHKE ex STEPH. in Hedwigia **23**: 152. 1884. Fig. 1 LECTOTYPE (designated here): [icon.] "Madagascar, aus dem Urwalde (HILDEBRANDT legit), G[OTTSCHKE] delineavit" in STEPHANI 1985 (Icon. no. 8553 as *Radula ankefinensis* ST[EPH.]). – Epitype (designated here): Madagascar. Montane rainforest, bordered by *Sphagnum* marshes on the hill with radio tower 10 km N of Fianarantsoa, at 1230-1360 m altitude, 21°15'S, 47°14'E, corticolous, 22 Sept. 1994, ORBAN 9461/E (JE [c.per., autoicous]!); isoeptype: EGR). – Holotype: "Madagascar. HILDEBRANDT (Herb. GOTTSCHKE)" (B destroyed).

= *R. holstiana* STEPH. in Bot. Jahrb. Syst. **22**: 320. 1895; **syn. nov.**

TYPE: Tanzania. "Usambara", Bulua Wald, 1030 m, 1893, HOLST 4296 (lecto [designated here]: G-16218 as *R. meyeri* [CASTLE 1964: 208]!).

= *R. autoica* STEPH. in Denkschr. Kaiserl. Akad. Wiss., Math.-Naturwiss. Kl. **88**: 727. 1913 (synonymized by CASTLE 1964: 206).

TYPE: Tanzania. "Ost-Usambara, Amani, 800 m", Jul. 1909, BRUNNTHALER (lecto [designated here]: G-27417 [CASTLE 1964: 208] !)

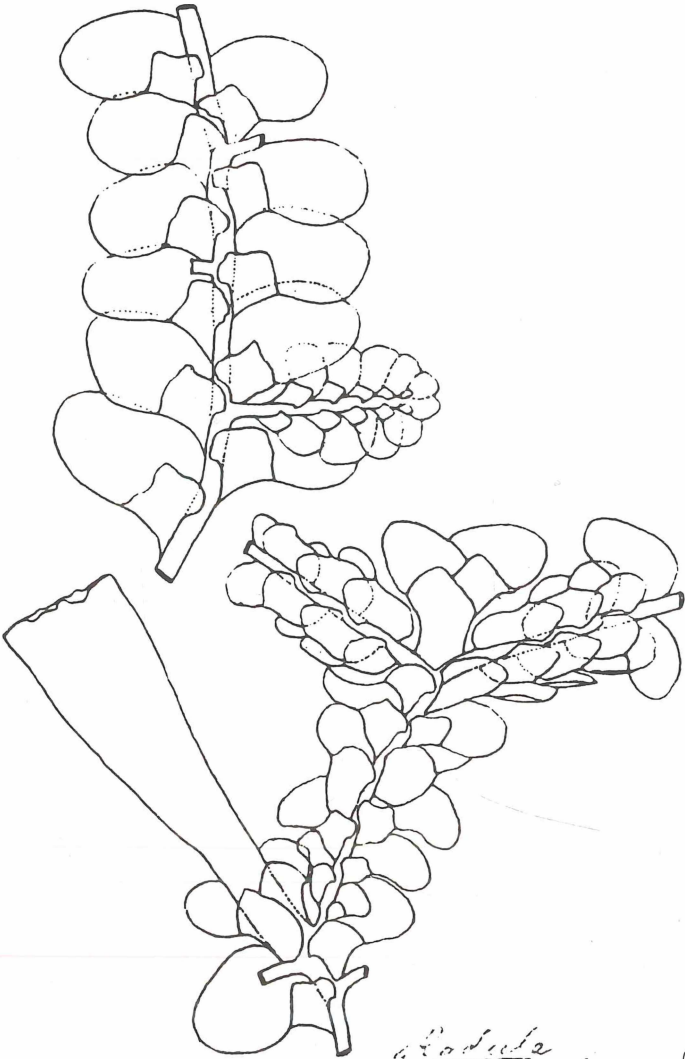
Illustrations: CASTLE (1964: 207 fig. 11 as *R. holstiana*); JONES (1977: 463 fig. 1 e; 484 fig. 14 as *R. holstiana*); STEPHANI (1985: Icon. nos. 8553 as *R. ankefinensis*, 8555 as *R. autoica*, 8557 as *R. heteroica*, 8764 as *R. holstiana*).

Range: Confined to Africa, where it is widespread from Kenya in the North to the Cape Province in the South as well as in Madagascar, Réunion and Mauritius. In Tanzania in submontane rainforest to subalpine elfin forest (800-2200 m). – Due to the taxonomic confusion surrounding *R. ankefinensis* in the past, reports from Ethiopia are not reliable and need to be verified.

