

## Lichen Records from Sarıçiçek Mountain in Southern Giresun Province, Turkey

Demet CANSARAN DUMAN\*, Ender YURDAKULOL

University of Ankara, Faculty of Science, Department of Biology, Botany Section, 06100 Tandoğan, Ankara - TURKEY

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**Abstract:** Herein, we report 87 lichen species from 11 localities in the Sarıçiçek Mountains, Giresun, Turkey, of which 48 are new records for Giresun Province.

**Key Words:** Lichens, flora, Giresun, Turkey

### Giresun İlinin Güneyinde bulunan Sarıçiçek Dağından Liken Kayıtları, Türkiye

**Özet:** Sarıçiçek Dağın'da (Giresun) 11 lokaliteden 87 liken türü kaydedilmiştir. Bunlardan 48'i Giresun ili için yeni kayıttır.

**Anahtar Sözcükler:** Likenler, flora, Giresun, Türkiye

### Introduction

Although several detailed studies on the lichen flora of Turkish provinces have recently been published (Güvenç, 2002; Yıldız et al., 2002; Yıldız & John, 2002; Çobanoğlu & Akdemir, 2004; Güvenç & Öztürk, 2004; Öztürk et al., 2005), knowledge of the lichen flora in some regions is still incomplete. Currently, approximately 152 species have been published from Giresun Province (Steiner, 1909; Küçük, 1990; Özgen et al., 2002; Süleyman et al., 2002; John & Breuss, 2004; Kınalıoğlu, 2005; Yazıcı & Aslan, 2005). The present study was conducted in a semi-natural area and contributes to our knowledge of the chorology of lichens in Turkey. As environmental and ecological indicators, lichens helped to characterise the habitats that exist within the study area.

The study area is situated at lat 40°12'-40°16'N, long 38°39'-38°53'E. According to the grid system in *Flora of Turkey* the study area is in the A4 square (Davis, 1965). Sarıçiçek Mountain has a mean altitude of 2411 m and is bordered by Şebinkarahisar and Giresun to the north-

west, Alucra to the north, Şiran to the east, Refahiye to the south, and Zara to the south-west. The localities are shown in Figure 1.

The study area is located in the Xero-Euxine sub-province of the Euro-Siberian region in Turkey. In collection sites 2 and 5 of the study area, steppic vegetation was found, especially on uncultivated land and slopes. Within the study area the vegetation is under the influence of heavy anthropogenic factors and the effect of these factors could be observed in different plant associations of the Irano-Turanian phytogeographic region, such as at collection site 7.

In the study area, deciduous forest vegetation prevails mainly at lower altitudes and forms a belt surrounding the pine forests. The floristic composition here includes *Quercus petraea* (Mattuschka) Liebl. subsp. *iberica* (Steven ex Bieb.) Krassiln, *Q. pubescens* Willd., *Q. infectoria* Oliver., and *Carpinus betulus* L. populations. This vegetation type is represented by collection sites 1, 3, 10, and 11.

