

***Bucklandiella microcarpa* (Hedw.) Bednarek-Ochyra
& Ochyra (Grimmiaceae, Bryopsida),
new to the moss flora of Turkey and South-West Asia**

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Abstract – *Bucklandiella microcarpa* (Hedw.) Bednarek-Ochyra & Ochyra (Racomitrioideae, Grimmiaceae, Bryopsida) is recorded for the first time in Turkey. The specimens were collected from Kaçkar Mountains National Park in Rize province. The nearest localities of this species are in south Carpathians and Ural mountains. Therefore, this new record contributes to a remarkable range extension of this species towards south-west Asia.

Bryophyta / Distribution / Ecology / Musci / New record / Northeast Turkey / Rize Province

Up to now, *Bucklandiella* has been represented in Turkey by 4 species: *B. heterosticha*, *B. macounii*, *B. sudetica* and *B. affinis* (Uyar & Çetin, 2004; Ochyra *et al.*, 2003). This paper reports on the recent find of a fifth one, *B. microcarpa*, in northeastern Turkey (Fig. 1).

Bucklandiella microcarpa is a typical boreal-mountain species having a markedly discontinuous range in the northern Hemisphere. In Europe, it is common throughout Fennoscandia, except for a narrow coastal zone in western Norway and southern Sweden, extending eastwards to the Ural Mountains and westwards to Iceland. On the mainland it is a frequent, or even locally common species in the central European mountains, reaching a maximum elevation of 3260 m in the Alps of Switzerland. Beyond the mountains it occurs at many relict stations in the central European lowlands in Germany, Poland as well as in Lithuania, Latvia and Estonia at the eastern border of the Baltic. In North

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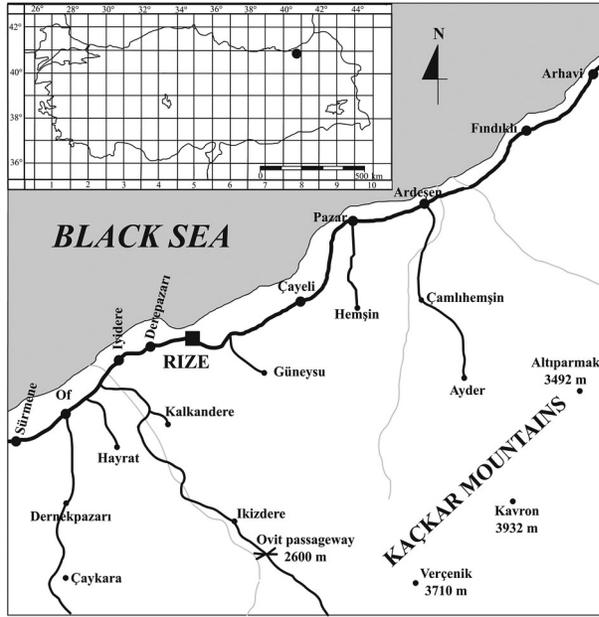


Fig. 1. Geographic location of the study area. ● indicates the species locality.

from the Putorana highland in west Siberia and the Chukchi Peninsula (Fig. 2, Ochyra & Szmajda, 1990).

America, this taxon has a bicentric distribution. In western North America it occurs from Alaska and Yukon in the north of the Rocky Mountains southwards to Oregon, Idaho and Montana. In the eastern part of the continent, it occurs from Labrador and Newfoundland to western Ontario and southwards to northern Michigan, New York and New Hampshire. In Greenland, the species is uncommon and scattered in a portion of the island, extending as far north as *ca* lat. 70°N in west Greenland. In Asia it is rare and scattered in the mountains of central Siberia and in the Russian Far East. In the northern regions of Asia,

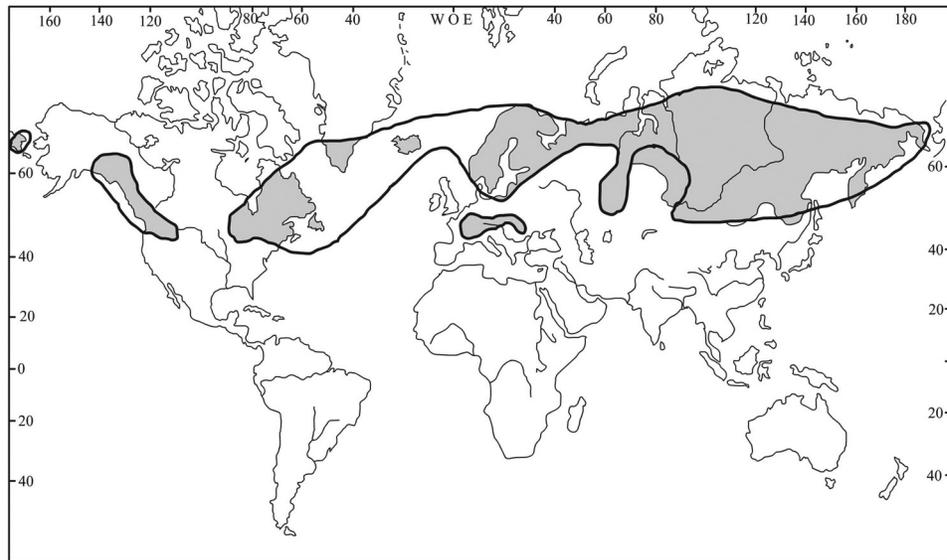


Fig. 2. Worldwide distribution of *Bucklandiella microcarpa* (Hedw.) Bednarek-Ochyra & Ochyra.