The original description by STEPHANI (1884) as well as GOTTSCHKE's excellent drawing of the holotype in STEPHANI's Icon. no. 8553 leave no doubt about the identity of *R. ankefinensis*, though the holotype in B is destroyed. The designation of GOTTSCHKE's drawing as lectotype combined with epitype designation is following the model presented by RANKIN RODRÍGUEZ & GREUTER (1999) for some Carribean *Aristolochia* species. The author agrees with the comments by CASTLE (1964: 208-209) on *R. holstiana*/*R. meyeri*, but takes up the older *R. ankefinensis* as the correct name of this species. He has never seen caducous leaf lobes on true *R. ankefinensis*, though those do occur according to JONES (1977). But he has seen mixtures of *R. ankefinensis* and the rather similar *R. fulvifolia* with caducous leaf lobes e.g. PÓCS 7844 from Zaire and believes that such mixtures probably led to JONES' statement.

Specimens examined (representative): **Zaire**. Prov. Kivu, Kahuzi-Biega Nat. Park, 2100 m, PÓCS 7618 (EGR as *R. holstiana*). **Kenya**. Mbololo hill, 1500 m, CHUAH-PETIOT *Mb* 192 (JE, NAI). **Tanzania**. N-Uluguru Mts. near Morogoro town, submontane rainforest, 1200-1400 m, rupicolous, PÓCS & KNOX 88192/AZ (EGR, JE). Uluguru Mts., shady rocks, 2200 m, PÓCS &

III

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*Radula*  
*ankefinensis* (Gottsche)  
*ankefinensis* (delineavit)  
*monoica!* (monoica!)

*Radula*  
*ankefinensis* St.  
Madagascar  
aus dem Urwalde  
(Hildebrandt legit)

Fig. 1. *Radula ankefinensis* GOTTSCHE ex STEPH.: Lectotype

KORNAS 6813/B (EGR, G as *R. holstiana*). W-Usambara, montane rainforest, 1780 m, on bark, PÓCS 8435/J (UPS). **South Africa.** Transvaal, Schlucht des Mac-Mac-Wasserfalles bei Sabie, CHOLNOKY (S as *R. meyeri*). Natal, Pietermaritzburg, Town Bush, 1000 m, SIM 7524 (EGR, NY as *R. holstiana*). Cape Province, Knysna, Garden of Eden, S.ARNELL 2078 (EGR, JE). S.ARNELL 2058, 2124 (G as *R. heteroica*). S.ARNELL 2142 (UPS as *R. meyeri*). **Madagascar.** Mantady Forest Reserve NE of Andasibe (Perinet), tropical rainforest, 1030 m, on cliff, PÓCS 9485/F (EGR, JE). Near Ambositra, 1650-1675 m, corticolous, ORBAN 9479/M (EGR, JE). **Réunion.** Cilaos, 1100 m, EEN R003-a (S as *R. holstiana*). [Autoicy of all cited specimens has been verified].

(296) *Radula boryana* (F.WEBER) MONT. in Ann. Sci. Nat., Bot., sér. 2, **18**: 13. 1842.

≡ *Jungermannia boryana* F.WEBER, Hist. Musc. Hepat. Prodr.: 58. 1815.

TYPE: Réunion. "ex insula Borboniae Africae" BORY [*de St. Vincent*] (holo: S-B25055 !, iso: BM [CASTLE 1937: 23], S-B25054 !, W [LINDENB. Hep. 5459] !).

= *R. tamariscina* MITT. in J. Proc. Linn. Soc., Bot. **7**: 186. "1864" 1863; **syn. nov.**

TYPE: Sao Tomé Is., on *Physiotium sphagnoides*, MANN (holo: NY [CASTLE 1966: 54; THIERS 1983] !, iso: BM ex K [CASTLE 1966: 54; JONES 1977: 483], G-27392 [CASTLE 1966: 54] !).

For further synonyms see CASTLE 1937, 1969.

Illustrations: CASTLE 1937 (p. 21 fig. 1); 1966 (p. 54 fig. 24 as *R. tamariscina*); JONES 1977 (p. 463 fig. 1 f, l; p. 465 fig. 2 III; p. 496 fig. 15); STEPHANI 1985 (Icon. nos. 8515 as *R. bipinnata*, 8516 as *R. boryana*, 8518 as *R. fusciorufa*, 8523 as *R. thomeensis*, 8524 as *R. woodiana*, 8564 as *R. multiramosa*, 8569 as *R. tamariscina*).

Range: Common mainly between 1000-2000 m in montane rainforests of tropical Africa with infrequent extensions to South Africa, widespread also in the Comores, Madagascar and the Mascarenes. – Asian and neotropical reports are all erroneous as shown by YAMADA 1979.

