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Contribution to the Macrofungal Biodiversity of Yahyalı District

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Abstract: This contributory study was carried out on the macrofungi samples collected from Yahyalı district of Kayseri province. As a result, 69 macromycete species belonging to 56 genera, 35 families and 7 orders within *Agaricomycetes* and *Pezizomycetes* were determined. Including the previously reported species, a total of 147 macromycete species were compiled from the region. The list of the determined species was provided together with their habitats, collection dates, voucher numbers, or the citations for those reported before.

Keywords: Mycobiota, taxonomy, Kayseri, Türkiye

Yahyalı Yöresi Makromantar Biyoçeşitliliğine Katkılar

Öz: Katkı niteliğindeki bu çalışma Kayseri ilinin Yahyalı ilçesinden toplanan makromantar örnekleri üzerinde gerçekleştirilmiştir. Sonuç olarak, *Agaricomycetes* ve *Pezizomycetes* sınıfları içinde yer alan 7 takım, 35 familya ve 56 cinse ait 69 makromantar türü tespit edilmiştir. Önceden rapor edilmiş türler de dahil edilerek bölgeden toplamda 147 makromantar türü derlenmiştir. Derlenen türler, habitatları, toplanma tarihleri, toplayıcı numaraları veya önceden rapor edilenlerin atıflarıyla birlikte verilmiştir.

Anahtar kelimeler: Mikobiyota, taksonomi, Kayseri, Türkiye

Introduction

Yahyalı is a district of Kayseri province, and situated between 37°40′-38°12′ northern latitudes and 35°06′-35°37′ eastern longitudes. The terrain generally exhibits a mountainous structure except for the southern parts of the Develi Plain, which also includes the Sultan Marshes National Park. Though step vegetation dominates the region, naturally growing forest areas exist in the southern parts of the district. Some local plantations also exist in the northern parts. *Salix* and *Populus* species are abundant along river and streamsides.

More than 2600 naturally growing macromycete taxa of Türkiye were presented as checklists (Sesli et al., 2020; Uzun, 2023). New contributions are being made to this number either as local lists (Çelik and Alma, 2023; Polat and Keleş, 2022; Kuru and Allı, 2023) or as new records (Çetinkaya and Uzun, 2021; Akçay et al., 2022, 2023; Şengül Demirak et al., 2022; Kaygusuz et al., 2023; Sesli, 2023a,b; Yeşilyurt et al., 2023).

Two lists (Kaşık et al., 2003; Türkoğlu and Gezer, 2006) and some new records (Türkoğlu et al., 2007) were presented related with the macromycetes of Yahyalı. But almost all of the reported taxa within both lists were addressed to the southern regions of Yahyalı. Except for five species which were reported from near Ağcaşar Dam, no collection were made from the northern regions of the district.

The study aims to determine the macromycetes growing in the northern regions of Yahyalı and make a contribution to the macrofungal biodiversity of Türkiye.

Material and method

Macrofungi samples were collected from different localities (Table 1) in northern regions of Yahyalı district, during routine visits between 2006 and 2021. Descriptive data related to macromorphology and ecology was based on the photographs and notes obtained during field works. Micromorphological data was obtained from the dry samples upon the investigations carried out under a light microscope. Identification was performed with the help of Breitenbach and Kränzlin (1984, 1986, 1991, 1995, 2000), Hansen and Knudsen (1997), Hausknecht (2009), Bessette et al. (1997, 2007), Bessette and Bessette (2006), Siegel and Schwarz (2016). The specimens are kept at Gazi University, Science Faculty, Department of Biology.

During compilation of the overall list, previously reported taxa were rechecked from IndexFungorum (2023), and the current names were included for those synonymized.

Table 1. Collection localities of the macrofungi samples

Loc. No	Locality name	Coordinates	Altitude (m)
1	Ağcaşar village	38°09′N-35°22′E	1100
2	Aladağlar, Ağsu	37°53′N-35°21′E	2000
3	Aladağlar, Düşmüş	37°57′N-35°20′E	1820
4	Aladağlar, Göğoluk	37°55′N-35°18′E	2250
5	Aladağlar, Kayaardı	37°59′N-35°24E	1700
6	Aladağlar, Köşkderesi	37°58′N-35°19′E	1810
7	Aladağlar, Kürsiyen	37°59′N-35°22′E	1780
8	Sekidağı	38°06′N-35°16′E	1450
9	Sekidağı	38°08′N-35°17′E	1320
10	Sekidağı	38°08′N-35°18′E	1340
11	Boyacılı quarter	38°06′N-35°22′E	1250
12	Boyacılı quarter	38°06′N-35°21′E	1160
13	Çadırkaya village	38°10′N-35°13′E	1150
14	Çağlayan village	38°04′N-35°18′E	1305
15	Çağlayan village	38°03N-35°18′E	1320
16	Çağlayan village	38°03N-35°17′E	1450
17	Çiğilli quarter	38°06′N-35°21′E	1160
18	Çubuklu village	38°09′N-35°16′E	1220
19	Derebağ village	38°04′N-35°17′E	1360
20	Derebağ village	38°04′N-35°18′E	1330
21	Göğnük	38°06′N-35°24′E	1340
22	İlyaslı village	38°10′N-35°18′E	1080
23	İsmet quarter	38°07′N-35°21′E	1150
24	Kirazlı village	38°04′N-35°19′E	1270
25	Kirazlı village	38°04′N-35°20′E	1240
26	Kirazlı village	38°04′N-35°21′E	1230
27	Kocahacılı village	38°11′N-35°23′E	1090
28	Kocahacılı village	38°11′N-35°24′E	1100
29	Mustafabeyli village	38°10′N-35°21′E	1110
30	Senirköy village	38°12′N-35°15′E	1078
31	Yenice quarter	38°04′N-35°25′E	1220
32	Yerköy village	38°11′N-35°21′E	1090
33	Yuları village	38°09′N-35°19′E	1100

