

## THE BRYOPHYTE FLORA OF BURDUR PROVINCE (TURKEY)

### БРИОФЛОРА ПРОВИНЦИИ БУРДУР, ТУРЦИЯ

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Abstract

A result of bryological survey in the Burdur province in Turkey (Southwest Anatolia), a total of 247 bryophytes belonging to 99 genera (18 liverworts and 81 mosses) and 45 families were determined from 185 different localities. Of these, 26 taxa are liverworts and 221 taxa are mosses. Among them, *Orthotrichum sordidum* and *Syntrichia fragilis* are recorded for the second time in Turkey. Also, all taxa are new to Burdur province.

Резюме

В результате бриологического обследования 185 пунктов в провинции Бурдур в Турции (Юго-Западная Анатолия) выявлено в общей сложности 247 видов мохообразных из 99 родов и 45 семейств, в том числе 25 печеночников из 18 родов и 221 мох из 81 рода. Находки *Orthotrichum sordidum* и *Syntrichia fragilis* являются вторыми местонахождениями в Турции. Все виды приводятся впервые для провинции Бурдур.

KEYWORDS: biodiversity, bryophytes, Burdur, Mediterranean, Turkey

#### INTRODUCTION

Up to now, three bryophytes (*Encalypta pilifera* Funck; *Pylaisia subcircinata* Cardot and *Orthotrichum hookeri* Mitt.) have been reported from Burdur, which is a province of Southwest Anatolia in Turkey (Batan *et al.*, 2014a, b; Batan & Özdemir, 2014). Therefore, all bryophyte taxa are new to Burdur province. Burdur province is situated in the Mediterranean floristic region. It is surrounded by Afyon, Denizli and Isparta to the North, Isparta to the East, Antalya and Muğla to the South, Denizli and Muğla to the West.

The study adds considerable information to the knowledge of bryophyte flora of Burdur, Mediterranean Region and Turkey and provides the first substantial checklist of bryophytes for Burdur province. We aimed that this study will contribute to the bryophyte flora of Burdur and Turkey and be useful for future studies.

Burdur is located in the Taurus Mountain range and has a typical Mediterranean climate characterised by hot, dry summers and cool, wet winters. Burdur in Turkey has a continental Mediterranean climate with cold, snowy winters and very hot, long and dry summers. The mean annual temperature is 15°C and the temperature ranges from –16°C to 39°C. The mean annual rainfall is about 468 mm and the average humidity is 51.2 % (Akman, 1999).

The main vegetation types are Maquis, forest, rocky

and hydrophyte in the Burdur Province. The dominant taxa in the main vegetation types are as follow: maquis formations (*Quercus coccifera* L., *Olea europaea* L. var. *sylvestris* (Miller) Lehr., *Laurus nobilis* L. *Ceratonia siliqua* L., *Arbutus andrachne* L., *Myrtus communis* L., *Erica arborea* L., *Cercis siliquastrum* L., *Cotinus coggygria* Scop., *Pistacia terebinthus* L. subsp. *palaestina* (Boiss.) Engler, *Phillyrea latifolia* L., and *Juniperus oxycedrus* L. subsp. *oxycedrus*), forest vegetation (*Pinus brutia* Ten. var. *brutia* and *Pinus nigra* Arn. subsp. *pallasiana* (Lamb.) Holmboe, *Cedrus libani* A.Rich., *Juniperus excelsa* M.Bieb. subsp. *excelsa*, *Fraxinus* sp. and *Liquidambar orientalis* Miller), and hydrophytic vegetation (*Platanus orientalis* L., *Alnus orientalis* Decne. var. *orientalis*, *Liquidambar orientalis* Miller, *Erica manipuliflora* Salisb., *Vitex agnus-castus* L., *Nerium oleander* L., and *Equisetum ramosissimum* Desf.) are the characteristic species of vegetation in study area (Fakir, 2006).

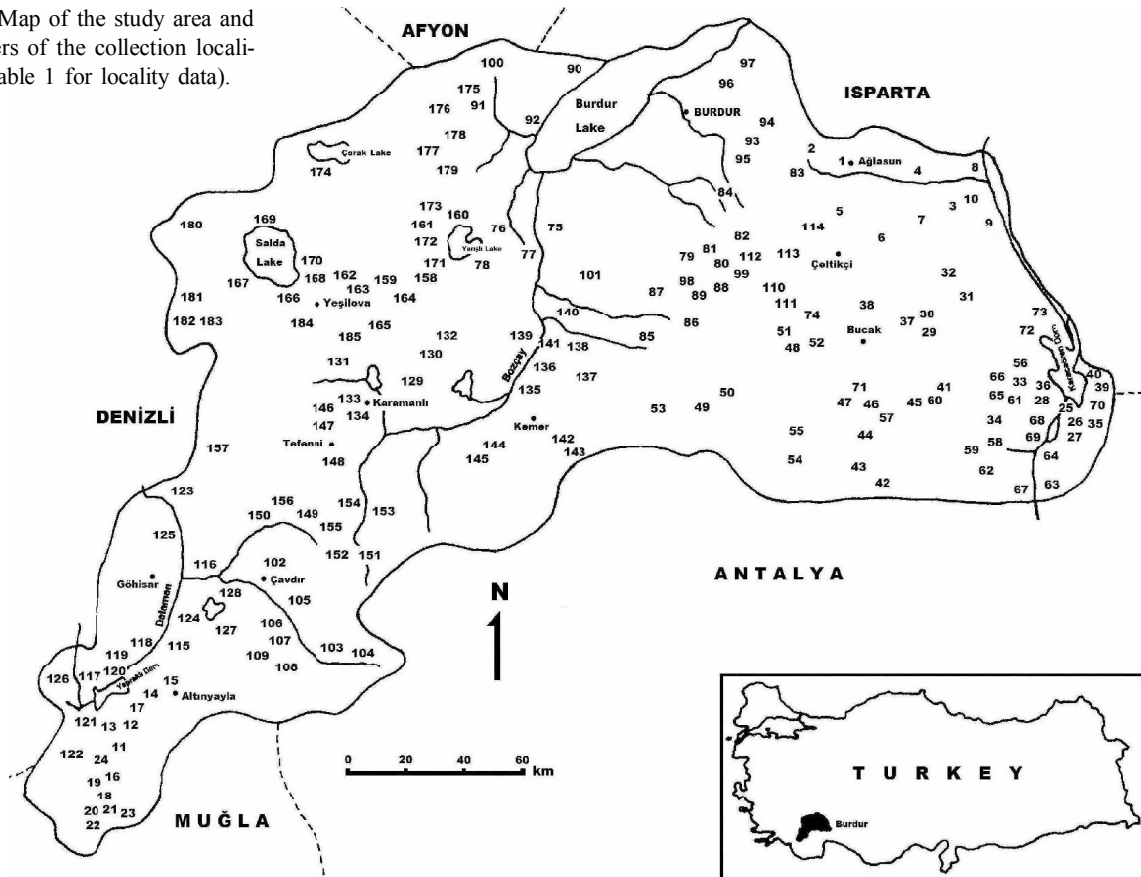
#### MATERIALS AND METHODS

The bryophyte samples were collected in 185 different localities between 25 June 2012 and 26 July 2014 in Burdur (Fig. 1). The samples were examined with Carl Zeiss Stemi 2000-C stereomicroscope and Carl Zeiss Axio Imager A2 light microscope. Identifications were determined by consulting keys (Nyholm, 1986, 1989, 1993,

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Fig. 1. Map of the study area and the numbers of the collection localities (see Table 1 for locality data).



1998; Lewinsky, 1993a,b; Blom, 1996; Smith, 2004; Paton, 1999; Pedrotti, 2001, 2006; Greven, 2003; Heyn & Herrnstadt, 2004; Frey *et al.*, 2006; Guerra *et al.*, 2006; Guerra & Cros, 2007; Kürschner & Frey, 2011).

Vouchers are deposited in the Biology Department, Faculty of Science, Karadeniz Technical University, Turkey (KTUB).

#### BRYOFLORESTIC LIST

The collected bryophytes represent 247 taxa (species, subspecies and varieties) belonging to 99 genera and 45 families. Among them, *Orthotrichum sordidum* and *Syntrichia fragilis* are recorded for the second time in Turkey (\*). For each taxon, localities and substrate are given. The nomenclature of the species follows Grolle & Long (2000), Goffinet & Shaw (2009) for liverworts and Hill *et al.* (2006) for mosses.

#### LIVERWORTS

Lunulariaceae H. Klinggr.

*Lunularia cruciata* (L.) Dumort. ex Lindb. — 98, 99, 25, 26, 27: on wet soil.

Marchantiaceae Lindl.

*Marchantia polymorpha* L. — 2, 27: on wet rock; 25, 26: on wet soil.

*Preissia quadrata* (Scop.) Nees — 25, 26, 27: on wet soil.

Aytoniaceae Cavers

*Mannia androgyna* (L.) A. Evans — 16, 18, 19, 22, 24, 121, 57, 44, 55: in cavity under the rocks.

*Reboulia hemisphaerica* (L.) Raddi — 25, 26, 27, 88, 70: on wet rock and soil.

Conocephaleaceae Müll. Frib. ex Grolle

*Conocephalum conicum* (L.) Dumort. — 25, 26, 27, 88: on wet rock and soil.

Pelliaceae H. Klinggr.

*Pellia endiviifolia* (Dicks.) Dumort. — 16, 18, 19, 20, 21, 22, 25, 26, 27, 48, 51, 52, 117, 118: on wet soil, near the stream.

*P. epiphylla* (L.) Corda. — 16, 18, 21, 22, 25, 26, 27, 51, 117, 118: on wet soil, near the stream.

*Fossombronina caespitiformis* De Not. ex Rabenh. — 25, 26, 27, 33, 70: on wet soil.

*F. echinata* Macvicar — 25, 26, 27, 33, 70: on wet soil.

*F. pusilla* (L.) Nees — 25, 26, 27, 33, 70: on wet soil.

Metzgeriaceae H. Klinggr.

*Metzgeria conjugata* Lindb. — 33: on tree trunk; 70: on the trunk of *Myrtus communis*; 26: on the trunk of *Liquidambar orientalis*; 27: on the trunk of *Acer* sp., 25: on rock.

*M. furcata* (L.) Dumort. — 33: on tree trunk; 70: on the trunk of *Myrtus communis*; 26: on the trunk of *Liquidambar orientalis*; 27: on the trunk of *Acer* sp.; 25: on rock.

Aneuraceae H. Klinggr.

