



## *Seligeria donniana* (Sm.) Müll. Hal. (Seligeriaceae) a new record to the bryophyte flora of Turkey

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### Abstract

*Seligeria donniana* (Sm.) Müll. Hal. is reported for the first time from Turkey. The specimen was collected from Kızıldağ National Park (Isparta province) from southern of Turkey. A site description, illustration, diagnostic characters and ecology of the species are presented.

**Key words:** Moss, *Seligeria*, Ecology, Kızıldağ National Park, Isparta

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## *Seligeria donniana* (Sm.) Müll. Hal. (Seligeriaceae) Türkiye bryophyte florası için yeni bir kayıt

### Özet

*Seligeria donniana* (Sm.) Müll. Hal. Türkiye'den ilk kez rapor edilmektedir. Örnek, Türkiye'nin güneyinden Kızıldağ Milli Parkı'ndan (Isparta) toplanmıştır. Araştırma alanının tanıtımı, örneğe ait karakteristik özellikler, çizimleri ve ekolojisi ile birlikte sunulmuştur.

**Anahtar kelimeler:** Karayosunu, *Seligeria*, Ekoloji, Kızıldağ Milli Parkı, Isparta

### 1. Introduction

This paper reports the finding of *Seligeria donniana* (Sm.) Müll. Hal. in southern Turkey. This genus contains nineteen species in the European countries (Hill et al., 2006). Five species; *Seligeria acutifolia* Lindb., *S. pusilla* (Hedw.) Bruch & Schimp., *S. recurvata* (Hedw.) Bruch & Schimp., *S. tristichoides* Kindb., *S. calycina* (*S. paucifolia* auct. non (With.) Carruth.), Mitt. ex Lindb. (Papp and Sabovljevic, 2003; Uyar and Çetin, 2004) have been recorded from Turkey, up to now.

### 2. Materials and methods

The specimen is collected from the Kızıldağ National Park located in Isparta province. It lies in the Beyşehir Lake range, which is running from north to south in the southern part of Turkey. The localities belong to C12 grid-square according to Henderson's (1961) system (Figure 1).

Collecting locality of the species in Kızıldağ National Park of Isparta province has a climate transitional region between Central Anatolia and Mediterranean Region, Where forest vegetation dominated by *Abies cilicica* (Antoine & Kotschy) Carrière, *Pinus nigra* Arnold subsp. *pallasiana* (Lamb.) Holmboe, *Juniperus excelsa* M. Bieb., *J. oxycedrus* L., *J. foetidissima* Willd.

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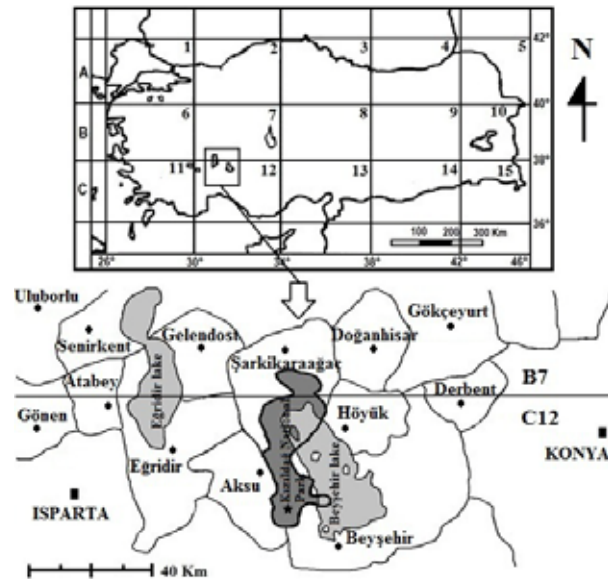


Figure 1. The Border of Kızıldağ National Park is indicated on Turkey map (Henderson, 1961), and the star symbol shows the place where the species was collected.

### 3. Results

**Turkey:** Isparta province, Kızıldağ National Park, Senit Plateau (1754 m), near the Kirazlı Stream, on moist shaded limestone rock, 37° 42' 34.0" N, 31° 19' 16.1" E, 1475 m above the sea level, 02 June 2011, Serhat Ursavaş SU-1282.

*Seligeria donniana* (Sm.) Müll.Hal. (Figure 2-7). Plants tiny (shoots up to 2 mm tall, leaves 1 mm long or less), olive-green that produces abundant sporophytes. Leaves linear-lanceolate, stoutly subulate, upper leaves tapering from ovate-lanceolate basal part to stout acute or obtuse subula, margins denticulate in basal part, costa becoming stout above, filling subula, excurrent; cells rectangular in basal part, narrower towards margin, rectangular to linear above. Perichaetial leaves are longer than under leaves, with long stout subula consisting mainly of costa. Seta straight when moist, 1-1.5 mm long. Capsule common, shortly ovoid to pyriform, abruptly or gradually narrowed into seta, hemispherical, widemouthed when dry and empty; lid rostellate to rostrate, peristome absent; spores 10-18  $\mu\text{m}$ . Plants grow on shaded moist limestone cliffs.

