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Barbilophozia lycopodioides (Wallr.) Loeske, new to the liverwort flora of Turkey

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Résumé – *Barbilophozia lycopodioides* (Wallr.) Loeske est citée pour la première fois en Turquie, à partir de spécimens récoltés dans le forêt de Yenice (Ilgaz, Çankırı).

***Barbilophozia lycopodioides* / Nouveau rapport / Scapaniaceae / Marchantiopsida / Turquie**

Abstract – *Barbilophozia lycopodioides* (Wallr.) Loeske is recorded for the first time in Turkey, based on specimens collected in Yenice Forest (Ilgaz, Çankırı).

***Barbilophozia lycopodioides* / New record / Scapaniaceae / Marchantiopsida / Turkey**

INTRODUCTION

The genus *Barbilophozia* contains ten species in the Mediterranean countries and Bulgaria (Ros *et al.*, 2007) and hitherto, three species [*B. barbata* (Schmidel *ex* Schreb.) Loeske, *B. hatcheri* (A.Evans) Loeske, *B. rubescens* (R.M.Schust. *et* Damsh.) Kartt. *et* L.Söderstr.] of *Barbilophozia* have been recorded in Turkey (Özenoğlu Kiremit & Keçeli, 2009: Söderström *et al.*, 2010; Vilnet *et al.,* 2010). The world distribution of *Barbilophozia lycopodioides* includes Europe, Siberia, Russia, Transcaucasus, Middle Asia, China, Mongolia, Eastern Asia, North America (Paton, 1999; Söderström *et al.*, 2002). The closest reported localities to Turkey are Greece, Bulgaria, Ukraine, Albania, Romania, Caucasus and Macedonia.

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During a field trip in September 2006 in the area of Çayboyu Stream between Çalpınar Hill and Dikenli Hill (Ilgaz, Çankırı province), the authors found plants of a leafy liverwort, which was later identified as *Barbilophozia lycopodioides* (Wallr.) Loeske. The aim of this paper is to report this new discovery.

THE SPECIMENS EXAMINED

Turkey: Çankırı province, Ilgaz county, between Çalpınar Hill and Dikenli Hill, in the vicinity of Çayboyu Stream, 40º 98' 38.6" N, 33º 48' 75.8" E, 1803 m above sea level, 22 September 2006, Tamer Keçeli TK-4127. The locality belongs to the grid square A2 (Fig. 1) according to the system adopted by Henderson (1961). The distribution of Turkish *Barbilophozia* species are given in Table 1.

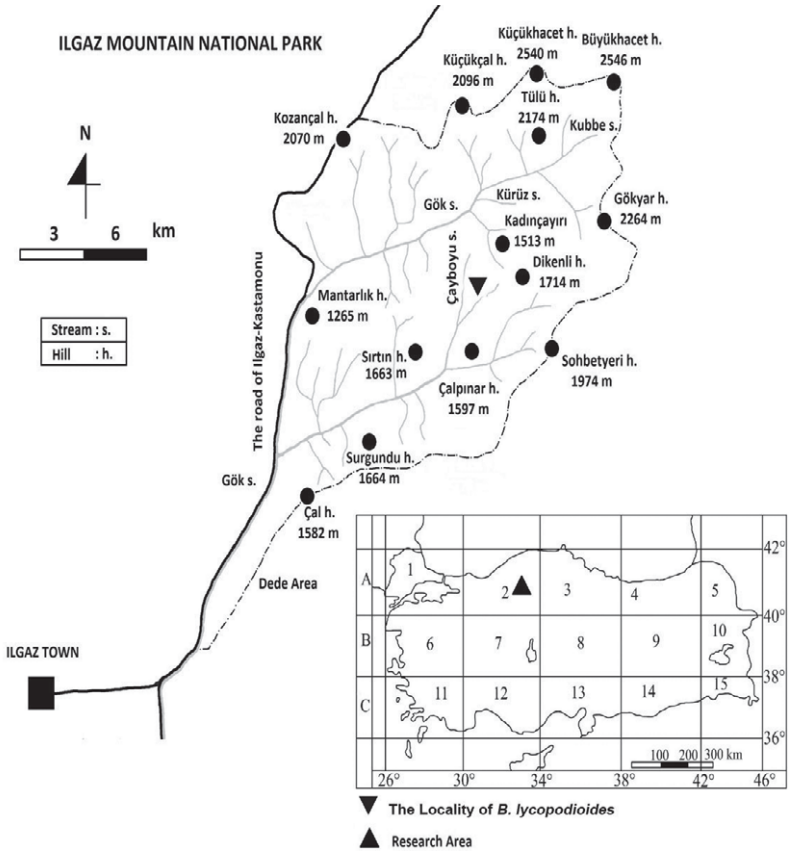
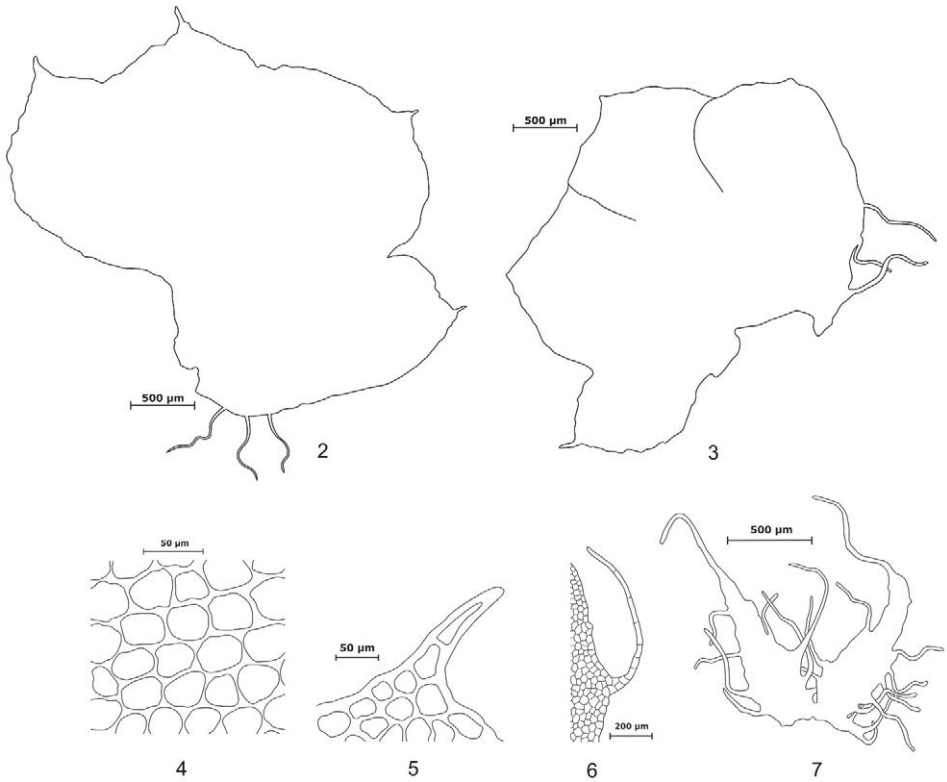