Results

Ascomycota

Pezizomycetes

Pezizales

Caloscyphaceae

1. ***Caloscypha fulgens*** (Pers.) Boud.: Among needle litter in coniferous forest, locality 11, 27.04.2019, K. 15304.

Helvellaceae

2. ***Dissingia leucomelaena*** (Pers.) K. Hansen & X.H. Wang: Among needle litter in coniferous forest, locality 11, 27.04.2019, K. 15306.
3. ***Helvella acetabulum*** (L.) Quél.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Morchellaceae

4. ***Morchella conifericola*** Taşkın, Büyükalaca & H.H. Doğan: (Taşkın et al., 2016).
5. ***Morchella deliciosa*** Fr.: Among needle litter, locality 11, 27.04.2019, K. 15303.
6. ***Morchella elata*** Fr.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
7. ***Morchella esculenta*** (L.) Pers.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
8. ***Morchella mediterraneensis*** Taşkın, Büyükalaca & H.H. Doğan: (Taşkın et al., 2016).
9. ***Morchella semilibera*** DC.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
10. ***Morchella vulgaris*** (Pers.) Gray: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Pezizaceae

11. ***Sarcosphaera coronaria*** (Jacq.) J. Schröt.: Among needle litter in coniferous forest, locality 11, 23.05.2021, K. 15384.

Pyronemataceae

12. ***Geopora arenicola*** (Lév.) Kers: (Kaşık et al., 2003).
13. ***Geopora sumneriana*** (Cooke ex W. Phillips) M. Torre: Among needle litter in coniferous forest, locality 11, 23.05.2021, K. 15385.

Basidiomycota

Agaricales

Agaricaceae

14. ***Agaricus bresadolanus*** Bohus: (Türkoğlu and Gezer, 2006).
15. ***Agaricus campestris*** L.: On soil among grass, locality 9, 27.10.2019, A.Şahin 42.
16. ***Agaricus sylvicola*** (Vittad.) Peck: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
17. ***Agaricus xanthodermus*** Genev.: Among grass, locality 30, 27.04.2019, K. 15313.
18. ***Coprinus comatus*** (O.F. Müll.) Pers.: Among grass, locality 7, 14.05.2014, A.Şahin 26.
19. ***Lepiota clypeolaria*** (Bull.) P. Kumm.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
20. ***Lepiota cristata*** (Bolton) P. Kumm.: Meadow, locality 33, 27.04.2019, K. 15311.
21. ***Leucoagaricus leucothites*** (Vittad.) Wasser: Among grass, locality 1, 03.11.2018, A.Şahin 38.
22. ***Macrolepiota excoriata*** (Schaeff.) Wasser: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
23. ***Macrolepiota procera*** (Scop.) Singer: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Amanitaceae

24. ***Amanita vaginata*** (Bull.) Lam.: Among grass around *Quercus* sp., locality 16, 22.05.2021, K. 15367.

Bolbitiaceae

25. ***Conocybe apala*** (Fr.) Arnolds: Among grass, locality 19, 22.05.2021, K. 15375.
26. ***Conocybe aporos*** Kits van Wav.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
27. ***Conocybe deliquescens*** Hauskn. & Krisai: Meadow, locality 27, 27.04.2019, K. 15310.
28. ***Conocybe velata*** (Velen.) Watling: (Türkoğlu et al., 2007).

Cortinariaceae

29. ***Cortinarius obtusus*** (Fr.) Fr.: (Türkoğlu and Gezer, 2006).
30. ***Phlegmacium saginum*** (Fr.) Niskanen & Liimat.: (Kaşık et al., 2003).

Cyphellaceae

31. ***Chondrostereum purpureum*** (Pers.) Pouzar: On decaying *Populus* sp. trunk, locality 25, 26.10.2012, K. 7464.

Entolomataceae

32. ***Entoloma sinuatum*** (Bull.) P. Kumm.: (Kaşık et al., 2003).

Hygrophoraceae

33. ***Hygrocybe nigrescens*** (Quél.) Kühner: (Kaşık et al., 2003).
34. ***Hygrophorus agathosmus*** (Fr.) Fr.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
35. ***Hygrophorus chrysodon*** (Batsch) Fr.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Hymenogastraceae

36. ***Gymnopilus penetrans*** (Fr.) Murrill: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
37. ***Hebeloma eburneum*** Malençon: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
38. ***Hebeloma mesophaeum*** (Pers.) Quél.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
39. ***Psilocybe coronilla*** (Bull.) Noordel.: Among grass, locality 13, 27.04.2019, K. 15315.