*S. donniana* readily known when mature capsules are presented by the absence of peristomes. When suitable capsules are lacking it may be recognized by the margins of upper and perichaetial leaves denticulate in the lower part and the stout excurrent costa.

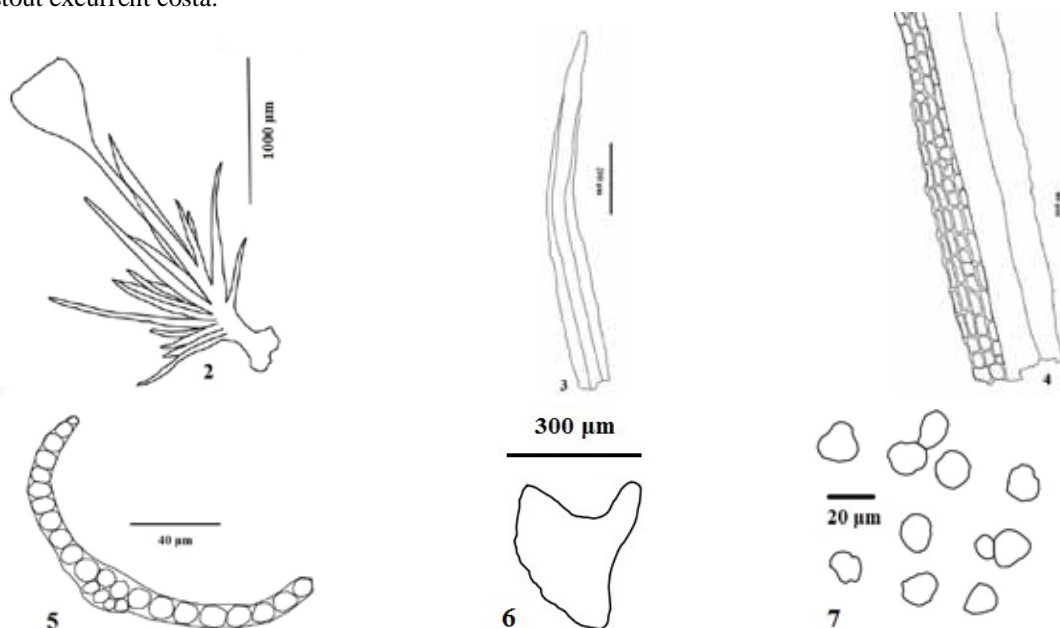


Figure 2-7. *Seligeria donniana*; 2. Plant, 3. Leaf, 4. Leaf basal margin, 5. Cross section of basal part of leaf, 6. Kaliptra, 7. Spor

Table 1. The distribution of Turkish *Seligeria* species

	Turkish distribution, grid-square according to the system adopted by Henderson (1961)
<i>Seligeria acutifolia</i>	A2
<i>Seligeria calycina</i>	A1
<b><i>Seligeria donniana</i></b>	<b>C12</b>
<i>Seligeria pusilla</i>	A2, A4, C11
<i>Seligeria recurvata</i>	A2, A4
<i>Seligeria tristichoides</i>	A2

The locality of *Seligeria donniana* in Turkey is 1475 m above the sea level. The study area's climate rates were taken from Yenişarbademli meteorological station (1150 m). The distance between the weather station and the site is approximately 15 km as the crow flies.

The annual average temperature is 11.0 °C; the highest temperature is 22.7 °C in July and the lowest is -0.4 °C in February. The annual rain precipitation is 743.7 mm. The investigated area is seen to have a climate like humid – sub humid (Anonymus, 2005).

According to Dierßen (2001), *Seligeria donniana* grows in the vegetation zones of mediterranean-temperate/mountain belt below timberline; oceanicity-continently is o<sub>1</sub>-c<sub>1</sub> (circumpolar). The habitat features of the species is subneutral (pH: 5.7-7.0 (7.5)); Humidity is moderately wet- moderately dry or considerably wet; light availability is adapted to minimum light supply and considerably adapted to shade; heat balance is moderately cryophytic-mesotherm; human impact is ahemerobous (absent) - mesohemerobous (moderate). This species generally grows on shaded and sheltered calcareous rocks and cliffs, in crevices and under overhangs.

Turkish specimen of *Seligeria donniana* were found on moist shaded limestone rock; associated with *Encalypta streptocarpa* Hedw., *Schistidium apocarpum* (Hedw.) Bruch & Schimp., *Fissidens pusillus* (Wilson) Milde, *Didymodon fallax* (Hedw.) R.H.Zander, *Pseudoleskeella catenulata* (Brid. ex Schrad.) Kindb., *Homalothecium philippeanum* (Spruce) Schimp., *Neckera menziesii* Drumm.

#### 4. Conclusions

*Seligeria donniana* was recorded for the first time from Turkey, and when compared to species in Europe, it shows similarities in terms of characteristic. The only difference of this species among the others in Europe is that while the most of this species' capsule is conical feature in Europe, our species shows rostrat feature. Although European type of *Seligeria* has nineteen species, by our species, recorded number of *Seligeria donniana* has arose to six species so far. We assume that by this kind of studies, number of *Seligeria* species would arise.

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