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Macromycetes Determined in Çamburnu Nature Park and Close Environs (Trabzon)

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Abstract: This study was carried out the macrofungi samples collected from Çamburnu Nature Park (Sürmene/Trabzon). As a result of field and laboratory studies, 109 macromycete species belonging to four classes, 12 orders, 41 families and 64 genera within Ascomycota and Basidiomycota were determined. The species are presented in alphabetical order together with their habitats and localities.

Key words: Biodiversity, macrofungi, Black Sea Region, Turkey

Çamburnu Tabiat Parkı ve Yakın Çevresinde (Trabzon) Belirlenen Makromantarlar

Öz: Bu çalışma Çamburnu Tabiat Parkı (Sürmene/Trabzon)'ndan toplanan makromantar örnekleri üzerinde gerçekleştirilmiştir. Arazi ve laboratuvar çalışmaları sonucunda Askomikota ve Bazidiyomikota bölümleri içinde yer alan dört sınıf, 12 takım, 41 familya ve 64 cinse ait 109 makromantar türü belirlenmiştir. Türler habitat ve lokaliteleri ile birlikte alfabetik sırada verilmiştir.

Anahtar kelimeler: Biyoçeşitlilik, makromantarlar, Karadeniz Bölgesi, Türkiye

Introduction

The checklists presented on the macromycetes of Turkey indicate that more than 2.500 species are currently known (Doğan et al., 2005; Sesli and Denchev, 2014; Solak et al., 2015; Sesli et al., 2020; Uzun and Kaya, 2020). Though a remarkable portion of these species were presented from the districts situated along Black Sea coasts (Sesli, 1993; Pekşen and Karaca, 2003; Demirel et al., 2010; Akata et al., 2014, 2016; Keleş et al., 2014; Akata and Uzun, 2017; Sesli et al., 2018; Keleş, 2019a,b; Uzun and Kaya, 2019; Yakar et al., 2019; Sesli, 2020), many unstudied or less studied areas still exist in the region. Çamburnu Nature Park area is also among these regions. Though some new records (Keleş and Oruç, 2017) were presented from the region, a research on the macrofungi growing within the boundaries of Çamburnu Nature Park has not been conducted.

Çamburnu Nature Park (Fig. 1) is located in Sürmene district of Trabzon province within Eastern Black Sea Region of Turkey. The Nature Park covers an area of 51 decares and situated at distance of about 8, 7 and 1 km to Sürmene, Of district centers and Çamburnu county center respectively. Phytogeographically the area falls in Colchis sector of the Euro-Siberian floristic area within Holarctic flora kingdom (Davis, 1965; İnandık, 1969; Anşin, 1983).

The area comprises 153 plant taxa within 123 genera and 62 families (Yetmen and Aytaç, 2017). Çamburnu Nature Park is also an important region as being one of the two localities in Turkey where the scotch pine (*Pinus*

sylvestris L. ssp. *kochiana* (Klotzsch ex K. Koch) Eliçin) can reach the coast. Though scotch pine is the dominant tree population in the region, chestnut, spruce, hornbeam and bearded alder are also common tree populations.
The study aims to determine the macrofungal composition of the region, and to make a contribution to the mycobiota of Turkey.

Material and method

Field studies were performed within the boundaries of Çamburnu Nature Park and its close environs (Table 1) between 2014-2016, and 439 macrofungi samples were collected. Macro photos of the samples were taken, and ecological characteristics and geographical coordinates were noted. By asking to the locals, edibility of the samples by local public were also investigated. Then they were transferred to the fungarium and dried in an air-conditioned room. The dried samples are kept in polyethylene bags in VANF. Macroscopic and microscopic investigations were performed in the fungarium. A Leica trinocular light microscope were used for microscopic investigations. The data were compared with relevant literature (Breitenbach and Krânzlin, 1984-2000; Buczacki, 2012; Bresinsky and Besl, 1990; Ellis and Ellis, 1990; Phillips et al., 1991; Jordan, 1995; Krânzlin, 2005; Phillips, 2006; Bessette et al., 2007; Antonin and Noordeloos, 2010; Kuo and Methven, 2014) and the samples were identified. The samples are kept at Yüzüncü Yıl University Fungarium (VANF).

Figure 1. Map of the research area

Results

One hundred and nine macrofungi species were determined from the research area. The taxa are listed in alphabetical order in accordance with Index Fungorum (accessed on 01 January 2021) was followed for the systematics of the species.