*Riccardia palmata* (Hedw.) Carruth. — 25, 26, 27: on wet soil and rock.

Porellaceae Cavers

*Porella cordaeana* (Hueb.) Moore — 15, 19, 44, 58: on rock; 16, 24 : on the trunk of *Juniperus* sp.; 39, 68, 70: on the trunk of *Platanus* sp., 33, 69: on the trunk of *Pinus* sp.; 60: on the trunk of *Abies* sp.

*P. platyphylla* (L.) Pfeiff. — 15, 19, 20, 44, 58, 60, 61, 64, 65, 98, 99: on rock; 16, 24: on the trunk of *Juniperus* sp.; 39, 68, 70: on the trunk of *Platanus* sp.; 33, 69: on the trunk of *Pinus* sp.

## Radulaceae Müll. Frib.

*Radula complanata* (L.) Dumort. — 16, 24: on the trunk of *Juniperus* sp.; 58: on rock; 39, 68, 70: on the trunk of *Platanus* sp.; 69, on the trunk of *Quercus* sp.; 44, 60: on the trunk of *Abies* sp.; 33: on the trunk of *Pinus* sp.

## Frullaniaceae Lorch

*Frullania dilatata* (L.) Dumort. — 39: on the trunk of *Platanus* sp.; 44: on the trunk of *Abies* sp.; 66: on the trunk of *Juniperus* sp.; 25: on the trunk of *Quercus* sp.

*F. fragilifolia* (Taylor) Gottsche, Lindenb. & Nees — 25: on the trunk of *Quercus* sp.; 26: on the trunk of *Liquidambar orientalis*; 27: on the trunk of *Acer* sp.

*F. tamarisci* (L.) Dumort. — 16, 64: on the rock; 18: on the trunk of *Juniperus* sp., 70: on the trunk of *Platanus* sp., 25: on the trunk of *Quercus* sp., 26: on the trunk of *Liquidambar orientalis*, 27: on the trunk of *Acer* sp.

## Lophocoleaceae Vanden Berghen

*Chiloscyphus pallescens* (Ehrh. ex Hoffm.) Dumort. — 25, 26, 27, 70: on the wet soil.

## Cephaloziellaceae Douin

*Cephaloziella rubella* (Nees) Warnst. — 25, 26, 27, 33, 70: on the wet soil.

## Scapaniaceae Mig.

*Barbilophozia barbata* (Schmid. ex Schreb.) Loeske — 25, 26, 27: on the wet soil.

## Arnelliaceae Nakai

*Southbya tophacea* (Spruce) Spruce — 25, 26: on the wet soil.

## Mesoptychiaceae Inoue &amp; Steere

*Leiocolea turbinata* (Raddi) H.Buch — 25, 26: on the wet soil.

## MOSSSES

## Polytrichaceae Schwägr.

*Atrichum undulatum* (Hedw.) P. Beauv. — 25, 26, 98: on wet soil.

*Polytrichum commune* Hedw. — 16, 23, 83, 98, 99: on soil.

*P. piliferum* Hedw. — 16, 23, 83, 98, 99: on soil.

## Timmiaceae Schimp.

*Timmia megapolitana* Hedw. — 142, 143: on soil.

*T. norvegica* J.E.Zetterst. — 143: on soil.

## Encalyptaceae Schimp.

*Encalypta ciliata* Hedw. — 2: on rock; 16, 37, 41, 42, 88, 143: on soil; 18, 19, 20, 22, 89, 142: on soil in the rock crevices.

*E. microstoma* Bals.-Criv. & De Not. — 16, 41, 42: on soil; 18, 19, 20, 22, 48, 51, 53, 89: on soil in the rock crevices.

*E. rhaptocarpa* Schwägr. — 16, 123: on soil; 18, 19, 20, 89, 117, 118, 123: on soil in the rock crevices.

*E. streptocarpa* Hedw. — 2, 25, 27, 54, 153: on rock; 16, 17, 37, 41, 42, 88, 89, 123: on soil; 18, 19, 20, 22, 48, 51, 53, 58, 59, 93, 95, 96, 97, 117, 118, 154, 175: on soil in the rock crevices.

*E. vulgaris* Hedw. — 4, 56, 89: on rock; 2, 11, 37, 41, 42, 88, 143: on soil; 18, 19, 20, 21, 142, 175: on soil in the rock crevices.

## Funariaceae Schwägr.

*Entosthodon muhlenbergii* (Turner) Fife — 16, 25: on wet soil.

*Funaria hygrometrica* Hedw. — 2, 16: on wet rock; 17, 18, 21, 22, 23, 25, 26, 27, 54, 55, 60, 84, 151, 174: on soil.

*Physcomitrium pyriforme* (Hedw.) Bruch & Schimp. — 16, 25: on wet soil.

## Grimmiaceae Arn.

*Grimmia alpestris* (F.Weber & D.Mohr) Schleich. — Cosmopolite: on rock.

*G. crinita* Brid. — 8, 11, 12, 13: on rock.

*G. decipiens* (Schultz) Lindb. — Cosmopolite: on rock.

*G. dissimulata* E.Maier — 41, 52, 54, 33, 63: on rock.

*G. donniana* Sm. — Cosmopolite: on rock.

*G. elatior* Bruch ex Bals. Criv. & De Not. — Cosmopolite: on rock.

*G. laevigata* (Brid.) Brid. — Cosmopolite: on rock.

*G. lisae* De Not. — 2, 4, 11, 12, 13, 14, 17, 18, 22, 23, 25, 26, 27, 29, 31, 33, 37, 38, 34, 41, 42, 47, 48, 49, 51, 52, 54, 63, 64, 69, 73, 81, 90, 92, 103, 109, 113, 117, 118, 120, 125, 128: on rock.

*G. longirostris* Hook. — 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 22, 23, 25, 26, 27, 29, 31, 33, 34, 37, 38, 41, 42, 46, 47, 48, 49, 51, 52, 54, 63, 64, 69, 73, 81: on rock.

*G. montana* Bruch & Schimp. — Cosmopolite: on rock.

*G. orbicularis* Bruch ex Wilson. — Cosmopolite: on rock.

*G. ovalis* (Hedw.) Lindb. — Cosmopolite: on rock.

*G. pulvinata* (Hedw.) Sm. — Cosmopolite: on rock.

*G. tergestina* Tømm. ex Bruch & Schimp. — 33, 41, 52, 54, 63: on rock.

*G. trichophylla* Grev. — 25, 26, 27, 33, 41, 52, 54, 63: on rock.

*Schistidium agassizii* Sull. & Lesq. — Cosmopolite: on rock.

*S. apocarpum* (Hedw.) Bruch & Schimp. — Cosmopolite: on rock.

*S. atrofusum* (Schimp.) Limpr. — 18, 22, 23: on rock.

*S. brunnescens* Limpr. — 18, 22, 23: on rock.

*S. confertum* (Funck) Bruch & Schimp. — 41, 52, 54, 33, 63, 25, 26: on rock.

*S. helveticum* (Schkuhr) Deguchi. — 41, 52, 54, 33, 63, 25, 26: on rock.

*S. papillosum* Culm. — 18, 22, 23, 41, 52, 54, 33, 63, 25, 26, 27: on rock.

*S. platyphyllum* (Mitt.) H.Perss. — 18, 22, 23, 41, 52, 54, 33, 63, 25, 26, 27: on rock.

*S. rivulare* (Brid.) Podp. — 41, 52, 54, 33, 63, 25, 26, 27: on rock.

*S. strictum* (Turner) Loeske ex Mårtensson — 33, 63, 25, 26, 27: on rock.

## Fissidentaceae Schimp.

*Fissidens bryoides* Hedw. — 25, 26, 70: on wet soil.

*F. taxifolius* Hedw. — 25, 26, 27, 70: on wet soil.

## Ditrichaceae Limpr.

*Distichium capillaceum* (Hedw.) Bruch & Schimp. — 2, 84, 90, 99, 113, 137, 169: on soil in crevices of rocks; 16, 18, 20, 21, 25, 26, 60, 65, 33, 91, 118, 122, 103, 102, 116, 123, 126, 144, 142, 143, 151, 167, 93: on soil; 111: on moss; 117: on rock.

*D. inclinatum* (Hedw.) Bruch & Schimp. — 2, 84, 99: on soil in crevices of rocks; 18, 20, 21, 25, 26, 93, 113, 111, 123, 118, 103, 142, 143, 151, 166: on soil; 167, 117: on rock.

*Saelania glaucescens* (Hedw.) Broth. — 2, 84, 99: on soil in crevices of rocks; 18, 20, 21, 25, 26, 93, 113: on soil; 123, 118, 103, 142, 143, 151, 166, 167: on soil; 111: on moss; 117: on rock.

## Dicranaceae Schimp.

*Dicranum scoparium* Hedw. — 44, 119, 120: on soil in mixed forest (*Abies* sp. and *Juniperus* sp.).

*Dicranella heteromalla* (Hedw.) Schimp. — 16, 18, 19, 25, 26, 142: on wet soil.

*D. varia* (Hedw.) Schimp. — 25, 26: on wet soil.

## Pottiaceae Schimp.

*Barbula bolleana* (Müll. Hal.) Broth. — 11, 12, 150, 70: on soil.