\* E-mail: cansaran@science.ankara.edu.tr

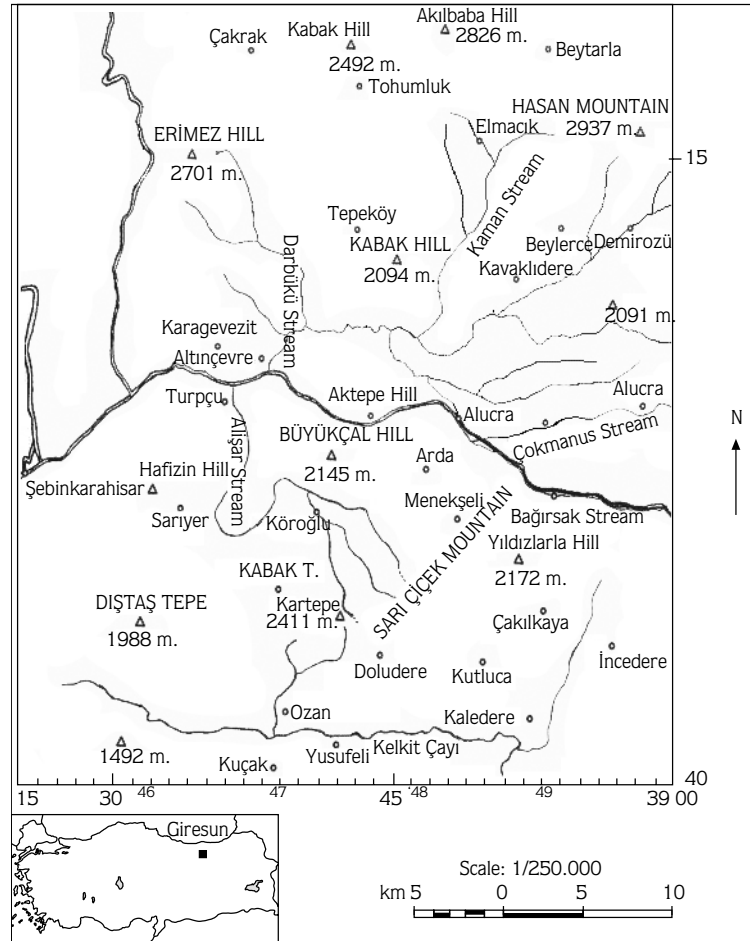


Figure 1. The study area.

The pine forests have 2 dominant species, *Pinus sylvestris* L. and *Abies nordmanniana* (Stev.) Spach. subsp. *nordmanniana*. These pine forests are located at the higher altitudes of the study area and so reduced impact of the destruction caused by settlements can be seen in the floristic structure. Pine forests were studied at collection sites 4, 6, and 8.

The other companion species of the floristic structure on the tree level are *Coryllus avellana* L., *Salix alba* L., and *Populus tremula* L. This vegetation type is represented by collection site 9.

According to meteorological data, the study area is under the influence of a semi-arid, very cold subtype of the Mediterranean climate (Akman, 1990).

## Materials and Methods

The lichen specimens with their substrates were collected between 2001 and 2002 from 11 localities. The collected specimens were identified using flora books (Purvis et al., 1992; Wirth, 1995). The specimens were prepared as herbarium material and stored in the ANK herbarium.

## Results

In all, 87 lichen taxa from 19 families were identified from 11 localities in the Sarıçiçek Mountains (Şebinkarahisar, Giresun), of which 48 taxa are new records for the province of southern Giresun. The taxa are listed in alphabetical order, followed by localities and substrates. Author names are given according to Brummitt & Powell (1992). New species for Giresun province are indicated by an asterisk (\*).

**List of Taxa****\**Acarospora cervina*** A.Massal.

Giresun: Şebinkarahisar; Koroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on calcareous rocks, 12.09.2001, ANK 48.

**\**Anaptychia ciliaris*** (L.) Körb. ex A.Massal.

Giresun: Şebinkarahisar; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2150 m, on siliceous rocks, 11.09.2001, ANK 49.

**\**Anaptychia setifera*** Mereschk. ex Räsänen

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 50.

**\**Aspicilia calcarea*** (L.) Mudd

Giresun: Şebinkarahisar; Koroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on calcareous rocks, 12.09.2001, ANK 51.

**\**Aspicilia cinerea*** (L.) Körb.

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on calcareous rocks, 17.07.2002; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2150 m, on calcareous rocks, 11.09.2001, ANK 52.

**\**Aspicilia contorta*** (Hoffm.) Kremp.

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on siliceous rocks, 17.07.2002, ANK 53.

**\**Bellemerea cinereorufescens*** (Ach.) Clauzade & Cl.Roux

Giresun: Şebinkarahisar; Koroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on calcareous rocks, 12.09.2001, ANK 54.

