

## NEW MOSS RECORDS FROM WESTERN PART OF TURKEY

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### Abstract

Two species of moss namely, *Onchoporus dendrophilus* Hedderson & Blockeel and *Sphagnum fimbriatum* Wilson are reported for the first time from Turkey. *Onchoporus dendrophilus* is also a new report from Southwest Asia. Diagnostic characters, descriptions and illustrations were studied.

In Turkey, so far 760 mosses, 171 liverworts and three hornworts have been recorded (Kürschner and Frey 2011). The samples for the present research were collected as part of bryophyte research studies (2010-2012) in the Biga Peninsula located in Northwestern Turkey of Kaz Mountain area.

Kaz Mountain (1796 m), formerly known as Ida Mountain, is the highest peak of the Biga Peninsula, separating the Aegean and Marmara regions (Fig.1). The national park (39°40' N, 26°45' E) consists of many deep valleys. The canyons are situated within the highlands of Kaz Mountain, and continue in a north-south direction towards the vicinity of Edremit. This region supports a diverse and distinct flora and fauna, consisting mainly of fir forests at elevations higher than 1000 m and pine forests at lower elevations. There are about 800 natural plant taxa in Kaz Mountain National Park and 68 of them are endemic to Turkey (Özhatay and Özhatay 2005).

Among the samples of bryophyta collections, *Oncophorus dendrophilus* Hedderson & Blockeel and *Sphagnum fimbriatum* Wilson were identified and hitherto are reported for the first time from Turkey. The systematic enumeration of the recorded moss taxa have been provided below.

**Division: Bryophyta, Class: Bryopsida, Order: Dicranales,  
Family: Dicranaceae, Genus: Oncophorus**

1. ***Oncophorus dendrophilus*** Hedderson & Blockeel (Fig. 2)  
(Hedderson and Blockeel 2006, 357-359, f.1)

Alar region undifferentiated, or with a few quadrate cells, somewhat enlarged and swollen basal cells 50 -77.5  $\mu\text{m} \times$  (6-) 9-15  $\mu\text{m}$ , towards costa 80  $\times$  20  $\mu\text{m}$ , upper and mid-leaf cells quadrate to short rectangular, 6.5 - 12.5  $\mu\text{m} \times$  (5.0-) 6.0 - 7.5  $\mu\text{m}$ , bistratose in the upper half, and with bistratose streaks extending 3/4 of the way to leaf base; plants dark green to yellowish-green above, pale to dark brown below; capsule shape horizontal and peristome teeth reddish-orange, calyptra not seen and spores round, greenish yellow to brown.

*Notes:* The genus *Oncophorus* is represented by six species in North America, Europe and Asia. *Oncophorus* species may be confused with those of *Dicranum*, *Dicranella* or *Kiaeria*, but are distinguished by distinctively strumose capsules and abruptly subulate leaves, which are strongly crisped-contorted when dry (Allen 2000). Hedderson and Blockeel (2006) stated that in the Mediterranean area *Oncophorus* is largely absent and recorded only from mountain and alpine

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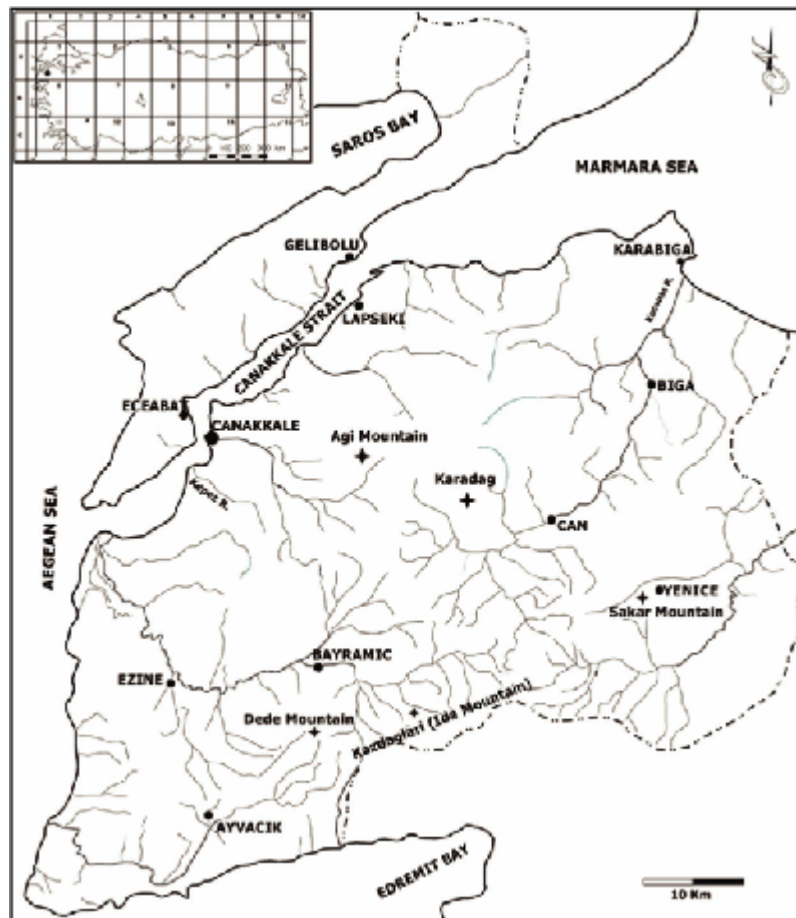