- B. convoluta* Hedw. — 25, 26, 27: on wet soil.  
*B. unguiculata* Hedw. — 25, 26, 27: on wet soil.  
*Crossidium crassinerve* (De Not.) Jur., — Cosmopolite: on rock.  
*C. squamiferum* var. *pottioideum* (De Not.) Mönk. — Cosmopolite: on rock.  
*C. squamiferum* var. *squamiferum* (Viv.) Jur., — Cosmopolite: on rock.  
*Dialytrichia mucronata* (Brid.) Broth. — 16, 18, 19, 20, 21, 22, 24, 33, 58, 25, 26, 27, 62, 67: on soil; 34, 37, 56: on rock.  
*Didymodon acutus* (Brid.) K. Saito — 19, 21, 22, 24, 39, 40, 59, 55, 31, 67, 54, 88, 136, 137, 138, 143, 153, 154: on soil.  
*D. australasiae* (Hook. & Grev.) R.H.Zander — 175, 176: on soil.  
*D. cordatus* Jur., — 19, 21, 22, 24, 55, 31, 67, 54: on soil.  
*D. fallax* (Hedw.) R. H. Zander — 19, 21, 22, 24, 39, 40, 55, 31, 54, 92, 93: on soil.  
*D. glaucus* Ryan — 11, 15, 39, 40, 55, 31, 67, 54: on soil.  
*D. icmadophyllus* (Schimp. ex C. Muell.) Saito. — 55, 31, 67, 174: on soil.  
*D. luridus* Hornsch. — 19, 21, 22, 24, 84, 55, 64, 39, 40, 54, 88, 153, 154: on soil.  
*D. rigidulus* Hedw. — 19, 21, 22, 24, 39, 40, 67, 55, 29, 34, 31, 54, 33, 88, 92, 93, 90, 105, 136, 137, 138, 143, 153, 154, 175, 176: on soil.  
*D. spadiceus* (Mitt.) Limpr. — 19, 21, 22, 24, 39, 40, 55, 31, 54, 88, 153, 154: on soil.  
*D. sicculus* M. J. Cano, Ros, Garcia-Zamora & J.Guerra — 39, 40, 31, 90: on soil.  
*D. tophaceus* (Brid.) Lisa — 19, 21, 22, 24, 11, 15, 43, 44, 39, 40, 55, 90, 88, 150, 153, 154: on soil.  
*D. vinealis* (Brid.) R.H.Zander — 19, 21, 22, 24, 11, 15, 25, 30, 27, 28, 55, 29, 34, 33, 54, 39, 40, 31, 90, 88, 153, 154, 155: on soil.  
*Eucladium verticillatum* (With.) Bruch & Schimp. — 25, 27, 28: on calcareous rocks; 26: on rock; 39: on wet rock; 40: on wet soil.  
*Gymnostomum calcareum* Nees & Hornsch. — 25, 27, 28: on calcareous rocks; 26: on rock.  
*G. viridulum* Brid. — 25, 27, 28: on calcareous rocks; 26: on rock.  
*Gyroweisia tenuis* (Hedw.) Schimp. — 25, 27, 28: on calcareous rocks; 26: on rock.  
*Microbryum curvicolium* (Hedw.) R.H.Zander — 106, 107, 108: on soil.  
*Oxystegus tenuirostris* (Hook. & Taylor) A.J.E.Sm. — 4, 16, 19, 70, 33, 59, 34, 41, 166: on tree body (*Pinus* sp.); 150: on tree body (*Juniperus* sp.).  
*Pleurochaete squarrosa* (Brid.) Lindb. — Cosmopolite: on soil.  
*Pseudocrossidium revolutum* (Brid.) R.H.Zander, — 90, 136, 138, 42, 46, 47, 48, 51, 52, 83, 85, 88, 35, 79, 86, 95, 100, 103, 106, 107, 116, 119, 120, 131, 153, 154, 155, 166, 169, 172, 146, 152, 151, 158, 164, 168, 177, 180, 182, 183, 184, 185: on soil.  
*Pterygoneurum ovatum* (Hedw.) Dixon — Cosmopolite: on soil.  
*Syntrichia caninervis* var. *caninervis* Mitt. — Cosmopolite: on soil.  
*S. caninervis* var. *pseudodesertorum* (Vondr.) M. T. Gallego, — Cosmopolite: on soil.  
\**S. fragilis* (Taylor) Ochyra — 13, 17, 16, 18, 24: on soil.  
*S. handelii* (Schiffn.) S.Agnew & Vondr. — Cosmopolite: on soil.  
*S. laevipila* Brid. — Cosmopolite: on soil.  
*S. latifolia* (Bruch ex Hartm.) Hueb. — Cosmopolite: on soil.  
*S. montana* Nees — Cosmopolite: on soil.  
*S. norvegica* F. Weber., — Cosmopolite: on soil.  
*S. papillosa* (Wilson) Jur. — Cosmopolite: on soil.  
*S. princeps* (De Not.) Mitt. — Cosmopolite: on soil.  
*S. ruralis* var. *ruraliformis* (Besch.) Delogne — Cosmopolite: on soil.  
*S. ruralis* var. *ruralis* (Hedw.) F. Weber & D. Mohr. — Cosmopolite: on soil.  
*S. sinensis* (Müll. Hal.) Ochyra — Cosmopolite: on soil.  
*S. virescens* (De Not.) Ochyra — Cosmopolite: on soil.  
*Tortella fragilis* (Hook. & Wilson) Limpr. — 57, 41, 61, 65, 33: on soil.  
*T. inclinata* var. *densa* (Lorentz & Molendo) Limpr. — 166, 174, 176: on soil.  
*T. nitida* (Lindb.) Broth. — 25, 27, 68, 69, 65: on soil.  
*T. tortuosa* (Hedw.) Limpr. — Cosmopolite: on soil.  
*Tortula atrovirens* (Sm.) Lindb. — Cosmopolite: on soil.  
*T. caucasica* Lindb. — 4, 17, 16, 19, 24: on soil.  
*T. cuneifolia* (Dicks.) Turner, — Cosmopolite: on soil.  
*T. inermis* (Brid.) Mont. — Cosmopolite: on soil.  
*T. marginata* (Bruch & Schimp.) Spruce — Cosmopolite: on soil.  
*T. muralis* Hedw. — Cosmopolite: on soil.  
*T. schimperii* M. J. Cano, O.Werner & J. Guerra — Cosmopolite: on soil.  
*T. subulata* Hedw. — Cosmopolite: on soil.  
*T. truncata* (Hedw.) Mitt. — Cosmopolite: on soil.  
*Trichostomum brachydontium* Bruch — 16, 18, 19, 22, 24, 31, 43, 44, 151, 166, 167, 162, 164: on soil.  
*Weissia condensa* (Voit) Lindb. — 26, 27, 39, 40, 70, 98, 150: on soil.  
*W. controversa* Hedw. — 26, 27, 70, 98, 150: on soil.  
*W. rutilans* (Hedw.) Lindb. — 26, 27, 39, 40, 70: on soil.  
Orthotrichaceae Arn.  
*Orthotrichum acuminatum* H.Philib. — 25, 26, 28: on tree body (*Quercus* sp., *Platanus* sp. and *Pinus* sp.).  
*O. affine* Schrad. ex Brid. — 11, 15, 16, 18, 41, 98, 99: on rock; 34, 65, 84: on calcareous rocks; 25, 26: on the trunk of *Quercus* sp., *Platanus* sp. and *Pinus* sp.; 57: on the trunk of *Quercus* sp. and *Platanus* sp.; 28: on the trunk of *Platanus* sp.; 175: on calcareous rocks and on the trunk of *Quercus* sp.  
*O. alpestre* Bruch & Schimp. — 41: on rock; 61: on the trunk of *Quercus* sp. and *Pinus* sp.; 150: on rock; 175: on calcareous rock and on the trunk of *Quercus* sp.  
*O. anomalum* Hedw. — 61: on the trunk of *Quercus* sp. and *Pinus* sp. and on rock; 68, 69, 98, 99, 142, 143: on rock; 41: on the trunk of *Abies* sp. and *Juniperus* sp. and on rock; 48, 84, 139, 144, 145: on calcareous rock; 175: on calcareous rock and on the trunk of *Quercus* sp.; 138, 149: on rock.  
*O. cupulatum* Hoffm. ex Brid. — 4, 48, 84: on calcareous rock; 11, 15, 16, 18, 41, 98, 99: on rock.  
*O. diaphanum* Schrad. ex Brid. — 25, 26, 28, 57, 142: on the trunk of *Quercus* sp., *Platanus* sp., *Juniperus* sp. and *Pinus* sp.  
*O. lyellii* Hook. & Taylor — 41: on the trunk of *Abies* sp. and *Juniperus* sp.  
*O. obtusifolium* Brid. — 34: on the trunk of *Quercus* sp.; 65: on calcareous rock.  
*O. pallens* Bruch ex Brid. — 41: on rock; 39, 40: on the trunk of *Platanus* sp., *Alnus* sp. and *Pinus* sp.  
*O. pumilum* Sw. ex anon. — 58: on calcareous rock; 41, 59: on rock.

