



The diversity of lichen and lichenicolous fungi on *Quercus* taxa found in the Marmara region (Turkey)

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Abstract

In the present study, lichens and lichenicolous fungi diversity were investigated on 10 *Quercus* taxa found in the Marmara region and 159 lichens and 3 lichenicolous fungi taxa belonging to 57 genera were recorded from 182 localities. Of these 162 taxa, 13 taxa were recorded for the first time from the Marmara region. 132 taxa were determined on *Q. cerris*, 98 taxa on *Q. frainetto*, 91 taxa on *Q. petraea*, 90 taxa on *Q. pubescens*, 42 taxa on *Q. virgiliana*, 35 taxa on *Q. infectoria*, 27 taxa on *Q. ithaburensis* subsp. *macrolepis*, 26 taxa on *Q. trojana*, 14 taxa on *Q. robur*, and 12 taxa on *Q. coccifera*.

Key words: Biodiversity, Epiphytic lichens, Lichenicolous fungi, *Quercus*, Turkey

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Marmara bölgesinde (Türkiye) bulunan *Quercus* taksonları üzerindeki liken ve likenikol mantar çeşitliliği

Özet

Bu çalışmada, Marmara bölgesinde bulunan 10 farklı meşe taksonu üzerindeki liken ve likenikol mantar çeşitliliği incelenmiş ve 182 lokaliteden 57 cinse ait 159 liken ve 3 likenikol mantar taksonu kaydedilmiştir. Toplam 162 taksondan 13 tanesi Marmara bölgesinden ilk kez tespit edilmiştir. Liken ve likenikol mantar taksonlarının farklı meşe substratları üzerindeki sayısal dağılımı; *Q. cerris* 132 takson, *Q. frainetto* 98, *Q. petraea* 91, *Q. pubescens* 90, *Q. virgiliana* 42, *Q. infectoria* 35, *Q. ithaburensis* subsp. *macrolepis* 27, *Q. trojana* 26, *Q. robur* 14 ve *Q. coccifera* 12 takson şeklindedir.

Anahtar kelimeler: Biyoçeşitlilik, Epifitik likenler, Likenikol mantarlar, *Quercus*, Türkiye

1. Introduction

Epiphytic bryophyte and lichen species composition is determined by substrate qualities such as age of tree, chemical and physical properties of bark and habitat conditions (age and history of the woodland, forest productivity, aspect, and climate (Ihlen et al., 2001; Mežaka et al., 2008).

Turkey has a very important area in terms of oak forests and oak species. *Quercus* are represented by 18 natural species in Turkey (Günel, 1997). *Quercus* has an acidic bark and a good phorophyte for epiphytic lichen species (Larsen et al., 2007). Ezer et al. (2010) analyzed the life strategies of bryophytes which form epiphytic vegetation and they recorded 9 liverworts and 44 mosses and the trunks of *Q. cerris* was found suitable for "perennial stayer strategy" bryophytes.

Lichenological studies in Turkey are mostly focused on general floristic characteristics. However recent years, studies based on one substrate and/or relevant to epiphytic lichens are increased (Çobanoğlu et al., 2008; Çobanoğlu and Sevgi, 2009; Güvenç et al., 2009; Öztürk and Güvenç, 2010; Oran, 2011). Çobanoğlu et al. (2008), analyzed the distribution of epiphytic lichen taxa on cut-fir trees and they were determined 72 lichen taxa. Besides, Çobanoğlu and Sevgi (2009), investigated the distribution of epiphytic lichens on *Cedrus libani* A. Rich. in Elmalı Research Forest along an altitudinal gradient and they found a clear relationship between all parameters (diameter, altitude and aspect) with species richness. Güvenç et al. (2009), determined 20 epiphytic lichen species on *Pinus nigra* Arnd. subsp.

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pallasiana (Lamb.) Holmboe in Mount Uludag and they indicated some differences between the altitudes. In another study, the distribution of epiphytic lichens on *Abies nordmanniana* (Steven) Spach subsp. *bornmuelleriana* (Mattf.) Coode & Cullen forests were evaluated along an altitudinal gradient in Mount Uludag (Öztürk and Güvenç, 2010). 46 taxa were recorded at 5 altitudes (1500-1900 m) and as a result, the distribution and species composition of epiphytic lichens were found related with altitude.

In a study which made in recent times, epiphytic lichens were investigated on *Fagus orientalis* Lipsky and *Fagus sylvatica* L. in the Marmara region and a total of 76 lichens and 1 lichenolous fungus were determined (Oran, 2011).

We aimed with this study to investigate lichens and lichenicolous fungi diversity on *Quercus* species in the Marmara region and to have more information about the epiphytic species of oak trees.

2. Materials and methods

Lichen samples were collected from 182 different localities in the Marmara region (Balıkesir, Bilecik, Bursa, Çanakkale, Edirne, İstanbul, Kırklareli, Kocaeli, Sakarya, Tekirdağ, and Yalova provinces) between the year of 2005 and 2008 (Table 1). The lichen samples were examined using standart microscopic techniques and spot tests. Then they were identified to species level with the aid of flora books and identification keys (Clauzade and Roux, 1985; Purvis et al., 1992; Wirth, 1995; Brodo et al., 2001). Author abbreviations after scientific names are according to Brummitt & Powell (1992). The specimens are kept in the herbarium of Uludag University (BULU) in Bursa.

2.1. Study area

The Marmara region occupies the northwest corner of Turkey and it has 67.000 square kilometers area (Figure 1). This region consist of Anatolian and Thrace part. Uludağ (2543 m), one of the main peaks in Anatolian part and Yıldız Mountain (1031 m) one of the main peaks in Thrace part.

Due to the geographical position the Marmara region has different types of climate. The oceanic climate dominates in the coast of the Black Sea, while the mediterranean climate influences the Marmara sea and the Aegean sea coasts as well as the inland areas. The average annual precipitation is 500-1000 mm and the temperature is 14-16 °C (Akman, 1990).

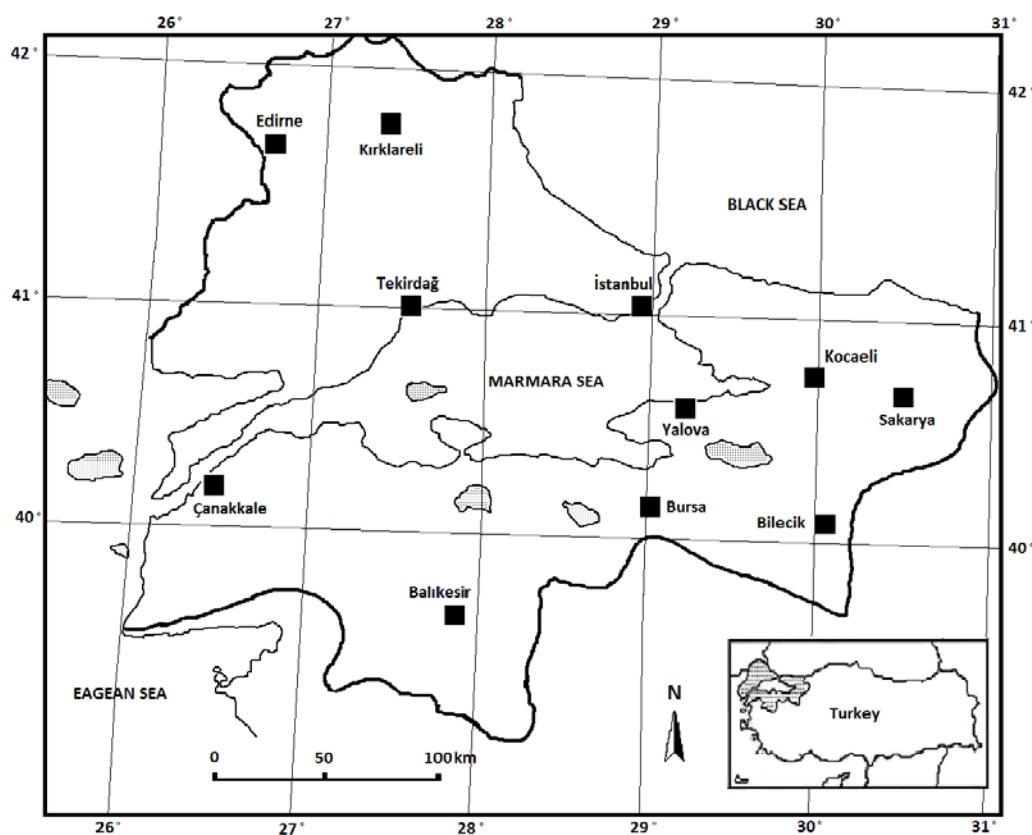


Figure 1. Map of the Marmara region

Table 1. Collecting localities

Locality number and Locality	Altitude	Coordinates	Date
1. Balıkesir, Balya, vicinity of Çakallar village, oak woodland	343 m	39° 43' N, 27° 34' E	26.07.2006
2. Balıkesir, İvrindi, road of Balya - İvrindi, before 8 km from İvrindi	303 m	39° 37' N, 27° 32' E	26.07.2006
3. Balıkesir, Centre, vicinity of Kuyualan, roadside	361 m	39° 33' N, 27° 41' E	27.07.2006
4. Balıkesir, Balya, road of Habibler - Çiğdem, 2 km from Habibler	530 m	39° 42' N, 27° 29' E	27.07.2006
5. Balıkesir, Balya, vicinity of Danişment, oak woodland	312 m	39° 52' N, 27° 38' E	27.07.2006
6. Balıkesir, Balya, Danişment - İlica forest road	174 m	39° 50' N, 27° 42' E	27.07.2006
7. Balıkesir, Centre, vicinity of Yağcılar	360 m	39° 51' N, 27° 54' E	27.07.2006
8. Balıkesir, Centre, vicinity of Boğazköy, oak woodland	364 m	39° 50' N, 27° 51' E	27.07.2006
9. Balıkesir, Centre, road of Şamlı - Balıkesir, vicinity of İbirler	275 m	39° 45' N, 27° 57' E	27.07.2006
10. Balıkesir, Centre, vicinity of Türkali	275 m	39° 29' N, 27° 51' E	28.07.2006
11. Balıkesir, Centre, road of Konakpınar - Söpköy, 5 km from Konakpınar, pine grove	331 m	39° 25' N, 27° 50' E	28.07.2006
12. Balıkesir, Sındırgı, road of Sındırgı - Bigadiç, junction of Simav	250 m	39° 17' N, 28° 11' E	28.07.2006
13. Balıkesir, Bigadiç, vicinity of Kayalıdere, roadside	408 m	38° 21' N, 28° 08' E	28.07.2006
14. Balıkesir, Kepsut, road of Recepköy - Babaköy, 2 km from Recepköy	302 m	39° 44' N, 28° 08' E	28.07.2006
15. Balıkesir, Susurluk, road of Susurluk - Dumanköy, before 3 km from Dumanköy	238 m	39° 54' N, 28° 06' E	28.07.2006
16. Balıkesir, Susurluk, vicinity of Kiraz, oak woodland	525 m	39° 54' N, 28° 02' E	28.07.2006
17. Balıkesir, Gönen, vicinity of Karaağaçalan, roadside	94 m	40° 05' N, 27° 36' E	29.07.2006
18. Balıkesir, Gönen, road of Gaybular - Ortaoba, 3 km from Gaybular, oak woodland	376 m	40° 01' N, 27° 30' E	29.07.2006
19. Balıkesir, Gönen, road of Havutça - Körpeağaç, 2 km from Havutça	77 m	40° 15' N, 27° 40' E	29.07.2006
20. Balıkesir, Gönen, road of Hacimenteriş - Asmalıdere, 3 km from Hacimenteriş, oak woodland	88 m	40° 09' N, 27° 47' E	29.07.2006
21. Balıkesir, Gönen, between Saraçlar and Kalfa, exit of Saraçlar	121 m	40° 06' N, 27° 45' E	29.07.2006
22. Balıkesir, Erdek, road of Turan - Ocaklar, 3 km from Turan	239 m	40° 28' N, 27° 46' E	30.07.2006
23. Balıkesir, Erdek, road of Yukarı Yapıcı - Ballıpınar, 2 km from Yukarı Yapıcı, agricultural area	386 m	40° 25' N, 27° 53' E	30.07.2006
24. Balıkesir, Bandırma, road of Çakılıköy - Emre, exit of Çakılıköy	184 m	40° 20' N, 28° 07' E	30.07.2006
25. Bilecik, Centre, road of Sarmaşık - Beyce, exit of Sarmaşık, agricultural area	520 m	40° 16' N, 29° 57' E	30.06.2007
26. Bilecik, Osmaneli, between Çiftlik and Avdan, pine grove	531 m	40° 22' N, 29° 50' E	30.06.2007
27. Bilecik, Bozüyük, road of Saraycık - Darıdere, İntikamtepe cemetery	939 m	39° 51' N, 30° 00' E	22.07.2007
28. Bilecik, Bozüyük, road of Dodurga - Erikli, exit of Dodurga, oak woodland	1168 m	39° 50' N, 29° 53' E	22.07.2007
29. Bilecik, Bozüyük, vicinity of Çamyayla	1250 m	39° 55' N, 29° 55' E	22.07.2007
30. Bilecik, Centre, road of Karadere - Sütlük, before 3 km from Sütlük, oak woodland	977 m	40° 05' N, 29° 49' E	22.07.2007
31. Bursa, Nilüfer, road of Çalı - İnegazi, 5 km from Çalı, oak woodland	384 m	40° 08' N, 28° 53' E	17.06.2005
32. Bursa, Nilüfer, vicinity of İnegazi	364 m	40° 07' N, 28° 52' E	17.06.2005
33. Bursa, Nilüfer, road of Üçpınar - Güngöre, vicinity of Üçpınar, oak woodland	660 m	40° 06' N, 28° 50' E	17.06.2005
34. Bursa, Nilüfer, road of Maksempınar - Unçukuru, exit of Maksempınar	478 m	40° 07' N, 28° 45' E	17.06.2005
35. Bursa, Mustafakemalpaşa, vicinity of Akçapınar, oak woodland	181 m	40° 06' N, 28° 38' E	14.08.2005
36. Bursa, Mustafakemalpaşa, vicinity of Doruk	325 m	40° 05' N, 28° 35' E	14.08.2005
37. Bursa, Mustafakemalpaşa, road of Taşpınar - Kadirçeşme, 5 km from Taşpınar, oak woodland	228 m	40° 04' N, 28° 30' E	14.08.2005
38. Bursa, Mustafakemalpaşa, road of Kapaklıluk - Güller, 2 km from Kapaklıluk, oak woodland	320 m	40° 00' N, 28° 30' E	14.08.2005
39. Bursa, Osmangazi, Uludağ, vicinity of Hüseyinalan, oak woodland	969 m	40° 06' N, 28° 01' E	14.09.2005
40. Bursa, İnegöl, vicinity of Tekkeköy, oak woodland	655 m	40° 07' N, 29° 39' E	28.05.2006
41. Bursa, İnegöl, road of Kurşunlu - Güzelyurt, 3 km from Kurşunlu, oak woodland	493 m	40° 02' N, 29° 41' E	28.05.2006
42. Bursa, İnegöl, vicinity of Güzelyurt, oak woodland	583 m	40° 02' N, 29° 42' E	28.05.2006
43. Bursa, İnegöl, vicinity of Babaoğlu	623 m	40° 03' N, 29° 42' E	28.05.2006
44. Bursa, İznik, vicinity of Gürmüzlü, oak woodland	516 m	40° 30' N, 29° 46' E	02.07.2006
45. Bursa, İznik, road of Gürmüzlü - Çandarlı, junction of Hacıosman, maquis area	812 m	40° 31' N, 29° 48' E	02.07.2006
46. Bursa, İznik, vicinity of Sağırhisar, pine-oak forest	773 m	40° 31' N, 29° 51' E	02.07.2006
47. Bursa, İznik, between Sağırhisar and İhsaniye, 2 km from Sağırhisar	767 m	40° 27' N, 29° 48' E	02.07.2006
48. Bursa, İznik, road of İznik - Nushetiye, 5 th km	386 m	40° 23' N, 29° 40' E	02.07.2006