JONES 1977: 483 supposed that *R. tamariscina* MITT. might be conspecific with *R. appressa* MITT., based on the study of "the very small specimen at Kew" of the former. But the holotype in NY and the isotype in G differ considerably from the latter by (1) distinctly somewhat auriculate base of lobule, and (2) strongly nodular trigones of lobe cells, as correctly described by CASTLE 1966. In my view *R. tamariscina* is merely a weak phase of *R. boryana*, and can best be way recognized by comparison with branches of well developed plants of *R. boryana*. Except the type material all, specimens under *R. tamariscina* in G, JE, NY, S, UPS proved to be other species.

Specimens examined (representative): **Zaire.** Kivu Province, Irangi Forest Station, 900 m, PÓCS 6804 (EGR). **Kenya.** Mbololo hill, 1650 m, CHUAH-PETIOT Mb99 (JE, NAI). **Rwanda.** Pref. de Cyangugu, 2000 m, POCS 6386 (EGR). **Tanzania.** South Pare Mts., 2100-2300 m, POCS et al. 90082/M (EGR, JE). **Zimbabwe.** District Inyanga, mossy bank in evergreen forest, 3000 ft., PHIPPS B80 (EGR). **South Africa.** Natal, Pietermaritzburg, Town Bush, 3500 ft., SIM 7526 (EGR). Cape Province, Hogsback, Caffraria, 4000 ft., SIM (EGR). **Comores.** Ngazidja (Grand Comore) Island, 700-860 m, PÓCS 9150/BE (EGR, JE). Ndzuani (Anjouan) Island, 890-910 m, PÓCS 9162/P (EGR, JE). Mwali (Moheli) Island, 560-695 m, POCS et al. 92100/E (EGR, JE).

**Madagascar.** Andringitra Mts. Nature Reserve, 1270-1450 m, SZABO 9474/M (EGR, JE).  
**Réunion.** Piton de la Fournaise, 300 m, DE SLOOVER 17394 (EGR).

(297) *Radula fulvifolia* (HOOK.F. & TAYLOR) GOTTSCHKE & al., Syn. Hepat.: 261. 1845.

≡ *Jungermannia fulvifolia* HOOK.F. & TAYLOR in London J. Bot. 4: 85. 1845.

TYPE: St. Helena Is., 1 March 1843, "Dr. GREVILLE's Herbarium" (holo: E !; iso: FH !, BM, PC [CASTLE 1966: 46], W [LINDENB. Hep. 5612] !).

= *R. meyeri* STEPH. in Hedwigia 27: 62. 1888; **syn. nov.**

TYPE: Tanzania. "Kilimandscharo...", 3500 m, HANS MEYER (lecto [designated here]: G-16217 [male, strongly caducous] [CASTLE 1964: 264] !, iso: FH !, G-16219 !).

Illustrations: CASTLE 1964 (p. 263 fig. 9 as *R. meyeri*); 1966 (p. 45 fig. 18 as *R. fulvifolia*.); YAMADA 1979 (p. 243 fig. 19 as *R. meyeri*); STEPHANI 1985 (Icon. nos. 8556 as *R. fulvifolia*, 8559 as *R. hans-meyeri*). - Excluded has to be VANDEN BERGHEN 1972: 58 fig. 21 (as *R. meyeri*), which is clearly an autoicous plant and belongs to *R. ankefinensis* !

Ecology: On trees, twigs, soil and rocks, rarely even epiphyllous (see FISCHER 8503 from Zaire).

Range: St. Helena Is., in continental Africa from lowland up to 2600 m, widespread from Ethiopia in the North to the Cape Province in the South, Comores, Madagascar and the Mascarenes. — Recorded also from Asia by YAMADA 1979 as *R. meyeri*.

*Radula fulvifolia* has been carefully described by YAMADA 1979 as *R. meyeri*. It is the most common and widespread *Radula* species in Africa and notoriously polymorphous. Its propagation seems to be almost exclusively by caducous leaf lobes, which sometimes bear already bear marginal rhizoids while still attached to the plant. In most specimens there exist partly to wholly denuded branches, in which caducous leaf lobes have fallen off. Those are especially frequent in weak phases of the species as in the types of *R. fulvifolia* and *R. meyeri*. In St. Helena *R. fulvifolia* is apparently the sole species of the genus, where it has been found by various collectors in the nineteenth century. These specimens agree very well and exclude the possibility that *R. ankefinensis* could be conspecific, though confusion of both species under the names *R. meyeri* and *R. holstiana* was very frequent until recently.

Mature perianths of *R. fulvifolia* are rare and were only seen in a few specimens (e.g. *Bryotrop 6704/b* from Zaire). Those, however, have already been figured from Asia by YAMADA 1979 as *R. meyeri*. African plants with androecia are not infrequent, but those with androecia and gynoecia together occur rarely.