- O. rivulare* Turner — 11, 15, 41, 98, 99: on rock, 16: on the trunk of *Quercus* sp. and rock; 18: on the trunk of *Juniperus* sp. and rock; 61: on the trunk of *Quercus* sp. and *Pinus* sp. and rock.
- \**O. sordidum* Sull. & Lesq. — 17, 41: on the trunk of *Quercus* sp. and *Juniperus* sp.; 84: on calcareous rock.
- O. speciosum* Nees — 59: on rock, 41: on the trunk of *Abies* sp. and *Juniperus* sp.; 61: on the trunk of *Quercus* sp. and *Pinus* sp. and on rock.
- O. striatum* Hedw. — 58: on the trunk of *Pinus* sp. and on rock; 59: on the trunk of *Quercus* sp.; 41: on rock; 61: on the trunk of *Quercus* sp. and *Pinus* sp. and rock; 84: on calcareous rock.
- O. urnigerum* Myrin — 41: on the trunk of *Juniperus* sp.
- O. rupestre* Schleich. ex Schwägr. — 11, 15, 16, 18: on rock; 59: on the trunk of *Quercus* sp.; 84, 103: on calcareous rock; 174: on the trunk of *Pinus* sp. and on rock.
- Ulotia crista* (Hedw.) Brid. — 25: on the trunk of *Acer* sp.; 27: on the trunk of *Platanus* sp.; 70: on the trunk of *Alnus* sp.
- Zygodon rupestris* Schimp. ex Lorentz — 27, 70: on the trunk of *Platanus* sp.; 25, 33, 61, 65: on the trunk of *Quercus* sp.
- Z. viridissimus* (Dicks.) Brid. — 27: on the trunk of *Platanus* sp.; 61, 65: on the trunk of *Quercus* sp.
- Hedwigiaceae Schimp.
- Hedwigia ciliata* (Hedw.) P. Beauv. — 18, 22, 23, 33, 63, 25, 26, 27, 41, 52, 54: on rock.
- Bartramiaceae Schwägr.
- Anacolia webbii* (Mont.) Schimp. — 25, 26: on wet soil.
- Bartramia halleriana* Hedw. — 2, 4, 16, 18, 24, 20, 21, 22, 24, 70, 58, 48, 51, 52, 54, 55, 56, 65, 142, 143, 148, 149, 151, 178: on soil in crevices of rocks; 47, 67: on soil.
- B. pomiformis* Hedw. — 2, 4, 16, 18, 19, 20, 21, 22, 24, 70, 58, 142, 143, 148, 149, 151, 178: on soil in crevices of rocks; 67: on soil.
- B. stricta* Brid. — 2, 16, 18, 19, 20, 21, 22, 24, 70, 58, 142, 143, 148, 149, 151, 178: on soil in crevices of rocks; 67: on soil.
- Philonotis caespitosa* Jur. — 2, 16, 26, 27, 171: on wet soil, near the stream.
- P. calcarea* (Bruch & Schimp.) Schimp. — 16, 26, 27, 88, 171: on wet soil, near the stream.
- P. fontana* (Hedw.) Brid. — 2, 16, 26, 27, 88, 171: on wet soil, near the stream.
- P. rigida* Brid. — 16, 26, 27, 88, 171: on wet soil, near the stream.
- P. tomentella* Molendo — 2, 16, 26, 27, 88, 171: on wet soil, near the stream.
- Bryaceae Schwägr.
- Bryum algovicum* Sendtn. ex Müll. Hal. — 33, 70, 88: on soil.
- B. alpinum* Huds. ex With. — 16, 18, 19, 21: on soil.
- B. archangelicum* Bruch & Schimp. — 25, 26, 33, 64, 70: on soil.
- B. argenteum* Hedw. — 14, 17, 33, 70, 88, 98, 99: on soil.
- B. caespiticium* Hedw. — 25, 26, 33, 70, 88, 106, 107: on soil.
- B. capillare* Hedw. — 13, 25, 26, 29, 31, 34, 33, 41, 70, 84, 88, 92, 98, 99, 105: on soil.
- B. creberrimum* Taylor. — 14, 17, 33, 70, 88, 98, 99: on soil.
- B. gemmiparum* De Not. — 16: on soil.
- B. mildeanum* Jur. — 16, 18, 21, 19, 25, 26, 88: on soil.
- B. moravicum* Podp. — 34, 41, 88, 153, 154: on soil.
- B. torquescens* Bruch & Schimp. — 33, 34, 70: on soil.
- B. turbinatum* (Hedw.) Turner — 34, 70: on soil.
- B. uliginosum* (Brid.) Bruch & Schimp. — 70: on soil.
- Mielichhoferiaceae Schimp.
- Pohlia cruda* (Hedw.) Lindb. — 39, 40, 70: on soil.
- P. melanodon* (Brid.) A.J. Shaw — 25, 26, 27, 70, 39, 40, 33, 156, 150: on soil.
- P. nutans* (Hedw.) Lindb. — 25, 26, 27, 33, 39, 40, 70, 156, 150: on soil.
- Plagiomniaceae T.J.Kop.
- Plagiomnium cuspidatum* (Hedw.) T.J.Kop. — 88, 89, 98, 99: on wet soil, near the stream.
- P. ellipticum* (Brid.) T. Kop. — 88, 89, 98, 99: on wet soil, near the stream.
- P. medium* (Bruch & Schimp.) T.J.Kop. — 88, 89, 98, 99: on wet soil, near the stream.
- P. rostratum* (Schröd.) T.J.Kop. — 88, 89, 98, 99: on wet soil, near the stream.
- Aulacomniaceae Schimp.
- Aulacomnium androgynum* (Hedw.) Schwägr. — 13, 15, 16, 17, 26, 44, 142, 143: on rotten wood.
- Amblystegiaceae Kindb.
- Amblystegium serpens* (Hedw.) Schimp. — 63, 64, 68, 69, 70, 88, 117, 118, 119, 126, 142: on wet soil.
- A. subtile* (Hedw.) Schimp. — 41: on trunk of *Juniperus* sp.; 48: on wet soil; 88, 117, 118, 175: on trunk of tree.
- Campyliadelphus chrysophyllus* (Brid.) R.S.Chopra — 14, 17, 25, 26, 27, 142, 143: near the stream on moist soil.
- C. elodes* (Lindb.) Kanda — 14, 17, 142, 143: on wet soil, near the stream.
- Cratoneuron filicinum* var. *filicinum* (Hedw.) Spruce — 13: on wet soil (submerged); 16, 25, 27, 51, 52, 28, 48, 98, 99, 90, 142, 143: on wet rock (submerged).
- C. filicinum* var. *atrovirens* (Brid.) Ochyra — 13: on wet rock (submerged); 16, 25, 27, 51, 52, 28, 48, 98, 99, 90, 142, 143: on wet rock (submerged).
- Drepanocladus aduncus* (Hedw.) Warnst. — 13: on wet rock (submerged); 16, 25, 27, 28, 48, 51, 52, 98, 99, 90, 142, 143: on wet soil (submerged).
- Hygroamblystegium humile* (P.Beauv.) Vanderp., Goffinet & Hedenäs — 48, 63: on wet rock, near the stream; 68, 69, 70, 64, 88, 117, 118, 119, 126, 142: on wet soil, near the stream.
- H. tenax* (Hedw.) Jenn. — 63, 64, 68, 69, 70, 88, 117, 118, 119, 126, 142: wet soil, near the stream.
- H. varium* (Hedw.) Mönk. — 33, 63, 64, 68, 69, 70, 88, 90, 117, 118, 119, 126, 142: on wet soil; near the stream.
- Hygrohypnum luridum* (Hedw.) Jenn. — 16, 53, 88: near the stream on wet rock.
- Leptodictyum riparium* (Hedw.) Warnst. — 41, 25, 27, 44, 98: on wet rock, near the stream; 99: on wet soil, near the stream.
- Palustriella commutata* (Hedw.) Ochyra — 16, 19, 33, 142, 143: on wet soil, near the stream.
- P. falcata* (Brid.) Hedenäs — 16, 19, 33, 142, 143: on wet soil, near the stream.
- Leskeaceae Schimp.
- Pseudoleskea radicata* (Mitt.) Macoun & Kindb. — 39, 40, 70: on trunk of *Acer* sp., *Platanus* sp. and *Alnus* sp.
- Thuidiaceae Schimp.
- Abietinella abietina* (Hedw.) M.Fleisch — Cosmopolite: on soil.
- Brachytheciaceae Schimp.
- Brachythecium albicans* (Hedw.) Schimp. — 33, 25, 27, 70, 88: on wet soil, near the stream.
- B. campestre* (Müll.Hal.) Schimp. — 33, 25, 27, 70, 88: on wet soil, near the stream.