Table 1. Localities of the collected macrofungi samples

L. No	Locality name	Coordinates	Altitude (m)
1	Entrance of Çamburnu	N 40°55.534'; E 40°13.390'	18
2	Eastern part of Çamburnu	N 40°55.437'; E 40°12.856'	45
3	Western part Çamburnu	N 40°55.422'; E 40°12.749'	56
4	Southern part of Çamburnu	N 40°55.400'; E 40°12.790'	61 m
5	Northern part of Çamburnu	N 40°55.436'; E 40°12.771'	31 m
6	Çamburnu district centre	N 40°54.435'; E 40°13.151'	350 m
7	Çamburnu district centre	N 40°53.685'; E 40°12.707'	440 m
8	Çamburnu district centre	N 40°54.887'; E 40°12.097'	18 m
9	Kemerli neighborhood	N 40°54.874'; E 40°12.101'	77 m
10	Çamburnu picnic area	N 40°55.462'; E 40°12.974'	25 m
11	Çamburnu picnic area	N 40°55.450'; E 40°12.980'	29 m
12	Çamburnu picnic area	N 40°55.470'; E 40°12.955'	32 m
13	Çamburnu picnic area	N 40°55.483'; E 40°12.952'	19 m
14	Çamburnu picnic area	N 40°55.387'; E 40°12.749'	19 m
15	Çamburnu picnic area	N 40°55.533'; E 40°12.997'	15 m
16	Çamburnu picnic area	N 40°55.230'; E 40°12.631'	11 m
17	Çamburnu picnic area	N 40°55.580'; E 40°12.711'	40 m
18	Çamburnu picnic area	N 40°55.287'; E 40°12.843'	25 m
19	Çamburnu picnic area	N 40°55.331'; E 40°12.874'	30 m
20	Çamburnu picnic area	N 40°55.491'; E 40°12.985'	23 m
21	Around Çamburnu waste facilities	N 40°54.128'; E 40°12.604 '	334 m
22	Around Nemerli mosque	N 40°54.755'; E 40°12.595'	156 m
23	Around Çamburnu recreation facilities	N 40°55.436'; E 40°12.776'	21 m
24	Around Çamburnu waste facilities	N 40°53.692'; E 40°12.661'	433 m
25	Around Çamburnu old hotel	N 40°55.354'; E 40°12.746'	107 m
26	Southern part of Maritime Faculty campus area	N 40°55.390'; E 40°12.599'	16 m
27	Southern part of Maritime Faculty campus area	N 40°55.287'; E 40°12.714'	18 m
28	Southern part of Maritime Faculty campus area	N 40°55.640'; E 40°12.887'	21 m
29	Southern part of Maritime Faculty campus area	N 40°55.492'; E 40°12.611'	19 m
30	Southern part of Maritime Faculty campus area	N 40°55.163'; E 40°12.443'	13 m
31	Southern part of Maritime Faculty campus area	N 40°55.311'; E 40°12.477'	14 m
32	Nothern part of Maritime Faculty campus area	N 40°55.378'; E 40°12.613'	13 m
33	Nothern part of Maritime Faculty campus area	N 40°55.099'; E 40°12.237'	17 m
34	Nothern part of Maritime Faculty campus area	N 40°55.127'; E 40°12.803'	12 m
35	Nothern part of Maritime Faculty campus area	N 40°55.431'; E 40°12.722'	10 m
36	Nothern part of Maritime Faculty campus area	N 40°55.127'; E 40°12.301'	13 m
37	Nothern part of Maritime Faculty campus area	N 40°55.444'; E 40°12.555'	11 m
38	Nothern part of Maritime Faculty campus area	N 40°55.608'; E 40°12.757'	9 m
39	Nothern part of Maritime Faculty campus area	N 40°55.699'; E 40°12.903'	13 m
40°	Nothern part of Maritime Faculty campus area	N 40°55.271'; E 40°12.638'	14 m
41	Around forestry management directorate	N 40°55.379'; E 40°12.790'	93 m
42	Around forestry management directorate	N 40°55.121'; E 40°12.895'	127 m
43	Around forestry management directorate	N 40°55.263'; E 40°12.711'	79 m
44	Around forestry management directorate	N 40°55.541'; E 40°12.921'	133 m

Ascomycota Whittaker
Pezizomycetes O.E. Erikss. & Winka
Pezizales J. Schröt.
Helvellaceae Fr.