Fig. 1. The locality of *Barbilophozia lycopodioides* in Turkey.

Barbilophozia lycopodioides is distinguished from other *Barbilophozia* species (Hong & Matthews, 2001) by features such as plant size and color, leaf and underleaf shape, number and appearance of lobes, median cell size, structure of cilia of leaf and underleaf, absence of gemmae (Figs 2-7). It resembles *B. rubescens* (Çetin & Yurdakulol, 1986) but in *B. rubescens* the lamina of underleaves is only 4-6 cells wide, while in *B. lycopodioides* the underleaves are 7-10 cells in width (Fig. 7). The specimens are preserved in the private collections of Serhat URSAVAŞ (Ankara, Turkey).

Table 1. The distribution of Turkish *Barbilophozia* species.

	Turkish distribution, grid-square according to the system adopted by Henderson (1961)
Barbilophozia barbata	A2, A4, B6
Barbilophozia hatcheri	A1, A2, A4, B6
Barbilophozia rubescens	A2
Barbilophozia lycopodioides	A2



Figs 2-7. *Barbilophozia lycopodioides*. **2-3**, leaves; **4**, leaf median cells; **5**, leaf lobe apex; **6**, cilium of leaf base; **7**, underleaf.

ECOLOGY

The locality of *Barbilophozia lycopodioides* in Turkey is 1803 m above sea level. The study area's climate data were taken from Ilgaz meteorological station. Ilgaz meteorological station is 885 m above see level and latitude – longitude value for the station is 40º 55' N, 33º 38' E. The distance between the whether station and the site is approximately 27 km as the crow flies.

The annual average temperature is 10.3 ºC; the maximum temperature is 41.4ºC in July and the minimum is –20.6 ºC in February (İmal, 2007). The annual rain precipitation is 439,9 mm. The investigated area is seen to have a climate like arid-dry sub humid, mesothermal, no or very little water surplus, close to oceanic climate type.

According to Dierßen (2001), *Barbilophozia lycopodioides* grows in the vegetation zones of mediterranean/subalpine – arctic; oceanity-continentally is o_1-c_1 (circumpolar). The habitat features of the species is highly acidic (pH: 3.4-4.0) – sub-neutral (pH: 5.7-7.0); humidity is mesophytic; light availability is moderately sciophytic, photophytic; substrate is humicolous, heat balance is moderately cryophytic; human impact is ahemerobous (absent) – mesohemerobous (moderate) – hemerophilous (strong). This species generally grows on basalt and mica schists, on acidic rocks, in mossy turf on sheltered slopes, on rock ledges and in block screes (Dierßen, 2001). The basic mother rocks of the investigated area are serpentine, magnesite, peridotite, pyroxenite, harzburgit, basalt, schists. The dominant tree species of vegetation of the site are *Pinus sylvestris* L., *Pinus nigra* Arnold subsp. p*allasiana* (Lamb.) Holmboe, *Juniperus communis* L. var. *alpina* (Sm.) Čelak.

Turkish specimens of *B. lycopodioides* were found on a stream bank; on soil rich in humus, associated with *Lophocolea minor* Nees, *Dicranum scoparium* Hedw., *Dicranum tauricum* Sapjegin, *Polytrichum juniperinum* Hedw., *Tortula subulata* Hedw. and *Bryum capillare* Hedw.

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