- B. glareosum* (Bruch ex Spruce) Schimp. — 25, 33, 70: on wet soil, near the stream.
- B. mildeanum* (Schimp.) Schimp. — Cosmopolite: on soil.
- B. rivulare* Schimp. — 13, 25, 27, 33, 70, 88, 89: on wet soil, near the stream.
- B. rotabulum* (Hedw.) Schimp. — 13, 25, 27, 33, 70, 88, 89: on wet soil, near the stream.
- B. salebrosum* (Hoffm. ex F.Weber & D.Mohr) Schimp. — 25, 27, 33, 70, 89: on wet soil, near the stream.
- B. turgidum* (Hartm.) Kindb. — 25, 33, 70: on wet soil, near the stream.
- Brachytheciastrum velutinum* (Hedw.) Ignatov & Huttunen — 25, 27, 33, 70, 89: on wet soil, near the stream.
- Cirriphyllum crassinervium* (Taylor) Loeske & M.Fleisch. — 2, 13, 33, 41, 88: on wet soil.
- Eurhynchium striatum* (Hedw.) Schimp. — 13, 25, 27, 33, 70, 88, 89: on wet soil, near the stream.
- Homalothecium aureum* (Spruce) H.Rob. — 25: on trunk of *Quercus* sp.; 27: on tree root; 33: on wet soil; 70: on rock, near the stream; 88: on wet soil, near the stream.
- H. lutescens* (Hedw.) H.Rob. — Cosmopolite: on soil.
- H. philippeanum* (Spruce) Schimp. — Cosmopolite: on soil.
- H. sericeum* (Hedw.) Schimp. — Cosmopolite: on soil.
- Kindbergia praelonga* (Hedw.) Ochyra — 64, 68, 69: on soil.
- Oxyrrhynchium hians* (Hedw.) Loeske — 33, on soil, under forest canopy.
- O. speciosum* (Brid.) Warnst. — 25, 27, 33, 70, 89: on wet soil, near the stream.
- Plasteurhynchium striatulum* (Spruce) M.Fleisch. — 16, 25, 27, 33, 70, 89, 142: on wet soil, near the stream.
- Platyhypnidium riparioides* (Hedw.) Dixon. — 2, 25, 26, 27, 28, 39, 40, 48, 51, 52, 53, 70: on wet rock (submerged).
- Rhynchostegiella tenella* (Dicks.) Limpr. — 70: on wet soil, near the stream.
- Rhynchostegium confertum* (Dicks.) Schimp. — 33, 44, 63, 65, 66: on wet soil, near the stream.
- R. megapolitanum* (Blandow ex F.Weber & D.Mohr) Schimp. — 33, 44, 70: on wet soil, near the stream.
- Sciuro-hypnum populeum* (Hedw.) Ignatov & Huttunen — 2: in water on rock; 48, 51: on soil, 28, 39, 52: on rock; 40: near the stream on moist soil; 25, 70, 53, on tree root; 26: on rock and soil; 27: on tree root and soil.
- S. plumosum* (Hedw.) Ignatov & Huttunen — 2: on wet rock (submerged); 48, 51: on soil; 28, 39, 40, 52: on rock; 25, 27, 70, 53: on tree root; 26: on soil and rock.
- Scorpiurium circinatum* (Bruch) M.Fleisch. & Loeske — 25, 26, 29, 33, 34, 39, 40, 41, 44, 57, 58, 59, 60, 65, 68, 70: on soil.
- S. deflexifolium* (Solms) M.Fleisch. & Loeske — 25, 26, 34, 57, 58, 59, 68: on soil.
- Fabroniaceae Schimp.
- Fabronia ciliaris* (Brid.) Brid. — 25, 26, 27, 34, 39, 40, 41, 52, 53, 58, 60, 61, 65, 70: on trunk of *Platanus* sp., *Quercus* sp., *Acer* sp., *Platanus* sp., *Juniperus* sp. and *Liquidambar orientalis*.
- Fabronia pusilla* Raddi — 25, 26, 27, 34, 39, 40, 41, 52, 53, 58, 60, 61, 65, 70: on trunk of *Platanus* sp., *Quercus* sp., *Acer* sp., *Abies* sp., *Juniperus* sp. and *Liquidambar orientalis*.
- Hypnaceae Schimp.
- Calliergonella cuspidata* (Hedw.) Loeske — 2, 16, 25, 27, 28, 51, 52, 53, 70, 142, 143: on wet soil, near the stream and submerged.
- Hypnum andoi* A.J.E.Sm. — 4, 12, 58, 110, 113: on rock; 11, 13, 66: on soil and tree root; 16, 18, 19, 25, 26, 27, 39, 40, 41, 48, 52, 53, 61, 65, 70, 98, 99, 115, 117: on trunk of *Juniperus* sp., *Platanus* sp., *Quercus* sp., *Abies* sp., *Pinus* sp. and *Acer* sp.; 60: on rock, soil and tree body (and *Juniperus* sp.); 119: on soil; 126: on trunk of *Pinus* sp. and rock; 129: on trunk of *Quercus* sp. and soil.
- H. cupressiforme* var. *cupressiforme* Hedw. — 4, 12, 58, 110, 113: on rock; 11, 13: on soil and tree root; 16, 18, 19, 26, 27, 34, 48, 98, 115: on trunk of *Abies* sp., *Acer* sp., *Quercus* sp., *Platanus* sp., *Pinus* sp., *Juniperus* sp.; 70, 40: on trunk of *Platanus* sp. and soil; 39: on trunk of *Platanus* sp. and rock; 25: on trunk of *Quercus* sp., *Acer* sp., *Platanus* sp., soil and rock; 60: on rock and soil and trunk of *Pinus* sp. and *Juniperus* sp.; 61: on trunk of *Quercus* sp., *Platanus* sp. and rock; 52, 65, 119: on soil; 53: on trunk of *Platanus* sp. and rock; 66: on soil and rock; 99: on trunk of *Juniperus* sp. and rock; 126: on trunk of *Pinus* sp. and rock; 129: on trunk of *Quercus* sp. and soil.
- H. cupressiforme* var. *lacunosum* Brid. — 4, 12, 58, 110, 113: on rock, 13, 11: on soil and tree root; 16, 18, 19, 26, 27, 34, 41, 48, 115, 117: on trunk of *Abies* sp., *Quercus* sp., *Acer* sp., *Juniperus* sp., *Platanus* sp.; 40, 70: on trunk of *Platanus* sp. and soil; 39: on trunk of *Platanus* sp. and rock; 25: on trunk of *Quercus* sp., *Acer* sp. and *Platanus* sp., soil and rock; 60: on rock, soil and trunk of *Pinus* sp. and *Juniperus* sp.; 61: on trunk of *Quercus* sp., *Platanus* sp. and rock; 52, 65, 119: on soil; 53: on trunk of *Platanus* sp. and rock; 66: on soil and rock; 99: on trunk of *Juniperus* sp. and rock; 126: on trunk of *Pinus* sp. and rock; 129: on trunk of *Quercus* sp. and soil.
- H. cupressiforme* var. *resupinatum* (Taylor) Schimp. — 4, 12, 58, 110, 113: on rock, 13, 11: on soil and tree root; 16, 18, 19, 25, 26, 27, 34, 40, 41, 48, 60, 70, 98, 115, 117: on trunk of *Abies* sp., *Acer* sp., *Quercus* sp., *Juniperus* sp., *Platanus* sp.; 39: on trunk of *Platanus* sp. and rock; 60, 66: on rock and soil; 61: on trunk of *Quercus* sp., *Platanus* sp. and rock; 52, 65: on soil; 53, 119: on trunk of *Platanus* sp. and rock; 99: on trunk of *Juniperus* sp. and rock; 126: on trunk *Pinus* sp. and rock; 129: on trunk of *Quercus* sp. and soil.
- Hypnum imponens* Hedw. — 4, 12, 58, 110, 113: on rock; 11, 13: on soil and tree root; 16, 18, 19, 26, 27, 34, 41, 48, 60, 98, 115, 117: on trunk of *Acer* sp., *Pinus* sp., *Platanus* sp., *Quercus* sp., *Abies* sp., *Juniperus* sp.; 40, 70: on trunk of *Platanus* sp. and soil; 39: on trunk of *Platanus* sp. and rock; 25: on trunk of *Quercus* sp., *Acer* sp., *Platanus* sp., soil and rock; 60, 66: on rock and soil; 61: on trunk of *Quercus* sp., *Platanus* sp. and rock; 52, 65: on soil; 53: on trunk of *Platanus* sp. and rock; 99: on trunk of *Juniperus* sp. and rock; 119: on soil, 126: on trunk of *Pinus* sp. and rock; 129: on trunk of *Quercus* sp. and soil.
- H. jutlandicum* Holmen & E.Warncke — 40, 70: on trunk of *Platanus* sp. and soil; 39: *Platanus* sp. and rock; 25: on trunk of *Quercus* sp., *Acer* sp., *Platanus* sp. soil and rock; 26, 27: on trunk of *Quercus* sp., *Acer* sp. and *Platanus* sp.
- H. revolutum* (Mitt.) Lindb. — 16, 8, 19, 25, 26, 27, 34: on trunk of *Acer* sp., *Platanus* sp., *Quercus* sp., *Juniperus* sp., *Abies* sp.; 40, 70: on trunk of *Platanus* sp. and soil; 39: on trunk of *Platanus* sp. and rock.
- H. vaucheri* Lesq. — 4, 12, 58, 110, 113: on rock; 11, 13: on soil; 16, 18, 19, 26, 27, 34, 48, 60, 98, 115, 117: on trunk of *Acer* sp., *Platanus* sp., *Quercus* sp., *Pinus* sp., *Abies* sp., *Juniperus* sp.; 40, 70: on trunk of *Platanus* sp. and soil; 39: on trunk of *Platanus* sp. and rock; 25: on trunk of *Quercus* sp., *Acer* sp., *Platanus* sp., soil and rock; 60: on rock and

- soil; 61: on trunk of *Quercus* sp., *Platanus* sp. and rock; 52, 65, 119: on soil; 53: on trunk of *Platanus* sp. and rock; 66: on soil and rock; 99: on trunk of *Juniperus* sp. and rock; 126: on trunk of *Pinus* sp. and rock; 129: on trunk of *Quercus* sp. and soil.
- Pylaisia polyantha* (Hedw.) Schimp. — 25, 26, 27, 41: on trunk of *Platanus* sp., *Juniperus* sp. and *Abies* sp.
- Pterigynandraceae Schimp.
- Habrodon perpusillus* (De Not.) Lindb. — 26, 27, 34, 39, 40, 41, 52, 53, 58, 60, 61, 65, 66, 70: on trunk of *Abies* sp., *Quercus* sp., *Acer* sp., *Pinus* sp., *Juniperus* sp., *Platanus* sp. and *Liquidambar orientalis*; 65: on tree body (*Quercus* sp.).
- Pterigynandrum filiforme* Hedw. — 4, 11, 12, 13, 18, 19, 25, 26, 27, 34, 39, 40, 41, 48, 52, 53, 58, 60, 61, 65, 66, 70, 98, 99, 115, 117, 119, 126, 129: on trunk of *Abies* sp., *Quercus* sp., *Acer* sp., *Pinus* sp., *Juniperus* sp., *Platanus* sp. and *Liquidambar orientalis*; 110, 113: on rock.
- Hylocomiaceae (Broth.) M.Fleisch.
- Ctenidium molluscum* (Hedw.) Schimp. — Cosmopolite: on soil.
- Pylaisiadelphaceae Goffinet & W.R.Buck
- Platygyrium repens* (Brid.) Schimp. — 33: on tree root.
- Cryphaeaceae Schimp.
- Cryphaea heteromalla* (Hedw.) D.Mohr — 25, 26, 27, 33, 34, 41, 58, 59, 68, 69, 70: on trunk of *Pinus* sp., *Quercus* sp., *Platanus* sp., *Alnus* sp., *Abies* sp., *Pinus* sp.
- Leucodontaceae Schimp.
- Antitrichia californica* Sull. — 15, 16, 17, 18, 20, 22, 26, 27, 31, 37, 41, 43, 44: on trunk of *Acer* sp., *Quercus* sp. and *Juniperus* sp.
- A. curtispindula* (Hedw.) Brid. — 15, 16, 17, 18, 20, 22, 26, 27, 31, 37, 43, 44: on trunk of *Acer* sp., *Juniperus* sp. and *Quercus* sp.
- Leucodon sciuroides* (Hedw.) Schwägr. — Cosmopolite: on trunk of *Quercus* sp., *Platanus* sp., *Juniperus* sp., *Pinus* sp. and on rock.
- Pterogonium gracile* (Hedw.) Sm. — Cosmopolite: on soil.
- Neckeraceae Schimp.
- Neckera menziesii* Drumm. — 2, 4, 11, 31, 37, 41, 52, 70, 88, 98, 99: on rock; 16, 25, 26, 27, 33: 39, 40, 65: on trunk of *Quercus* sp., *Abies* sp., *Acer* sp., *Platanus* sp., *Myrtus communis*.
- Leptodontaceae Schimp.
- Leptodon smithii* (Hedw.) F.Weber & D.Mohr. — 25, 27, 28, 33, 39, 40, 41, 65, 70: on trunk of *Acer* sp., *Abies* sp., *Pinus* sp., *Juniperus* sp., *Quercus* sp., *Platanus* sp. and *Liquidambar orientalis*.
- Lembophyllaceae Broth.
- Isotheceium alopecuroides* (Lam. ex Dubois) Isov. — 25, 26, 27, 70: on trunk of tree.
- I. myosuroides* Brid. — 26, 27: on trunk of tree.

#### DISCUSSION

We found 247 taxa (species, subspecies and varieties) belonging to 99 genera in the study. Moreover, *Orthotrichum sordidum* and *Syntrichia fragilis* are recorded for the second time in Turkey.

*Orthotrichum sordidum* reported from eastern North America, Alaska, North and South-East Asia, Caucasus, Svalbard, Greenland, Ingushetia, Turkey, Caucasian region, on both the Asiatic (Nagorno-Karabakh region) and the European sides. *Orthotrichum sordidum* has been so far known only from the Black Sea region in Turkey (Lara

et. al., 2010). This new record extends its distribution range to the southwest Anatolia (Turkey).

*Syntrichia fragilis* first time reported from Hatay province, Amanos Mountain, Dört Yol county, Tekkoz Kengerlidüz National Park, mixed forest, near the villages of Kullu and Kızlarçayı, on soil by Tonguç-Yayıntaş (2009) in Turkey. *Syntrichia fragilis* is distributed in the Americas, Macaronesia, South-western Central and South-eastern Europe, much of Africa, China and the Indian subcontinent, Middle East, Saudi Arabia, Yemen, Socotra, Iran and Syria. This record extend its distribution range to the Mediterranean Region in Turkey.