Specimens examined (representative): **St. Helena Is.** Without exact locality, ab ipso TAYLOR 1847 in hb LEHMANN (S B25926-B25928). HOUGHTON (FH, NY). BURCHELL (NY). MELLISS (NY). Diana's Peak, Feb. 1840, J.D.HOOKER (FH, NY). **Ethiopia.** Verrugibba, moist brook-ravina, bamboo wood, 2600 m, ERIKSSON (S as *R. meyeri*). Odda, on living tree, 2000 m, ERIKSSON (S as *R. boryana* det. S. ARNELL). **Central African Republic.** Bangui, colline du Kassai, aux vieux tronc, 400 m, M. ASSEL 132 (JE, EGR as *R. meyeri* det. YAMADA 1976). Galerie forestiere de Gomokon, sur terre, hygrophile, 380 m, M. ASSEL 1023 (EGR as *R. meyeri*). **Ghana.** Ankase River Forest River, near base of boles, JONES & HALL 1373b (G as *R.*

*guineensis*). **Principe Is.** NEWTON 10 (G-27396 as *R. tamariscina*). **Cameroun.** ad Bomanum pagum, 670 m, in truncis arborum, DÚSEN 359 (G, JE, NY as *R. tamariscina*). **Equatorial Guinea.** Muni, rio Cngüe, Mangrove, on roots, buttresses and trunks, HERAS VIT 577/94 (EGR). **Zaire.** Prov. Kivu, Kahuzi-Biega Nat. Park, epiphyllous, 2470 m, FISCHER 8503 (G as *R. holstiana*). Summit forest of Mt. Ilimo, 1500 m, *Bryotrop* 6704/b (G as *R. comorensis* det. YAMADA; c. per. + androecia; JE). **Kenya.** Mbololo hill, 1600 m, CHUAH-PETIOT *Mb* 62 (JE, NAI). **Uganda.** Mawokota county, 1180 m, on tree trunk, LYE B299 (EGR). **Tanzania.** W-Usambara, submontane rainforest, 1000-1100 m, on shady granitic rocks, PÓCS 8436/D (UPS as *R. holstiana*). W-Usambara, microphyllous montane evergreen forest, 1960 m, on bark, PÓCS 8447/B (UPS as *R. holstiana*). W-Usambara, mesic elfin forest, on twigs, 2200-2300 m, PÓCS 8448/BC (UPS as *R. holstiana*). E-Usambara, Amani, Stämme im Regenwald, 800 m, BRUNNTHALER (W as *R. comorensis* det. STEPHANI). **Zimbabwe.** Bulawayo, 1360 m, DEUTSCH (S as *R. meyeri*). **South Africa.** Natal, Spritzzone des Lone Creek-Wasserfalles bei Sabie, CHOLNKY (S as *R. boryana* det. S.ARNELL). Cape Prov., Hogsback, in forest S of the village, at base of tree stem, 1120 m, ARTS RSA 21/08, det. YAMADA (EGR, JE). Tafelberg, REHMANN 139 (G-27413 as *R. capensis*). **Comores.** Ngazidja (Grande Comore) Island, on liane bark, 700-860 m, PÓCS 9150/AK (EGR, JE). Ndzouani (Anjouan) Island, corticolous, 890-1180 m, PÓCS et al. 9276/AB (EGR, JE). Maore (Mayotte) Island, 460-590 m, PÓCS et al. 9293/B (EGR, JE). Mwali (Moheli) Island, 400-450 m, PÓCS et al. 9299/H (EGR, JE). **Madagascar.** Mantady Forest Reserve, corticolous, 1030 m, PÓCS 9485/E (EGR, JE). **Réunion:** Cilaos, 1100 m, EEN R003-b (S as *R. holstiana*). **Mauritius.** Le Pouce, 700 m, sur les arbres, ONRAEDT 71.Ma.214 (JE). PS. *Radula fulvifolia* has been recently recorded from South Africa and Réunion already [MÜLLER, F., ARTS, T. & YAMADA, K.: New localities of *Radula fulvifolia* (HOOK. f. et TAYL.) GOTT., LINDENB. et NEES (Radulaceae, Hepaticae). – Bryol. Res. 7: 378-380].

(298) *Radula madagascariensis* GOTTSCHKE in Abh. Naturwiss. Ver. Bremen 7: 349. 1882. TYPE: Madagascar, "In Silva Ambaranavaranutata", 6 Dec 1877, *Rutenberg*. (lecto [designated by YAMADA & PIIPPO 1989: 364]: G-16357 (CASTLE 1963 as type, YAMADA 1979: 242 as isotype, YAMADA & PIIPPO 1989: 364 as holotype) ! – [Holotype in B destroyed]. – The year of collecting the type is "1877" according to the protologue and the label of G-16357, but has been erroneously cited as "1879" by CASTLE 1963 and GEISSLER & BISCHLER 1990.