Fig. 1. Map of the study area (• district, ◆ mountain).

areas of Morocco, southern Spain, Italy, Crete, Sardinia and Turkey (Frey and Kürschner 1991, Frahm *et al.* 1998, Ros *et al.* 2000, Cortini Pedrotti 2001, Rams *et al.* 2001). *Oncophorus dendrophilus* was recently described from two upland forest localities in the Cyprus, and from the White Mountains of Crete (Hedderson and Blockeel 2006). According to the checklists (Uyar and Cetin 2004, Kürschner and Erdağ 2005, Kürschner and Frey 2011) there is a one species - *O. virens* - found in the Turkey. *Oncophorus dendrophilus* differs from *O. virens* in having an undifferentiated alar region, or with a few quadrate cells somewhat enlarged and swollen basal cells. New to Southwest Asia and Turkey. This species was collected with *Orthotrichum rupestre*, *Hypnum cupressiforme* and *Homalothecium sericeum* together.

*Distribution:* Canakkale, Biga, Abdiğa village, nearby Abdiğa stream, inner valley, on slope, epiphytic on *Platanus orientalis*, 78 m, 40°18'95" N, 27°26'15" E, 14 June, 2012, leg. O.T. Yayintas 4035.

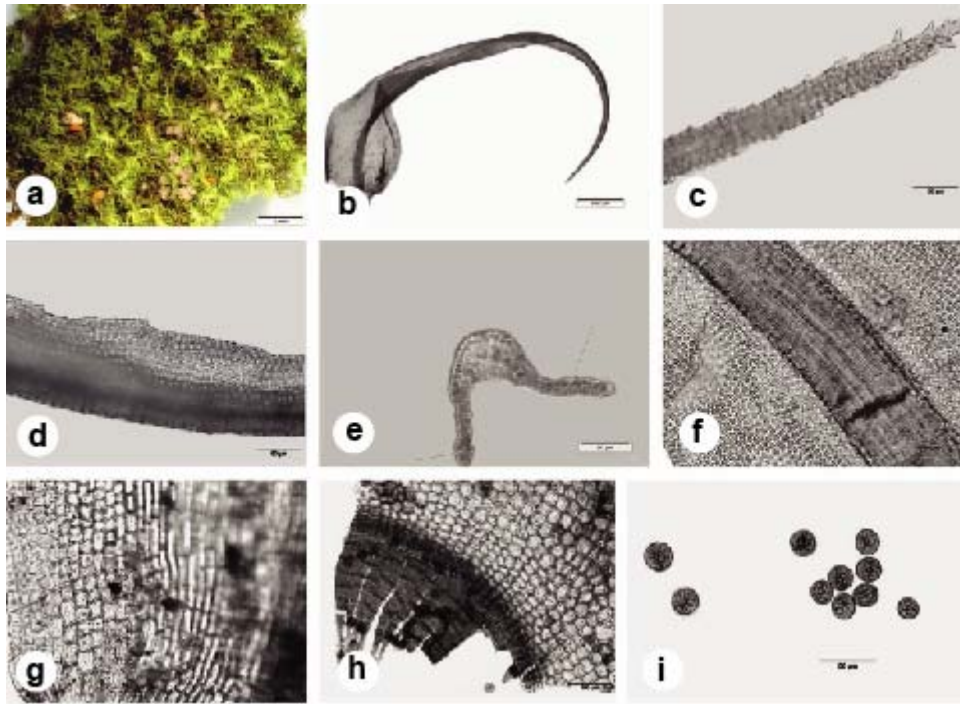


Fig. 2a-i: a-f. *Oncoporus dendrophilus* Hedderson & Blockeel. a: whole plant; b: leaf; c: leaf apex; d: leaf margin nearby leaf apex; e: cross-section of leaf; f: mid-leaf cells and costa. g-i: *Oncoporus dendrophilus* Hedderson & Blockeel. g: basal cells; h: peristome teeth; i: spores.