49. Bursa, İnegöl, road of Fevziye - Elmaçayır, oak woodland	930 m	40° 01' N, 29° 23' E	22.08.2006
50. Bursa, Kestel, vicinity of Hamamlıkızık	390 m	40° 10' N, 29° 11' E	24.08.2006
51. Bursa, Kestel, vicinity of Osmaniye	778 m	40° 08' N, 29° 15' E	24.08.2006
52. Bursa, Kestel, road of Kestel - Alaçam, before 3 km from Alaçam, oak forest	1018 m	40° 06' N, 29° 17' E	26.10.2006
53. Bursa, Kestel, road of Alaçam - Sayfiye, 3 km from Alaçam	888 m	40° 06' N, 29° 18' E	26.10.2006
54. Bursa, Kestel, vicinity of Kozluören	486 m	40° 07' N, 29° 21' E	26.10.2006
55. Bursa, Yenişehir, road of Yazılı - Karaamca, exit of Yazılı	381 m	40° 11' N, 29° 41' E	06.05.2007
56. Bursa, Yenişehir, road of Yarhisar - Günece, 3 km to Günece, pine-oak forest	433 m	40° 11' N, 29° 44' E	06.05.2007
57. Bursa, Yenişehir, road of Terziler - Aydoğdu, 5 km to Aydoğdu, agricultural area	297 m	40° 13' N, 29° 45' E	06.05.2007
58. Bursa, Yenişehir, vicinity of Kızılhisar, oak woodland	565 m	40° 21' N, 29° 42' E	06.05.2007
59. Bursa, Yenişehir, road of İncirli - Okluca, junction of Necmiye, agricultural area	458 m	40° 15' N, 29° 50' E	30.06.2007
60. Bursa, Iznik, north side of Yukarı Göllüce, oak woodland	404 m	40° 22' N, 29° 36' E	30.06.2007
61. Bursa, Yenişehir, road of Fethiye - Gölcük, roadside	370 m	40° 16' N, 29° 24' E	30.06.2007
62. Bursa, İnegöl, vicinity of Dipsizgöl, oak woodland	426 m	40° 01' N, 29° 31' E	01.07.2007
63. Bursa, İnegöl, vicinity of Madenköy, oak woodland	472 m	39° 59' N, 29° 31' E	01.07.2007
64. Bursa, İnegöl, road of Bahariye - Saadet, beech forest	841 m	39° 55' N, 29° 33' E	01.07.2007
65. Bursa, İnegöl, road of Tahtaköprü - Domaniç, 2 nd km, oak woodland	753 m	39° 56' N, 29° 38' E	01.07.2007
66. Bursa, Orhaneli, road of Çivili - Letafet, before 4 km from Letafet	536 m	39° 52' N, 28° 46' E	16.09.2007
67. Bursa, Orhaneli, vicinity of Çivilicaam, pine-oak forest	837 m	39° 53' N, 28° 40' E	16.09.2007
68. Bursa, Mudanya, vicinity of Çekrice	84 m	40° 17' N, 28° 47' E	16.09.2007
69. Bursa, Gemlik, vicinity of Haydariye, maquis area	257 m	40° 29' N, 29° 06' E	30.09.2007
70. Bursa, Nilüfer, Uludağ University, Görükle Campus	150 m	40° 15' N, 28° 52' E	21.04.2008
71. Çanakkale, Bayramiç, vicinity of Evciler	229 m	39° 45' N, 26° 46' E	15.05.2005
72. Çanakkale, Bayramiç, road of Yeniköy - Üvecik, 3 km from Yeniköy, oak woodland	29 m	39° 54' N, 26° 10' E	05.07.2005
73. Çanakkale, Ezine, road of Tavaklı - Ayvacık, Kavak Mount, pine and oak forest	485 m	39° 35' N, 26° 15' E	05.07.2005
74. Çanakkale, Ezine, road of Çanakkale - İzmir, vicinity of Çarıksız, agricultural area	128 m	39° 42' N, 26° 22' E	05.07.2005
75. Çanakkale, Bayramiç, vicinity of Nebiler, agricultural area	187 m	39° 42' N, 26° 28' E	05.07.2005
76. Çanakkale, Bayramiç, road of Bayramiç - Çan, junction of Yaylacık	266 m	39° 53' N, 26° 43' E	06.07.2005
77. Çanakkale, Çan, road of Çan - Çanakkale, junction of Bayramiç, oak woodland	182 m	40° 00' N, 26° 54' E	06.07.2005
78. Çanakkale, Çan, road of Çan - Çanakkale, 3 km from Şerbetli, oak woodland	192 m	40° 01' N, 26° 51' E	06.07.2005
79. Çanakkale, Bayramiç, Kaz Mountain, Chief of Karaköy Forest Management, Kocakır storage	317 m	39° 50' N, 26° 51' E	18.08.2005
80. Çanakkale, Bayramiç, Kaz Mountain, Karaköy, Hacıöldüren local, oak-pine forest	1069 m	39° 47' N, 26° 59' E	18.08.2005
81. Çanakkale, Bayramiç, Kaz Mountain, Yeşilköy, Kırgındere local, oak woodland	643 m	39° 51' N, 26° 50' E	18.08.2005
82. Çanakkale, Gelibolu, vicinity of Evreşe, agricultural area	50 m	40° 47' N, 27° 03' E	19.06.2006
83. Çanakkale, Gelibolu, vicinity of Bolayır, agricultural area	56 m	40° 32' N, 26° 47' E	19.06.2006
84. Çanakkale, Gelibolu, vicinity of Burhanlı, roadside	43 m	40° 19' N, 26° 34' E	19.06.2006
85. Çanakkale, Lapseki, vicinity of Şahinli	212 m	40° 17' N, 26° 45' E	25.07.2006
86. Çanakkale, Lapseki, Dede tepe place	575 m	40° 13' N, 26° 48' E	25.07.2006
87. Çanakkale, Lapseki, road of Yaylalar - Balcılar, before 2 km from Balcılar	312 m	40° 40' N, 26° 50' E	25.07.2006
88. Çanakkale, Lapseki, vicinity of Hacıgelen, roadside	278 m	40° 11' N, 26° 45' E	25.07.2006
89. Çanakkale, Centre, vicinity of Musaköy	90 m	40° 11' N, 26° 32' E	25.07.2006
90. Çanakkale, Centre, vicinity of Kirazlıalan	284 m	40° 02' N, 26° 41' E	25.07.2006
91. Çanakkale, Çan, vicinity of Üvezdere, oak-pine forest	345 m	40° 03' N, 26° 51' E	25.07.2006
92. Çanakkale, Çan, road of Karadağ -Kocayayla, 2 nd km	283 m	40° 04' N, 26° 57' E	25.07.2006
93. Çanakkale, Biga, road of Karabiga - Örtülüce, 2 km to Örtülüce, agricultural area	54 m	40° 22' N, 27° 13' E	26.07.2006
94. Çanakkale, Biga, vicinity of Yeniçiftlik	36 m	40° 18' N, 27° 11' E	26.07.2006
95. Çanakkale, Biga, road of Kozçeşme - Çömlekçi, 2 nd km	205 m	40° 15' N, 27° 01' E	26.07.2006
96. Çanakkale, Biga, road of Çömlekçi -Bakacak, 2 nd km, oak woodland	173 m	40° 13' N, 27° 01' E	26.07.2006
97. Çanakkale, Biga, vicinity of Sarıca, oak woodland	63 m	40° 12' N, 27° 08' E	26.07.2006
98. Çanakkale, Çan, road of Çan - Yenice, junction of Sameteli	143 m	39° 59' N, 27° 05' E	26.07.2006
99. Çanakkale, Yenice, vicinity of Çırpılar	312 m	39° 48' N, 27° 22' E	26.07.2006

100. Çanakkale, Yenice, vicinity of Gönen Hydroelectric Power Station	191 m	39° 57' N, 27° 25' E	29.07.2006
101. Çanakkale, Yenice, Kiraztepe local	400 m	40° 02' N, 27° 25' E	29.07.2006
102. Çanakkale, Yenice, road of Karadoru - Aşağı İnoaba, 5 st km, oak woodland	195 m	40° 04' N, 27° 17' E	29.07.2006
103. Çanakkale, Biga, road of Yolindi - Hacıköy, before 6 km from Hacıköy	182 m	40° 12' N, 27° 21' E	29.07.2006
104. Edirne, Centre, vicinity of Büyük İsmailce, agricultural area	197 m	41° 48' N, 26° 28' E	17.06.2006
105. Edirne, Centre, vicinity of Hatipköy, agricultural area	88 m	41° 49' N, 26° 35' E	17.06.2006
106. Edirne, Lalapaşa, vicinity of Hüseyinpinar, agricultural area	255 m	41° 53' N, 26° 38' E	17.06.2006
107. Edirne, Lalapaşa, vicinity of Büyük Öğünlü, agricultural area	298 m	41° 53' N, 26° 43' E	17.06.2006
108. Edirne, Lalapaşa, vicinity of Süleymandanışment, agricultural area	375 m	41° 53' N, 26° 53' E	17.06.2006
109. Edirne, Lalapaşa, vicinity of Ömeroba, agricultural area	353 m	41° 54' N, 26° 57' E	17.06.2006
110. Edirne, Süloğlu, road of Çeşmeköy - Süloğlu, around of Süloğlu dam, pasture	239 m	41° 43' N, 26° 56' E	17.06.2006
111. Edirne, Centre, Musabeyli village picnic side, oak woodland	145 m	41° 42' N, 26° 39' E	17.06.2006
112. Edirne, Uzunköprü, vicinity of Saçlımüsellim, agricultural area	353 m	41° 25' N, 26° 37' E	17.06.2006
113. Edirne, Uzunköprü, vicinity of Kavakayazma, agricultural area	40 m	41° 07' N, 26° 31' E	17.06.2006
114. Edirne, Meriç, road of Yenicegörüce - Meriç, 4 th km, oak woodland	84 m	41° 09' N, 26° 27' E	17.06.2006
115. Edirne, Keşan, vicinity of Beğendik, oak woodland	135 m	40° 56' N, 26° 34' E	17.06.2006
116. Edirne, İpsala, vicinity of Yapıldak, oak woodland	16 m	40° 47' N, 26° 27' E	18.06.2006
117. Edirne, İpsala, around of Koyuntepe, pasture	22 m	40° 46' N, 26° 19' E	18.06.2006
118. Edirne, Enez, around of Sütçüler, pasture	42 m	40° 41' N, 26° 19' E	18.06.2006
119. Edirne, Keşan, road of Şabanmera - Yayla, before 3 km from Yayla, oak woodland	118 m	40° 39' N, 26° 23' E	18.06.2006
120. Edirne, Keşan, coastal road of Yayla - Danişment, oak woodland	76 m	40° 37' N, 26° 23' E	18.06.2006
121. Edirne, Keşan, vicinity of Mercan, oak and pine forest	106 m	40° 44' N, 26° 34' E	18.06.2006
122. Edirne, Keşan, road of Keşan - Çobançeşmesi, 6 th km, oak woodland	124 m	40° 56' N, 26° 38' E	18.06.2006
123. Edirne, Keşan, road of Küçükdoğanca - Yılanlı, 3 rd km, pasture	178 m	40° 56' N, 26° 44' E	18.06.2006
124. Edirne, Uzunköprü, vicinity of Çöpköy, oak woodland	124 m	41° 12' N, 26° 49' E	18.06.2006
125. İstanbul, Sarıyer, Belgrad Forests, Topkoru local, oak forest	138 m	41° 11' N, 28° 59' E	12.06.2006
126. İstanbul, Sarıyer, Belgrad Forests, Kömürcü Bendi local, beech forest	100 m	41° 12' N, 28° 57' E	12.06.2006
127. İstanbul, Sarıyer, road of Uskumru - Rumelifeneri, 3 rd km	67 m	41° 12' N, 29° 02' E	12.06.2006
128. İstanbul, Sarıyer, Belgrad Forests, Kirazlıbent local	55 m	41° 10' N, 28° 57' E	12.06.2006
129. İstanbul, Eyüp, between Odayeri and Ağaçalı, 2 nd km, oak woodland	35 m	41° 14' N, 28° 50' E	12.06.2006
130. İstanbul, Gaziosmanpaşa, road of İhsaniye - Tayakadın, 5 th km, roadside	88 m	41° 15' N, 28° 46' E	12.06.2006
131. İstanbul, Çatalca, road of Terkos - Karaburun, roadside	85 m	41° 19' N, 28° 40' E	12.06.2006
132. İstanbul, Çatalca, road of Çanakçı - Dağyenice, oak woodland	69 m	41° 15' N, 28° 29' E	13.06.2006
133. İstanbul, Çatalca, vicinity of Örencik, agricultural area	74 m	41° 19' N, 28° 28' E	13.06.2006
134. İstanbul, Çatalca, between Örencik and Celepköy, agricultural area	81 m	41° 21' N, 28° 29' E	13.06.2006
135. İstanbul, Çatalca, road of Karacaköy - Yalıköy, 6 th km, oak woodland	90 m	41° 26' N, 28° 20' E	13.06.2006
136. İstanbul, Çatalca, road of Karacaköy - Karamandere 4 th km, oak woodland	44 m	41° 23' N, 28° 20' E	13.06.2006
137. İstanbul, Çatalca, road of Karamandere - Yaylacık, 7 th km, oak woodland	201 m	41° 21' N, 28° 17' E	13.06.2006
138. İstanbul, Çatalca, between Yaylacık and Aydınlar, 2 nd km, oak woodland	208 m	41° 21' N, 28° 13' E	13.06.2006
139. İstanbul, Çatalca, road of Safaalan - Binkılıç, 2 nd km, oak woodland	197 m	41° 25' N, 28° 07' E	13.06.2006
140. İstanbul, Ümraniye, Koçullu, around of Ömerli dam, oak woodland	89 m	41° 04' N, 29° 21' E	29.06.2007
141. İstanbul, Şile, vicinity of Yeniköy	93 m	41° 08' N, 29° 38' E	29.06.2007
142. İstanbul, Şile, vicinity of Yaylalı, forest area	113 m	41° 07' N, 29° 40' E	29.06.2007
143. Kırklareli, Vize, road of Kıyıköy - Vize, 8 th km, oak woodland	147 m	41° 38' N, 28° 00' E	14.06.2006
144. Kırklareli, Vize, road of Kömürköy - Vize, 2 km to Vize, rocky area	219 m	41° 34' N, 27° 47' E	14.06.2006
145. Kırklareli, Vize, road of Vize - Lüleburgaz, junction of Topçuköy, oak woodland	208 m	41° 30' N, 27° 42' E	14.06.2006
146. Kırklareli, Centre, vicinity of Kırklareli Organized Industrial District, oak woodland	216 m	41° 41' N, 27° 20' E	15.06.2006
147. Kırklareli, Centre, road of Üsküp - Beypinarı, 2 nd km, agricultural area	403 m	41° 45' N, 27° 26' E	15.06.2006
148. Kırklareli, Centre, road of Üsküp - Beypinarı, Yaprak Tepe local, oak forest	590 m	41° 46' N, 27° 29' E	15.06.2006
149. Kırklareli, Centre, road of Beypinar - Çukurpinar, 3 th km, oak woodland	523 m	41° 48' N, 27° 19' E	15.06.2006
150. Kırklareli, Centre, Armutveren village, oak-beech forest	351 m	41° 52' N, 27° 30' E	15.06.2006

151. Kırklareli, Demirköy, road of Balaban - Demirköy, before 2 km from Demirköy, agricultural area	420 m	41° 49' N, 27° 44' E	15.06.2006
152. Kırklareli, Demirköy, road of Limanköy - İğneada, oak woodland	80 m	41° 53' N, 28° 01' E	15.06.2006
153. Kırklareli, Centre, road of Kırklareli - Dereköy, junction of Yörükbayır, oak woodland	427 m	41° 48' N, 27° 18' E	16.06.2006
154. Kırklareli, Centre, road of Düzorman -Armağan, 2 nd km, agricultural area	382 m	41° 51' N, 27° 23' E	16.06.2006
155. Kırklareli, Centre, between Armağan and Dereköy, 5 th km, oak woodland	496 m	41° 54' N, 27° 23' E	16.06.2006
156. Kırklareli, Centre, vicinity of Geçitağzı	624 m	41° 57' N, 27° 21' E	16.06.2006
157. Kırklareli, Kofçaz, vicinity of Kocayazı, oak forest	666 m	41° 58' N, 27° 10' E	16.06.2006
158. Kırklareli, Centre, road of Erikler - Çayırılı, pasture	233 m	41° 53' N, 27° 06' E	16.06.2006
159. Kırklareli, Kofçaz, vicinity of Kocatarla, pasture	283 m	41° 56' N, 27° 02' E	16.06.2006
160. Kırklareli, Kofçaz, road of Devletliagaç - Karahamza, 2 nd km, pasture	384 m	41° 58' N, 26° 59' E	16.06.2006
161. Kırklareli, Centre, road of Karahamza - Yoğuntaş 2 nd km, oak woodland	337 m	41° 51' N, 27° 01' E	16.06.2006
162. Kırklareli, Lüleburgaz, vicinity of Hamitabat, oak woodland	124 m	41° 29' N, 27° 16' E	23.07.2006
163. Kırklareli, Vize, between Kömürköy and Sergen, 11 km to Sergen	341 m	41° 41' N, 27° 48' E	24.07.2006
164. Kocaeli, Kandıra, vicinity of Yayıncılar, roadside	30 m	40° 53' N, 29° 38' E	29.06.2007
165. Kocaeli, Centre, vicinity of Alartı hometown	569 m	40° 37' N, 29° 57' E	07.10.2007
166. Sakarya, Geyve, between Bozcağız and Koru, before 4 km from Koru	350 m	40° 31' N, 30° 26' E	07.10.2007
167. Sakarya, Geyve, vicinity of Koru	600 m	40° 32' N, 30° 28' E	07.10.2007
168. Tekirdağ, Saray, vicinity of Güngörmez, oak woodland	240 m	41° 29' N, 27° 59' E	14.06.2006
169. Tekirdağ, Saray, between Güngörmez and Bahçeköy, oak woodland	250 m	41° 31' N, 28° 00' E	14.06.2006
170. Tekirdağ, Saray, road of Bahçeköy - Kıyıköy, 2 nd km, oak woodland	129 m	41° 33' N, 28° 03' E	14.06.2006
171. Tekirdağ, Saray, Kasatura Bay Conservation Area, oak woodland	161 m	41° 36' N, 28° 05' E	14.06.2006
172. Tekirdağ, Malkara, vicinity of Kozyörük, pasture	155 m	40° 59' N, 26° 56' E	18.06.2006
173. Tekirdağ, Malkara, road of Mestanlar - Süleymaniye, 2 nd km, pasture	264 m	41° 06' N, 26° 52' E	18.06.2006
174. Tekirdağ, Hayrabolu, vicinity of Parmaksız, oak woodland	134 m	41° 05' N, 27° 10' E	18.06.2006
175. Tekirdağ, Malkara, vicinity of Çimendere, oak woodland	198 m	40° 47' N, 27° 03' E	19.06.2006
176. Tekirdağ, Şarköy, between Uçmakdere and Yeniköy, 5 th km, maquis	248 m	40° 48' N, 27° 23' E	23.07.2006
177. Tekirdağ, Hayrabolu, vicinity of Muzruplu, oak woodland	112 m	41° 13' N, 27° 19' E	23.07.2006
178. Tekirdağ, Centre, vicinity of Araphacı	252 m	40° 51' N, 27° 15' E	24.07.2006
179. Yalova, Armutlu, between Kapaklı and Selimiye	266 m	40° 28' N, 28° 57' E	30.09.2007
180. Yalova, Armutlu, road of Selimiye - Fıstıklı, junction of Hayriye and Mecidiye, oak woodland	397 m	40° 29' N, 28° 57' E	30.09.2007
181. Yalova, Çınarcık, vicinity of Delmece plateau, oak and beech forest	684 m	40° 34' N, 29° 01' E	30.09.2007
182. Yalova, Armutlu, north side of Selimiye	630 m	40° 31' N, 28° 59' E	30.09.2007

3. Results

Lichens and lichenicolous fungi taxa are listed in alphabetical order followed by the province, locality numbers, and substrates. Lichens and lichenicolous fungi taxa new to the Marmara region are indicated by *.