**\**Bryoria chalybeiformis*** (L.) Brodo & D.Hawksw.

Giresun: Şebinkarahisar; Slope 4 km south of İncedere Plateau, lat 40°11'N, long 38°53'E, alt. 1750 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 03.

**\**Bryoria fuscescens*** (Gyeln.) Brodo & D.Hawksw.

Giresun: Şebinkarahisar; Kabaktepe, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Pinus sylvestris*, 11.09.2001, ANK 55.

**\**Bryoria nadvornikiana*** (Gyeln.) Brodo & D.Hawksw.

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 04.

**\**Caloplaca biatorina*** (A.Massal.) J.Steiner

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on calcareous rocks, 17.07.2002, ANK 56.

**\**Caloplaca cerina*** (Ehrh. ex Hedw.) Th.Fr.

Giresun: Şebinkarahisar; Yıldıztarla Hill, lat 40°14'N, long 38°48'E, alt. 1750 m, on *Populus tremula*, 11.09.2001; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on mosses, 11.09.2001, ANK 57.

**\**Caloplaca flavescens*** (Huds.) J.R.Laundon

Giresun: Şebinkarahisar; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2150 m, on calcareous rocks, 11.09.2001, ANK 58.

**\**Caloplaca holocarpa*** (Hoffm. ex Ach.) A.E.Wade

Giresun; Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 12.09.2001, ANK 46.

**\**Caloplaca luteoalba*** (Turner) Th.Fr.

Giresun; Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 12.09.2001, ANK 47.

**\**Caloplaca variabilis*** (Pers.) Müll.Arg.

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on limestone rocks, 11.09.2001, ANK 59.

**\**Candelariella vitellina*** (Hoffm.) Müll.Arg.

Giresun: Şebinkarahisar; Koroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on siliceous rocks, 12.09.2001, ANK 60.

**\**Candelariella xanthostigma*** (Pers. ex Ach.) Lettau

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Populus tremula*, 12.09.2001., ANK 05.

\**Carbonea vitellinaria* (Nyl.) Hertel

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Candelariella vitellina*, 11.09.2001, ANK 61.

*Cetraria islandica* (L.) Ach.

Giresun: Şebinkarahisar; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2150 m, on soil, 11.9.2001, ANK 13.

\**Cetrelia cetrarioides* (Duby) W.L.Culb. & C.F.Culb.

Giresun: Şebinkarahisar; slope 4 km south of İncedere Plateau, lat 40°11'N, long 38°53'E, alt. 1750 m, on *Salix alba*, 11.09.2001, ANK 62.

\**Chaenotheca chrysocephala* (Ach.) Th.Fr.

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on *Abies nordmanniana* subsp. *nordmanniana*, 17.07.2002, ANK 02.

\**Chrysothrix candelaris* (L.) J.R.Laundon

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 12.09.2001, ANK 01.

\**Cladonia ciliata* Stirt.

Giresun: Şebinkarahisar; Yıldıztarla Hill, lat 40°14'N, long 38°48'E, alt. 1750 m, on the mosses, 11.09.2001, ANK 63.

*Cladonia coniocraea* (Flörke) Spreng.

Giresun: Şebinkarahisar; Menekşeli-Ovacık, lat 40°16'N, long 38°46'E, alt. 1900 m, on soil, 11.09.2001, ANK 64.

*Cladonia fimbriata* (L.) Fr.

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on soil, 12.09.2001, ANK 06.

*Cladonia pyxidata* (L.) Hoffm.

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 1950 m, on soil, 11.09.2001, ANK 65.

*Dermatocarpon intestiniforme* (Körb.) Hasse

Giresun: Şebinkarahisar; Yıldıztarla Hill, lat 40°14'N, long 38°48'E, alt. 1750 m, on calcareous rocks, 11.09.2001, ANK 66.

*Dermatocarpon luridum* (With.) J.R.Laundon

Giresun: Şebinkarahisar; Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on calcareous rocks, 11.09.2001, ANK 67.