The family with the highest number of species in this study were *Pottiaceae* (59), *Brachytheciaceae* (27), *Grimmiaceae* (25), *Orthotrichaceae* (20), *Amblystegiaceae* (14), *Bryaceae* (13), *Hypnaceae* (11), *Bartramiaceae* (9), *Encalyptaceae* (6), *Leucodontaceae* (5).

The most common genera of mosses are *Orthotrichum* (16), *Grimmia* (15), *Syntrichia* (14), *Bryum* (13), *Didymodon* (12), *Schistidium* (10), *Tortula* (9), *Brachythecium* (8), *Hypnum* (8), *Encalypta* (5) and *Philonotis* (5) in the study area. Furthermore genus *Orthotrichum* has the greatest diversity among the genera (represented by 16 taxa, growing on mostly rocks and trunks of trees). The second most common genus is *Grimmia* (represented by 15 taxa, occurring mostly on rocks). Also genus *Syntrichia* has 14 taxa, growing on soils all stations in the Burdur province.

Bryophyte biodiversity is very rich especially in the *Pinus*, *Juniperus*, *Cedrus* and *Quercus* forests of Altınyayla (Ballık), *Pinus*, *Acer*, *Quercus*, *Platanus* and *Liquidambar* forests of Bucak: surrounding the Karacaören Dam.

The Burdur region is mostly dominated by forest, but it has a continental Mediterranean climate with cold, snowy winters and very hot, long and dry summers. So, bryophytes were mostly observed on soil, rock and trunk of tree.

Bryophytes taxa were seen to grow mostly on soils, and rocks and trunks of trees in the study area in Burdur province. The most important habitats for bryophytes were rocks and soil.

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#### LITERATURE CITED

- AKATOVA, T.V., Z. KH. KHARZINOV, E. A. IGNATOVA & M. S. IGNATOV. 2004. On three rare species of *Orthotrichum* (Orthotrichaceae, Musci) in the Caucasus. — *Arctoa* 13: 41–49.
- AKMAN, Y. 1999. *Climate and bioclimate. Kariyer Matbaacılık*, Ankara, 346 pp.
- BATAN, N., Y. JIA, T. ÖZDEMİR, M. ALATAŞ. 2014a. *Brotherella* and *Encalypta* species new to Turkey, Mediterranean and Southwest Asia. — *Plant Biosystems* <http://dx.doi.org/10.1080/11263504.2014.986247>.
- BATAN, N., O. ÖZCAN & T. ÖZDEMİR. 2014b. New bryophyte records from Turkey and Southwest Asia. — *Telopea* 17: 337–346.
- BATAN, N. & T. ÖZDEMİR. 2014. *Pylaisia subcircinata* Cardot, new

- record the moss flora of Turkey and Southwest Asia. – In: Ellis, L.T. (ed.). *New national and regional bryophyte records* 40. *Journal of Bryology* 36(3): 235.
- BLOM, H.H. 1996. A revision of the *Schistidium apocarpum* complex in Norway and Sweden. – *Bryophytorum Bibliotheca* 49: 1–333.
- FAKİR, H. 2006. Flora of Bozburun Mountain and Its Environs (Antalya-Isparta-Burdur, Turkey). – *Turkish Journal of Botany* 30: 149–169.
- FREY, W., J.P. FRAHM, E. FISCHER & W. LOBIN. 2006. The liverworts, mosses and ferns of Europe. English edition revised and edited by T.L. Blockeel. – *Harley Books, Colchester*; 512 pp.
- GOFFINET, B. & A.J. SHAW. 2009. Bryophyte biology, Second edition. – *Cambridge: Cambridge University Press*, 565 pp.
- GROLLE, R. & D.G. LONG. 2000. An annotated check-list of the hepaticae and anthocerotae of Europe and Macaronesia. – *Journal of Bryology* 22: 103–140.
- GREVEN, H.C. 2003. Grimmias of the World. – *Leiden: Backhuys Publishers*, 247 pp.
- GUERRA, J., M.J. CANO & R.M. CROS. 2006. Flora briofítica Ibérica, Vol. 3. – *Murcia, Universidad de Murcia Sociedad Española de Briología*, 183 pp.
- GUERRA, J. & M. CROS. 2007. Flora briofítica Ibérica, Vol. 1. – *Murcia, Universidad de Murcia Sociedad Española de Briología*, 305 pp.
- HEYN, C.C. & I. HERRNSTADT. 2004. The bryophyte flora of Israel and Adjacent Regions. – *Jerusalem, The Israel Academy of Sciences and Humanities*, 719 pp.
- HILL, M.O., N. BELL, M. A. BRUGGEMAN-NANNENGA, M. BRUGUÉS, M. J. CANO, J. ENROTH, K.I. FLATBERG, J.P. FRAHM, M. T. GALLEGU, R. GARILLETI, J. GUERRA, L. HEDENÁS, D.T. HOLYOAK, J. HYVÖNEN, M. S. IGNATOV, F. LARA, V. MAZIMPAKA, J. MUÑOZ & L. SÖDERSTRÖM. 2006. An annotated checklist of the mosses of Europe and Macaronesia. – *Journal of Bryology* 28: 198–267.
- KÜRSCHNER, H & A. ERDAĞ. 2005. Bryophytes of Turkey: an annotated reference list of the species with synonyms from the recent literature and an annotated list of Turkish bryological literature. – *Turkish Journal of Botany* 29: 95–154.
- KÜRSCHNER, H & W. FREY. 2011. Liverworts, mosses and hornworts of Southwest Asia (Marchantiophyta, Bryophyta, Anthocerotophyta). – *Nova Hedwigia* 139: 1–240.
- LARA, F., V. MAZIMPAKA, R. MEDINA, R. CAPARRÓS & R. GARILLETI. 2010. Northeastern Turkey, an unnoticed but very important area for the Orthotrichaceae (Bryophyta). – *Nova Hedwigia* 138: 165–180.
- LEWINSKY, J. 1993a. A synopsis of the genus *Orthotrichum* Hedw. (Musci, Orthotrichaceae). – *Bryobrothera* 2: 1–59.
- LEWINSKY, J. 1993b. Notes on some species of *Orthotrichum* Hedw. (Musci) from Europe, the Caucasus and North Africa. – *Bryobrothera* 2: 71–76.
- LEWINSKY-HAAPASAARI, J. 1998. Orthotrichales. – In: Nyholm, E. *Illustrated flora of Nordic mosses. Fasc. 4. Nordic Bryological Society, Lund*, 373–405.
- NYHOLM, E. 1986. Illustrated flora of Nordic mosses. Fasc. 1. *Fissidentaceae – Seligeriaceae*. – *The Nordic Bryological Society*: 1–72.
- NYHOLM, E. 1989. Illustrated flora of Nordic mosses. Fasc. 2. *Pottiaceae – Splachnaceae – Schistostegaceae*. – *The Nordic Bryological Society*: 75–141.
- NYHOLM, E. 1993. Illustrated flora of Nordic mosses. Fasc. 3. *Bryaceae – Rhodobryaceae – Mniaceae – Cinclidiaceae – Plagiomniaceae*. – *The Nordic Bryological Society*: 145–244.
- NYHOLM, E. 1998. Illustrated flora of Nordic mosses. Fasc. 4. *Aulacomniaceae – Meesiaceae – Catocopiaceae – Bartramiaceae – Timmiaceae – Encalyptaceae – Grimmiaceae – Ptychomitriaceae – Hedwigiaceae – Orthotrichaceae*. – *The Nordic Bryological Society*: 247–405.
- ÖZENOĞLU-KİREMİT, H. & T. KEÇELİ. 2009. An annotated checklist of the hepaticae and anthocerotae of Turkey. – *Cryptogamie, Bryologie* 30(3): 343–356.
- PATON, J.A. 1999. The liverwort flora of the British Isles. *Harley Books, Colchester*, 626 pp.
- PEDROTTI, C.C. 2001. Flora dei muschi d'Italia. *Sphagnopsida, Andreaopsida, Bryopsida* (I parte). – *Roma, Antonia Delfi no Editore medicina-scienze*: 1–817.
- PEDROTTI, C.C. 2006. Flora dei muschi d'Italia. *Bryopsida* (II parte). – *Roma, Antonia Delfi no Editore medicina-scienze*, 818–1234.
- SMITH, A.J.E. 1996. The Liverworts of Britain and Ireland. *Cambridge University Press*, 384 pp.
- SMITH, A.J.E. 2004. The Moss Flora of Britain and Ireland. Second Edition, *Cambridge Univ. Press*, 1012 pp.
- TONGUÇ-YAYINTAŞ, Ö. 2009. 19. *Syntrichia fragilis* (Taylor) Ochyra. – In: P: Ellis, L.T. (ed.) *New national and regional bryophyte records* 22. *Journal of Bryology* 31: 207.
- UYAR, G & B. ÇETİN. 2004. A new check-list of the mosses of Turkey. – *Journal of Bryology* 26: 203–220.