Abbreviations of the provinces used in the taxa list are as follows:

Balıkesir	: BA	Edirne	: E	Sakarya	: S
Bilecik	: Bİ	İstanbul	: İ	Tekirdağ	: T
Bursa	: BU	Kırklareli	: KI	Yalova	: Y
Çanakkale	: Ç	Kocaeli	: KO		

Acrocordia gemmata (Ach.) A. Massal.

Ç: 81, on *Q. frainetto*; 150, 157, on *Q. cerris*; T: 174, on *Q. pubescens*

Amandinea punctata (Hoffm.) Coppins & Scheid.

BA: 4, on *Q. pubescens*; 14, 22, on *Q. cerris*; BU: 35, on *Q. pubescens*; 40, 41, on *Q. infectoria*; 42, on *Q. petraea*; 61, 69, on *Q. cerris*; Ç: 76, 77, on *Q. cerris*; 94, on *Q. pubescens*; 95, 103, on *Q. cerris*; E: 105, 108, on *Q. virgiliana*; 110, 111, 114, 117, on *Q. pubescens*; 119, on *Q. cerris*; 122, on *Q. pubescens*; İ: 127, on *Q. infectoria*; KI: 143, on *Q. frainetto*; 159, on *Q. cerris*; T: 170, on *Q. petraea*; 177, on *Q. pubescens*

Anaptychia ciliaris (L.) Körb.

BA: 4, 6, on *Q. pubescens*; 7, 11, on *Q. cerris*; 16, 21, on *Q. frainetto*; **BI:** 28, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 31, 33, on *Q. frainetto*; 39, on *Q. petraea*; 44, on *Q. infectoria*; 45, on *Q. petraea*, on *Q. pubescens*; 46, 48, 49, 51, on *Q. cerris*; 67, on *Q. frainetto*; **Ç:** 78, on *Q. cerris*; 81, on *Q. frainetto*; 86, on *Q. pubescens*; 96, 99, on *Q. frainetto*; **E:** 109, on *Q. pubescens*; 115, 116, on *Q. virgiliana*; 119, on *Q. cerris*; 122, on *Q. pubescens*; **I:** 142, on *Q. petraea*; **KI:** 146, on *Q. pubescens*; 149, 150, on *Q. cerris*; 151, on *Q. frainetto*; 153, on *Q. frainetto*, on *Q. virgiliana*; 154, 155, on *Q. cerris*; 157, on *Q. cerris*; 160, 161, on *Q. frainetto*; **S:** 167, on *Q. virgiliana*; **T:** 174, 177, on *Q. pubescens*; 178, on *Q. frainetto*; **Y:** 182, on *Q. frainetto*, on *Q. petraea*

Anaptychia setifera (Mereschk.) Räsänen

BI: 28, on *Q. cerris*

* *Arthonia didyma* Körb.

Ç: 78, on *Q. cerris*, **Det. V. John**

Arthonia dispersa (Schrad.) Nyl.

I: 132, on *Q. pubescens*

* *Arthonia punctiformis* Ach. (1808)

Ç: 85, on *Q. cerris*

Arthonia radiata (Pers.) Ach.

Ç: 78, on *Q. cerris*; **E:** 120, on *Q. ithaburensis* subsp. *macrolepis*; **I:** 131, on *Q. pubescens*; 139, 140, on *Q. petraea*; **S:** 167, on *Q. virgiliana*; **T:** 168, on *Q. cerris*

Bacidia fraxinea Lönnr.

BA: 6, on *Q. pubescens*; 8, on *Q. frainetto*; 11, on *Q. cerris*; 21, on *Q. frainetto*; **KI:** 153, on *Q. frainetto*; **T:** 171, on *Q. frainetto*; 172, 174, on *Q. pubescens*; 178, on *Q. frainetto*

Bacidia laurocerasi (Delise ex Duby) Zahlbr.

I: 125, on *Q. frainetto*

Bacidia naegelii (Hepp) Zahlbr.

BU: 45, on *Q. pubescens*; **Ç:** 78, on *Q. cerris*; **I:** 132, on *Q. cerris*; 135, on *Q. petraea*

Bacidia rosella (Pers.) De Not.

BA: 7, on *Q. cerris*; 21, on *Q. frainetto*

Bacidia rubella (Hoffm.) A. Massal.

Ç: 81, on *Q. frainetto*; **I:** 125, on *Q. frainetto*; 134, on *Q. cerris*

Bryoria capillaris (Ach.) Brodo & D. Hawksw.

BU: 67, on *Q. cerris*

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

BU: 45, on *Q. petraea*; 49, on *Q. cerris*; **Ç:** 81, on *Q. frainetto*

Bryoria implexa (Hoffm.) Brodo & D. Hawksw.

BU: 67, on *Q. cerris*

Buellia disciformis (Fr.) Mudd

BA: 18, 22, on *Q. cerris*; **BI:** 30, on *Q. frainetto*; **BU:** 47, on *Q. petraea*; 60, 69, on *Q. cerris*; **Ç:** 73, on *Q. cerris*; 76, on *Q. cerris*, on *Q. pubescens*; 77, on *Q. pubescens*; 78, on *Q. cerris*; 81, on *Q. frainetto*; 92, on *Q. cerris*; 97, 99, on *Q. frainetto*; 102, 103, on *Q. cerris*; **KO:** 165, on *Q. petraea*; **T:** 170, on *Q. petraea*; 173, on *Q. cerris*; **Y:** 180, on *Q. cerris*; 181, on *Q. petraea*; 182, on *Q. cerris*

Buellia erubescens Arnold

BI: 26, on *Q. pubescens*; **Ç:** 76, on *Q. pubescens*; 80, on *Q. petraea*

Buellia griseovirens (Turner & Borrer ex Sm.) Almb.

BA: 1, on *Q. cerris*; **BI:** 26, on *Q. cerris*; **Ç:** 73, on *Q. cerris*; 80, on *Q. petraea*; 81, on *Q. frainetto*; **I:** 125, on *Q. petraea*; **Y:** 180, on *Q. cerris*, on *Q. frainetto*

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

BA: 15, on *Q. cerris*; **BI:** 25, 28, on *Q. pubescens*; **BU:** 49, on *Q. cerris*; **Ç:** 74, on *Q. ithaburensis* subsp. *macrolepis*; 79, on *Q. cerris*

Caloplaca cerinella (Nyl.) Flagey

BĪ: 29, on *Q. cerris*; **BU:** 32, on *Q. cerris*, on *Q. infectoria*; 34, on *Q. infectoria*; 36, 57, on *Q. pubescens*; **Ç:** 74, on *Q. ithaburensis* subsp. *macrolepis*; 78, on *Q. cerris*; **İ:** 132, on *Q. cerris*; 135, on *Q. petraea*; **Y:** 179, on *Q. coccifera*

Caloplaca cerinelloides (Erichsen) Poelt

E: 107, 108, on *Q. virgiliana*

Caloplaca ferruginea (Huds.) Th. Fr.

BA: 1, on *Q. trojana*; 15, on *Q. cerris*; **BĪ:** 26, on *Q. pubescens*, on *Q. cerris*, on *Q. infectoria*; **BU:** 35, on *Q. pubescens*; 39, on *Q. cerris*; 58, on *Q. frainetto*; 66, on *Q. cerris*, on *Q. frainetto*; **Ç:** 71, 73, on *Q. cerris*; 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 76, 77, on *Q. cerris*, on *Q. pubescens*; 78, on *Q. cerris*; 86, 87, 90, on *Q. pubescens*; 99, on *Q. frainetto*; **E:** 113, on *Q. frainetto*; 116, on *Q. virgiliana*; 118, 121, on *Q. pubescens*; **KI:** 154, 155, on *Q. cerris*; **S:** 166, on *Q. cerris*; **T:** 178, on *Q. frainetto*; **Y:** 179, on *Q. coccifera*; 180, on *Q. cerris*, on *Q. frainetto*

Caloplaca flavorubescens (Huds.) J.R. Laundon

BA: 2, on *Q. trojana*; 11, on *Q. cerris*; **BĪ:** 29, on *Q. cerris*; **BU:** 39, on *Q. petraea*; 44, on *Q. cerris*; 45, on *Q. pubescens*; 47, on *Q. cerris*; **Ç:** 72, 74, on *Q. ithaburensis* subsp. *macrolepis*; **KI:** 157, on *Q. cerris*

* *Caloplaca floridana* (Tuck.) S.C. Tucker

BU: 47, on *Q. cerris*, **Det. V. John**

Caloplaca haematites (Chaub. ex St.-Amans) Zwackh

BA: 10, on *Q. cerris*; **Ç:** 79, on *Q. cerris*; 84, on *Q. ithaburensis* subsp. *macrolepis*

Caloplaca holocarpa (Hoffm.) A.E. Wade

BĪ: 27, on *Q. cerris*; **BU:** 32, on *Q. cerris*; 39, on *Q. petraea*; **Ç:** 88, on *Q. pubescens*; **İ:** 134, on *Q. cerris*; **KI:** 149, 156, on *Q. cerris*

* *Caloplaca lobulata* (Flörke) Hellb.

BĪ: 29, on *Q. cerris*

Candelaria concolor (Dicks.) Stein

BA: 7, on *Q. cerris*; 9, on *Q. pubescens*; **BA:** 19, 20, on *Q. pubescens*; **BU:** 41, on *Q. cerris*; **T:** 177, on *Q. pubescens*

Candelariella vitellina (Hoffm.) Müll. Arg.

BA: 2, on *Q. trojana*; 6, on *Q. pubescens*; 12, on *Q. ithaburensis* subsp. *macrolepis*; 14, 15, on *Q. cerris*; 17, on *Q. pubescens*; 18, on *Q. cerris*; **BĪ:** 29, on *Q. cerris*; **BU:** 32, on *Q. cerris*; 39, on *Q. cerris*, on *Q. petraea*; 41, 44, on *Q. cerris*, on *Q. infectoria*; 45, on *Q. petraea*; 47, 53, 61, 65, on *Q. cerris*; **Ç:** 71, on *Q. cerris*; 75, on *Q. pubescens*; 79, on *Q. cerris*; 89, on *Q. ithaburensis* subsp. *macrolepis*; **E:** 111, on *Q. pubescens*; **T:** 178, on *Q. frainetto*

Candelariella xanthostigma (Pers.) Lettau

BA: 7, on *Q. cerris*; 8, on *Q. frainetto*; **BU:** 38, 49, 62, on *Q. cerris*; 68, on *Q. pubescens*; **Ç:** 78, 88, on *Q. cerris*; 94, on *Q. pubescens*; 95, on *Q. cerris*; 97, on *Q. pubescens*; 99, on *Q. frainetto*; **İ:** 125, on *Q. petraea*; 133, on *Q. cerris*; 142, on *Q. petraea*; **T:** 172, 174, 177, on *Q. pubescens*

Catillaria nigroclavata (Nyl.) Schuler

KI: 149, on *Q. cerris*

Cladonia chlorophaea (Flörke ex Sommerf.) Spreng.

BA: 5, on *Q. cerris*; **BĪ:** 28, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 36, on *Q. pubescens*; **Y:** 180, on *Q. cerris*; 182, on *Q. petraea*

Cladonia coniocraea (Flörke) Spreng.

BĪ: 30, on *Q. frainetto*; **BU:** 64, on *Q. petraea*; **Ç:** 81, on *Q. frainetto*; **İ:** 140, on *Q. petraea*; **T:** 168, on *Q. cerris*

Cladonia fimbriata (L.) Fr.

BA: 1, on *Q. cerris*, on *Q. trojana*; **BĪ:** 30, on *Q. frainetto*; **BU:** 69, on *Q. cerris*; **T:** 170, on *Q. petraea*; 171, on *Q. petraea*; **Y:** 180, on *Q. cerris*; 181, on *Q. petraea*

Cladonia pyxidata (L.) Hoffm.

BA: 4, on *Q. pubescens*; **BU:** 31, on *Q. frainetto*; 45, on *Q. pubescens*; 60, on *Q. cerris*; 67, on *Q. petraea*; **Ç:** 92, on *Q. cerris*; 97, on *Q. pubescens*; 100, on *Q. cerris*; **İ:** 136, on *Q. petraea*; **KI:** 148, on *Q. cerris*; **Y:** 182, on *Q. cerris*

Cladonia rangiformis Hoffm.

BA: 4, on *Q. pubescens*; **BĪ:** 30, on *Q. frainetto*; **Ç:** 97, on *Q. pubescens*

Collema flaccidum (Ach.) Ach.

Ç: 81, on *Q. frainetto*; 88, on *Q. pubescens*; 98, on *Q. cerris*; **İ:** 134, on *Q. cerris*

Collema furfuraceum Du Rietz

BU: 50, on *Q. robur*; 55, on *Q. infectoria*; **İ:** 134, on *Q. cerris*

Collema nigrescens (Huds.) DC.

BU: 45, on *Q. pubescens*; 67, on *Q. frainetto*; **Ç:** 90, on *Q. pubescens*

Collema subflaccidum Degel.

BA: 6, on *Q. pubescens*; 11, on *Q. cerris*; **BU:** 48, 49, on *Q. cerris*; 67, on *Q. frainetto*; **Ç:** 78, on *Q. cerris*; 90, on *Q. pubescens*; **KI:** 157, on *Q. cerris*; **T:** 174, on *Q. pubescens*

Dactylospora parasitica (Flörke ex Spreng.) Zopf

Ç: 81, on *Q. frainetto*, lichenicolous on *Ochrolechia turneri*

Diplotomma alboatrum (Hoffm.) Flot.

Bİ: 28, on *Q. cerris*; **BU:** 60, on *Q. cerris*; **Ç:** 75, 88, on *Q. pubescens*; **İ:** 134, on *Q. cerris*

Evernia prunastri (L.) Ach.