1. ***Helvella crispa*** (Scop.) Fr.: On soil under mixed wood, locality 44, 18.11.2015, YO & AK 269.

2. ***Helvella elastica*** Bull.: On soil under mixed wood, locality 41, 18.11.2015, YO & AK 264.

3. ***Helvella lacunosa*** Afzel.: On soil among leaf litter under mixed wood, locality 18, 18.11.2015, YO & AK 270.

4. ***Helvella latispora*** Boud.: Among grass at mixed forest edge, locality 6, 18.11.2015, YO & AK 295.

Pyronemataceae Corda

5. ***Aleuria aurantia*** (Pers.) Fuckel: On soil, locality 7, 18.11.2015, YO & AK 311.

Sordariomycetes O.E. Erikss. & Winka
Xylariales Nannf.
Xylariaceae Tul. & C. Tul.

6. ***Xylaria polymorpha*** (Pers.) Grev.: On decaying stump, locality 34, 14.09.2014, YO & AK 22.

Basidiomycota R.T. Moore
Agaricomycetes Doweld
Agaricales Underw.
Agaricaceae Chevall.

7. ***Agaricus campestris*** L.: Meadow, locality 35, 14.09.2014, YO & AK 30.

8. ***Agaricus moelleri*** Wasser: Meadow, locality 14, 13.10.2014, YO & AK 69; under pine forest, locality 36, 27.10.2016, YO & AK 365.

9. ***Coprinus comatus*** (O.F. Müll.) Pers.: Meadow, locality 22, 17.09.2016, YO & AK 438.

10. ***Leucocoprinus brebissonii*** (Godey) Locq.: (Keleş and Oruç, 2017).

11. ***Macrolepiota mastoidea*** (Fr.) Singer: Among grass in forest clearing, locality 42, 21.10.2015, YO & AK 215.

12. ***Macrolepiota procera*** (Scop.) Singer: Among needle litter under pine forest, locality 20, 29.10.2014, YO & AK 112; 18.05.2016, YO & AK 317; under mixed wood, locality 4, 29.10.2014, YO & AK 147.

Amanitaceae R. Heim ex Pouzar

13. ***Amanita caesarea*** (Scop.) Pers.: On soil under pine forest, locality 18, 14.09.2014, YO & AK 7; locality 17, 21.10.2015, YO & AK 181; under chesnot trees, locality 41, 21.10.2015, YO & AK 213; under mixed wood, locality 16, 17.09.2016, YO & AK 325; locality 3, 17.09.2016, YO & AK 336.

14. ***Amanita citrina*** Pers.: On soil under pine forest, locality 15, 29.10.2014, YO & AK 116; locality 25, 29.10.2014, YO & AK 148.

15. ***Amanita gemmata*** (Fr.) Bertill.: On soil under pine forest, locality 20, 05.2016, YO & AK 315; under mixed wood, locality 19, 18.05.2016, YO & AK 321.

16. ***Amanita mairei*** Foley: Among grass, locality 23, 14.09.2014, YO & AK 18.

17. ***Amanita muscaria*** (L.) Lam.: Among grass in pine forest clearing, locality 18, 14.09.2014, YO & AK 10.

18. ***Amanita phalloides*** (Vaill. ex Fr.) Link: On soil under pine forest, locality 17, 18.05.2016, YO & AK 313.

19. ***Amanita rubescens*** Pers.: On soil under pine forest, locality 16, 14.09.2014, YO & AK 12; under mixed wood, locality 41, 21.10.2015, YO & AK 254.

20. ***Amanita vaginata*** (Bull.) Lam.: On soil under pine forest, locality 15, 29.10.2014, YO & AK 121.

Bolbitiaceae Singer

21. ***Bolbitius titubans*** (Bull.) Fr.: On soil under mixed wood, locality 24, 17.09.2016, YO & AK 436.

22. ***Conocybe semiglobata*** Kühner & Watling: Among grass under burned pine trees, locality 1, 29.10.2014, YO & AK 153.

Clavariaceae Chevall.

23. ***Ramariopsis subtilis*** (Pers.) R.H. Petersen: On soil under pine forest, locality 39, 27.10.2016, YO & AK 362.