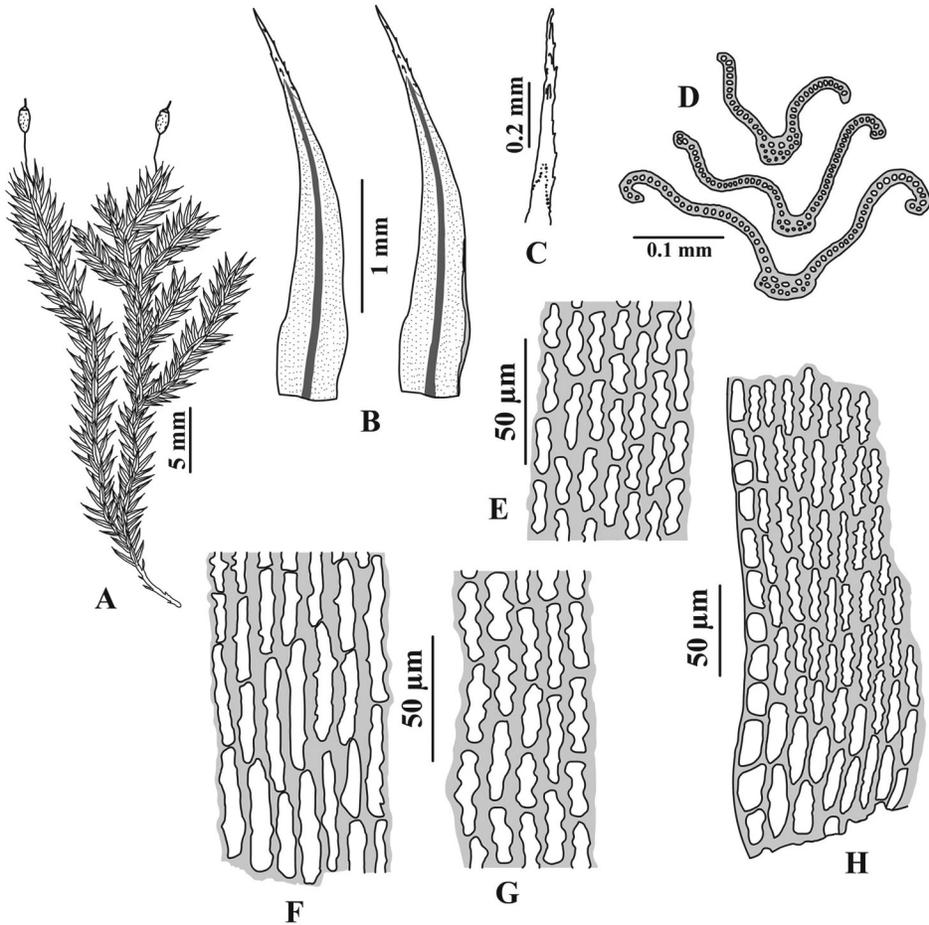


Fig. 3. *Bucklandiella microcarpa* (Hedw.) Bednarek-Ochyra & Ochyra – **A.** Habit. **B.** Leaves. **C.** Leaf apex with hyaline hair-point. **D.** Leaf cross-sections. **E.** Upper leaf cells. **F.** Basal cells. **G.** Mid-leaf cells. **H.** Alar cells.

On a recent field survey at the Kaçkar Mountains in eastern Black Sea region of Turkey in June 2005, the first author collected on dry siliceous rocks a *Bucklandiella* Roiv. species, attributable to *B. microcarpa*. As said above, the nearest localities of this species are found in the south Carpathians and Ural Mountains (Bednarek-Ochyra, 1995). So, besides contributing to a better knowledge of the Turkish bryophyte flora, this report makes a remarkable range extension of this species towards western Asia (Düll, 1984, 1985; Frey & Kürschner 1991; Ignatov & Afonina, 1992; Uyar & Çetin, 2004).

***Bucklandiella microcarpa* (Hedw.) Bednarek-Ochyra & Ochyra**

Specimen examined – Turkey, Rize: Kaçkar Mountains, (40°56' 17.2'' N and 41°12' 01.1'' E), Avsor, high-plateau, in sterile stand on siliceous rocks fully exposed, together with

acidophytic bryophytes, near a glacial lake, 2680 m, 15.06.2005, ABAY 726. The specimens are kept at the herbarium of ABAY (Çankırı) and UYAR herbarium (Zonguldak).

This species is recognized in the field by its markedly flexuose hyaline hair points and strong branching with numerous tuft-like horizontal lateral branches. In microscopic examinations it is easily identified by its thin nerve, hyaline basal marginal leaf border and thick-walled porose lamina cells (Fig. 3).

Most localities of the species were at higher elevations in mountains, with the maximum of its occurrence in subalpine and alpine zones, and being less frequent in the forest zone. It grows mainly as an epilithic in the alpine zone, and it sometimes also thrives on soil or gravel, very often in late snow patches. It is an acidophytic species forming large, dense mats on a variety of non-calcareous rocks such as granite, gneiss, basalt or sandstone. In general, it prefers dry and open habitats, although it does not avoid moist or wet sites as well. It was found associated with the mosses *Dicranoweisia cirrata* (Hedw.) Lindb. ex Milde, *Dichodontium palustre* (Dicks.) Stech, *Ditrichum pusillum* (Hedw.) Hampe, *Grimmia decipiens* (Schultz) Lindb., *G. elatior* Bruch. ex Bals.-Criv. & De Not., *G. pulvinata* (Hedw.) Sm., *G. trichophylla* Grev., *Philonotis fontana* (Hedw.) Brid., *Bucklandiella heterosticha* (Hedw.) Bednarek-Ochyra & Ochyra and *B. macounii* (Hedw.) Bednarek-Ochyra & Ochyra.

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