BA: 1, on *Q. cerris*; 4, on *Q. cerris*, on *Q. pubescens*; 5, 14, on *Q. cerris*; 16, on *Q. frainetto*; 18, on *Q. cerris*; 19, 20, on *Q. pubescens*; 22, on *Q. cerris*; **Bİ:** 26, on *Q. cerris*, on *Q. infectoria*, on *Q. pubescens*; 28, on *Q. cerris*, on *Q. pubescens*; 29, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 31, on *Q. frainetto*; 32, on *Q. cerris*, on *Q. infectoria*; 38, on *Q. cerris*; 39, on *Q. petraea*; 44, on *Q. cerris*, on *Q. infectoria*; 45, on *Q. petraea*, on *Q. pubescens*; 46, on *Q. cerris*; 47, 49, on *Q. cerris*, on *Q. petraea*; 51, on *Q. cerris*; 52, on *Q. petraea*; 54, on *Q. cerris*; 55, on *Q. infectoria*; 56, on *Q. cerris*; 58, on *Q. frainetto*; 61, 63, 65, on *Q. cerris*; 66, on *Q. cerris*, on *Q. frainetto*; 67, on *Q. frainetto*, on *Q. petraea*; 69, on *Q. cerris*; 70, on *Q. cerris*, on *Q. infectoria*, on *Q. pubescens*; **Ç:** 71, 73, on *Q. cerris*; 75, on *Q. pubescens*; 76, 77, on *Q. cerris*, on *Q. pubescens*; 78, on *Q. cerris*; 80, on *Q. petraea*; 81, on *Q. frainetto*; 86, on *Q. coccifera*; 88, on *Q. cerris*; 91, on *Q. frainetto*; 95, on *Q. cerris*; 96, on *Q. frainetto*; 97, on *Q. frainetto*, on *Q. pubescens*; 98, on *Q. cerris*; 99, on *Q. frainetto*; 100, 102, on *Q. cerris*; **E:** 107, 108, on *Q. virgiliana*; 110, on *Q. pubescens*; 113, on *Q. frainetto*; 119, on *Q. cerris*; 122, on *Q. pubescens*; 124, on *Q. frainetto*; **İ:** 133, 141, on *Q. cerris*; 142, on *Q. petraea*; **KI:** 145, on *Q. virgiliana*; 146, on *Q. pubescens*; 148, 149, 150, on *Q. cerris*; 152, 153, on *Q. frainetto*; 162, 163, on *Q. frainetto*, on *Q. pubescens*; **KO:** 165, on *Q. petraea*; **S:** 166, on *Q. cerris*, on *Q. virgiliana*; 167, on *Q. virgiliana*; **T:** 171, on *Q. petraea*; 172, on *Q. pubescens*; 173, on *Q. cerris*; 177, on *Q. pubescens*; **Y:** 180, on *Q. cerris*, on *Q. frainetto*; 182, on *Q. cerris*, on *Q. petraea*

Flavoparmelia caperata (L.) Hale

BU: 31, on *Q. frainetto*; 42, 45, on *Q. petraea*; 54, on *Q. cerris*; **Ç:** 95, on *Q. cerris*; **E:** 108, on *Q. virgiliana*; **İ:** 125, 140, on *Q. petraea*; 141, on *Q. cerris*; 142, on *Q. petraea*; **KI:** 153, on *Q. frainetto*; 163, on *Q. pubescens*; **KO:** 165, on *Q. petraea*

Hyperphyscia adglutinata (Flörke) H. Mayrhofer ve Poelt

BU: 59, on *Q. cerris*; **Ç:** 93, on *Q. pubescens*; **İ:** 127, on *Q. frainetto*

Hypogymnia farinacea Zopf

Bİ: 26, on *Q. infectoria*; 28, 29, on *Q. cerris*; **BU:** 51, 54, on *Q. cerris*; 66, on *Q. frainetto*; **Ç:** 77, on *Q. cerris*; **S:** 167, on *Q. virgiliana*; **Y:** 180, on *Q. cerris*, on *Q. frainetto*; 182, on *Q. cerris*, on *Q. petraea*

Hypogymnia physodes (L.) Nyl.

BA: 4, on *Q. cerris*, on *Q. pubescens*; 23, on *Q. cerris*; **Bİ:** 26, on *Q. cerris*, on *Q. infectoria*, on *Q. pubescens*; 30, on *Q. frainetto*; **BU:** 31, on *Q. frainetto*; 39, 42, on *Q. petraea*; 46, on *Q. cerris*; 47, on *Q. cerris*, on *Q. petraea*; 49, 63, on *Q. cerris*; 66, on *Q. frainetto*; 67, on *Q. cerris*, on *Q. frainetto*, on *Q. petraea*; 69, on *Q. cerris*; **Ç:** 73, on *Q. cerris*; 76, on *Q. cerris*, on *Q. pubescens*; 80, on *Q. petraea*; 81, on *Q. frainetto*; 86, on *Q. coccifera*; 91, 97, on *Q. frainetto*; 101, on *Q. petraea*; 102, on *Q. cerris*; **KI:** 163, on *Q. pubescens*; **S:** 166, on *Q. cerris*; **Y:** 180, on *Q. cerris*, on *Q. frainetto*

Hypogymnia tubulosa (Schaer.) Hav.

BA: 4, on *Q. cerris*, on *Q. pubescens*; **Bİ:** 30, on *Q. frainetto*; **BU:** 31, on *Q. frainetto*; 32, on *Q. cerris*; 39, 42, on *Q. petraea*; 44, on *Q. infectoria*; 45, on *Q. petraea*; 49, on *Q. cerris*, on *Q. petraea*; 63, on *Q. cerris*; 67, on *Q. frainetto*, on *Q. petraea*; **Ç:** 73, on *Q. cerris*; 77, on *Q. pubescens*; 80, on *Q. petraea*; 81, on *Q. frainetto*; 92, on *Q. cerris*; 99, on *Q. frainetto*

Lecanora albella (Pers.) Ach.

KO: 164, on *Q. petraea*

Lecanora allophana (Ach.) Nyl.

Bİ: 28, on *Q. cerris*; **KI:** 149, on *Q. petraea*

Lecanora argentata (Ach.) Malme

Bİ: 25, on *Q. pubescens*; **BU:** 59, 60, on *Q. cerris*; **Ç:** 81, on *Q. frainetto*

Lecanora carpinea (L.) Vain.

BA: 1, 3, on *Q. cerris*; 4, on *Q. cerris*, on *Q. pubescens*; 5, 10, 11, on *Q. cerris*; 13, on *Q. trojana*; 14, 15, on *Q. cerris*; 16, on *Q. frainetto*; 18, on *Q. cerris*; 20, on *Q. pubescens*; 22, on *Q. cerris*, on *Q. petraea*; 23, on *Q. cerris*; **BI:** 26, on *Q. infectoria*; 27, on *Q. cerris*; 28, on *Q. pubescens*; 29, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 32, on *Q. cerris*, on *Q. infectoria*; 34, on *Q. infectoria*; 35, on *Q. pubescens*; 36, on *Q. cerris*, on *Q. pubescens*; 37, on *Q. cerris*; 39, on *Q. cerris*, on *Q. petraea*; 40, on *Q. infectoria*; 41, on *Q. cerris*, on *Q. infectoria*; 42, on *Q. petraea*; 44, on *Q. cerris*; 45, on *Q. petraea*, on *Q. pubescens*; 46, on *Q. cerris*; 47, on *Q. cerris*, on *Q. petraea*; 48, on *Q. cerris*; 49, on *Q. petraea*; 51, on *Q. cerris*; 52, on *Q. petraea*; 53, 54, 56, on *Q. cerris*; 58, on *Q. frainetto*; 59, 60, 61, 63, 65, on *Q. cerris*; 66, on *Q. cerris*, on *Q. frainetto*; 69, on *Q. cerris*, on *Q. coccifera*; **C:** 71, on *Q. cerris*; 74, on *Q. ithaburensis* subsp. *macrolepis*; 76, 77, on *Q. cerris*, on *Q. pubescens*; 78, 79, on *Q. cerris*; 80, on *Q. petraea*; 81, on *Q. frainetto*; 86, on *Q. coccifera*, on *Q. pubescens*; 88, on *Q. cerris*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 92, on *Q. cerris*; 94, on *Q. pubescens*; 95, on *Q. cerris*; 97, 99, on *Q. frainetto*; 100, 102, 103, on *Q. cerris*; **E:** 104, 107, on *Q. virgiliana*; 111, on *Q. pubescens*; 113, on *Q. frainetto*; 123, on *Q. infectoria*; 124, on *Q. frainetto*; **I:** 132, on *Q. cerris*, on *Q. pubescens*; 134, on *Q. cerris*; 138, on *Q. frainetto*; 139, on *Q. frainetto*, on *Q. petraea*; 141, on *Q. cerris*; **KI:** 143, on *Q. frainetto*; 148, 150, 154, 156, 159, on *Q. cerris*; 160, on *Q. frainetto*; 162, on *Q. frainetto*, on *Q. pubescens*; **KO:** 164, 165, on *Q. petraea*; **S:** 166, on *Q. cerris*, on *Q. virgiliana*; 167, on *Q. virgiliana*; **T:** 168, on *Q. cerris*; 170, 171, on *Q. petraea*; 172, on *Q. pubescens*; 173, on *Q. cerris*; 175, on *Q. infectoria*; 177, 178, on *Q. pubescens*; **Y:** 180, on *Q. frainetto*; 181, on *Q. petraea*

Lecanora chlarotera Nyl.

BA: 1, on *Q. cerris*, on *Q. trojana*; 2, on *Q. trojana*; 3, 4, 5, 7, on *Q. cerris*; 9, on *Q. pubescens*; 14, 15, on *Q. cerris*; 16, on *Q. frainetto*; 17, on *Q. pubescens*; 18, on *Q. cerris*; 19, 20, on *Q. pubescens*; 22, on *Q. cerris*, on *Q. petraea*; 23, 24, on *Q. cerris*; **BI:** 25, on *Q. pubescens*; 27, on *Q. cerris*; 28, on *Q. cerris*, on *Q. pubescens*; 29, on *Q. cerris*; **BU:** 32, on *Q. cerris*; 34, on *Q. infectoria*; 35, on *Q. pubescens*; 36, on *Q. cerris*, on *Q. pubescens*; 39, on *Q. cerris*, on *Q. petraea*; 41, on *Q. cerris*; 42, on *Q. petraea*; 44, on *Q. cerris*, on *Q. infectoria*; 45, on *Q. petraea*; 47, on *Q. cerris*, on *Q. petraea*; 49, on *Q. cerris*; 50, on *Q. robur*; 51, on *Q. cerris*; 52, on *Q. petraea*; 53, 59, 60, 61, 62, 63, on *Q. cerris*; 66, on *Q. cerris*, on *Q. frainetto*; 67, on *Q. cerris*; 69, on *Q. infectoria*; **C:** 71, on *Q. cerris*; 72, on *Q. ithaburensis* subsp. *macrolepis*; 73, on *Q. cerris*; 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 76, 77, on *Q. cerris*, on *Q. pubescens*; 78, 79, on *Q. cerris*; 80, on *Q. petraea*; 81, on *Q. frainetto*; 86, on *Q. coccifera*, on *Q. pubescens*; 87, on *Q. pubescens*; 88, on *Q. cerris*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 90, on *Q. pubescens*; 92, on *Q. cerris*; 94, on *Q. pubescens*; 95, on *Q. cerris*; 97, 99, on *Q. frainetto*; 103, on *Q. cerris*; **E:** 104, 107, 108, on *Q. virgiliana*; 110, 111, on *Q. pubescens*; 113, on *Q. frainetto*; 114, 117, on *Q. pubescens*; 120, on *Q. ithaburensis* subsp. *macrolepis*; 121, 122, on *Q. pubescens*; 123, on *Q. infectoria*; **I:** 125, on *Q. frainetto*, on *Q. petraea*; 134, on *Q. cerris*; 137, on *Q. petraea*; 139, on *Q. frainetto*; 140, 142, on *Q. petraea*; **KI:** 148, 154, 155, 157, 159, on *Q. cerris*; 162, on *Q. frainetto*; **S:** 166, on *Q. cerris*; **T:** 168, on *Q. cerris*; 170, on *Q. petraea*; 172, on *Q. pubescens*; 173, on *Q. cerris*; 176, 177, on *Q. pubescens*; 178, on *Q. frainetto*, on *Q. pubescens*; **Y:** 179, on *Q. coccifera*; 180, on *Q. cerris*, on *Q. frainetto*; 182, on *Q. petraea*

Lecanora expallens Ach.

BA: 1, on *Q. cerris*, on *Q. trojana*; 2, on *Q. trojana*; 5, on *Q. cerris*; 20, on *Q. pubescens*; **BI:** 26, on *Q. cerris*; **BU:** 42, on *Q. petraea*; 50, on *Q. robur*; 54, 61, on *Q. cerris*; 67, on *Q. cerris*, on *Q. petraea*; 69, on *Q. cerris*; **C:** 73, on *Q. cerris*; 76, on *Q. cerris*, on *Q. pubescens*; 77, 78, on *Q. cerris*; 91, on *Q. frainetto*; 92, 98, 102, 103, on *Q. cerris*; **E:** 116, on *Q. virgiliana*; 119, on *Q. cerris*; 121, 122, on *Q. pubescens*; **I:** 132, 133, on *Q. cerris*; 136, 140, on *Q. petraea*; **KI:** 150, 154, on *Q. cerris*; 162, on *Q. pubescens*; **T:** 170, on *Q. petraea*; 174, on *Q. pubescens*

Lecanora glabrata (Ach.) Malme

BA: 13, on *Q. trojana*; **BU:** 49, on *Q. cerris*; **I:** 134, on *Q. cerris*

Lecanora hagenii (Ach.) Ach.

BI: 28, on *Q. cerris*, on *Q. pubescens*; **BU:** 44, on *Q. infectoria*; **C:** 81, on *Q. frainetto*; 88, on *Q. pubescens*; **E:** 108, on *Q. virgiliana*

* *Lecanora impudens* Degel.

BI: 28, on *Q. cerris*

Lecanora intumescens (Rebent.) Rabenh.

BA: 1, 4, on *Q. cerris*; **BU:** 42, 52, on *Q. petraea*; **C:** 76, on *Q. cerris*; 80, on *Q. petraea*; **KI:** 148, on *Q. cerris*

Lecanora saligna (Schrad.) Zahlbr.

C: 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; **I:** 137, on *Q. frainetto*, on *Q. petraea*; **KI:** 156, on *Q. cerris*

Lecanora strobilina (Spreng.) Kieff.

C: 102, on *Q. cerris*

Lecanora subcarpineae Szatala

E: 124, on *Q. frainetto*; **KI:** 162, on *Q. pubescens*; **T:** 173, on *Q. cerris*

Lecanora subrugosa Nyl.

BU: 42, on *Q. petraea*; **Ç:** 101, on *Q. petraea*; **KI:** 149, on *Q. cerris*; **KO:** 164, on *Q. frainetto*; **T:** 171, on *Q. petraea*

Lecanora symmicta (Ach.) Ach.

Ç: 99, on *Q. frainetto*

Lecanora umbrina (Ehrh.) Röhl.

Bİ: 27, 28, on *Q. cerris*; **BU:** 45, on *Q. pubescens*

Lecidella elaeochroma (Ach.) M. Choisy

BA: 1, on *Q. cerris*, on *Q. trojana*; 2, on *Q. trojana*; 4, 5, on *Q. cerris*; 6, on *Q. pubescens*; 10, 11, on *Q. cerris*; 12, on *Q. ithaburensis* subsp. *macrolepis*; 13, on *Q. trojana*; 14, 15, on *Q. cerris*; 16, on *Q. frainetto*; 17, on *Q. pubescens*; 18, on *Q. cerris*; 19, 20, on *Q. pubescens*; 22, on *Q. petraea*; 23, 24, on *Q. cerris*; **Bİ:** 25, on *Q. pubescens*; 26, on *Q. infectoria*; 27, on *Q. cerris*; 28, on *Q. cerris*, on *Q. pubescens*; 29, on *Q. cerris*; **BU:** 31, on *Q. frainetto*; 32, on *Q. cerris*, on *Q. infectoria*; 34, on *Q. infectoria*; 35, on *Q. pubescens*; 36, on *Q. cerris*, on *Q. pubescens*; 37, 38, on *Q. cerris*; 39, on *Q. cerris*, on *Q. petraea*; 41, on *Q. cerris*, on *Q. infectoria*; 42, on *Q. petraea*; 44, on *Q. cerris*, on *Q. infectoria*; 45, on *Q. petraea*; 46, 47, on *Q. cerris*; 49, on *Q. petraea*; 50, on *Q. robur*; 51, on *Q. cerris*; 52, on *Q. petraea*; 53, 54, on *Q. cerris*; 55, on *Q. infectoria*; 56, on *Q. cerris*; 58, on *Q. frainetto*; 59, on *Q. cerris*; 60, 61, 62, 63, on *Q. cerris*; 66, on *Q. frainetto*; 67, on *Q. cerris*, on *Q. frainetto*; 69, on *Q. cerris*, on *Q. coccifera*, on *Q. infectoria*, 70, on *Q. infectoria*, on *Q. pubescens*; **Ç:** 71, 73, on *Q. cerris*; 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 76, on *Q. cerris*, on *Q. pubescens*; 77, on *Q. cerris*, on *Q. pubescens*; 78, on *Q. petraea*; 81, on *Q. frainetto*; 86, on *Q. coccifera*, on *Q. pubescens*; 88, on *Q. cerris*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 91, on *Q. cerris*, on *Q. frainetto*; 92, on *Q. cerris*; 93, 94, on *Q. pubescens*; 95, on *Q. cerris*; 96, on *Q. frainetto*; 97, on *Q. frainetto*, on *Q. pubescens*; 100, on *Q. cerris*, on *Q. frainetto*; 102, on *Q. cerris*; **E:** 104, on *Q. virgiliana*; 110, 112, on *Q. pubescens*; 113, on *Q. frainetto*; 116, on *Q. virgiliana*; 117, 118, on *Q. pubescens*; 119, on *Q. cerris*; 120, on *Q. ithaburensis* subsp. *macrolepis*; 121, on *Q. pubescens*; 123, on *Q. infectoria*; 124, on *Q. frainetto*; **İ:** 125, on *Q. petraea*; 127, on *Q. infectoria*; 130, on *Q. frainetto*, on *Q. petraea*; 131, on *Q. pubescens*; 132, on *Q. cerris*, on *Q. pubescens*, on *Q. robur*; 133, 134, on *Q. cerris*; 135, 136, on *Q. petraea*; 137, on *Q. frainetto*, on *Q. petraea*; 138, on *Q. frainetto*; 139, on *Q. frainetto*, on *Q. petraea*; 140, on *Q. petraea*; 141, on *Q. cerris*; 142, on *Q. petraea*; **KI:** 143, on *Q. frainetto*; 144, on *Q. pubescens*; 145, on *Q. virgiliana*; 148, 149, 150, on *Q. cerris*; 153, on *Q. frainetto*; 154, 155, 156, 157, on *Q. cerris*; 158, on *Q. pubescens*; 159, on *Q. cerris*; 162, on *Q. frainetto*, on *Q. pubescens*; **KO:** 164, on *Q. frainetto*, on *Q. petraea*; **S:** 166, on *Q. cerris*, on *Q. virgiliana*; 167, on *Q. virgiliana*; **T:** 168, 169, on *Q. cerris*; 170, on *Q. petraea*; 171, on *Q. frainetto*, on *Q. petraea*; 172, on *Q. pubescens*; 173, on *Q. cerris*; 175, on *Q. coccifera*, on *Q. infectoria*; 176, 178, on *Q. pubescens*; **Y:** 180, on *Q. cerris*, on *Q. frainetto*; 182, on *Q. petraea*

Lepraria incana (L.) Ach.

