

RICCIA HAWAIIENSIS HÜRL., SPECIES NOVA

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Drs. Otto and Isa Degener recently collected a Riccia species on an old lava flow on the island of Hawaii. They kindly sent me their sample for identification. Only two species of this genus are mentioned from the Hawaiian archipelago in the literature: R. rechingeri Steph. on Hawaii (Scott et Miller, 1958; Yoshida et Smith, 1976) and R. sorocarpa Bisch. on Maui (Hoe, 1978), the latter one identified by Mrs. S. Jovet-Ast, Paris, leading specialist of this genus.

According to Mrs. Jovet to whom I sent part of the Degeners' material, the new collection does not correspond to either of the two species although it shows distinct affinities to the plant described and figured by Scott and Miller. Direct comparison with their material was not possible; on the other hand, original material of R. rechingeri was obtained on loan from Conservatoire Botanique, Geneva (G) and from Naturhistorisches Museum, Vienna (W), permitting the conclusion that the plant received from Drs. Degener represents a new species.

Riccia hawaiiensis Hürll. sp. nova (fig. 1)

Frons subdichotoma imperfecte rosulata, rhizoidibus levibus et verrucosis substrato affixa, sicca albida facie dorsali spongiose foveolata, humida viridi-alba, cellis translucen-  
tibus 0,08-0,1 mm diametrantibus reticulata, ramis 3-6 mm longis, 0,8-2 mm latis lineari-oblongis, apice rotundatis vel leviter emarginatis, marginibus subhyalinis parce undulatis, sulco mediano distaliter acuto, in sectione transversa duplo latioribus quam cressis, lateribus adscendentibus, marginibus explanatis attenuatis, cellulis epidermidis 20-40  $\mu$ m altis, parietibus tenuibus sicut in cellulis subepidermalibus, stomatibus simplicibus irregularibus intermixtis, strato chlorophylloso columniformi anguste alveolari e parenchymate basali 2/5 altitudinis frondis oriundo.

Sporangia immersa, c. 0,5 mm diametrantia, sporae brunneae, (64-)67-80(-84)  $\mu$ m diametrantes, anguste (ad 5-7  $\mu$ m) alatae, facie externa areolatae papillosaeque, areolis 10-12 in diametro, faciebus internis tenuiter areolatae papillis humilibus ornatae.

Punaluu, Kau, island of Hawaii. In radius of 5 square meters on thin layer of earth on old pahoehoe lava flow between

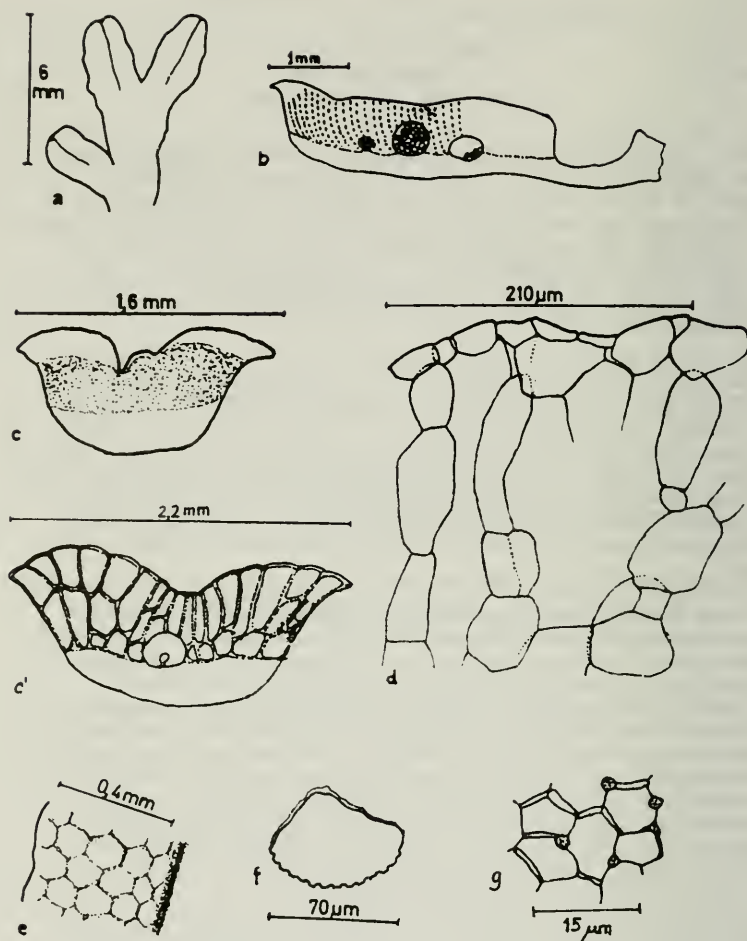


Fig. 1. *Riccia hawaiiensis*: a) Part of thallus; b) submedian longitudinal section of branch; c, c') transversal sections; d) detail of section near upper epidermis; e) detail of thallus surface with areolation (humid state); f) spore; g) areolation of external spore face.

endemic Portulaca near brackish pond and ocean. Never seen before. Nov. 25, 1985. - Otto and Isa Degener, no. 36.642 (Holotypus Z, Isotypus G, NY, PC and about 50 other institutions). Additional material (no. 36.642 a) was collected at the same station on April 26, 1986 by Otto Degener, Isa Degener and Herbert Mann.

*Riccia hawaiiensis* definitely belongs to the subgenus Ricciella (A.Br.) Boulay although the air chambers are rather narrow and high. It is closely related to R. rechingeri described originally from the island of Upolu (Samoa) but can be distinguished as follows:

	<u>R. hawaiiensis</u>	<u>R. rechingeri</u>
Distal thallus segments	linear-oblong, 0,8-2 mm broad	linear, 0,5-1 mm broad
Thallus section	sharply furrowed above towards end, margins attenuate	with broader furrow above, margins rounded
Spores	10-12 areolae on diameter	8-10 areolae on diameter

For the time being, the question remains open if the plants collected earlier on the island of Hawaii (Scott et Miller, 1958; Yoshida et Smith, 1976) really belong to R. rechingeri or should also be assigned to R. hawaiiensis. Some facts, especially form and size of the thalli, would favour the latter choice, however, the characters of thallus sections as shown by Scott and Miller's illustration point towards R. rechingeri.

No type of Riccia rechingeri Steph. has been designated so far. The Rechinger collection in Vienna (W) contains two samples, no. 2958 and no. 2967, both collected on August 3, 1905 "am Ufer des ausgetrockneten Sees Lanuanea ca. 700 m". Both samples are also present in Stephani's herbarium in G. As the label of no. 2958 in G contains some diagnostic notes in Stephani's own handwriting, and as the illustrations in his own unpublished "Icones" refer to the same collection number, no. 2958 (G) should be considered as the lectotype (isotype W).

My thanks are due to Drs. Otto and Isa Degener, Waialua, Oahu (Hawaii), for sending me this interesting material and for stimulating comments, to Mrs. S. Jovet for many advice and encouragement including her own sketches, and to the Directors and Curators of the herbaria in G and W for the loan of original material of R. rechingeri.

## REFERENCES

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