Entolomataceae Kotl. & Pouzar

24. ***Entoloma rhodopolium*** (Fr.) P. Kumm.: Among needle litter under pine forest, locality 10, 21.10.2015, YO & AK 194.

Hydnangiaceae Gäum. & C.W. Dodge

25. ***Laccaria amethystina*** Cooke: Among needle litter, under pine forest, locality 20, 18.11.2015, YO & AK 308.

26. ***Laccaria laccata*** (Scop.) Cooke: On soil under pine forest, locality 40, 27.10.2016, YO & AK 359.

Hygrophoraceae Lotsy

27. ***Hygrocybe conica*** (Schaeff.) P. Kumm.: On soil under mixed wood, locality 14, 27.10.2016, YO & AK 418.

Hymenogastraceae Vittad.

28.***Gymnopilus picreus*** (Pers.) P. Karst.: Among needle litter under pine forest, locality 17, 14.09.2014, YO & AK 39.

29.***Hypholoma fasciculare*** (Huds.) P. Kumm.: On decaying stump, locality 26, 29.10.2014, YO & AK 143; locality 42, 18.11.2015, YO & AK 256.

Inocybaceae Jülich

30.***Inocybe dulcamara*** (Pers.) P. Kumm: Among leaf litter, roadside, locality 25, 29.10.2014, YO & AK 151.

31.***Inocybe obsoleta*** (Quadr. & Lunghini) Valade: Under pine forest, locality 13, 14.09.2014, YO & AK 9; locality 43, 14.09.2014, YO & AK 15.

32.***Inocybe queletii*** Konrad: On soil under mixed wood, locality 20, 21.10.2015, YO & AK 240.

*33.****Inocybe tenebrosa*** Quél.: Under mixed wood, locality 44, 18.11.2015, YO & AK 266.

Incertae sedis

34.***Clitocybe rivulosa*** (Pers.) P. Kumm.: On soil under mixed wood, locality 44, 18.11.2015, YO & AK 255.

35.***Cyathus striatus*** (Huds.) Willd.: On decaying twigs under pine forest, locality 37, 14.09.2014, YO & AK 36.

36.***Lepista sordida*** (Schumach.) Singer: Among grass, locality 20, 18.11.2015, YO & AK 306.

Lycoperdaceae Chevall.

37.***Lycoperdon marginatum*** Vittad.: Among needle litter under pine forest, locality 17, 14.10.2015, YO & AK 64.

38.***Lycoperdon perlatum*** Pers.: Among grass, locality 38, 14.09.2014, YO & AK 27.

Lyophyllaceae Jülich

39.***Lyophyllum decastes*** (Fr.) Singer: On soil under pine forest, locality 40, 18.11.2015, YO & AK 291.

Mycenaceae Roze

40.***Hemimycena delectabilis*** (Peck) Singer: On decaying twigs, locality 39, 14.09.2014, YO & AK 24.

41.***Mycena flavescens*** Velen.: On soil under pine forest, locality 38, 14.09.2014, YO & AK 38.

42.***Mycena leptocephala*** (Pers.) Gillet: On soil under mixed wood, locality 27, 27.10.2016, YO & AK 368.

Omphalotaceae Bresinsky

43.***Gymnopus erythropus*** (Pers.) Antonín, Halling & Noordel.: Under pine forest, locality 37, 14.09.2014, YO & AK 35.

Physalacriaceae Corner

44.***Armillaria borealis*** Marxm. & Korhonen: On decaying stump, locality 36, 13.10.2014, YO & AK 71.

45.***Armillaria cepistipes*** Velen.: On decaying stump, locality 12, 29.10.2014, YO & AK 126.

46.***Armillaria mellea*** (Vahl) P. Kumm.: Under *Alnus* sp., locality 23, 29.10.2014, YO & AK 133.

47.***Hymenopellis radicata*** (Relhan) R.H. Petersen: Under mixed wood, locality 28, 21.10.2015, YO & AK 196.

Pleurotaceae Kühner

48.***Pleurotus ostreatus*** (Jacq.) P. Kumm.: On soil under mixed wood, locality 21, 17.09.2016, YO & AK 437.

Psathyrellaceae Vilgalys, Moncalvo & Redhead

49.***Coprinellus disseminatus*** (Pers.) J.E. Lange: Around decaying stump under mixed wood, locality 9, 17.09.2016, YO & AK 439.

50.***Coprinellus micaceus*** (Bull.) Vilgalys, Hopple & Jacq. Johnson: On decaying stump, locality 11, 21.10.2015, YO & AK 184.