BA: 22, on *Q. petraea*; **BU:** 64, on *Q. petraea*; **Ç:** 81, on *Q. frainetto*; 97, on *Q. pubescens*; **İ:** 125, on *Q. petraea*; 126, on *Q. frainetto*; 128, 140, on *Q. petraea*; **KO:** 165, on *Q. petraea*; **T:** 170, on *Q. petraea*

Lepraria lobificans Nyl.

İ: 126, on *Q. frainetto*; **T:** 171, on *Q. petraea*

Leptogium lichenoides (L.) Zahlbr.

BU: 45, on *Q. pubescens*; **S:** 166, on *Q. cerris*

Lobaria pulmonaria (L.) Hoffm.

Ç: 81, on *Q. frainetto*; **Y:** 182, on *Q. petraea*

Megalaria laureri (Hepp ex Th. Fr.) Hafellner

İ: 125, 126, on *Q. frainetto*

Melanelia fuliginosa subsp. *glabratula* (Lamy) Coppins

BU: 38, on *Q. cerris*; 39, on *Q. petraea*; 47, on *Q. cerris*, on *Q. petraea*; 49, on *Q. cerris*; 52, on *Q. petraea*; 60, on *Q. cerris*; **Ç:** 78, on *Q. cerris*; 100, on *Q. frainetto*; **E:** 124, on *Q. frainetto*; **İ:** 125, on *Q. frainetto*, on *Q. petraea*; 136, 137, on *Q. petraea*; **KI:** 150, on *Q. cerris*; **T:** 172, on *Q. pubescens*; **Y:** 181, on *Q. petraea*

Melanelixia glabra (Schaer.) O. Blanco et al.

BA: 2, on *Q. trojana*; **Bİ:** 28, 29, on *Q. cerris*; **BU:** 32, on *Q. cerris*; 39, on *Q. cerris*, on *Q. petraea*; 43, on *Q. frainetto*; 44, on *Q. infectoria*; 45, on *Q. petraea*, on *Q. pubescens*; 46, 49, on *Q. cerris*; 50, on *Q. robur*; 51, on *Q. cerris*; 52, on *Q. petraea*; 53, on *Q. cerris*; 62, on *Q. cerris*, on *Q. infectoria*; 65, on *Q. cerris*; **KI:** 148, on *Q. cerris*; **S:** 166, 167, on *Q. virgiliana*; **Y:** 182, on *Q. cerris*

Melanelixia subargentifera (Nyl.) O. Blanco et al.

BA: 7, on *Q. cerris*; **Bİ:** 29, on *Q. cerris*; **BU:** 42, on *Q. petraea*; 43, on *Q. frainetto*; 45, on *Q. pubescens*; **E:** 116, on *Q. virgiliana*; **KI:** 146, on *Q. pubescens*; 161, on *Q. frainetto*; **T:** 171, on *Q. petraea*; 174, on *Q. pubescens*; 178, on *Q. frainetto*

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

BA: 1, on *Q. cerris*; 4, on *Q. pubescens*; 5, 14, 15, on *Q. cerris*; 16, on *Q. frainetto*; 20, on *Q. pubescens*; 22, on *Q. cerris*, on *Q. petraea*; 23, on *Q. cerris*; **Bİ:** 26, on *Q. infectoria*, on *Q. pubescens*; 28, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 31, on *Q. frainetto*; 32, 34, on *Q. infectoria*; 35, on *Q. pubescens*; 36, 37, 38, on *Q. cerris*; 40, on *Q. infectoria*; 41, on *Q. cerris*; 42, on *Q.*

petraea; 44, on *Q. cerris*; 45, on *Q. petraea*; 47, on *Q. cerris*; 49, on *Q. petraea*; 56, on *Q. cerris*; 58, on *Q. frainetto*; 60, on *Q. cerris*; 62, on *Q. infectoria*; 63, 65, on *Q. cerris*; 66, on *Q. cerris*, on *Q. frainetto*; 67, on *Q. frainetto*; 69, on *Q. cerris*; 70, on *Q. cerris*, on *Q. infectoria*, on *Q. pubescens*; **Ç**: 71, 73, on *Q. cerris*; 76, 77, on *Q. cerris*, on *Q. pubescens*; 78, on *Q. cerris*; 80, on *Q. petraea*; 86, on *Q. coccifera*; 87, on *Q. cerris*, on *Q. pubescens*; 91, on *Q. frainetto*; 92, on *Q. cerris*; 94, on *Q. pubescens*; 95, on *Q. cerris*; 97, 99, on *Q. frainetto*; 101, on *Q. petraea*; 102, 103, on *Q. cerris*; **E**: 110, on *Q. pubescens*; 113, on *Q. frainetto*; 116, on *Q. virgiliana*; 118, on *Q. pubescens*; 119, on *Q. cerris*; 121, 122, on *Q. pubescens*; **İ**: 125, on *Q. petraea*; 127, on *Q. infectoria*; 130, on *Q. frainetto*; 133, on *Q. cerris*; 137, on *Q. frainetto*, on *Q. petraea*; 138, 139, on *Q. frainetto*; 140, on *Q. petraea*; 141, on *Q. cerris*; 142, on *Q. petraea*; **KI**: 145, on *Q. virgiliana*; 150, on *Q. cerris*; 152, on *Q. frainetto*; 156, on *Q. cerris*; 162, on *Q. frainetto*, on *Q. pubescens*; **KO**: 164, 165, on *Q. petraea*; **S**: 166, on *Q. cerris*; **T**: 168, 169, on *Q. cerris*; 170, 171, on *Q. petraea*; 173, on *Q. cerris*; 177, on *Q. pubescens*; **Y**: 180, on *Q. cerris*, on *Q. frainetto*; 181, 182, on *Q. petraea*

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

BA: 9, on *Q. pubescens*; **Bİ**: 27, 28, on *Q. cerris*; **BU**: 51, 53, 54, on *Q. cerris*; **Ç**: 73, on *Q. cerris*; 74, on *Q. ithaburensis* subsp. *macrolepis*; 100, on *Q. frainetto*; **E**: 108, 116, on *Q. virgiliana*; **KI**: 151, 161, on *Q. frainetto*

Melanohalea exasperata (De Not.) O. Blanco et al.

BU: 39, on *Q. cerris*; on *Q. petraea*; 41, 44, on *Q. infectoria*; 51, on *Q. cerris*; **Ç**: 77, on *Q. pubescens*; 81, 99, on *Q. frainetto*

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

BA: 4, 7, 18, on *Q. cerris*; **Bİ**: 27, 29, on *Q. cerris*; **BU**: 41, on *Q. infectoria*; 45, 49, on *Q. petraea*; 51, 54, 63, 66, on *Q. cerris*; **Ç**: 95, on *Q. cerris*; **KI**: 163, on *Q. frainetto*; on *Q. pubescens*

* *Melanohalea laciniatula* (Flagey ex H. Olivier) O. Blanco et al.

Ç: 80, on *Q. petraea*

* *Micarea melaena* (Nyl.) Hedl.

BU: 45, on *Q. pubescens*

* *Mycobilimbia sabuletorum* (Schreb.) Hafellner

KI: 157, on *Q. cerris*

Nephroma laevigatum Ach.

Ç: 81, on *Q. frainetto*; **Y**: 182, on *Q. petraea*

* *Ochrolechia androgyna* (Kreyer) Almb.

Ç: 88, on *Q. pubescens*, **Det. V. John**

Ochrolechia arborea (Kreyer) Almb.

BA: 2, on *Q. trojana*; 7, on *Q. cerris*; **BU**: 67, on *Q. petraea*; **Ç**: 80, on *Q. petraea*; 81, on *Q. frainetto*; 90, 97, on *Q. pubescens*; **İ**: 126, on *Q. frainetto*; **T**: 178, on *Q. frainetto*

Ochrolechia balcanica Verseghy

Ç: 81, on *Q. frainetto*

Ochrolechia pallescens (L.) A. Massal.

BA: 4, on *Q. cerris*; **BU**: 49, on *Q. cerris*

Ochrolechia parella (L.) A. Massal.

BU: 39, on *Q. petraea*; **Y**: 182, on *Q. frainetto*

Ochrolechia szatalaensis Verseghy

Ç: 80, on *Q. petraea*

Ochrolechia turneri (Sm.) Hasselrot

BA: 8, on *Q. frainetto*; **BU**: 31, on *Q. frainetto*; 39, on *Q. petraea*; 49, 54, on *Q. cerris*; 67, on *Q. frainetto*; **Ç**: 80, on *Q. petraea*; 81, on *Q. frainetto*; 88, on *Q. pubescens*; 95, on *Q. cerris*; 99, on *Q. frainetto*; **E**: 119, on *Q. cerris*; **İ**: 134, on *Q. cerris*; **KI**: 146, on *Q. pubescens*; 151, *Q. frainetto*; 163, *Q. pubescens*; **T**: 174, on *Q. pubescens*; 178, on *Q. frainetto*; **Y**: 182, on *Q. frainetto*

Opegrapha atra Pers.

İ: 131, on *Q. pubescens*; 132, on *Q. cerris*

Opegrapha varia Pers.

Ç: 81, on *Q. frainetto*; **İ**: 134, *Q. cerris*

Opegrapha vulgata (Ach.) Ach.

I: 134, on *Q. cerris*

Parmelia saxatilis (L.) Ach.

BA: 4, on *Q. cerris*; **BU:** 67, on *Q. petraea*; **Ç:** 76, on *Q. cerris*; 80, on *Q. petraea*; 81, on *Q. frainetto*; **E:** 119, on *Q. cerris*

Parmelia submontana Nád. ex Hale

Ç: 80, on *Q. petraea*; **Y:** 182, on *Q. frainetto*

Parmelia sulcata Taylor

BA: 1, on *Q. cerris*, on *Q. trojana*; 4, on *Q. cerris*, on *Q. pubescens*; 5, 14, on *Q. cerris*; 16, on *Q. frainetto*; 18, on *Q. cerris*; 20, on *Q. pubescens*; 21, on *Q. frainetto*; 22, on *Q. cerris*, on *Q. petraea*; 23, on *Q. cerris*; **BI:** 26, on *Q. cerris*, on *Q. infectoria*, on *Q. pubescens*; 27, 29, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 31, on *Q. frainetto*; 32, on *Q. infectoria*; 33, on *Q. frainetto*; 35, on *Q. pubescens*; 36, 38, on *Q. cerris*; 39, on *Q. petraea*; 40, on *Q. infectoria*; 41, on *Q. cerris*, on *Q. infectoria*; 42, on *Q. petraea*; 43, on *Q. frainetto*; 44, on *Q. cerris*, on *Q. infectoria*; 45, on *Q. petraea*; 46, on *Q. cerris*; 47, 49, on *Q. cerris*, on *Q. petraea*; 50, on *Q. robur*; 51, on *Q. cerris*; 52, on *Q. petraea*; 54, on *Q. cerris*; 55, on *Q. infectoria*; 56, on *Q. cerris*; 58, on *Q. frainetto*; 60, 61, on *Q. cerris*; 62, on *Q. cerris*, on *Q. infectoria*; 63, on *Q. cerris*, on *Q. frainetto*; 65, 66, on *Q. cerris*; 67, on *Q. cerris*, on *Q. frainetto*, on *Q. petraea*; 69, on *Q. cerris*; 70, on *Q. cerris*, on *Q. infectoria*, on *Q. pubescens*; **Ç:** 71, 73, on *Q. cerris*; 76, 77, on *Q. cerris*, on *Q. pubescens*; 78, on *Q. cerris*; 80, on *Q. petraea*; 81, on *Q. frainetto*; 88, on *Q. cerris*; 91, on *Q. frainetto*; 92, on *Q. cerris*; 94, on *Q. pubescens*; 95, on *Q. cerris*; 96, on *Q. frainetto*; 97, on *Q. frainetto*, on *Q. pubescens*; 98, on *Q. cerris*; 99, on *Q. frainetto*; 100, on *Q. cerris*, on *Q. frainetto*; 101, on *Q. petraea*; 102, 103, on *Q. cerris*; **E:** 109, 110, on *Q. pubescens*; 113, on *Q. frainetto*; 116, on *Q. virgiliana*; 119, on *Q. cerris*; 121, 122, on *Q. pubescens*; **I:** 125, on *Q. petraea*; 127, on *Q. infectoria*; 132, 133, on *Q. cerris*; 136, 137, on *Q. petraea*; 138, on *Q. frainetto*; 141, on *Q. cerris*; 142, on *Q. petraea*; **KI:** 146, on *Q. pubescens*; 148, 149, 150, on *Q. cerris*; 152, 153, on *Q. frainetto*; 154, 156, on *Q. cerris*; 160, 161, on *Q. frainetto*; 162, 163, on *Q. frainetto*, on *Q. pubescens*; **KO:** 164, on *Q. frainetto*, on *Q. petraea*; **S:** 166, on *Q. cerris*; 167, on *Q. virgiliana*; **T:** 168, on *Q. cerris*; 170, on *Q. petraea*; 171, on *Q. frainetto*, on *Q. petraea*; 172, on *Q. pubescens*; 173, on *Q. cerris*; 174, 177, on *Q. pubescens*; **Y:** 180, on *Q. cerris*, on *Q. frainetto*; 181, on *Q. petraea*; 182, on *Q. petraea*

Parmelina carporrhizans (Taylor) Poelt & Vězda

BI: 29, on *Q. cerris*; **BU:** 32, on *Q. cerris*, on *Q. infectoria*, 38, on *Q. cerris*; 39, on *Q. petraea*; 44, on *Q. infectoria*; 49, on *Q. cerris*, on *Q. petraea*; 52, on *Q. petraea*; **Ç:** 71, 73, 78, on *Q. cerris*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 92, *Q. cerris*; 94, on *Q. pubescens*; 96, on *Q. frainetto*; 98, on *Q. cerris*; 99, on *Q. frainetto*; 100, on *Q. cerris*; **T:** 178, on *Q. frainetto*; **Y:** 182, on *Q. petraea*

Parmelina pastillifera (Harm.) Hale

BU: 51, on *Q. cerris*; **KI:** 149, on *Q. cerris*; **KO:** 165, on *Q. petraea*

Parmelina quercina (Willd.) Hale

BA: 1, 15, on *Q. cerris*; 16, on *Q. frainetto*; 20, on *Q. pubescens*; **BI:** 26, on *Q. infectoria*; 29, on *Q. cerris*; **BU:** 36, on *Q. cerris*; 39, on *Q. cerris*, on *Q. petraea*; 41, on *Q. infectoria*; 45, on *Q. petraea*; 51, 53, 54, 56, 59, 62, 63, 66, 69, on *Q. cerris*; **Ç:** 76, 77, on *Q. cerris*; on *Q. pubescens*; 86, on *Q. pubescens*; 87, 95, 103, on *Q. cerris*; **E:** 110, on *Q. pubescens*; 113, on *Q. frainetto*; 116, on *Q. virgiliana*; **KI:** 148, on *Q. cerris*; 158, 162, on *Q. pubescens*; **KO:** 165, on *Q. petraea*; **S:** 166, on *Q. cerris*; 167, on *Q. virgiliana*; **T:** 177, on *Q. pubescens*; **Y:** 180, on *Q. cerris*, on *Q. frainetto*

Parmelina tiliacea (Hoffm.) Hale

BA: 1, 2, on *Q. trojana*; 4, on *Q. pubescens*; 5, on *Q. cerris*; 6, on *Q. pubescens*; 7, on *Q. cerris*; 8, on *Q. frainetto*; 11, 14, 15, on *Q. cerris*; 16, on *Q. frainetto*; 18, on *Q. cerris*; 19, 20, on *Q. pubescens*; 21, on *Q. frainetto*; **BI:** 27, on *Q. cerris*; **BU:** 31, on *Q. frainetto*; 32, on *Q. cerris*; 33, on *Q. frainetto*; 36, 38, on *Q. cerris*; 39, on *Q. petraea*; 50, on *Q. robur*; 51, 53, 54, 61, on *Q. cerris*; **Ç:** 73, on *Q. cerris*; 75, on *Q. pubescens*; 76, 78, on *Q. cerris*; 81, on *Q. frainetto*; 86, on *Q. pubescens*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 90, on *Q. pubescens*; 91, on *Q. frainetto*; 95, on *Q. cerris*; 96, on *Q. frainetto*; 98, on *Q. cerris*; 99, 100, on *Q. frainetto*; **E:** 104, 108, on *Q. virgiliana*; 109, on *Q. pubescens*; 115, 116, on *Q. virgiliana*; 120, on *Q. ithaburensis* subsp. *macrolepis*; 122, on *Q. pubescens*; 124, on *Q. frainetto*; **I:** 134, on *Q. cerris*; 136, on *Q. petraea*; 141, on *Q. cerris*; **KI:** 146, on *Q. pubescens*; 148, 149, on *Q. cerris*; 151, 160, 161, 163, on *Q. frainetto*; **S:** 167, on *Q. virgiliana*; **T:** 172, on *Q. pubescens*; 173, on *Q. cerris*; 174, 177, on *Q. pubescens*; 178, on *Q. frainetto*; **Y:** 182, on *Q. cerris*

Parmeliopsis ambigua (Wulfen) Nyl.