*Dermatocarpon miniatum* (L.) Mann

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on calcareous rocks, 11.09.2001, ANK 68.

\**Dimelaena oreina* (Ach.) Norman

Giresun: Şebinkarahisar; Köroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on siliceous rocks, 12.09.2001, ANK 69.

\**Evernia divaricata* (L.) Ach.

Giresun: Şebinkarahisar; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on the *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001; Köroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on siliceous rocks, 12.09.2001, ANK 15.

\**Evernia prunastri* (L.) Ach.

Giresun: Şebinkarahisar; Yıldıztarla Hill, lat 40°14'N, long 38°48'E, alt. 1750 m, on *Pinus sylvestris*, 11.09.2001, ANK 70.

*Flavoparmelia caperata* (L.) Hale

Giresun: Şebinkarahisar; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 71.

*Graphis scripta* (L.) Ach.

Giresun: Şebinkarahisar; Menekşeli-Ovacık, lat 40°16'N, long 38°46'E, alt. 1900 m, on *Fagus orientalis*, 11.09.2001, ANK 72.

*Hypogymnia physodes* (L.) Nyl.

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Pinus sylvestris*, 11.09.2001; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2150 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.9.2001, ANK 17.

\**Hypogymnia tubulosa* (Schaer.) Havaas

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 16.

*\*Hypogymnia vittata* (Ach.) Parr.

Giresun: Şebinkarahisar; Doludere village, lat 40°16'N, long 38°39'E, alt. 1950 m., on *Pinus sylvestris*, 11.09.2001, ANK 73.

*\*Lecania fuscella* (Schaer.) Körb.

Giresun: Şebinkarahisar; slope 4 km south of İncedere Plateau, lat 40°11'N, long 38°53'E, alt. 1750 m, on *Populus tremula*, 11.09.2001, ANK 74.

*\*Lecanora albella* (Pers.) Ach.

Giresun: Şebinkarahisar; Arda Plateau, lat 40°18'N, long 38°46'E, alt. 1850 m, on *Cerasus mahaleb* var. *mahaleb*, 12.09.2001, ANK 75.

*Lecanora argentata* (Ach.) Malme

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 76.

*Lecanora campestris* (Schaer.) Hue

Giresun: Şebinkarahisar; Köroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on siliceous rocks, 12.09.2001, ANK 77.

*\*Lecanora carpinea* (L.) Vain.

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Ulmus campestris*, 11.09.2001; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Carpinus betulus* sp., 11.09.2001, ANK 10.

*Lecanora chlarotera* Nyl.

Giresun: Şebinkarahisar; slope 4 km south of İncedere Plateau, lat 40°11'N, long 38°53'E, alt. 1750 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 78.

*Lecanora crenulata* s.l.

Giresun: Şebinkarahisar; slope 4 km south of İncedere Plateau, lat 40°11'N, long 38°53'E, alt. 1750 m, on calcareous rocks, 11.09.2001, ANK 79.

*\*Lecanora polytropia* (Ehrh. ex Hoffm.) Rabenh.

Giresun: Şebinkarahisar; Köroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on siliceous rocks, 12.09.2001, ANK 80.

*\*Lecanora saligna* (Schrad.) Zahlbr.

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 12.09.2001, ANK 08.

*\*Lecanora varia* (Hoffm.) Ach.

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 12.09.2001, ANK 09.

*Lecidella elaeochroma* (Ach.) M.Choisy

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Populus tremula*, 12.09.2001, ANK 09.

*\*Letharia vulpina* (L.) Hue

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Pinus sylvestris*, 12.09.2001; Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Pinus sylvestris*, 11.09.2001; Arda Plateau, lat 40°18'N, long 38°46'E, alt. 1850 m, on *Pinus sylvestris*, 12.09.2001, ANK 21.

*\*Lobaria pulmonaria* (L.) Hoffm.