Table 1. Collecting localities

No	Locality	Coordinates	Altitude, m	Collecting date
1	Ağlasun: exit of Ağlasun	37°39'40.86"N/ 30°31'16.53"E	1236	17.07.2012
2	Ağlasun: exit of Yeşilbaşköy	37°38'51.70"N/ 30°27'23.57"D	1452	17.07.2012
3	Ağlasun: Yumrutaş	37°36'03.34"N/ 30°40'39.46"E	1220	17.07.2012
4	Ağlasun: between Ağlasun and Çamlıdereye	37°38'01.77"N/ 30°38'53.58"E	1010	17.07.2012
5	Ağlasun: Kiprit	37°35'53.16"N/30°30'06.06"E	1133	05.07.2014
6	Ağlasun: Çanaklı	37°34'09.85"N/30°34'05.09"E	1151	05.07.2014
7	Ağlasun: Hisar	37°35'07.49"N/30°37'50.42"E	1082	06.07.2014
8	Ağlasun: Gökbel	37°38'08.07"N/30°42'5281"E/	911	06.07.2014
9	Ağlasun: Aşağı Yumrutaş	37°34'50.79"N/30°43'42.77"E	691	07.07.2014
10	Ağlasun: Karagöl	37°37'12.07"N/30°42'38.81"E	1098	07.07.2014
11	Altınyayla: between İbecikten and Altınyayla road-1	36°56'59.32"N/ 29°27'40.68"E	1373	29.06.2012
12	Altınyayla: between İbecik and Altınyayla road-2	36°56'09.14"N/ 29°27'00.31"E	1436, 1373	22.09.2013
13	Altınyayla: between Emalıyurt and Ballık turning	36°58'00.91"N/29°26'31.71"E	1222	08.04.2013
14	Altınyayla: Çörten	37°00'08.44"N/29°31'10.08"E	1175	08.04.2013
15	Altınyayla: Dirmilcik	37°01'0966"N/29°32'08.00"E	1370	08.04.2013
16	Altınyayla: 5 km to Ballık	36°56'23.58"N/29°27'02.49"E	1418	08.04.2013
17	Altınyayla: exit of Çörten	36°59'06.50"N/29°29'06.33"E	1114	11.06.2013



18	Altınyayla: Ballık village	36°57'16.87"N/29°27'28.69"E	1337, 1432	11.06.2013
19	Altınyayla: opposite of Ballık village, the end of Boncuk mountain	36°53'20.88"N/29°25'25.20"E	1555	11.06.2013
20	Altınyayla: enter to Karanlıkdere valley	36°51'20.87"N/29°25'16.33"E	1349	23.08.2013
21	Altınyayla: exit of Ballık, Karanlıkdere valley, roadside	36°51'49.52"N/29°25'31.31"E	1357	23.08.2013
22	Altınyayla: Karanlıkdere canyon	36°49'32.89"N/29°24'31.07"E	1429	23.08.2013
23	Altınyayla: Karanlıkdere canyon, towards control tower, woodland area, roadside	36°50'01.31"N/29°24'56.59"E	1392	23.08.2013
24	Altınyayla: Boncuk Mountain	36°54'12.24"N/29°25'44.50"E	1613	21.09.2013
25	Bucak: Karacaören Dam Sığla, Mountain-1	37°21'35.14"N/ 30°50'05.80"E	300	25.06.2012
26	Bucak: Karacaören Dam Sığla, Mountain-2	37°21'35.14"N/ 30°50'05.80"E	300	09.04.2013
27	Bucak: Karacaören Dam Sığla, Mountain-3	37°20'45.55"N/ 30°50'01.31"E	299	23.09.2013
28	Bucak: Karacaören Dam turning	37°22'30.49"N/ 30°48'54.07"E	305	25.06.2012
29	Bucak: between Burdur and Bucak road, enter to Beşkonak	37°27'01.73"N/ 30°38'44.41"E	945	25.06.2012
30	Bucak: Kema	37°28'57.55"N/ 30°39'06.27"E	1180	28.06.2012
31	Bucak: Çamlık	37°29'18.21"N/ 30°41'40.79"E	1010	28.06.2012
32	Bucak: Taşyayla	37°30'28.27"N/ 30°38'48.56"E	820	28.06.2012
33	Bucak: between Isparta-Antalya road and Pamucak, Çobanpınar	37°23'39.42"N/ 30°46'50.60"E	600	17.07.2012
34	Bucak: between Beşkonak and Kocaaliler, 3 km to Kocaaliler	37°20'52.64"N/ 30°44'12.45"E	846	17.07.2012
35	Bucak: Hacısmailler	30°21'01.21"N/ 30°52'41.06"E	370	18.07.2012
36	Bucak: Karacaören village	37°23'17.60"N/ 30°49'58.76"E	455	18.07.2012
37	Bucak: enter to Bucak (from East)	37°26'39.33"N/ 30°39'19.98"E	874	18.07.2012
38	Bucak: Bucak çıkışı (towards the West)	37°27'44.96"N/ 30°34'55.84"E	915	18.07.2012
39	Bucak: Kızılıllı village-1	37°23'07.11"N/ 30°53'34.29"E	485	18.07.2012
40	Bucak: Kızılıllı village-2	37°23'55.28"N/30° 52'54.25"E	304	22.08.2013
41	Bucak: exit of Yukarı kuyubaşı valley	37°21'51.07"N/ 30°42'15.03"E	975	24.08.2012
42	Bucak: Karaot	37°15'46.37"N/ 30°35'07.52"E	1015	24.08.2012
43	Bucak: Güllüalan	37°17'14.33"N/ 30°33'20.82"E	1125	24.08.2012
44	Bucak: Gündoğdu	37°19'13.86"N/ 30°33'26.46"E	960	24.08.2012
45	Bucak: Kuyubaşı	37°22'12.25"N/ 30°39'22.76"E	990	24.08.2012
46	Bucak: Avdancık	37°21'13.00"N/ 30°33'14.12"E	830	24.08.2012
47	Bucak: Karapınar	37°21'30.98"N/ 30°32'21.68"E	870	24.08.2012
48	Bucak: Kestel	37°24'05.02"N/ 30°24'41.59"E	830	25.08.2012
49	Bucak: Yüreğil	37°22'49.09"N/ 30°18'42.03"E	1235	25.08.2012
50	Bucak: Heybeli	37°23'34.36"N/ 30°21'36.60"E	1215	25.08.2012
51	Bucak: Kuşbaba	37°27'25.71"N/ 30°25'52.05"E	1140	25.08.2012
52	Bucak: Üzümlübel	37°26'21.78"N/ 30°27'54.50"E	940	25.08.2012
53	Bucak: Ürkütlü-Aziziye, roadside	37°22'05.73"N/ 30°14'41.04"E	1150	26.08.2012
54	Bucak: Kızılkaya	37°18'18.45"N/ 30°24'26.90"E	820	26.08.2012
55	Bucak: Kızılcağağaç	37°19'32.62"N/ 30°27'04.60"E	834	26.08.2012
56	Bucak: between Beşkonak and Pamucak, 1 km to Dereağzı	37°23'43.42"N/30°46'28.81"E	620	09.04.2013
57	Bucak: exit of Gündoğdu	37°20'15.70"N/30°34'19.28"E	806	10.06.2013
58	Bucak: Kocaaliler	37°18'33.36"N/30°44'36.03"E	625	10.06.2013
59	Bucak: Demirli	37°18'16.29"N/30°42'32.08"E	690	10.06.2013
60	Bucak: exit of Kuyubaşı village	37°22'12.98"N/30°39'06.54"E	976	10.06.2013
61	Bucak: between Çobanpınar and Telciler arası, enter to Çobanpınar	37°21'00.28"N/30°47'35.89"E	240	26.06.2013
62	Bucak: Esirlik village	37°16'50.09"N/30°43'29.82"E	859	27.06.2013
63	Bucak: Çobanlar	37°14'47.86"N/30°47'47.46"E	122	26.06.2013
64	Bucak: Harmancık village	37°16'29.24"N/30°48'35.88"E	342	26.06.2013
65	Bucak: from Çobanpınar to Telciler, along Telciler village	37°21'04.53"N/30°46'11.09"E	357	26.06.2013
66	Bucak: along Telciler köyüne gitmeden, along valley	37°22'34.88"N/30°43'55.53"E	756	26.06.2013
67	Bucak: Kızılseki	37°15'28.64"N/30°45'32.28"E	439	27.06.2013
68	Bucak: 2 km to Kargı	37°17'37.97"N/30°48'38.16"E	271	26.06.2013
69	Bucak: Kargı	37°17'21.23"N/30°48'38.30"E	241	26.06.2013
70	Bucak: along Kızılıllı village, roadside, woodland	37°21'54.34"N/30°52'56.52"E	394	22.08.2013
71	Bucak: Susuz	37°22'31.44"N/30°32'37.98"E	860	11.06.2014
72	Bucak: Elsazı	37°27'09.44"N/ 30°49'03.47"E	330	12.06.2014
73	Bucak: Bozkaya	37°27'14.54"N/ 30°48'00.25"E	295	12.06.2014
74	Burdur: Hacılar	37°34'32.57"N/ 30°05'27.06"E	955	26.06.2012