E: 119, on *Q. cerris*

Parmotrema chinense (Osbeck) Hale & Ahti

I: 125, 140, 142, on *Q. petraea*; **KO:** 164, on *Q. petraea*

Peltigera collina (Ach.) Röhl.

BU: 45, 64, on *Q. petraea*; **Ç:** 81, on *Q. frainetto*

Peltigera horizontalis (Huds.) Baumg.

BU: 42, on *Q. petraea*

Peltigera polydactylon (Neck.) Hoffm.

BU: 52, on *Q. petraea*; **KO:** 165, on *Q. petraea*

* *Peltigera ponojensis* Gyeln.

BU: 44, on *Q. cerris*

Peltigera praetextata (Flörke ex Sommerf.) Vain.

BU: 49, on *Q. cerris*; 52, 64, on *Q. petraea*; **S:** 166, on *Q. cerris*

Peltigera rufescens (Weiss) Humb.

Bİ: 28, on *Q. cerris*; **BU:** 45, on *Q. pubescens*; 66, on *Q. frainetto*

Pertusaria albescens (Huds.) M. Choisy & Werner

BA: 1, 5, on *Q. cerris*; 6, on *Q. pubescens*; 7, 11, on *Q. cerris*; 21, on *Q. frainetto*; **BU:** 42, on *Q. petraea*; 45, on *Q. pubescens*; 54, on *Q. cerris*; 55, on *Q. infectoria*; 67, on *Q. cerris*, on *Q. petraea*; **Ç:** 73, on *Q. cerris*; 74, on *Q. ithaburensis* subsp. *macrolepis*; 76, on *Q. cerris*; 81, on *Q. frainetto*; 88, on *Q. pubescens*; 95, on *Q. cerris*; **İ:** 125, on *Q. frainetto*, on *Q. petraea*; 126, on *Q. frainetto*; 134, on *Q. cerris*; 142, on *Q. petraea*; **KI:** 146, on *Q. pubescens*; 149, 150, on *Q. cerris*; 151, on *Q. frainetto*; 155, 157, on *Q. cerris*; 163, on *Q. frainetto*, on *Q. pubescens*; **T:** 174, on *Q. pubescens*; **Y:** 182, on *Q. petraea*

Pertusaria amara (Ach.) Nyl.

BA: 1, on *Q. trojana*; 6, on *Q. pubescens*; 8, on *Q. frainetto*; 11, on *Q. cerris*; **BU:** 33, on *Q. frainetto*; 38, on *Q. cerris*; 39, 42, on *Q. petraea*; 45, on *Q. pubescens*; 47, 49, 60, on *Q. cerris*; 67, on *Q. petraea*; **Ç:** 81, 91, 96, on *Q. frainetto*; 101, on *Q. petraea*; 103, on *Q. cerris*; **E:** 109, on *Q. pubescens*; **İ:** 125, 128, 142, on *Q. petraea*; **KI:** 148, 150, on *Q. cerris*; 153, on *Q. frainetto*; 154, 155, on *Q. cerris*; **S:** 166, on *Q. cerris*, on *Q. virgilliana*; **T:** 178, on *Q. frainetto*; **Y:** 182, on *Q. frainetto*, on *Q. petraea*

Pertusaria coronata (Ach.) Th. Fr.

BU: 54, on *Q. cerris*, **Det. V. John**

Pertusaria flavida (DC.) J.R. Laundon

BU: 47, 49, 54, 67, on *Q. cerris*; **Y:** 182, on *Q. petraea*

Pertusaria hymenea (Ach.) Schaer.

KI: 149, on *Q. cerris*

Pertusaria leioplaca DC.

BA: 5, on *Q. cerris*; **Ç:** 78, 103, on *Q. cerris*; **KI:** 163, on *Q. pubescens*

Pertusaria pertusa (Weigel) Tuck.

BA: 7, 14, 18, on *Q. cerris*; **BU:** 33, on *Q. frainetto*; **Ç:** 73, on *Q. cerris*; 81, 100, on *Q. frainetto*; **İ:** 125, on *Q. petraea*; 126, on *Q. frainetto*; **KI:** 150, on *Q. cerris*; 151, on *Q. frainetto*; **Y:** 182, on *Q. frainetto*, on *Q. petraea*

Pertusaria pustulata (Ach.) Duby

İ: 142, on *Q. petraea*

Phaeophyscia ciliata (Hoffm.) Moberg

BU: 39, on *Q. petraea*; 51, 53, on *Q. cerris*

Phaeophyscia orbicularis (Neck.) Moberg

BA: 2, on *Q. trojana*; 3, on *Q. cerris*; 6, on *Q. pubescens*; 10, 11, on *Q. cerris*; 12, on *Q. ithaburensis* subsp. *macrolepis*; 13, on *Q. trojana*; 16, on *Q. frainetto*; 17, on *Q. pubescens*; 18, on *Q. cerris*; 19, on *Q. pubescens*; 21, on *Q. frainetto*; **Bİ:** 28, on *Q. cerris*, on *Q. pubescens*; 29, on *Q. cerris*; **BU:** 31, on *Q. frainetto*; 32, on *Q. cerris*, on *Q. infectoria*; 39, on *Q. petraea*; 41, on *Q. cerris*, on *Q. infectoria*; 43, on *Q. frainetto*; 44, on *Q. cerris*; 45, on *Q. petraea*, on *Q. pubescens*; 48, 51, 53, on *Q. cerris*; 62, on *Q. cerris*, on *Q. infectoria*; 63, on *Q. frainetto*; 65, on *Q. cerris*; **Ç:** 71, on *Q. cerris*; 72, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 78, 79, on *Q. cerris*; 87, on *Q. pubescens*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 93, on *Q. pubescens*; 95, on *Q. cerris*; 96, on *Q. frainetto*; 97, on *Q. pubescens*; 98, 100, on *Q. cerris*; **E:** 104, on *Q. virgiliana*; 114, on *Q. pubescens*; 116, on *Q. virgiliana*; 120, on *Q. ithaburensis* subsp. *macrolepis*; 124, on *Q. frainetto*; **İ:** 133, 134, on *Q. cerris*; **KI:** 146, 147, on *Q. pubescens*; 149, on *Q. cerris*; 153, on *Q. virgiliana*; **S:** 166, 167, on *Q. virgiliana*; **T:** 172, on *Q. pubescens*; 178, on *Q. frainetto*

Phlyctis agelaea (Ach.) Flot.

BU: 38, on *Q. cerris*; **Ç:** 96, on *Q. frainetto*; **E:** 119, on *Q. cerris*; **KI:** 149, 157, on *Q. cerris*; **T:** 171, on *Q. frainetto*; on *Q. petraea*

Phlyctis argena (Spreng.) Flot.

BA: 1, on *Q. trojana*; 4, on *Q. pubescens*; 11, on *Q. cerris*; 17, on *Q. pubescens*; 18, on *Q. cerris*; 21, on *Q. frainetto*; **BU:** 31, 33, on *Q. frainetto*; 38, on *Q. cerris*; 42, on *Q. petraea*; 44, on *Q. cerris*; 45, on *Q. petraea*, on *Q. pubescens*; 46, on *Q. cerris*; 47, on *Q. cerris*, on *Q. petraea*; 49, on *Q. cerris*; 50, on *Q. robur*; 52, on *Q. petraea*; 55, on *Q. infectoria*; 60, on *Q. cerris*; 63, on *Q. frainetto*; 67, on *Q. cerris*, on *Q. frainetto*, on *Q. petraea*; **Ç:** 81, on *Q. frainetto*; 88, on *Q. cerris*; 90, on *Q. pubescens*; 91, 96, on *Q. frainetto*; 97, on *Q. frainetto*, on *Q. pubescens*; 98, 100, on *Q. cerris*; 101, on *Q. petraea*; **E:** 119, on *Q. cerris*; **İ:** 125, on *Q. frainetto*, on *Q. petraea*; 126, on *Q. frainetto*; 128, 136, on *Q. petraea*; 138, on *Q. frainetto*; 142, on *Q. petraea*; **KI:** 146, on *Q. pubescens*; 149, 150, on *Q. cerris*; 152, 153, on *Q. frainetto*; 157, on *Q. cerris*; 163, on *Q. frainetto*, on *Q. pubescens*; **KO:** 164, on *Q. frainetto*, on *Q. petraea*; **S:** 167, on *Q. virgiliana*; **T:** 170, on *Q. petraea*; 174, 177, on *Q. pubescens*; 178, on *Q. frainetto*; **Y:** 181, on *Q. petraea*; 182, on *Q. cerris*, on *Q. frainetto*

Physcia adscendens (Th. Fr.) H. Olivier

BA: 1, on *Q. cerris*; 4, on *Q. pubescens*; 5, on *Q. cerris*; 6, on *Q. pubescens*; 10, on *Q. cerris*; 12, on *Q. ithaburensis* subsp. *macrolepis*; 15, on *Q. cerris*; 16, on *Q. frainetto*; 17, on *Q. pubescens*; 21, on *Q. frainetto*; **BI:** 26, on *Q. infectoria*; 29, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 31, on *Q. frainetto*; 32, 34, on *Q. infectoria*; 35, on *Q. pubescens*; 36, on *Q. cerris*; 39, on *Q. petraea*; 41, on *Q. cerris*; 42, on *Q. petraea*; 43, on *Q. frainetto*; 44, on *Q. cerris*, on *Q. infectoria*; 45, on *Q. petraea*, on *Q. pubescens*; 47, 48, 51, on *Q. cerris*; 58, on *Q. frainetto*; 59, 60, on *Q. cerris*; 62, on *Q. infectoria*; 65, on *Q. cerris*; 66, on *Q. cerris*, on *Q. frainetto*; 69, on *Q. cerris*; 70, on *Q. infectoria*, on *Q. pubescens*; **Ç:** 73, on *Q. cerris*; 75, on *Q. pubescens*; 76, 77, on *Q. cerris*, on *Q. pubescens*; 78, 79, on *Q. cerris*; 86, on *Q. coccifera*, on *Q. pubescens*; 87, 88, on *Q. cerris*, on *Q. pubescens*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 91, on *Q. frainetto*; 92, on *Q. cerris*; 93, 94, on *Q. pubescens*; 97, on *Q. frainetto*; 98, on *Q. cerris*; 99, on *Q. frainetto*; 100, on *Q. cerris*, on *Q. frainetto*; 103, on *Q. cerris*; **E:** 107, 108, on *Q. virgiliana*; 109, 111, 112, on *Q. pubescens*; 115, 116, on *Q. virgiliana*; 118, on *Q. pubescens*; 119, on *Q. cerris*; 120, on *Q. ithaburensis* subsp. *macrolepis*; **İ:** 125, on *Q. frainetto*, on *Q. petraea*; 127, on *Q. infectoria*; 129, on *Q. frainetto*; 130, on *Q. frainetto*, on *Q. petraea*; 131, on *Q. pubescens*; 132, on *Q. cerris*, on *Q. robur*; 133, on *Q. cerris*; 135, 136, on *Q. petraea*; 137, 139, on *Q. frainetto*, on *Q. petraea*; 140, 142, on *Q. petraea*; **KI:** 143, on *Q. frainetto*; 145, on *Q. virgiliana*; 146, 147, on *Q. pubescens*; 148, 150, on *Q. cerris*; 151, 152, 153, on *Q. frainetto*; 154, 156, on *Q. cerris*; 160, on *Q. frainetto*; 162, on *Q. frainetto*, on *Q. pubescens*; **KO:** 165, on *Q. petraea*; **S:** 166, on *Q. cerris*; 167, on *Q. virgiliana*; **T:** 170, 171, on *Q. petraea*; 175, on *Q. infectoria*; 176, on *Q. pubescens*; 178, on *Q. frainetto*, on *Q. pubescens*; **Y:** 180, on *Q. frainetto*

Physcia aipolia (Ehrh. ex Humb.) Fűrnr.

BA: 2, on *Q. trojana*; 11, 18, on *Q. cerris*; **BI:** 28, on *Q. cerris*, on *Q. pubescens*; **BU:** 31, on *Q. frainetto*; 32, on *Q. cerris*; 39, on *Q. petraea*; 41, on *Q. infectoria*; 43, on *Q. frainetto*; 44, on *Q. cerris*, on *Q. infectoria*; 50, on *Q. robur*; 51, 54, 59, on *Q. cerris*; 62, on *Q. infectoria*; **Ç:** 71, on *Q. cerris*; 75, 77, on *Q. pubescens*; 78, 98, on *Q. cerris*; 100, on *Q. cerris*, on *Q. frainetto*; **E:** 109, on *Q. pubescens*; 115, 116, on *Q. virgiliana*; 124, on *Q. frainetto*; **KI:** 146, on *Q. pubescens*; 148, on *Q. cerris*; 151, on *Q. frainetto*; 153, on *Q. virgiliana*; 154, 155, on *Q. cerris*; 160, 161, on *Q. frainetto*; **S:** 166, 167, on *Q. virgiliana*; **T:** 171, on *Q. frainetto*; 174, on *Q. pubescens*; 178, on *Q. frainetto*

Physcia caesia (Hoffm.) Fűrnr.

Ç: 92, on *Q. cerris*

Physcia leptalea (Ach.) DC.

BA: 1, on *Q. trojana*; 16, on *Q. frainetto*; 17, on *Q. pubescens*; **BU:** 39, on *Q. petraea*; 44, on *Q. cerris*; 49, on *Q. petraea*; 51, 65, 73, on *Q. cerris*; **Ç:** 87, on *Q. pubescens*; **E:** 113, on *Q. frainetto*; 118, on *Q. pubescens*; **İ:** 142, on *Q. petraea*; **KI:** 162, on *Q. pubescens*; **S:** 166, on *Q. virgiliana*

Physcia stellaris (L.) Nyl.

BA: 10, on *Q. cerris*; 12, on *Q. ithaburensis* subsp. *macrolepis*; 13, on *Q. trojana*; 15, on *Q. cerris*; 16, on *Q. frainetto*; 17, on *Q. pubescens*; 24, 29, on *Q. cerris*; 35, on *Q. pubescens*; **BU:** 37, 39, on *Q. cerris*; 41, on *Q. cerris*, on *Q. infectoria*; 43, on *Q. frainetto*; 44, on *Q. infectoria*; 45, on *Q. pubescens*; 47, 48, 51, 53, 61, on *Q. cerris*; 62, on *Q. cerris*, on *Q. infectoria*; 65, on *Q. cerris*; 66, on *Q. cerris*, on *Q. frainetto*; 68, on *Q. pubescens*; 69, on *Q. cerris*; **Ç:** 72, 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 79, on *Q. cerris*; 82, 83, on *Q. pubescens*; 84, on *Q. ithaburensis* subsp. *macrolepis*; 86, 87, on *Q. pubescens*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 99, on *Q. frainetto*; 103, on *Q. cerris*; **E:** 104, 106, 108, on *Q. virgiliana*; 110, 111, on *Q. pubescens*; 113, on *Q. frainetto*; 114, 117, 118, on *Q. pubescens*; 120, on *Q. ithaburensis* subsp. *macrolepis*; **KI:** 145, on *Q. virgiliana*; 147, on *Q. pubescens*; 148, on *Q. cerris*; 158, on *Q. pubescens*; 159, on *Q. cerris*; **Y:** 180, on *Q. frainetto*

Physcia tenella (Scop.) DC.