Giresun: Şebinkarahisar; Yıldıztarla Hill, lat 40°14'N, long 38°48'E, alt. 1750 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001; Giresun: Şebinkarahisar; Doludere village, lat 40°16'N, long 38°39'E, alt. 1950 m, on calcareous rocks, 11.09.2001, ANK 81.

*\*Melanelixia glabratula* (Lamy) O.Blanco et al.

Giresun: Şebinkarahisar; Menekşeli-Ovacık, lat 40°16'N, long 38°46'E, alt. 1900 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 24.

*Melanelixia subaurifera* (Nyl.) O.Blanco et al.

Giresun: Şebinkarahisar; Menekşeli-Ovacık, lat 40°16'N, long 38°46'E, alt. 1900 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 26.

*\*Melanohalea elegantula* (Zahlbr.) O.Blanco et al.

Giresun: Şebinkarahisar; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2150 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.9.2001, ANK 22.

*\*Melanohalea exasperatula* (Nyl.) O.Blanco et al.

Giresun: Şebinkarahisar; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2150 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.9.2001; Doludere village, lat 40°16'N, long 38°39'E, alt. 1950 m, on *Fagus orientalis*, 11.09.2001; slope 4 km south of İncedere Plateau, lat 40°11'N, long 38°53'E, alt. 1750 m, on mosses, 11.09.2001, ANK 23.

*\*Melanohalea infumata* (Nyl.) O.Blanco et al.

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 12.09.2001, ANK 25.

*\*Ochrolechia parella* (L.) A.Massal.

Giresun: Şebinkarahisar; slope 4 km south of İncedere Plateau, lat 40°11'N, long 38°53'E, alt. 1750 m, on *Carpinus betulus*, 11.09.2001, ANK 82.

*Parmelia saxatilis* (L.) Ach.

Giresun: Şebinkarahisar; Menekşeli-Ovacık, lat 40°16'N, long 38°46'E, alt. 1900 m, on mosses, 11.09.2001; Köroğlu valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on siliceous rocks, 12.09.2001, ANK 27.

*Parmelia sulcata* Taylor

Giresun: Şebinkarahisar; Arda Plateau, lat 40°18'N, long 38°46'E, alt. 1850 m, on *Quercus infectoria* subsp. *infectoria*, 12.09.2001; Köroğlu valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on *Quercus infectoria* subsp. *infectoria*, 12.09.2001, ANK 83.

*Parmeliopsis ambigua* (Wulfen) Nyl.

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 12.09.2001, ANK 28.

*Peltigera didactyla* (With.) J.R.Laundon

Giresun: Şebinkarahisar; Köroğlu valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on soil, 12.09.2001, ANK 42.

*\*Peltigera praetextata* (Flörke ex Sommerf.) Zopf

Giresun: Şebinkarahisar; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on soil, 11.09.2001, ANK 43.

*Peltigera rufescens* (Weiss) Humb.

Giresun: Şebinkarahisar; Menekşeli-Ovacık, lat 40°16'N, long 38°46'E, alt. 1900 m, on soil, 11.09.2001, ANK 84.

*\*Pertusaria amara* (Ach.) Nyl.

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Quercus infectoria* subsp. *infectoria*, 12.09.2001, ANK 85.

*Pertusaria lactea* (L.) Arnold

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on siliceous rocks, 17.07.2002; Köroğlu valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on siliceous rocks, 12.09.2001, ANK 86.

*Phaeophyscia orbicularis* (Neck.) Moberg

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on soil, 12.09.2001, ANK 38.

*Physcia stellaris* (L.) Nyl.

Giresun: Şebinkarahisar; Doludere village, lat 40°16'N, long 38°39'E, alt. 1950 m., on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Quercus infectoria* subsp. *infectoria*, 11.09.2001, ANK 40.

*\*Physcia tenella* (Scop.) DC.

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 12.09.2001, ANK 39.