51.***Coprinopsis gonophylla*** (Quél.) Redhead, Vilgalys & Moncalvo: Among grass under burned pine trees, locality 1, 29.10.2014, YO & AK 155.

52.***Coprinopsis urticicola*** (Berk. & Broome) Redhead, Vilgalys & Moncalvo: On decaying Urtica sp. remains, locality 35, 14.09.2014, YO & AK 34.

53.***Parasola leiocephala*** (P.D. Orton) Redhead, Vilgalys & Hopple: Around *Alnus* sp. stump, locality 44, 25.07.2016, YO & AK 434.

54.***Psathyrella candolleana*** (Fr.) Maire: Among grass, locality 34, 14.09.2014, YO & AK 28; under mixed wood, locality 10, 18.05.2016, YO & AK 314; among leaf litter, locality 2, 25.07.2016, YO & AK 432.

55.***Psathyrella multipedata*** (Peck) A.H. Sm.: On soil among grass under *Alnus* sp., locality 17, 14.09.2014, YO & AK 16.

56.***Psathyrella piluliformis*** (Bull.) P.D. Orton: Under tangerine trees, locality 8, 27.10.2016, YO & AK 385.

Schizophyllaceae Quél.

57.***Schizophyllum commune*** Fr.: On decaying pine stump, locality 1, 29.10.2014, YO & AK 157; on decaying tree branches, locality 7, 18.05.2016, YO & AK 320.

Tricholomataceae R. Heim ex Pouzar

58.***Tricholoma sciodes*** (Pers.) C. Martín: Among needle litter under pine forest, locality 10, 29.10.2014, YO & AK 111.

59.***Tricholomopsis rutilans*** (Schaeff.) Singer: On decaying stump under pine forest, locality 33, 29.10.2014, YO & AK 144; 21.10.2015, YO & AK 206; 18.11.2015, YO & AK 292; 27.10.2016, YO & AK 361.

Boletales E.-J. Gilbert

Boletaceae Chevall.

60.***Cyanoboletus pulverulentus*** (Opat.) Gelardi, Vizzini & Simonini: Among grass at forest edge, locality 1, 21.10.2015, YO & AK 229.

61.***Imleria badia*** (Fr.) Vizzini: On soil under pine trees, locality 32, 14.09.2014, YO & AK 51; under mixed wood, locality 7, 21.10.2015, YO & AK 251.

62.***Leccinellum pseudoscabrum*** (Kallenb.) Mikšík: On soil under pine forest, locality 10, 21.10.2015, YO & AK 189.

63.***Leccinum versipelle*** (Fr. & Hök) Snell: On soil under mixed wood, locality 20, 21.10.2015, YO & AK 193.

64.***Porphyrellus porphyrosporus*** (Fr. & Hök) E.-J. Gil: Among needle litter under pine forest, locality 17, 14.09.2014, YO & AK 37.

Diplocystidiaceae

65.***Astraeus hygrometricus*** (Pers.) Morgan: On soil under mixed wood, locality 7, 21.10.2015, YO & AK 235.

Gomphidiaceae Maire ex Jülich

66.***Chroogomphus confusus*** Y.C. Li & Zhu L. Yang: (Keleş, 2019a).

Paxillaceae Lotsy

67.***Paxillus involutus*** (Batsch) Fr.: On soil under pine trees, locality 33, 14.09.2014, YO & AK 54.

68.***Paxillus rubicundulus*** P.D. Orton: Among grass at pine forest edge, locality 29, 13.10.2014, YO & AK 80; [40], 21.10.2015, YO & AK 222.

Sclerodermataceae Corda

69.***Scleroderma areolatum*** Ehrenb.: Among grass, under mixed wood, locality 10, 14.09.2014, YO & AK 4.

70.***Scleroderma citrinum*** Pers.: On soil under pine trees, locality 19, 21.10.2015, YO & AK 185.

Suillaceae Besl & Bresinsky

71.***Suillus bovinus*** (L.) Roussel: Among grass under mixed wood, locality 18, 21.10.2015, YO & AK 211.

72.***Suillus granulatus*** (L.) Roussel: Among needle litter under pine forest, locality 17, 21.10.2015, YO & AK 208.

73.***Suillus luteus*** (L.) Roussel: On soil under pine trees, locality 34, 14.09.2014, YO & AK 32; locality 41, 21.10.2015, YO & AK 223.