BA: 11, on *Q. cerris*; **İ:** 137, on *Q. frainetto*; 142, on *Q. petraea*; **KI:** 155, on *Q. cerris*; **T:** 177, on *Q. pubescens*; **Y:** 182, on *Q. frainetto*, on *Q. petraea*

Physconia detersa (Nyl.) Poelt

Ç: 99, on *Q. frainetto*; **E:** 105, 116, on *Q. virgiliana*

Physconia distorta (With.) J.R. Laundon

BI: 28, on *Q. cerris*; **BU:** 39, on *Q. petraea*; 41, on *Q. infectoria*; 43, on *Q. frainetto*; 44, on *Q. infectoria*; 48, on *Q. cerris*; 50, on *Q. robur*; 51, on *Q. cerris*; 52, on *Q. petraea*; 53, on *Q. cerris*; **Ç:** 71, on *Q. cerris*; 80, on *Q. petraea*; 87, on *Q. pubescens*; **E:** 116, on *Q. virgiliana*; **İ:** 138, on *Q. frainetto*; **KI:** 146, 147, on *Q. pubescens*; 148, on *Q. cerris*; 153, 160, 161, on *Q. frainetto*; **KO:** 165, on *Q. petraea*; **S:** 166, on *Q. virgiliana*; **T:** 171, on *Q. frainetto*

Physconia enteroxantha (Nyl.) Poelt

BA: 4, 6, on *Q. pubescens*; 8, 16, on *Q. frainetto*; 18, on *Q. cerris*; 20, on *Q. pubescens*; 21, on *Q. frainetto*; **BI:** 29, on *Q. cerris*; **BU:** 31, on *Q. frainetto*; 34, on *Q. infectoria*; 38, on *Q. cerris*; 39, on *Q. petraea*; 40, on *Q. infectoria*; 41, on *Q. cerris*; 42, on *Q. petraea*; 43, on *Q. frainetto*; 44, on *Q. cerris*; 45, on *Q. petraea*, on *Q. pubescens*; 46, 47, 48, 49, on *Q. cerris*; 50, on *Q. robur*; 51, on *Q. cerris*; 52, on *Q. petraea*; 54, on *Q. cerris*; 58, on *Q. frainetto*; 59, 60, on *Q. cerris*; 62, on *Q. infectoria*; 63, 66, on *Q. frainetto*; **C:** 74, on *Q. ithaburensis* subsp. *macrolepis*; 78, on *Q. cerris*; 91, 96, on *Q. frainetto*; 98, on *Q. cerris*; 99, 100, on *Q. frainetto*; **E:** 109, on *Q. pubescens*; 124, on *Q. frainetto*; **I:** 125, on *Q. frainetto*; 130, on *Q. petraea*; 134, on *Q. cerris*; 138, on *Q. frainetto*; **KI:** 146, on *Q. pubescens*; 148, 149, 150, on *Q. cerris*; 152, 160, 161, 163, on *Q. frainetto*; **S:** 167, on *Q. virgiliana*; **T:** 171, on *Q. frainetto*, on *Q. petraea*; 172, 174, 177, on *Q. pubescens*; 178, on *Q. frainetto*; **Y:** 182, on *Q. petraea*

Physconia grisea (Lam.) Poelt

BA: 6, on *Q. pubescens*; 7, on *Q. cerris*; 8, on *Q. frainetto*; 9, on *Q. pubescens*; 10, on *Q. cerris*; 12, on *Q. ithaburensis* subsp. *macrolepis*; 17, 19, 20, on *Q. pubescens*; **BU:** 61, on *Q. cerris*; **C:** 74, on *Q. ithaburensis* subsp. *macrolepis*; 77, on *Q. cerris*; on *Q. pubescens*; 78, on *Q. cerris*; 88, 94, on *Q. pubescens*; 95, on *Q. cerris*; **E:** 106, 108, on *Q. virgiliana*; 109, on *Q. pubescens*; 116, on *Q. virgiliana*; 119, on *Q. cerris*; 120, on *Q. ithaburensis* subsp. *macrolepis*; 124, on *Q. frainetto*; **I:** 134, on *Q. cerris*; **KI:** 146, on *Q. pubescens*; 153, on *Q. virgiliana*; 154, 157, on *Q. cerris*; 161, on *Q. frainetto*; 162, on *Q. pubescens*; **T:** 174, 177, on *Q. pubescens*; 178, on *Q. frainetto*

Physconia perisidiosa (Erichsen) Moberg

BA: 8, on *Q. frainetto*; 11, on *Q. cerris*; 21, on *Q. frainetto*; **BI:** 28, on *Q. cerris*, on *Q. pubescens*; 29, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 31, 33, on *Q. frainetto*; 39, on *Q. petraea*; 41, on *Q. infectoria*; 43, on *Q. frainetto*; 44, on *Q. cerris*; 45, on *Q. petraea*; 47, on *Q. cerris*; 50, on *Q. robur*; 58, 63, on *Q. frainetto*; 67, on *Q. cerris*, on *Q. frainetto*; **C:** 71, on *Q. cerris*; 75, on *Q. pubescens*; 78, on *Q. cerris*; 81, on *Q. frainetto*; 88, on *Q. cerris*; 91, 96, 100, on *Q. frainetto*; **E:** 109, on *Q. pubescens*; 113, on *Q. frainetto*; 116, on *Q. virgiliana*; **I:** 138, on *Q. frainetto*; 142, on *Q. petraea*; **KI:** 146, on *Q. pubescens*; 149, on *Q. cerris*; 151, 153, on *Q. frainetto*; 157, on *Q. cerris*; 160, 161, on *Q. frainetto*; **T:** 174, on *Q. pubescens*; 178, on *Q. frainetto*; **Y:** 182, on *Q. frainetto*

Physconia servitii (Nádv.) Poelt

BA: 2, on *Q. trojana*; 11, on *Q. cerris*; **C:** 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 81, on *Q. frainetto*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 90, on *Q. pubescens*; 99, 100, on *Q. frainetto*

Physconia subpulverulenta (Szatala) Poelt

BA: 16, on *Q. frainetto*; 18, on *Q. cerris*; **C:** 86, on *Q. pubescens*; 96, 99, on *Q. frainetto*

* *Physconia venusta* (Ach.) Poelt

S: 167, on *Q. virgiliana*; **T:** 178, on *Q. frainetto*

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

BU: 39, on *Q. petraea*; 49, on *Q. cerris*; 67, on *Q. petraea*; **C:** 80, on *Q. petraea*; 81, on *Q. frainetto*; **Y:** 182, on *Q. cerris*, on *Q. petraea*

Pleurosticta acetabulum (Neck.) Elix & Lumbsch

BA: 1, on *Q. cerris*, on *Q. trojana*; 2, on *Q. trojana*; 4, on *Q. cerris*, on *Q. pubescens*; 6, on *Q. pubescens*; 7, on *Q. cerris*; 8, on *Q. frainetto*; 9, on *Q. pubescens*; 10, 11, 14, 15, on *Q. cerris*; 16, on *Q. frainetto*; 17, on *Q. pubescens*; 18, on *Q. cerris*; 19, 20, on *Q. pubescens*; 21, on *Q. frainetto*; **BI:** 25, on *Q. pubescens*; 26, on *Q. infectoria*; 27, on *Q. cerris*; 28, on *Q. cerris*, on *Q. pubescens*; 29, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 31, on *Q. frainetto*; 32, on *Q. cerris*, on *Q. infectoria*; 34, on *Q. infectoria*; 35, on *Q. pubescens*; 36, 37, 38, on *Q. cerris*; 39, on *Q. cerris*, on *Q. petraea*; 41, on *Q. infectoria*; 42, on *Q. petraea*; 43, on *Q. frainetto*; 44, on *Q. cerris*, on *Q. infectoria*; 45, on *Q. petraea*, on *Q. pubescens*; 46, 47, 53, 54, on *Q. cerris*; 55, on *Q. infectoria*; 58, on *Q. frainetto*; 59, 61, 62, on *Q. cerris*; 63, on *Q. frainetto*; 65, on *Q. cerris*; 66, on *Q. cerris*, on *Q. frainetto*; 67, on *Q. cerris*; 68, on *Q. pubescens*; 70, on *Q. cerris*, on *Q. infectoria*; **C:** 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 76, on *Q. cerris*, on *Q. pubescens*; 77, on *Q. cerris*; on *Q. pubescens*; 78, on *Q. cerris*; 87, on *Q. cerris*, on *Q. pubescens*; 88, on *Q. cerris*; 90, on *Q. pubescens*; 95, on *Q. cerris*; 96, on *Q. frainetto*; 97, on *Q. frainetto*, on *Q. pubescens*; 98, on *Q. cerris*; 99, on *Q. frainetto*; 100, on *Q. cerris*, on *Q. frainetto*; 103, on *Q. cerris*; **E:** 104, on *Q. virgiliana*; 106, 107, 108, on *Q. virgiliana*; 109, 110, 111, 112, on *Q. pubescens*; 113, on *Q. frainetto*; 114, on *Q. pubescens*; 115, 116, on *Q. virgiliana*; 118, on *Q. pubescens*; 119, on *Q. cerris*; 122, on *Q. pubescens*; 124, on *Q. frainetto*; **I:** 133, on *Q. cerris*; 142, on *Q. petraea*; **KI:** 146, on *Q. pubescens*; 147, on *Q. pubescens*; 148, on *Q. cerris*; 150, on *Q. cerris*; 153, on *Q. frainetto*, on *Q. virgiliana*; 154, 155, on *Q. cerris*; 158, on *Q. pubescens*; 159, on *Q. cerris*; 160, 161, on *Q. frainetto*; 162, on *Q. frainetto*, on *Q. pubescens*; **KO:** 164, on *Q. frainetto*; **T:** 168, on *Q. cerris*; 172, on *Q. pubescens*; 173, on *Q. cerris*; 177, on *Q. pubescens*; 178, on *Q. frainetto*; **Y:** 180, on *Q. cerris*, on *Q. frainetto*; 182, on *Q. frainetto*, on *Q. petraea*

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

BA: 14, on *Q. cerris*; **KI:** 162, on *Q. pubescens*; **S:** 167, on *Q. virgiliana*; **Y:** 182, on *Q. cerris*

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

BA: 4, 14, on *Q. cerris*; **BI:** 27, on *Q. cerris*; 28, on *Q. cerris*, on *Q. pubescens*; 29, on *Q. cerris*; 30, on *Q. frainetto*; **BU:** 31, on *Q. frainetto*; 32, on *Q. cerris*, on *Q. infectoria*; 39, 45, on *Q. petraea*; 47, on *Q. cerris*; 49, on *Q. cerris*; on *Q. petraea*; 51, 54,

61, 65, 66, on *Q. cerris*; 67, on *Q. cerris*, on *Q. frainetto*; on *Q. petraea*; 70, on *Q. pubescens*; **C**: 73, on *Q. cerris*; 77, on *Q. cerris*, on *Q. pubescens*; 80, on *Q. petraea*; 81, 99, on *Q. frainetto*; **S**: 167, on *Q. virgiliana*; **T**: 173, on *Q. cerris*; **Y**: 182, on *Q. cerris*, on *Q. petraea*

Ramalina calicaris (L.) Fr.

BA: 1, on *Q. cerris*; 2, on *Q. trojana*; **BU**: 39, on *Q. petraea*; 67, on *Q. cerris*

Ramalina farinacea (L.) Ach.

BA: 1, on *Q. cerris*; on *Q. trojana*; 4, on *Q. cerris*, on *Q. pubescens*; 5, on *Q. cerris*; 20, on *Q. pubescens*; **BI**: 26, on *Q. cerris*, on *Q. infectoria*, on *Q. pubescens*; 28, on *Q. cerris*, on *Q. pubescens*; 30, on *Q. frainetto*; **BU**: 31, on *Q. frainetto*; 32, on *Q. cerris*, on *Q. infectoria*; 39, on *Q. petraea*; 44, on *Q. cerris*; 45, on *Q. petraea*, on *Q. pubescens*; 46, 47, 49, 54, on *Q. cerris*; **C**: 71, on *Q. infectoria*; 56, 61, 65, on *Q. cerris*; 67, on *Q. cerris*, on *Q. frainetto*; on *Q. petraea*; 69, on *Q. cerris*; 70, on *Q. pubescens*; **C**: 71, on *Q. cerris*; 76, 77, on *Q. pubescens*; 78, on *Q. cerris*; 81, on *Q. frainetto*; 86, on *Q. coccifera*; 97, on *Q. pubescens*; 99, on *Q. frainetto*; 100, 102, on *Q. cerris*; **E**: 116, on *Q. virgiliana*; 119, on *Q. cerris*; 124, on *Q. frainetto*; **I**: 125, on *Q. petraea*; 126, 138, on *Q. frainetto*; 142, on *Q. petraea*; **KI**: 149, on *Q. cerris*; 153, on *Q. frainetto*; 155, on *Q. cerris*; 161, on *Q. frainetto*; 162, on *Q. pubescens*; 163, on *Q. frainetto*; **KO**: 164, on *Q. petraea*; **S**: 166, on *Q. cerris*; **T**: 171, on *Q. petraea*; 172, on *Q. pubescens*; 173, on *Q. cerris*; 174, 177, on *Q. pubescens*; **Y**: 180, on *Q. cerris*; 182, on *Q. petraea*

Ramalina fastigiata (Pers.) Ach.

BA: 1, on *Q. cerris*, on *Q. trojana*; 2, on *Q. trojana*; 4, on *Q. pubescens*, on *Q. cerris*; 5, on *Q. cerris*; 6, on *Q. pubescens*; 7, 11, 14, on *Q. cerris*; 17, on *Q. pubescens*; 18, on *Q. cerris*; 19, 20, on *Q. pubescens*; 22, on *Q. cerris*; **BI**: 26, on *Q. cerris*; **BU**: 34, on *Q. infectoria*; 38, on *Q. cerris*; 39, on *Q. petraea*; 45, on *Q. petraea*, on *Q. pubescens*; 46, 47, 49, 59, 61, on *Q. cerris*; 67, on *Q. cerris*, on *Q. frainetto*, on *Q. petraea*; 70, on *Q. pubescens*; **C**: 71, 73, on *Q. cerris*; 76, on *Q. cerris*, on *Q. pubescens*; 77, on *Q. cerris*, on *Q. pubescens*; 78, on *Q. cerris*; 80, on *Q. petraea*; 81, on *Q. frainetto*; 88, on *Q. cerris*; 91, on *Q. frainetto*; 92, 95, on *Q. cerris*; 97, on *Q. frainetto*, on *Q. pubescens*; 98, on *Q. cerris*; 99, on *Q. frainetto*; 100, on *Q. cerris*, on *Q. frainetto*; 102, 103, on *Q. cerris*; **E**: 106, on *Q. virgiliana*; 110, on *Q. pubescens*; 113, on *Q. frainetto*; 116, on *Q. frainetto*; 118, on *Q. pubescens*; 119, on *Q. cerris*; 124, on *Q. frainetto*; **I**: 132, on *Q. pubescens*; 133, on *Q. cerris*; 134, on *Q. cerris*; 138, on *Q. frainetto*; 141, on *Q. cerris*; 142, on *Q. petraea*; **KI**: 148, 149, 150, on *Q. cerris*; 153, on *Q. frainetto*; 154, 155, on *Q. cerris*; 161, on *Q. frainetto*; 162, 163, on *Q. pubescens*; **KO**: 164, on *Q. frainetto*, on *Q. petraea*; **S**: 167, on *Q. virgiliana*; **T**: 171, on *Q. petraea*; 172, on *Q. pubescens*; 173, on *Q. cerris*; 174, 177, on *Q. pubescens*; **Y**: 182, on *Q. petraea*

Ramalina fraxinea (L.) Ach.

BA: 2, on *Q. trojana*; 4, on *Q. cerris*; 8, on *Q. frainetto*; 19, on *Q. pubescens*; **BI**: 28, on *Q. cerris*, on *Q. pubescens*; **BU**: 39, on *Q. petraea*; 45, on *Q. pubescens*; 49, 61, on *Q. cerris*; **C**: 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 88, on *Q. cerris*; 97, on *Q. pubescens*; 100, on *Q. cerris*; **E**: 108, on *Q. virgiliana*; 110, on *Q. pubescens*; 116, on *Q. virgiliana*; **KI**: 149, 154, on *Q. cerris*; 161, on *Q. frainetto*; **S**: 167, on *Q. virgiliana*; **T**: 173, on *Q. cerris*; **Y**: 182, on *Q. cerris*

Ramalina pollinaria (Westr.) Ach.

BI: 28, on *Q. pubescens*; **BU**: 54, on *Q. cerris*; **E**: 119, on *Q. cerris*; **KI**: 150, on *Q. cerris*

Rinodina capensis Hampe

C: 75, on *Q. pubescens*; 76, on *Q. cerris*, on *Q. pubescens*; 78, on *Q. cerris*; 90, on *Q. pubescens*; 95, on *Q. cerris*

Rinodina exigua (Ach.) Gray

BU: 35, on *Q. pubescens*; **C**: 71, 73, on *Q. cerris*; 74, on *Q. ithaburensis* subsp. *macrolepis*; 76, on *Q. cerris*, on *Q. pubescens*; 95, on *Q. cerris*; **E**: 117, 122, on *Q. pubescens*

Rinodina pyrina (Ach.) Arnold

BI: 29, on *Q. cerris*; 30, on *Q. frainetto*; **BU**: 35, on *Q. pubescens*; 40, 41, on *Q. infectoria*; 44, on *Q. cerris*, on *Q. infectoria*; 57, on *Q. pubescens*; 67, on *Q. frainetto*; **C**: 71, on *Q. cerris*; 72, on *Q. ithaburensis* subsp. *macrolepis*; 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 78, on *Q. cerris*; **E**: 105, 107, on *Q. virgiliana*; 112, on *Q. pubescens*; **I**: 137, on *Q. petraea*; **KI**: 145, on *Q. virgiliana*; 156, on *Q. cerris*; **T**: 178, on *Q. pubescens*

Rinodina sophodes (Ach.) A. Massal.