*\*Physconia distorta* (With.) J.R.Laundon

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Quercus infectoria* subsp. *infectoria*, 11.09.2001; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Quercus infectoria* subsp. *infectoria*, 11.09.2001; Arda plateau, lat 40°18'N, long 38°46'E, alt. 1850 m, on *Quercus infectoria* subsp. *infectoria*, 12.09.2001, ANK 87.

*Platismatia glauca* (L.) W.L.Culb. & C.F.Culb.

Giresun: Şebinkarahisar; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Quercus infectoria* subsp. *infectoria*, 11.09.2001; Arda Plateau, lat 40°18'N, long 38°46'E, alt. 1850 m, on *Quercus infectoria* subsp. *infectoria*, 12.09.2001, ANK 88.

*\*Pleurosticta acetabulum* (Neck.) Elix & Lumbsch

Giresun: Şebinkarahisar; Arda Plateau, lat 40°18'N, long 38°46'E, alt. 1850 m, on *Fagus orientalis*, 12.09.2001, ANK 89.

*Protoparmeliopsis muralis* (Schreb.) M.Choisy

Giresun: Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on siliceous rocks, 12.09.2001, ANK 11.

*Pseudevernia furfuracea* (L.) Zopf var. *ceratea* (Ach.) D.Hawksw.

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Pinus sylvestris*, 11.09.2001; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2150 m, on *Pinus sylvestris*, 11.09.2001; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Pinus sylvestris*, 11.09.2001; Arda Plateau, lat 40°18'N, long 38°46'E, alt. 1850 m, on *Quercus infectoria* subsp. *infectoria*, 12.09.2001; Yıldıztarla Hill, lat 40°14'N, long 38°48'E, alt. 1750 m, on *Pinus sylvestris*, 11.09.2001, ANK 33.

*Pseudevernia furfuracea* (L.) Zopf var. *furfuracea*

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Pinus sylvestris*, 11.09.2001; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Pinus sylvestris*, 11.09.2001; Yıldıztarla Hill, lat 40°14'N, long 38°48'E, alt. 1750 m, on *Pinus sylvestris*, 11.09.2001, ANK 30.

*Ramalina farinacea* (L.) Ach.

Giresun: Şebinkarahisar; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2150 m, on calcereous rocks, 11.09.2001, ANK 90.

*\*Ramalina fastigiata* (Pers.) Ach.

Giresun: Şebinkarahisar; Yıldıztarla Hill, lat 40°14'N, long 38°48'E, alt. 1750 m, on *Quercus infectoria* subsp. *infectoria*, 11.09.2001, ANK 91.

*\*Ramalina fraxinea* (L.) Ach.

Giresun: Şebinkarahisar; Köroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on siliceous rocks, 12.09.2001, ANK 92.

*Ramalina pollinaria* (Westr.) Ach.

Giresun: Şebinkarahisar; Köroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on siliceous rocks, 12.09.2001; Yıldıztarla Hill, lat 40°14'N, long 38°48'E,

alt. 1750 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 93.

*Rhizocarpon geographicum* (L.) DC.

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on calcareous rocks, 17.07.2002, ANK 94.

*\*Rinodina conradii* Körb.

Giresun; Şebinkarahisar; on top of and around Büyükçal Hill, lat 40°19'N, long 38°40'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 12.09.2001, ANK 41.

*\*Rinodina pyrina* (Ach.) Arnold

Giresun: Şebinkarahisar; Kutluca Plateau, lat 40°11'N, long 38°48'E, alt. 2000 m, on *Abies nordmanniana* subsp. *nordmanniana*, 11.09.2001, ANK 95.

*Tephromela atra* (Huds.) Hafellner

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on calcareous rocks, 17.07.2002 ANK 96.

*\*Umbilicaria cylindrica* (L.) Delise ex Duby

Giresun: Şebinkarahisar; around Çakılıkaya, lat 40°12'N, long 38°50'E, alt. 2050 m, on siliceous rocks, 17.07.2002, ANK 97.