74.***Suillus tomentosus*** Singer: (Keleş, 2019b).

Tapinellaceae C. Hahn

75.***Tapinella atrotomentosa*** (Batsch) Šutara: On decaying stump, locality 30, 13.10.2014, YO & AK 96.

Cantharellales Gäum.

Hydnaceae Chevall.

76.***Cantharellus cibarius*** Fr.: On soil under mixed wood, locality 35, 13.10.2014, YO & AK 70.

77.***Cantharellus cinereus*** (Pers.) Fr.: On soil under mixed wood, locality 7, 21.10.2015, YO & AK 249.

78.***Clavulina cinerea*** (Bull.) J. Schröt.: Among leaf litter under *Castanea* sp., locality 20, 21.10.2015, YO & AK 243.

79.***Clavulina coralloides*** (L.) J. Schröt.: On decaying stump, locality 43, 18.11.2015, YO & AK 257; under mixed wood, locality 6, 18.11.2015, YO & AK 298.

80.***Craterellus tubaeformis*** (Fr.) Quél.: On soil under mixed wood, locality 42, 18.11.2015, YO & AK 261.

81.***Hydnum repandum*** L.: On soil under pine trees, locality 18, 29.10.2014, YO & AK 115.

82.***Hydnum rufescens*** Pers.: Among grass under mixed wood, locality 6, 27.10.2016, YO & AK 391.

Gomphales Jülich

Gomphaceae Donk

*83.***Ramaria flavescens*** (Schaeff.) R.H. Petersen: On soil under pine trees, locality 40, 14.09.2014, YO & AK 47.

Hymenochaetales Oberw.

Hymenochaetaceae Donk

84.***Phellinus igniarius*** (L.) Quél.: On decaying stump, locality 17, 14.09.2014, YO & AK 29.

Phallales E. Fisch.
Phallaceae Corda
85.***Clathrus ruber*** P. Micheli ex Pers.: On soil under pine trees, locality 31, 13.10.2014, YO & AK 79; under *Alnus* sp., locality 23, 29.10.2014, YO & AK 134; under mixed wood, locality 5, 27.10.2016, YO & AK 417.

86.***Pseudocolus fusiformis*** (E. Fisch.) Lloyd: On soil under fruit trees, locality 26, 13.10.2014, YO & AK 82; meadow, locality 8, 27.10.2016, YO & AK 379.

Polyporales Gäum.
Fomitopsidaceae Jülich
87.***Fomitopsis pinicola*** (Sw.) P. Karst.: On decaying stump, locality 10, 21.10.2015, YO & AK 182.

Polyporaceae Fr. ex Corda
88.***Daedaleopsis confragosa*** (Bolton) J. Schröt.: On decaying *Corylus* sp. twigs, locality 10, 21.10.2015, YO & AK 192.

89.***Trametes hirsuta*** (Wulfen) Lloyd: On decaying *Alnus* sp. stump, locality 27, 29.10.2014, YO & AK 141; on dead branches, locality 17, 18.05.2016, YO & AK 318.

90.***Trametes ochracea*** (Pers.) Gilb. & Ryvarden: On decaying *Alnus* sp. stump, locality 28, 29.10.2014, YO & AK 142; locality 16, 27.10.2016, YO & AK 423.

91.***Trametes versicolor*** (L.) Lloyd: On decaying *Alnus* sp. stump, locality 8, 27.10.2016, YO & AK 384.

Russulales Kreisel ex P.M. Kirk, P.F. Cannon & J.C. David
Auriscalpiaceae Maas Geest.
92.***Auriscalpium vulgare*** Gray: On decaying *Abies* sp. cones, locality 29, 27.10.2016, YO & AK 372.

93.***Lentinellus cochleatus*** (Pers.) P. Karst.: On decaying *Fagus* sp. stump, locality 39, 14.09.2014, YO & AK 50.

Russulales Kreisel ex P.M. Kirk, P.F. Cannon & J.C. David
Russulaceae Lotsy
94.***Lactarius deliciosus*** (L.) Gray: Among needle litter under pine trees, locality 30, 13.10.2014, YO & AK 75.

95.***Lactarius fulvissimus*** Romagn.: On soil under mixed wood, locality 15, 14.09.2014, YO & AK 11.