= *R. exigua* STEPH., Sp. Hepat. 4: 195. 1910; **syn. nov.**

TYPE: Madagascar, 1896, FORSYTH MAJOR 1000 p.p. (holo: G [CASTLE 1968: 45] !).

For further synonyms see JONES 1977.

Illustrations: CASTLE 1963 (p. 32 fig. 14). 1968 (p. 46 fig. 19) as *R. exigua*; JONES 1977 (p. 469 fig 1 a. p. 473 fig. 6 d-l); YAMADA 1979 (p. 241 fig. 14); STEPHANI 1985 (Icon. nos. 8672 as *R. caespitosa*. 8674 as *R. exigua*. 8676, 8677 as *R. madagascariensis*); YAMADA & PIIPPO 1989 (p. 363 fig. 7).

Ecology: Corticolous and ramicolous in coastal evergreen to Elfin forest.

Range: Madagascar, Mascarenes, Tanzania, tropical Asia (Sri Lanka, India, Nepal, Borneo, Philippines, Sumatra, Java, Papua New Guinea). – Reports from South Africa are erroneous, as has been shown by Jones 1977.

*R. caespitosa* STEPH. is erroneously treated as synonymous with *R. tabularis* STEPH. by CASTLE 1963: 38, as has been pointed out by JONES 1977: 474.

Specimens examined (representative): **Kenya**. Mbololo hill, 1600 m, CHUAH-PETIOT *Mb 47* (JE, NA). **Tanzania**: S Uluguru Mts., Morogoro District, Elfin forest, corticolous, 2350-2450 m, PÓCS et al. *88110/AB* (EGR). **Comores**. Ngazidja (Grande Comore) Island, 1300-2300 m, POCS *9159/CG* (EGR, JE). Ndzuani (Anjouan) Island, 890-1180 m, POCS et al. *9276/BO* (EGR, JE). **Madagascar**. Prov. Antsiranana, Réserve Intégrale Natle de Marojezy, Elfin forest, 1380 m, on decaying branch, POCS et al. *90114/CM* (EGR). Prov. Toamasina, E coast, coastal evergreen forest, 3-6 m above sea level, ramicolous, POCS et al. *90101/U* (EGR). **Réunion**. Subalpine Ericaceous heath, 2000 m, on Ericaceous bark, POCS *9618/CG* (EGR, G, JE). Plaine des Tamarins, 1750 m, GIMALAC *75.R.8769* (EGR). Cirque de Cilaos, 1930-2518 m, on bark, SZABO *9640/CN* (EGR, JE). **Mauritius**. Le Pouce, on bark, EEN *M039* (S).

(299) *Radula tabularis* STEPH. in Hedwigia **23**: 131. 1884.

TYPE: South Africa. "Promontorium Bonae Spei, in monte Tabulari", DRÉGE (lecto [designated here]: G-16371 !). – Apparently this specimen has been cited as "holotype" by YAMADA 1979: 266 erroneously as "G-16379" and perhaps by CASTLE 1963 as "The Type". In the protologue three syntypes are cited from the type locality: [1] DRÉGE, [2] ECKLON (LZ), [3] (Herb. Jack). The ECKLON syntype in LZ is destroyed.

Illustrations: JONES 1977 (p. 473 fig. 6 a, c; p. 474 fig. 7 d); YAMADA 1979 (p. 265 fig. 34)[*R. tabularis* is lacking in STEPHANI'S Icones ined.]

Ecology: On rock, sometimes on decaying logs.

Range: In Africa confined to the Cape Province. – Recorded by YAMADA 1979 also from Asia, Australia, New Zealand and Campbell Is.

The author agrees with JONES 1977: 474, who placed the specimens reported by CASTLE 1963: 38 as *R. tabularis* from Réunion (including the type of *R. caespitosa* STEPH.) under *R. madagascariensis* GOTTSCHKE.

Specimens examined (representative): **South Africa**: Cape Prov., Table Mt., 800-1000 m, ESTERHUYSEN *25363* (E, JE). Table Mt., Upper Plateau, on sides of dry rocks in shaded cave, PILLANS *4226* (S). Knysna, Deepwall forest, on decaying log, ARNELL *1534* (JE, S [c.per.]).

(300) *Radula voluta* TAYLOR ex GOTTSCHKE et al., Syn. Hepat.: 255. 1845.

TYPE: Ireland. Kings Co. "in Hibernia, prope Dunkerron", TAYLOR (in Hb. GOTTSCHKE). (lecto [designated here]: W [Lindenb. Hep. 5461] !; iso: G, PC [CASTLE 1965: 353-354]). – Holotype with the same collection data as above in B destroyed.