BA: 15, on *Q. cerris*; 24, on *Q. cerris*; **BI**: 26, on *Q. cerris*, on *Q. infectoria*; 27, on *Q. cerris*; **BU**: 35, on *Q. pubescens*; 39, on *Q. cerris*; 44, on *Q. infectoria*; 47, 61, on *Q. cerris*; **C**: 73, on *Q. cerris*; 76, on *Q. pubescens*; 77, 78, on *Q. cerris*; 80, on *Q. petraea*; 86, on *Q. pubescens*; 87, 92, on *Q. cerris*; 99, on *Q. frainetto*; 103, on *Q. cerris*; **S**: 166, on *Q. cerris*; **T**: 173, on *Q. cerris*; **Y**: 179, on *Q. coccifera*

Scoliosporum umbrinum (Ach.) Arnold

BA: 1, 3, 4, 10, 14, on *Q. cerris*; 16, on *Q. frainetto*; 17, on *Q. pubescens*; 22, on *Q. petraea*; **BI**: 27, on *Q. cerris*; **BU**: 36, on *Q. cerris*; **C**: 76, on *Q. cerris*, on *Q. pubescens*; 77, 88, 95, on *Q. cerris*; **I**: 142, on *Q. petraea*; **KI**: 143, on *Q. frainetto*; 149, on *Q. cerris*; 163, on *Q. pubescens*; **Y**: 182, on *Q. cerris*

* *Sphinctrina turbinata* (Pers.) De Not.

BU: 54, on *Q. cerris*, lichenicolous on *Pertusaria coronata*, **Det. V. John**

* *Stigmidium congestum* (Körb.) Triebel

S: 167, on *Q. virgiliana*, lichenicolous on *Lecanora chlarotera*, **Det. M.G. Haleci**

Tephromela atra (Huds.) Hafellner

BA: 1, on *Q. cerris*; 2, on *Q. trojana*; 14, on *Q. cerris*; **BU:** 38, on *Q. cerris*; 39, on *Q. petraea*; **Ç:** 74, on *Q. ithaburensis* subsp. *macrolepis*; 76, 95, on *Q. cerris*; **E:** 116, on *Q. virgiliana*; **KI:** 150, 154, on *Q. cerris*; **KO:** 164, on *Q. petraea*; **T:** 171, on *Q. frainetto*, on *Q. petraea*; 177, on *Q. pubescens*

Tornabea scutellifera (With.) J.R. Laundon

BI: 28, on *Q. cerris*

Tuckermanopsis chlorophylla (Willd.) Hale

BU: 38, on *Q. cerris*; **Ç:** 99, on *Q. frainetto*; **Y:** 182, on *Q. cerris*

Usnea filipendula Stirt.

BI: 26, on *Q. pubescens*; **BU:** 45, on *Q. petraea*; 46, on *Q. cerris*; 67, on *Q. cerris*; on *Q. frainetto*; **Ç:** 80, on *Q. petraea*; 99, on *Q. frainetto*; **S:** 166, on *Q. cerris*

Usnea fulvoraegens (Räsänen) Räsänen

BU: 45, on *Q. petraea*; 46, 47, 49, on *Q. cerris*; 67, on *Q. cerris*, on *Q. frainetto*

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

BU: 45, on *Q. petraea*; 66, on *Q. cerris*

Usnea rigida Vain.

BU: 49, on *Q. cerris*; 67, on *Q. cerris*, on *Q. frainetto*, on *Q. petraea*

Usnea subfloridana Stirt.

BU: 67, on *Q. cerris*, on *Q. frainetto*

Xanthomendoza fulva (Hoffm.) Søchting, Kärnefelt & S.Y. Kondr.

BI: 28, on *Q. cerris*; **BU:** 43, on *Q. frainetto*

Xanthoria candelaria (L.) Th. Fr.

BI: 28, on *Q. pubescens*

Xanthoria parietina (L.) Th. Fr.

BA: 1, on *Q. cerris*, on *Q. trojana*; 4, on *Q. cerris*; 6, on *Q. pubescens*; 8, on *Q. frainetto*; 9, on *Q. pubescens*; 10, on *Q. cerris*; 11, on *Q. cerris*; 12, on *Q. ithaburensis* subsp. *macrolepis*; 13, on *Q. trojana*; 14, 15, on *Q. cerris*; 16, on *Q. frainetto*; 17, 19, 20, on *Q. pubescens*; 21, on *Q. frainetto*; 24, on *Q. cerris*; **BI:** 27, on *Q. cerris*; 28, on *Q. cerris*, on *Q. pubescens*; 29, on *Q. cerris*; **BU:** 31, on *Q. frainetto*; 32, on *Q. cerris*, on *Q. infectoria*; 34, on *Q. infectoria*; 35, on *Q. pubescens*; 36, 37, on *Q. cerris*; 39, on *Q. cerris*; on *Q. petraea*; 40, 41, on *Q. infectoria*, 43, on *Q. frainetto*; 44, on *Q. cerris*, on *Q. infectoria*; 45, on *Q. petraea*, on *Q. pubescens*; 48, on *Q. cerris*; 50, on *Q. robur*; 51, 53, on *Q. cerris*; 57, on *Q. pubescens*; 58, on *Q. frainetto*; 59, 61, on *Q. cerris*; 62, on *Q. cerris*, on *Q. infectoria*; 63, on *Q. frainetto*; 65, on *Q. cerris*; 66, on *Q. cerris*, on *Q. frainetto*; 68, on *Q. pubescens*; 69, on *Q. cerris*; 70, on *Q. infectoria*; on *Q. pubescens*; **Ç:** 71, on *Q. cerris*; 72, on *Q. ithaburensis* subsp. *macrolepis*; 73, on *Q. cerris*; 74, on *Q. ithaburensis* subsp. *macrolepis*; 75, on *Q. pubescens*; 76, 77, on *Q. cerris*, on *Q. pubescens*; 78, on *Q. cerris*; 82, 83, on *Q. pubescens*; 84, on *Q. ithaburensis* subsp. *macrolepis*; 86, on *Q. coccifera*, on *Q. pubescens*; 87, 88, on *Q. cerris*; on *Q. pubescens*; 89, on *Q. ithaburensis* subsp. *macrolepis*; 90, on *Q. pubescens*; 91, on *Q. frainetto*; 92, on *Q. cerris*; 93, on *Q. pubescens*; 94, on *Q. pubescens*; 95, on *Q. cerris*; 96, on *Q. frainetto*; 97, on *Q. pubescens*; 98, on *Q. cerris*; 100, on *Q. cerris*, on *Q. frainetto*; **E:** 104, 106, 108, on *Q. virgiliana*; 109, 110, 111, 112, on *Q. pubescens*; 113, on *Q. frainetto*; 114, on *Q. pubescens*; 115, 116, on *Q. virgiliana*; 117, 118, on *Q. pubescens*; 119, on *Q. cerris*; 120, on *Q. ithaburensis* subsp. *macrolepis*; 122, on *Q. pubescens*; 123, on *Q. infectoria*; 124, on *Q. frainetto*; **İ:** 127, on *Q. frainetto*, on *Q. infectoria*; 129, on *Q. frainetto*; 130, on *Q. frainetto*, on *Q. petraea*; 131, on *Q. pubescens*; 132, on *Q. cerris*, on *Q. pubescens*; 133, 134, on *Q. cerris*; 135, 136, on *Q. petraea*; 137, on *Q. frainetto*, on *Q. petraea*; 138, on *Q. frainetto*; 139, on *Q. frainetto*, on *Q. petraea*; **KI:** 143, on *Q. frainetto*; 144, on *Q. pubescens*; 145, on *Q. virgiliana*; 146, 147, on *Q. pubescens*; 148, 150, on *Q. cerris*; 152, on *Q. frainetto*; 153, on *Q. frainetto*, on *Q. virgiliana*; 154, 155, 156, 157, on *Q. cerris*; 158, on *Q. pubescens*; 160, on *Q. frainetto*; 162, on *Q. frainetto*, on *Q. pubescens*; **KO:** 164, on *Q. frainetto*; **S:** 166, on *Q. cerris*, *Q. virgiliana*; 167, on *Q. virgiliana*; **T:** 171, on *Q. frainetto*; 172, on *Q. pubescens*; 174, on *Q. pubescens*; 175, on *Q. coccifera*, on *Q. infectoria*; 176, on *Q. pubescens*; 177, on *Q. pubescens*; **T:** 178, on *Q. frainetto*; on *Q. pubescens*; **Y:** 180, on *Q. frainetto*; **Y:** 182, on *Q. petraea*

Xanthoria polycarpa (Hoffm.) Rieber

BI: 27, on *Q. cerris*; **BU:** 57, on *Q. pubescens*

4. Discussion

A total of 162 (159 lichens, 3 lichenicolous fungi) taxa belonging to 57 genera were recorded from 182 localities. Among these lichen taxa, 72 were crustose, 59 were foliose, 25 were fruticose, 2 were leprose, 1 was squamulose. Of these 162 taxa, 13 taxa were recorded for the first time from the Marmara region with this study.

132 taxa were determined on *Q. cerris*, 98 taxa on *Q. frainetto*, 91 taxa on *Q. petraea*, 90 taxa on *Q. pubescens*, 42 taxa on *Q. virgiliana*, 35 taxa on *Q. infectoria*, 27 taxa on *Q. ithaburensis* subsp. *macrolepis*, 26 taxa on *Q. trojana*, 14 taxa on *Q. robur*, and 12 taxa on *Q. coccifera*.

Q. cerris, *Q. pubescens*, *Q. frainetto*, and *Q. petraea* have very wide distribution in the Marmara region. However the other *Quercus* species have a more limited distribution area (Günel 1997). Accordingly, *Q. cerris* was found on 77 localities, *Q. pubescens* was 49 localities, *Q. frainetto* was 40 localities, *Q. petraea* was 27 localities in our study. In terms of the number of lichen taxa these four oak species were seen top four ranked in this study. In contrast, *Q. infectoria* was recorded 12 localities, *Q. virgiliana* was 11 localities, *Q. ithaburensis* subsp. *macrolepis* was 6 localities, *Q. coccifera* was 4 localities, *Q. trojana* was 3 localities, *Q. robur* was 2 localities. As a result of this, the number of lichen taxa were less observed on six oak trees. The distribution features of oak species in the study area preferred as a substrate were seen as one of the main reasons for differences the number of epiphytic taxa between oak species. Besides, such as bark features (ph, texture), age of tree, and habitat features (humidity, light, aspect, climate) are effective the frequency and spread of the species.

Lecanora was the richest genera with 16 taxa at the study area. *Caloplaca* (9 taxa), *Pertusaria* (8 taxa), *Physconia* (8 taxa), *Ochrolechia* (7 taxa), *Peltigera* (6 taxa), *Physcia* (6 taxa), *Usnea* (6 taxa), *Cladonia* (5 taxa), and *Ramalina* (5 taxa) were the other rich genera on account of the number of taxon.

Evernia prunastri, *Lecanora carpinea*, *L. chlorotera*, *Lecidella elaeochroma*, *Melanelixia subaurifera*, *Parmelia sulcata*, *Parmelina tiliacea*, *Phaeophyscia orbicularis*, *Phlyctis argena*, *Physcia adscendens*, *P. stellaris*, *Physconia enteroxantha*, *Pleurosticta acetabulum*, *Ramalina farinacea*, *R. fastigiata*, and *Xanthoria parietina* were determined the most common epiphytic species on oak trees in the study area.

Nitrophytic species such as *Parmelina tiliacea*, *Phaeophyscia orbicularis*, *Physcia adscendens*, *P. aipolia*, *P. stellaris*, *Pleurosticta acetabulum*, *Xanthoria parietina* (Rouss, 1999) were observed commonly at the localities near to the agriculture fields in study area.

In the Marmara region, suboceanic species (like *Bacidia fraxinea*, *Caloplaca ferruginea*, *Collema subflaccidum*, *Lecanora expallens*, *Melanelixia glabra*, *Pertusaria hymenea*, *Pertusaria pertusa*, *Phlyctis agelaea*, *Phlyctis argena*, *Physconia enteroxantha*, *P. perisidiosa*) were recorded at the localities which effected by the oceanic climate.

Besides, *Physcia leptalea*, *Physconia servitii*, *P. subpulverulenta*, *Ramalina calicaris* were found in places of the influenced by the Mediterranean climate in the Marmara region. These species are known as mediterranean elements (Nimis and Martellos, 2008).

Peltigera rufescens usually grows on dry, calcareous or basic soils in dry meadows, on dunes, and on boulders or rock faces, usually in open situation, seldom at tree bases (Vitikainen, 1994). This species was found at the base of *Q. cerris*, *Q. frainetto* and *Q. pubescens* trunks together with moss at three localities. Also, epiphytic *Peltigera collina*, corticolous old woodland indicator species, as a member of *Lobarion* communities (Vitikainen, 1994). This species was recorded on *Q. petraea* at two localities (Loc. 45, 64) and recorded on *Q. frainetto* (Loc. 81) with *Lobarion pulmonaria*.

Because of the *Quercus* bark has acidic feature (Larsen et al., 2007; Öztürk and Oran, 2011), acidophytic lichen species are found commonly on these substrates. In our study, a large number of acidophytic lichen taxa were determined on various oak substrates.

Mežaka et al., (2008) were indicated that tree species are one of the most important factors explaining distribution of epiphytic lichen species. It is known that *Quercus* species are a suitable phorophyte for lichen settlement (Larsen et al., 2007). Therefore, various lichen species were recorded on ten different oak species in the Marmara region.

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References

- Akman, Y. 1990. İklim ve Biyoiklim (Biyoiklim Metodları ve Türkiye İklimleri). Palme Yayın Dağıtım, Ankara.
 Brodo, I.M., Sharnoff, S.D., Sharnoff, S. 2001. Lichens of North America. Yale University Press, New Haven.
 Brummitt, R.K. Powell, C.E. 1992. Authors of plant names. Royal Botanical Gardens, Kew.

- Clauzade, G., Roux, C. 1985. Likenoj De Okcidenta Eûropo Ilustrita Determinlibro. Bulletin de la Société Botanique du Centre, Royan.
- Çobanoğlu, G., Sevgi, E., Sevgi, O. 2008. Lichen mycota along Uludağ fir (*Abies bornmuelleriana* Mattf.). Univ. of Craiova, Biologie. XIII/XLIX: 15-19.
- Çobanoğlu, G., Sevgi, O. 2009. Analysis of the distribution of epiphytic lichens on *Cedrus libani* in Elmali Research Forest (Antalya, Turkey). Journal of Environmental Biology. 30/2: 205-212.
- Ezer, T., Kara, R., Düzenli, A. 2010. Musa Dağı'ndaki epifitik vejetasyonu oluşturan briyofitlerin yaşam stratejileri. Biological Diversity and Conservation. 3/3: 75-84.
- Günal, N. 1997. Türkiye'de başlıca ağaç türlerinin coğrafi yayılışları, ekolojik ve floristik özellikleri. Çantay Kitabevi, İstanbul.
- Güvenç, G., Oran, S., Öztürk, Ş. 2009. The Epiphytic Lichens on Anatolian Black Pine [*Pinus nigra* Arnd. subsp. *pallasiana* (Lamb.) Holmboe] in Mt. Uludag (Bursa-Turkey). Journal of Applied Biological Sciences. 3/2: 143-147.
- Larsen, R.S., Bell, J.N.B., James, P.W., Chimonides, P.J., Rumsey, F.J., Tremper, A., Purvis, O.W. 2007. Lichen and bryophyte distribution on oak in London in relation to air pollution and bark acidity. Environmental Pollution. 146: 332-340.
- Ihlen, P.G., Gjerde, I., Sætersdal, M. 2001. Structural indicators of richness and rarity of epiphytic lichens on *Corylus avellana* in two different forest types within a nature reserve in South-western Norway. Lichenologist. 33/3: 215-229.
- Mežaka, A., Brūmelis, G., Piterans, A. 2008. The distribution of epiphytic bryophyte and lichen species in relation to phorophyte characters in Latvian natural old-growth broad leaved forests. Folia Cryptog. Estonica. 44: 89-99.
- Nimis, P.L., Martellos, S. 2008. *ITALIC* - The Information System on Italian Lichens. Version 4.0. University of Trieste. online at <http://dbiodbs.univ.trieste.it/italic/italic02a>
- Oran, S. 2011. Epiphytic lichen diversity on *Fagus orientalis* Lipsky and *Fagus sylvatica* L. in the Marmara region (Turkey). Biological Diversity and Conservation. Biological Diversity and Conservation. 4/1: 134-143.
- Öztürk, Ş., Güvenç, G. 2010. The distribution of epiphytic lichens on Uludag fir (*Abies nordmanniana* (Steven) Spach subsp. *bornmuelleriana* (Mattf.) Coode & Cullen) forests along an altitudinal gradient (Mt. Uludag, Bursa, Turkey). Ekoloji. 19/74: 131-138.
- Öztürk, Ş., Oran, S. 2011. Investigations on the bark pH and epiphytic lichen diversity of *Quercus* taxa found in Marmara Region. Journal of Applied Biological Sciences. 5/13: 27-33.
- Purvis, O.W., Coppins, B.J., Hawksworth, D.L., James, P.V., Moore, M. 1992. The Lichen Flora of Great Britain and Ireland. Natural History Museum Publications, London.
- Ruoss, E. 1999. How agriculture affects lichen vegetation in central Switzerland. Lichenologist. 31/1: 63-73.
- Vitikainen, O. 1994. Taxonomic revision of *Peltigera* (lichenized Ascomycotina) in Europe. Acta Botanica Fennica, Helsinki.
- Wirth, V. 1995. Die Flechten Baden-Württembergs. Teil 1-2. Ulmer, Stuttgart.

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