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Research Note

A New Liverwort for the Flora of Turkey

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Abstract: The thalloid liverwort *Riccia crozalsii* Levier belonging to the class *Marchantiopsida* (*Hepaticae*) of the division *Bryophyta* is reported for the first time from Turkey, bringing the total number of *Riccia* species known from Turkey to seventeen. The species was collected from Dilek Peninsula National Park near Kuşadası in Aydın

Key Words: Liverwort, *Riccia crozalsii, Marchantiopsida, Hepaticae.*

Türkiye Florası İçin Yeni Bir Ciğerotu

Özet: *Bryophyta* bölümünün *Marchantiopsida* (*Hepaticae*) sınıfında bulunan, talluslu ciğerotlarından *Riccia crozalsii* Levier türü Türkiye'den ilk defa rapor edilmektedir. Böylece ülkemizden bilinen *Riccia* türü sayısı onyediye yükselmektedir. Bu tür Aydın'ın Kuşadası İlçesi'ndeki Dilek Yarımadası Milli Parkı'ndan toplanmıştır.

Anahtar Sözcükler: Ciğerotu, *Riccia crozalsii, Marchantiopsida, Hepaticae.*

Indroduction

The genus *Riccia* L. (*Ricciaceae*) is one of the richest genera in the Turkish Liverwort Flora, with 16 species reported up to this time (1, 2). *Ricciocarpos* Corda is the only other Turkish genus of the family, with only one aquatic species collected from Sakarya in 1989 (3).

The first *Riccia* species (*R. bifurca* Hoffm.) was recorded from Turkey in 1905 by Penther and Zederbauer (4). This was followed by *R. macrocarpa* Levier in 1908, reported by Schiffner (5). Two further additions were made by Bornmüller (6) in 1931 and Jovet-Ast (7) in 1957. Thus, prior to 1960, the total number of *Riccia* species recorded was only four. Since 1960, investigations by Jovet-Ast (8), Walther (9), Crundwell and Nyholm (10), Çetin (11) and the authors of the present study (1-3) have increased the number of species to 16 for this genus.

Materials and Methods

Specimens of bryophytes were collected from Samsun Mountain in the Dilek Peninsula National Park near Kuşadası, Aydın (37° 38' N, 27° 09' E) in 1998 (Fig.1). The material was cleaned with water so as to remove the soil and obtain a clear view of the colour, which is an important feature in the identification of some bryophytes. The specimens of hepatics werebrought to the laboratory in small polyethylene bags for sorting, then put into special envelopes without pressing, and were then air-dried. Parts of some specimens were kept fresh for the study of their morphological and anatomical characteristics.

Identification was carried out using different published lists as well as floras (1, 8, 11, 12-14). The specimens were deposited in the herbarium of the Department of Biology, Buca Facult of Education, Dokuz Eylül University.

Description

Riccia crozalsii Levier, Rev. Bryol. 29: 73 (1902)

Plants green or glaucous green to purplish beneath, usually forming partial rosettes (Fig. 2). Thalli 2-3 times dichotomously branched, to 5 mm. long, furrowed lobes 0.4-1 mm. wide, not narrowed to apex, grooved deeply at lobe tips (Fig. 3. 1-6). Lobes thick in t.s., 1-2 times as broad as thick (Fig. 3. 2-6). Epidermal cells of thallus thin-walled, pear-shaped (Fig. 3.7). Thallus finely papillose, margin rounded, cilia present on younger and sometimes older marginal part of plant; cilia 100-300 µm. long, erect to spreading when moist (Fig. 3.8), inflexed over thallus in older parts, surface of cilia