**Class: Sphagnopsida, Order: Sphagnales,  
Family: Sphagnaceae, Genus: Sphagnum**

2. ***Sphagnum fimbriatum* Wils.**

**(Fig. 3)**

(Kürschner and Frey 2011, 63; Smith 2004, 61, f. 7)

Stem leaves with broad lacerate to fimbriate apex, spatulate to broad-spatulate, 0.8-1.5 mm, has pale green to yellowish brown capitula, branch leaves ovate to ovate-lanceolate, 1.1-1.5 mm, slightly concave, straight, apex involute, margins entire, spores 24-28  $\mu\text{m}$ , and almost smooth.

*Notes:* *Sphagnum fimbriatum* differs from *S. girgensohnii* Russow by stem leaves spatulate and fimbriate whole upper part of apex. Sometimes with brown pigmentation at the basal angles.

*Sphagnum fimbriatum* was collected with *Thuidium delicatulum*, the main vascular species in Turkish peatlands. The peatland area where *S. fimbriatum* was collected is surrounded by a needle-leaved mixed forest with *Pinus nigra* subsp. *pallasiana*, *Castanea sativa*, *Quercus petraea*, *Quercus frainetto* and a very limited amount of *Abies nordmanniana* subsp. *equi-trojani* (Öner 2009).

*Distribution:* Canakkale, Can, Söğütalan village, peat bog Ciğer gölü (Liver Lake), on a wet rocky bank, 650 m, 39°52'37" N 26°55'40" E, 16 June, 2010, leg. O.T. Yayintas 2684, det. J. Shaw.

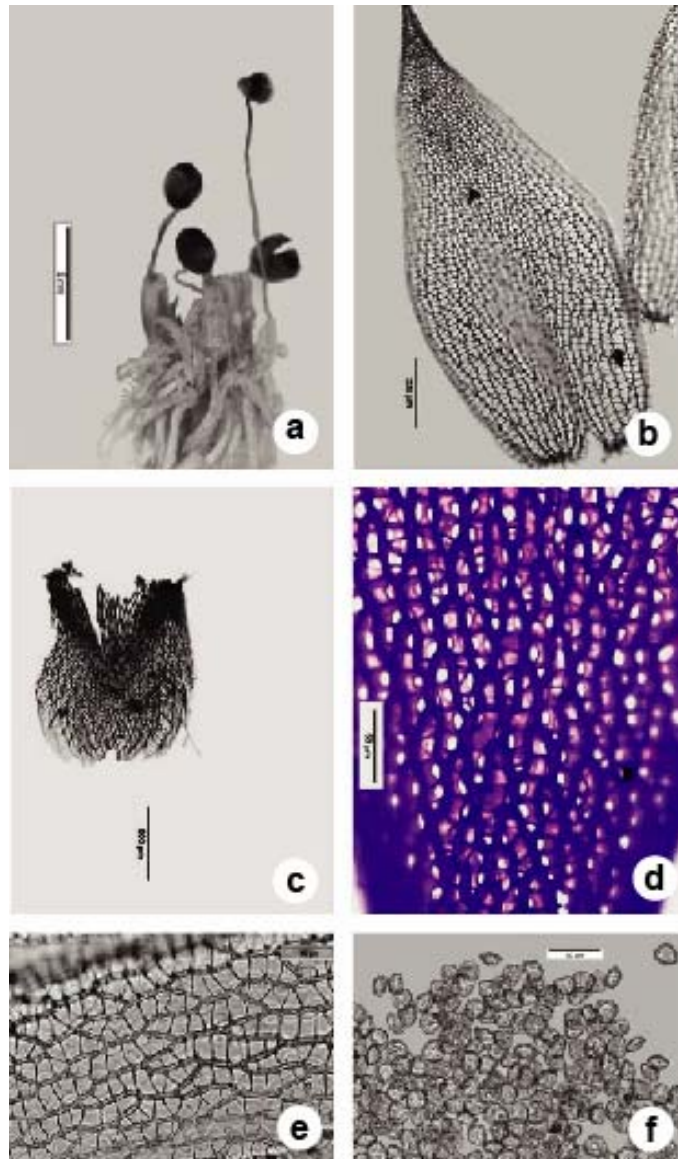


Fig. 3a-f. *Sphagnum fimbriatum* Wilson. a: whole plant; b: branch leaves; c: stem leaf; d: branch leaf upper cells; e: near basal cells; f: spores.

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