= *R. macroloba* STEPH. in Bull. Soc. Roy. Bot. Belgique **31**: 121. 1892. Hedwigia **31**: 213. Sept-Oct 1892; **syn. nov.**

TYPE: Réunion. "Bourbon", RODRIGUES (holo: G-17556 [CASTLE 1965: 368; JONES 1977: 491] !; iso: FI !, JE-H3610 !, S-B43462 [ex PC] !)

= *R. delessertii* STEPH. in RENAULD & CARDOT, Bull. Soc. Roy. Bot. Belgique **32**, Compt.-Rend. Séances: 38. 1893; **syn. nov.** (synonymized by JONES 1977: 491 with *R. macroloba* "probably").



TYPE: Réunion. DELESSERT (lecto [designated by CASTLE 1965: 366-367]: G, isolecto: BM, PC). – Réunion. LE PERVANICHE (para: G [CASTLE 1965: 367]).

= *R. stipatiflora* STEPH., Sp. Hepat. 4: 159. 1910; **syn. nov.**

LECTOTYPE (designated here): [icon.] "Africa, Ruanda, Kiwu See, Exp. Ad. Fr. v. Mecklenburg, MILDBRAED 807" in STEPHANI 1985 (Icon. no. 8501 as *Radula stipatiflora* ST[EPH.] n. sp.). – Epitype (to be designated)]. – Holotype: Rwanda. Urundi, Rugege-Wald, MILDBRAED 807 (holo: G [CASTLE 1965: 365; JONES 1977: 489]. – Lost, the envelope was open and contained no specimen, when received in April 2001 !). – Neither in E and EGR nor in JE is there a specimen from Rwanda c. per. suitable to become its epitype.

For further synonyms see CASTLE 1963, JONES 1977, 1981, YAMADA 1993, YAMADA in WIGGINTON & GROLLE 1996

Illustrations: CASTLE 1963 (p. 363 fig. 14 as *R. stipatiflora*). 1965 (p. 353 fig. 8 as *R. voluta*; p. 359 fig. 12 as *R. lespagnolii*; p. 366 fig. 16 as *R. macroloba*); 1966 (p. 48 fig. 20 as *R. allamanoi*); VANDEN BERGHEN 1972 (p. 59 fig. 22 as *R. multiramea* [without perianth]); JONES 1977 (p. 463 fig. 1f; p. 494 fig. 14 as *R. allamanoi*; p. 487 figs. 1 d, 2 II, 3, 11 as *R. stipatiflora*; p. 490 fig. 12 as *R. lespagnolii*); SCHUSTER 1980 (p. 621: fig. 628 6-11; p. 625 fig. 629 (with marginal gemmae !, no perianth [unknown])); STEPHANI 1985 (Icon. nos. 8501 as *R. stipatiflora*, 8517 as *R. delessertii*, 8520 as *R. macroloba*, 8519 as *R. lespagnolii*, 8522 as *R. newtonii*); PATON 1999 (p. 445 fig. 219).

Ecology: In humid places usually on bark, sometimes on rocks and boulders.

Range: Very common in tropical Africa motly at higher elevations between (1310)1700-3930 m, with extensions to South Africa; Madagascar and the Mascarenes; British Isles, southeastern USA, Latin America.

For long only known from the British Isles and southeastern USA. First recorded from Latin America by YAMADA 1987 and from tropical Africa by YAMADA 1993, in both those continents previously known under other synonyms.

Already JONES 1977: 489 stated: "I cannot point to any clear-cut differences other than those of habitat between most robust flaccid forms of *R. stipatiflora* and *R. voluta*". I wholly agree and therefore place the former in synonymy of the latter.

The perianth of *R. voluta* is unknown from European and North American populations, but is frequently found in African and South American specimens. The mature perianth considerably varies in shape from slightly ovate to obovate-conical or with the upper third  $\pm$  oblong, compressed and the lower third terete (hence the epithet "*stipatiflora*", see JONES 1977 fig. 11m). Widest at the mouth or somewhat below. Mouth truncate, slightly undulate (or slightly and irregularly crenate), otherwise entire.