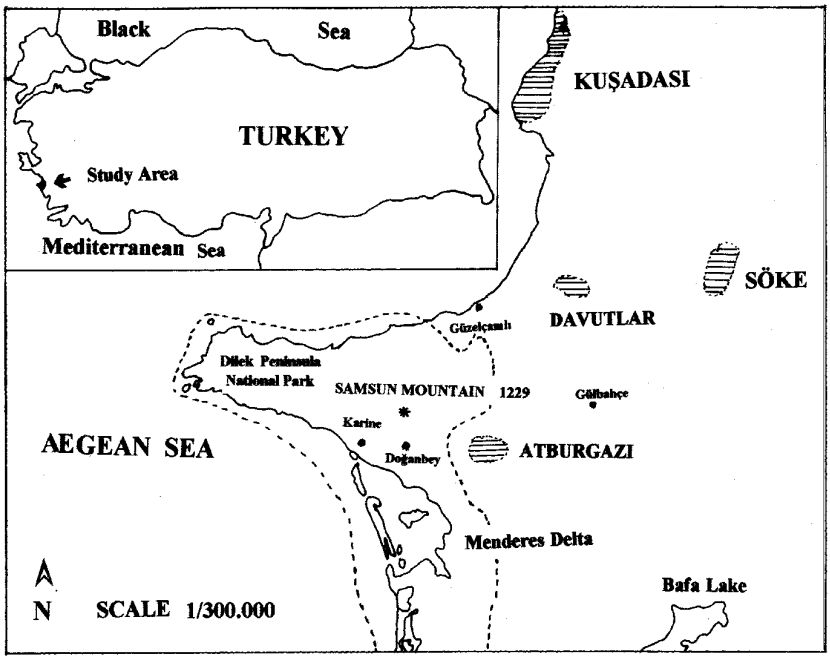

Figure 1. The study site, Dilek Peninsula National Park.

Figure 2. General view of *Riccia crozalsii* specimens (X24).

covered with fine tubercles. Ventral scales colourless to purplish, soon vanishing. Plant monoecious, capsules very common in winter to spring. Spores dark brown to black, 65-105 µm., convex (distal) face with 6-8 areolae, 12-18 µm. wide, truncate tubercles present at corners of areolae, triradiate (proximal) face with smaller areolae, wing entire. Chromosome number n=7+m, 8. It is found on banks, paths, arable fields, mud-capped walls and soil usually near the sea (pH: 4.5-7.5). The species occurs in England, Spain, Portugal, France, Switzerland, Cyprus, Lebanon, Israel, Tunisia, Algeria, Morocco, Australia, New Zealand (8).

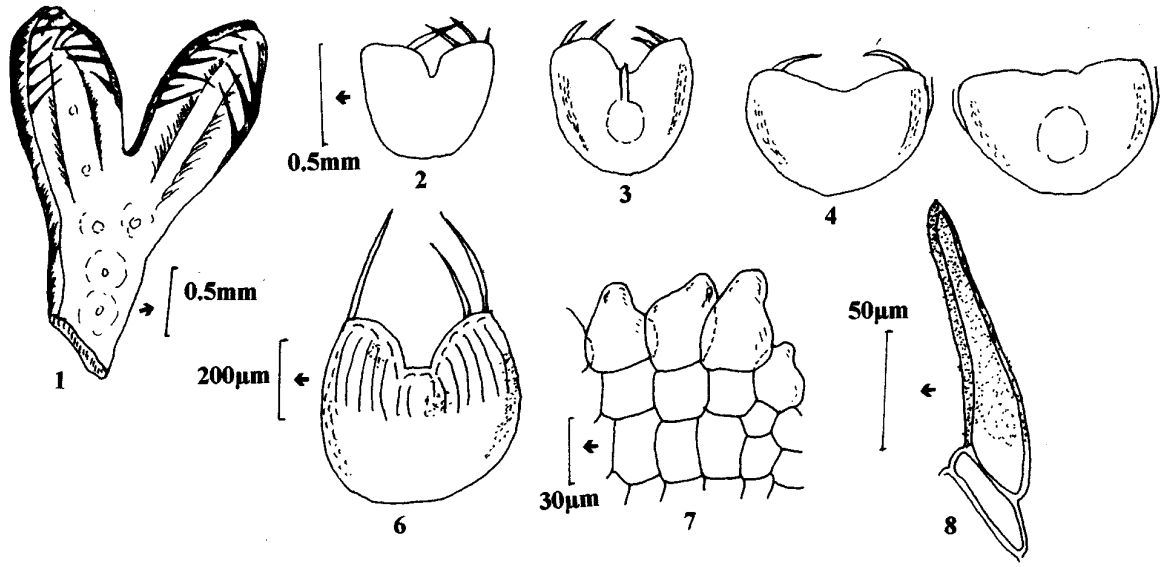

Figure 3. *Riccia crozalsii*; 1. General view; 2-6: Transverse sections from different parts of thallus; 7: pear-shaped epidermal cells; 8: cilia
Adapted and drawn by F. Kiremit from Jovet-Ast (8).

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