75	Burdur: Düger	37°34'20.71"N/ 30°01'20.47"E	957	26.06.2012
76	Burdur: Karaçal	37°33'19.87"N/ 30°04'15.00"E	952	26.06.2012
77	Burdur: Kocapınar	37°32'00.53"N/ 29°59'09.91"E	1042	26.06.2012
78	Burdur: Bereket	37°32'50.54"N/ 30°17'41.61"E	146	27.06.2012
79	Burdur: Kayış	37°32'50.24"N/ 30°21'03.19"E	1370	27.06.2012
80	Burdur: between Bereket and Kayış	37°32'40.76"N/ 30°19'19.70"E	1472	27.06.2012
81	Burdur: enter to İncirdere (from West)	37°28'09.33"N/ 30°29'10.94"E	880	27.06.2012
82	Burdur: Beşkavak	37°34'36.69"N/ 30°22'47.85"E	1329	28.06.2012
83	Burdur: Çatakbeli	37°38'34.02"N/ 30°27'27.42"E	1520	17.07.2012
84	Burdur: Kayaaltı	37°37'06.72"N/ 30°20'37.41"E	1248	18.07.2012
85	Burdur: Erikli	37°26'57.59"N/ 30°14'04.63"E	1402	25.08.2012
86	Burdur: Kapaklı	37°27'35.43"N/ 30°17'51.28"E	1513	25.08.2012
87	Burdur: Yeşildağ	37°30'10.79"N/ 30°14'54.94"E	1412	25.08.2012
88	Burdur: Akyayla (Katrancık= Kestel mountain skirt)	37°30'05.84"N/ 30°20'06.83"E	1435	26.08.2012
89	Burdur: Aksu village	37°30'31.78"N/ 30°18'47.43"E	1435	26.08.2012
90	Burdur: İlyas village (North of Burdur lake)	37°46'40.42"N/30°08'23.20"E	955	25.06.2013
91	Burdur: to Ulupınar village, roadside	37°44'39.99"N/30°00'01.80"E	1434	25.06.2013
92	Burdur: exit of Karakent (South-east of Burdur lake)	37°43'50.59"N/30°06'16.99"E	883	25.06.2013
93	Burdur: Çatağıl village	37°41'10.56"N/30°23'27.26"E	1345	24.08.2013
94	Burdur: Halıcalar village	37°42'11.01"N/30°23'10.65"E	1329	24.08.2013
95	Burdur: İnsuyu village	37°39'21.99"N/30°22'30.55"E	1230	24.08.2013
96	Burdur: Askeriye village	37°45'46.30"N/30°21'36.70"E	981	24.08.2013
97	Burdur: Gökçebağ village	37°46'38.03"N/30°22'48.43"E	956	24.08.2013
98	Burdur: center, Katrancı mountain-1	37°30'41.71"N/30°18'36.97"E	1505	10.04.2013
99	Burdur: center, Katrancı mountain-1	37°29'48.34"N/ 30°21'04.64"E	1529	25.09.2013
100	Burdur: Başmakçı	37°46'32.48"N/30°00'14.15"E	1548	24.07.2014
101	Burdur: İğdeli	37°31'12.74"N/30°09'14.48"E	1140	24.07.2014
102	Çavdır: center	37°09'44.61"N/ 29°40'07.88"E	1065	29.06.2012
103	Çavdır: Yazır (Göllük), roadside	37°02'22.45"N/29°45'14.28"E	1289	09.06.2013
104	Çavdır: from Çavdır to Söğüt, roadside	37°02'26.99"N/29°47'21.74"E	1432	09.06.2013
105	Çavdır: Towards Bölmepınar (from north)	37°63'08.35"N/29°43'35.97"E	1117	09.06.2013
106	Çavdır: Bayır village	37°06'09.99"N/29°41'20.33"E	1113	09.06.2013
107	Çavdır: Kızıllar village	37°04'21.21"N/29°42'11.75"E	1148	09.06.2013
108	Çavdır: Ambarcık village	37°02'32.39"N/29°41'39.03"E	1213	09.06.2013
109	Çavdır: Kozağaç	37°03'51.38"N/ 29°40'22.00"E	1358	10.04.2014
110	Çeltikçi: Bağısaray	37°30'30.38"N/ 30°26'39.90"E	895	27.06.2012
111	Çeltikçi: Cebiş	37°29'28.56"N/ 30°25'49.17"E	965	27.06.2012
112	Çeltikçi: Ovacık	37°32'44.86"N/ 30°22'43.95"E	1339	28.06.2012
113	Çeltikçi: Kuzköy	37°32'42.30"N/ 30°26'14.03"E	940	28.06.2012
114	Çeltikçi: Güvenli	37°34'57.57"N/ 30°28'39.37"E	1129	09.04.2014
115	Göhlhisar: exit of Göhlhisar, along Altınyayla road	37°02'55.52"N/ 29°32'14.28"E	1250	29.06.2012
116	Göhlhisar: between Çavdır and Göhlhisar, 5 km to Göhlhisar	37°08'59.17"N/ 29°36'40.71"E	970	29.06.2012
117	Göhlhisar: along Yapraklı dam side-1	37°00'49.29"N/ 29°24'53.62"E	1110	29.06.2012
118	Göhlhisar: along Yapraklı dam side-2	37°02'55.76"N/ 29°27'37.77"E	1080	29.06.2012
119	Göhlhisar: along Yapraklı dam side-3	37°02'43.42"N/ 29°27'49.94"E	1055	29.06.2012
120	Göhlhisar: along Yapraklı dam side-4	37°01'18.29"N/29°26'01.64"E	1099	08.04.2013
121	Göhlhisar: İbecik	36°58'30.72"N/ 29°26'01.31"E	1332	29.06.2012
122	Göhlhisar: Elmalıyurt village	36°56'33.22"N/29°23'47.84"E	1239	08.04.2013
123	Göhlhisar: Çamköy	37°15'36.65"N/ 29°32'37.13"E	987	10.06.2014
124	Göhlhisar: Karapınar	37°05'57.02"N/29°33'26.39"E	1050	25.07.2014
125	Göhlhisar: Yusufça	37°11'56.37"N/29°31'03.64"E	1067	25.07.2014
126	Göhlhisar: Yeşildere	37°01'32.35"N/29°22'51.59"E	1175	26.07.2014
127	Göhlhisar: Hisarardı	37°05'48.36"N/29°36'56.11"E	1020	26.07.2014
128	Göhlhisar: Yamadı	37°08'30.67"N/29°36'08.65"E	1007	25.07.2014
129	Karamanlı: Kağılcık	37°23'41.36"N/ 29°53'06.46"E	1277	26.06.2012
130	Karamanlı: Bademli	37°25'24.14"N/ 29°54'48.98"E	1209	26.06.2012
131	Karamanlı: Dereköy	37°25'26.59"N/ 29°46'20.85"E	1303	26.06.2012
132	Karamanlı: Mürseller	37°26'36.93"N/ 29°55'53.86"E	1289	26.06.2012

133	Karamanlı: Kılcan	37°22'21.52"N/ 29°47'36.11"E	1228	26.06.2012
134	Karamanlı: exit of Karamanlı	37°21'01.19"N/ 29°48'43.97"E	1130	19.07.2012
135	Kemer: 3 km to Kemer	37°23'08.61"N/30°02'56.32"E	1065	07.04.2013
136	Kemer: Akören village	37°24'42.20"N/30°04'35.25"E	1041	07.04.2013
137	Kemer: Akçaören village	37°23'56.24"N/30°08'40.10"E	1124	07.04.2013
138	Kemer: Kayı village	37°26'00.57"N/30°07'07.27"E	1079	07.04.2013
139	Kemer: Pınarbaşı village	37°26'40.18"N/30°03'11.02"E	1034	07.04.2013
140	Kemer: Elmacık village	37°28'12.40"N/30°05'52.70"E	1018	07.04.2013
141	Kemer: Boğaziçi village	37°30'55.24"N/30°04'27.91"E	974	07.04.2013
142	Kemer: 3 km to Bozdağ, Bozdağ-Akpınar plateau	37°19'37.13"N/30°04'44.96"E	1425	07.04.2013
143	Kemer: Bozdağ	37°19'04.39"N/30°05'35.38"E	1580	24.09.2013
144	Kemer: Yakalar	37°18'40.50"N/ 30°01'13.96"E	1252	08.04.2014
145	Kemer: Belenli	37°18'06.42"N/ 29°59'34.25"E	1263	08.04.2014
146	Tefenni: Sazak village	37°21'33.04"N/ 29°45'26.14"E	1310	26.06.2012
147	Tefenni: Ece village	37°20'26.32"N/ 29°45'31.27"E	1259	26.06.2012
148	Tefenni: exit of Tefenni	37°18'56.25"N/ 29°45'35.66"E	1210	19.07.2012
149	Tefenni: between Tefenni and Çavdır	37°14'01.01"N/ 29°44'54.18"E	1285	19.07.2012
150	Tefenni: between Beyköy and Büyükalın	37°12'59.45"N/29°40'02.41"E	1122	21.08.2013
151	Tefenni: Yeşilköy	37°10'41.65"N/29°49'02.48"E	1483	21.08.2013
152	Tefenni: Başpınar village	37°10'43.40"N/29°46'06.85"E	1237	21.08.2013
153	Tefenni: Bayramlar village	37°13'58.94"N/29°50'14.40"E	1289	21.08.2013
154	Tefenni: Seydiler village	37°14'47.46"N/29°48'24.83"E	1191	21.08.2013
155	Tefenni: Yuva village	37°12'50.52"N/29°45'22.77"E	1243	21.08.2013
156	Tefenni: Beyköy	37°14'14.68"N/29°41'29.47"E	1239	11.06.2013/ 21.08.2013
157	Tefenni: Belkaya village	37°18'29.80"N/ 29°36'33.49"E	1435	10.04.2014
158	Yeşilova: Çeltek	37°31'32.56"N/ 29°54'16.79"E	1197	26.06.2012
159	Yeşilova: Çuvallı	37°31'05.96"N/ 29°51'12.41"E	1223	26.06.2012
160	Yeşilova: Yarışlı	37°36'04.65"N/ 29°56'54.91"E	990	26.06.2012
161	Yeşilova: Harmanlı	37°34'53.57"N/ 29°54'35.57"E	1053	26.06.2012
162	Yeşilova: Karaatlı	37°31'43.06"N/ 29°47'02.01"E	1155	26.06.2012
163	Yeşilova: Bayırbaşı	37°30'07.74"N/ 29°48'48.80"E	1251	26.06.2012
164	Yeşilova: Başkuyu	37°30'05.73"N/ 29°52'56.73"E	1318	26.06.2012
165	Yeşilova: Bedirli	37°27'33.23"N/ 29°50'20.62"E	1333	26.06.2012
166	Yeşilova: South of Salda lake	37°30'38.51"N/ 29°41'33.31"E	1180	19.07.2012
167	Yeşilova: Salda village	37°31'33.17"N/29°39'32.30"E	1171	19.07.2012
168	Yeşilova: Kayadibi village	37°31'33.46"N/ 29°43'57.73"E	1227	19.07.2012
169	Yeşilova: Doğanbaba (side of Salda lake)	37°35'07.71"N/ 29°41'27.12"E	1172	19.07.2012
170	Yeşilova: east of Salda lake	37°32'22.24"N/ 29°43'08.59"E	1170	19.07.2012
171	Yeşilova: to Kocapınar, South of Yarışlı lake, side of Sazlık	37°32'40.12"N/29°56'38.20"E	943	12.06.2013
172	Yeşilova: exit of Harmanlı village (North-West of Yarışlı lake)	37°35'54.09"N/29°53'34.02"E	1179	12.06.2013
173	Yeşilova: between Karaköy and Tekkeköy (North of Yarışlı lake)	37°36'06.72"N/29°54'28.55"E	1108	12.06.2013
174	Yeşilova: South side of Çorakgöl, Bayındır village	37°40'03.41"N/29°44'29.55"E	1005	12.06.2013
175	Yeşilova: between Ulupınar and Elden villages	37°45'00.76"N/29°58'10.63"E	1563	25.06.2013
176	Yeşilova: between Elden and Akçaköy, along stream	37°43'48.11"N/29°56'15.86"E	1319	25.06.2013
177	Yeşilova: Gökçeyaka	37°40'58.36"N/29°55'06.57"E	1176	06.04.2014
178	Yeşilova: Çardak	37°41'47.38"N/ 29°56'44.95"E	1242	06.04.2014
179	Yeşilova: Onacak	37°39'04.45"N/ 29°55'44.23"E	1418	06.04.2014
180	Yeşilova: Düden	37°35'27.31"N/ 29°33'28.72"E	1475	07.04.2014
181	Yeşilova: Güney	37°29'29.40"N/ 29°35'50.40"E	1138	07.04.2014
182	Yeşilova: Karaköy	37°28'02.48"N/ 29°32'42.04"E	1048	07.04.2014
183	Yeşilova: Horuz	37°28'11.60"N/ 29°34'49.13"E	1117	07.04.2014
184	Yeşilova: Niyazlar	37°28'20.36"N/ 29°43'34.95"E	1378	07.04.2014
185	Yeşilova: Çaltepe	37°27'12.76"N/ 29°47'59.05"E	1283	07.04.2014