Specimens examined (representative): **Zaire**. Kivu, 3200 m, on branch, PÓCS 7734 (G as *R. stipatiflora* det. YAMADA). **Ethiopia**. Bale Mts., above, Rira, 3400 m, on branches, MIEHE 2188 (EGR). **Kenya**. Wandara River bank, 3000 m, CHUAH-PETIOT *Ab 95a* (JE, NAI). **Uganda**. Ruwenzori, 3930 m, HEDBERG 423f (S as *R. macroloba*). Ruwenzori, 2500 m, HEDBERG 333f (S det. YAMADA; c.per. + sp., aber zu dürrftig, um als Neotypus wünschenswert). **Tanzania**. Kilimanjaro Mts., 2780-2850 m, POCs et al. 88123/B (G as *R. stipatiflora*). **South Africa**. Natal,

WOOD (S as *R. boryana*). Transvaal, Plateau im Südosten von Lydenburg, WILMS (G-27399 as *R. stipatiflora*). Cape Province, Hogsback, 1120 m, on wet rock boulder in forest rivulet, ARTS RSA 21/22 (EGR, JE). **Madagascar**. Reserve Forestiere Andasibe, 920-990 m, on bark, PÓCS 90103/AE (G as *R. madagascariensis* det. PÓCS, JE). Ibid., corticolous, PÓCS 90108/W (EGR as *R. macroloba* det. E.W. JONES; with caducous leaf lobes and very broad perianth). Prov. de Fianarantsoa, 900 m, sur les arbres, ONRAEDT 74.M.2318 (EGR as *R. lespagnolii* det. E.W. JONES).

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## Literature

- CASTLE, H.: A revision of the genus *Radula*: Introduction and Part I. Subgenus *Cladoradula*. – Ann. Bryol. **9**: 13-56; 1937.
- CASTLE, H.: A revision of the genus *Radula*: Part II. Subgenus *Acroradula*. Section 6. *Saccatae*. – Rev. Bryol. Lichénol. **32**: 1-48; 1963.
- CASTLE, H.: A revision of the genus *Radula*: Part II. Subgenus *Acroradula*. Section 8. *Acutilobulae*. – Rev. Bryol. Lichénol. **33**: 185-210; 1964.
- CASTLE, H.: A revision of the genus *Radula*: Part II. Subgenus *Acroradula*. Section 9. *Densifoliae*. – Rev. Bryol. Lichénol. **33**: 328-398; 1965.
- CASTLE, H.: A revision of the genus *Radula*: Part II. Subgenus *Acroradula*. Section 10. *Ampliatæ*. – Rev. Bryol. Lichénol. **34**: 1-81; 1966.
- CASTLE, H.: A revision of the genus *Radula*: Part II. Subgenus *Acroradula*. Section 11. *Complanatae*. – Rev. Bryol. Lichénol. **35**: 1-94; 1968.
- CASTLE, H.: *Radula* (L.) DUMORTIER. – A Synopsis of the Taxonomic Revision of the Genus. – Rev. Bryol. Lichénol. **36**: 5-44; "1968", 1969.
- ENGEL, J. J. & SMITH MERRILL, G. J.: Studies of New Zealand Hepaticae. 8-13. *Bazzania* and *Acromastigum*. – Bryologist **97**(3): 313-320; 1994.
- EVANS, A.: A revision of the genus *Acromastigum*. – Ann. Bryol., Suppl. **3**: 1-178; 1934.
- FULFORD, M.: Manual of the Leafy Hepaticae of Latin America. Part II. – Mem. New York Bot. Gard. **11**: 173-276; 1966.
- GAO, C. & CAO, T.: Flora Yunnanica **17**: 1-650. Science Press 2000.
- GEISSLER, P. & BISCHLER, H.: Index Hepaticarum **12**: 1-337. Berlin & Stuttgart 1990.
- GROLLE, R.: On *Acromastigum* in South America, with comments of the Patagonian *Bazzaniae*. – Bryologist **64**: 16-29; 1961.
- GROLLE, R.: The Hepaticae and Anthocerotae of the East African Islands. An annotated catalogue. – Bryoph. Bibl. **48**: 1-178; 1995.
- HE, X.-L.: Type studies on *Pycnolejeunea* (Lejeuneaceae, Hepaticae), IV. – Ann. Bot. Fenn. **34**: 65-74; 1997.
- HERZOG, Th.: Zur Bryophytenflora Chiles. – Rev. Bryol. Lichénol. **23**: 27-99; 1954.
- JONES, E. W.: African hepatics, XXIII. – J. Bryol. **7**: 23-45; 1972.
- JONES, E. W.: African hepatics, XXX. – J. Bryol. **9**: 461-504; 1977.
- JONES, E. W.: African hepatics, XXXI. – J. Bryol. **10**: 387-400; 1979.
- JONES, E. W.: African Hepatics, XXXII. – J. Bryol. **11**: 311-323; 1981.
- MIZUTANI, M.: *Lejeunea* from the Himalayan region. – J. Hattori Bot. Lab. **23**: 445-457; 1971.
- PATON, J. A.: The liverwort flora of the British Isles. Harley Books 1999.