96.***Lactarius semisanguifluus*** R. Heim & Leclair: Under pine forest, locality 38, 27.10.2016, YO & AK 354.

97.***Lactarius tabidus*** Fr.: On soil under pine forest, locality 14, 29.10.2014, YO & AK 131.

98.***Russula amoenolens*** Romagn.: On soil under pine forest, locality 13, 14.09.2014, YO & AK 5.

99.***Russula cyanoxantha*** (Schaeff.) Fr.: On soil under pine forest, locality 12, 14.09.2014, YO & AK 8.

100. ***Russula delica*** Fr.: On soil under mixed forest, locality 31, 13.10.2014, YO & AK 74.

101. ***Russula emetica*** (Schaeff.) Pers.: On soil under pine forest, locality 11, 14.09.2014, YO & AK 6.

102. ***Russula olivacea*** (Schaeff.) Fr.: On soil under pine forest, locality 10, 14.09.2014, YO & AK 13.

103. ***Russula parazurea*** Jul. Schäff.: On soil under *Corylus* sp., locality 11, 13.10.2014, YO & AK 67.

104. ***Russula queletii*** Fr.: On soil under pine forest, locality 36, 17.09.2016, YO & AK 355.

105. ***Russula rhodopus*** Zvára: On soil under pine forest, locality 12, 21.10.2015, YO & AK 179.

106. ***Russula xerampelina*** (Schaeff.) Fr.: On soil under pine forest, locality 28, 13.10.2014, YO & AK 73.

Stereaceae Pilát
107. ***Stereum hirsutum*** (Willd.) Pers.: On decaying stump, locality 13, 18.05.2016, YO & AK 316.

Thelephorales Corner ex Oberw.
Bankeraceae Donk
108. ***Sarcodon squamosus*** (Schaeff.) Quél.: On soil under pine forest, locality 32, 14.09.2014, YO & AK 48.

Dacrymycetes Doweld
Dacrymycetales Henn.
Dacrymycetaceae J. Schröt.
109. ***Calocera viscosa*** (Pers.) Fr.: On soil under pine forest, locality 33, 14.09.2014, YO & AK 49.

Discussions

The study in Çamburnu Nature Park revealed 109 macromycete species belonging to four classes, 12 orders, 41 families and 64 genera.

Six of them belong to *Ascomycota* (*Pezizomycetes* 5, *Sordariomycetes* 1) and 103 to *Basidiomycota* (*Agaricomycetes* 102, *Dacrymycetes* 1). *Agaricales* were found to be the most diverse order in the region, comprising almost half of the (%49) determined species.

It is followed by *Boletales, Russulales, Cantharellales* and *Pezizales* with 16, 16, 7 and 5 species respectively. The results indicate that the most diverse family is *Russulaceae* in the region. It comprises 13 species. It is followed by *Amanitaceae, Psathyrellaceae, Agaricaceae,* and *Cantharellaceae* with 8, 8, 6 and 6 species respectively. Similarly the first five most crowded genera in the region were found to be *Russula, Amanita, Helvella, Inocybe* and *Lactarius* with 9, 8, 4, 4, 4 species respectively. The abundance of decidious and coniferous trees, and grassy areas in the region seems to favor the diversity of the members of some families such as *Russulaceae* and *Agaricaceae*.

Among the 109 determined macromycete species, 44 (%40.37) are edible, 51 (%46.79) are inedible and 14 (%12.84) are poisonous. *Lactarius delicious* is heavily collected and consumed by locals with the name "kanlıca". *Agaricus campestris* is also collected and consumed in the region but no specific name was assigned for it.

Macromycetes determined in research area were also compared with the studies carried out in close environs and some similarities were observed. These studies and the similarity percentages are given in Table 2. The reason for this similarity may be the common climate and vegetation.

The study presents the macrofungal biodiversity of Çamburnu nature park and its close environs and makes a regional contribution to the mycobiota of Turkey.

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Table 2. Similarity percentages of neighbouring studies with Çamburnu and its close environs

	# of Identical taxa	Total taxa	Similarity (%)
Sesli (1993)	16	62	25.81
Pekşen and Karaca (2003)	38	169	22.49
Demirel et al. (2010)	31	126	24.60
Keleş et al. (2014)	28	127	22.05
Akata et al. (2014)	46	236	19.49
Akata et al. (2016)	43	182	19.49
Akata and Uzun (2017)	44	205	21.46

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