*\*Usnea hirta* (L.) Weber ex F.H.Wigg.

Giresun: Şebinkarahisar; Kabaktepe Hill, lat 40°13'N, long 38°38'E, alt. 1950 m, on *Pinus sylvestris*, 11.09.2001, ANK 98.

*\*Vulpicida pinastri* (Scop.) Mattson & Lai

Giresun: Şebinkarahisar; Kırtepe-Yaygıç, lat 40°13'N, long 38°40'E, alt. 2000 m, on *Pinus sylvestris*, 12.9.2001, ANK 12.

*Xanthomendoza ulophyllodes* (Räsänen) Söchting, Kärnefelt & S.Kondr.

Giresun: Şebinkarahisar; Köroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on calcareous rocks, 12.09.2001, ANK 99.

*Xanthoria elegans* (Link) Th.Fr.

Giresun: Şebinkarahisar; Köroğlu Valley, lat 40°14'N, long 38°39'E, alt. 1750 m, on calcareous rocks, 12.09.2001, ANK 100.

## Discussion

There are also degraded forests in the study area; the dominant species of this vegetation type are *Quercus petraea* subsp. *iberica*, *Q. pubescens*, and *Q. infectoria* subsp. *infectoria*. All the vegetation types are under anthropogenic influence; therefore, lichen biodiversity in the study area is low.

Sariçiçek Mountain is predominated by calcareous rocks. *Aspicilia calcarea*, *A. cinerea*, *Caloplaca biatorina*, *C. flavescens*, *Dermatocarpon intestiniforme*, and *Lecanora crenulata* are very abundant on calcareous rock in the study area. Siliceous rocks cover only a small part of Sariçiçek Mountain and *Anaptychia ciliaris*, *Candelariella vitellina*, *Dimelaena oreina*, *Lecanora campestris*, *L. polytropa*, and *Parmelia saxatilis* are the dominant species in these areas. These findings are in agreement with the data in the literature (Purvis et al., 1992; Wirth, 1995).

The richest family according to the number of species is Parmeliaceae with 22 taxa, which comprises 27% of all collected species. For the other families, the number of taxa they have and their portion of all collected species are as follows: Lecanoraceae, 12 taxa (15%); Physciaceae, 8 taxa (10%); Teloschistaceae, 8 taxa (10%); Cladoniaceae, 4 taxa (5%); and Ramalinaceae, 4 taxa (5%).

Growth forms of the taxa differ. Of the 81 collected taxa, 68 are epiphytic, which is the dominant growth form. Because the dominant vegetation types in the study area are forests and degraded forests with high moss cover, which provide suitable habitats for lichens, *Abies*

sp. and *Pinus* sp. are preferred as a substrate by lichens. The other growth forms and their percent of total taxa are as follows: saxicolous, 31 taxa (28%); and terricolous, 12 taxa (11%).

There are *Pinus* sp., *Quercus* sp., and *Carpinus* sp. populations between 1750 and 1850 m, and so epiphytic lichens are abundant at these altitudes. Above 2000 m mountain steppic vegetation is observed and this area is dominated mostly by *Aspicilia* species.

The collection sites with the highest number of collected taxa are as follows: 1 (16 taxa), 7 (16 taxa), and 4 (15 taxa). Collection site 1 is situated at 2145 m and at site 7 rocky areas are dominant; the attitude and rocks prevent anthropogenic effects. Although there is a small village situated at collection site 4, it does not have a strong influence on the natural vegetation at this site, which also has a high number of taxa.

Kınalıoğlu (2005) has identified 152 lichen species from northern Giresun Province. Our findings are similar, though for southern Giresun, and 48 taxa are new records for the province. The species found in the research area are common lichen species.

Air pollution and dry climate may be responsible for the rather low numbers of lichen taxa. The fact is that the effects of settlements vary at different parts of the mountain.

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