- RANKIN RODRÍGUEZ, R. & GREUTER, W.: Charles PLUMIER's drawings of American plants and the nomenclature of early Carribean *Aristolochia* species (Aristolochiaceae). – *Taxon* **48**: 677-688; 1999.
- REINER-DREHWALD, M. E.: Las Lejeuneaceae (Hepaticae) de Misiones, Argentina VI. *Lejeunea* y *Taxilejeunea*. – *Trop. Bryol.* **19**: 81-131; 2000.
- SCHUSTER, R. M.: The Hepaticae and Anthocerotae of North America **4**: I-XIX, 1-1334. New York 1980.
- SCHUSTER, R. M.: Studies on Lejeuneaceae, II. *Rectolejeunea* Evs. emend. SCHUST. (Lejeuneaceae). – *J. Hattori Bot. Lab.* **89**: 113-150; 2000.
- STEPHANI, F.: Die Gattung *Radula*. – *Hedwigia* **32**: 113-116, 129-137, 145-159; 1884.
- STEPHANI, F.: Hepaticarum species novae III. – *Hedwigia* **32**: 204-214; 1893.
- STEPHANI, F.: Icones Hepaticarum. Jardin Botanique Genève. Zug (1165 Microfiches) 1985.
- THIERS, B.: Index to the genera and species of Hepaticae described by William MITTEN. – *Brittonia* **35**: 271-300; 1983.
- THIERS, B.: The Australian species of *Cololejeunea*. – *Nova Hedwigia Beih.* **90**: 113-146; 1988.
- VANDEN BERGHEM, C.: Hépatiques et Anthocérotes. – *Exploration Hydrobiologique du Bassin du Lac Bangweolo et du Luapula* **8**(1): 1-202; 1972.
- WIGGINTON, M. J. & GROLLE, R.: Catalogue of the Hepaticae and Anthocerotae of Sub-Saharan Africa. – *Bryoph. Bibl.* **50**: 1-267; 1996.
- YAMADA, K.: A revision of the Asian taxa of *Radula*, Hepaticae. – *J. Hattori Bot. Lab.* **45**: 201-322; 1979.
- YAMADA, K.: Notes on the type specimens of *Radula* taxa from Latin America 4. – *J. Hattori Bot. Lab.* **62**: 289-298; 1987.
- YAMADA, K.: Taxonomic Results of the BRYOTROP Expedition to Zaire and Rwanda. 13. Radulaceae. – *Trop. Bryol.* **8**: 127-130; 1993.
- YAMADA, K. & PIIPPO, S.: Bryophyte flora of the Huon Peninsula, Papua New Guinea. XXXII. – *Ann. Bot. Fenn.* **26**: 349-387; 1989.
- ZHU, R-L. & SO, M. L.: Epiphyllous liverworts of China. – *Nova Hedwigia Beih.* **121**: 1-418; 2001.

## Summary

291. *Acromastigum cunninghamii* (STEPH.) A. EVANS new to Auckland Islands and Tasmania.
292. *Cololejeunea trichomanis* (GOTTSCHE) STEPH. has to replace *Cololejeunea goebelii* (GOTTSCHE ex SCHIFFN.) SCHIFFN.
293. *Lejeunea* (subg. *Heterolejeunea*) *schusteri* GROLLE, nom. nov. is proposed to replace *Rectolejeunea* (subg. *Heterolejeunea*) *denudata* R.M.SCHUST. 2000 [non *Lejeunea denudata* (PEARSON) J.J.ENGEL 1975].
294. *Microlejeunea ocellata* (HERZOG) GROLLE, comb. nov. basionym: *Rectolejeunea ocellata* HERZOG 1949. New to Australia.
295. *Radula ankefinensis* GOTTSCHE ex STEPH. 1884: new lectotype [icon.] and epitype designations. (= *R. holstiana* STEPH. 1895; syn. nov. with new lectotype designation. = *R. autoica* STEPH. 1913 with new lectotype designation).
296. *Radula boryana* (F.WEBER) MONT. 1842 ≡ *Jungermannia boryana* F.WEBER 1815. (= *R. tamariscina* MITT. 1863; syn. nov.).
297. *Radula fulvifolia* (HOOK.F. & TAYLOR) GOTTSCHE et al. 1845 ≡ *Jungermannia fulvifolia* HOOK.F. & TAYLOR 1845. (= *R. meyeri* STEPH. 1888; syn. nov. with new lectotype designation).
298. *Radula madagascariensis* GOTTSCHE 1882 (= *R. exigua* STEPH. 1910; syn. nov.).
299. *Radula tabularis* STEPH. 1884: new lectotype designation.
300. *Radula voluta* TAYLOR ex GOTTSCHE et al. 1845: new lectotype designation. (= *R. macroloba* STEPH. 1892; syn. nov. = *R. delessertii* STEPH. in RENAULD & CARDOT 1893, syn. nov. = *R. stipatiflora* STEPH. 1910; syn. nov. with new lectotype [icon.] designation).

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