Incertae sedis

40. ***Clitocybe odora*** (Bull.) P. Kumm.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
41. ***Clitocybe phyllophila*** (Pers.) P. Kumm.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
42. ***Clitocybe rivulosa*** (Pers.) P. Kumm.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
43. ***Cystodermella granulosa*** (Batsch) Harmaja: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
44. ***Crucibulum laeve*** (Huds.) Kambly: On decaying Populus sp. twigs, locality 14, 22.05.2021, K. 15374.
45. ***Cyathus olla*** (Batsch) Pers.: On decaying *Populus* sp. trunk, locality 20, 22.05.2021, K. 15377.
46. ***Lepista nuda*** (Bull.) Cooke: On soil among needle litter, locality 11, 23.05.2021, K. 15381.
47. ***Lepista personata*** (Fr.) Cooke: Among grass, locality 6, 05.05.2019, A.Şahin 39.
48. ***Leucocybe candicans*** (Pers.) Vizzini, P. Alvarado, G. Moreno & Consiglio: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
49. ***Leucocybe connata*** (Schumach.) Vizzini, P. Alvarado, G. Moreno & Consiglio: (Kaşık et al., 2003).
50. ***Lichenomphalia umbellifera*** (L.) Redhead, Lutzoni, Moncalvo & Vilgalys: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
51. ***Melanoleuca cognata*** (Fr.) Konrad & Maubl.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
52. ***Melanoleuca exscissa*** (Fr.) Singer: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
53. ***Melanoleuca graminicola*** Kühner & Maire: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
54. ***Melanoleuca stridula*** (Fr.) Singer: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
55. ***Melanoleuca substrictipes*** Kühner: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
56. ***Panaeolina foenisecii*** (Pers.) Maire: Meadow, locality, 27, 27.04.2019, K. 15309.
57. ***Panaeolus fimicola*** (Pers.) Gillet: (Kaşık et al., 2003).
58. ***Panaeolus olivaceus*** F.H. Møller: (Kaşık et al., 2003).
59. ***Panaeolus papilionaceus*** (Bull.) Quél.: On manured soil among grass, locality 18, 27.04.2019, K. 15314.

Inocybaceae

60. ***Inocybe cincinnata*** (Fr.) Quél.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
61. ***Inocybe curvipes*** P. Karst.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
62. ***Inocybe geophylla*** P. Kumm.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
63. ***Pseudosperma rimosum*** (Bull.) Matheny & Esteve-Rav.: (Kaşık et al., 2003).

Lycoperdaceae

64. ***Bovista plumbea*** Pers.: Among grass, locality 18, 22.05.2021, K. 15376.
65. ***Calvatia gigantea*** (Batsch) Lloyd: (Kaşık et al., 2003).
66. ***Lycoperdon molle*** Pers.: Among leaf litter under *Quercus* sp., locality 15, 22.05.2021, K. 15369.
67. ***Lycoperdon perlatum*** Pers.: Among leaf litter under *Quercus* sp., locality 16, 22.05.2021, K. 15370.

Lyophyllaceae

68. ***Lyophyllum transforme*** (Lapl.) Singer: (Kaşık et al., 2003).

Marasmiaceae

69. ***Crinipellis scabella*** (Alb. & Schwein.) Murrill: Among grass, locality 11, 23.05.2021, K. 15379.
70. ***Marasmius oreades*** (Bolton) Fr.: Meadow, locality 28, 25.05.2014, K. 8949.
71. ***Marasmius wynneae*** Berk. & Broome: Among leaf litter under *Quercus* sp., locality 15, 22.05.2021, K. 15373.

Mycenaceae

72. ***Mycena metata*** (Fr.) P. Kumm.: (Türkoğlu and Gezer, 2006).
73. ***Mycena polygramma*** (Bull.) Gray: (Kaşık et al., 2003).
74. ***Panellus stipticus*** (Bull.) P. Karst.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
75. ***Xeromphalina campanella*** (Batsch) Kühner & Maire: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
76. ***Xeromphalina junipericola*** G. Moreno & Heykoop: (Doğan and Karadelev, 2009).

Omphalotaceae

77. ***Gymnopus dryophilus*** (Bull.) Murrill: Among leaf litter under Quercus sp., locality 28, 24.05.2014, K. 8948; locality 16, 22.05.2021, K. 15368.

Paxillaceae

78. ***Paxillus involutus*** (Batsch) Fr.: Among grass, locality 5, 05.10.2014, A.Şahin 12.

Physalacriaceae

79. ***Armillaria mellea*** (Vahl) P. Kumm.: Around *Populus* sp. stump, locality 12, 27.10.2012, K. 7480; locality 16, 02.12.2019, A.Şahin 44.
80. ***Oudemansiella melanotricha*** (Dörfelt) M.M. Moser: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
81. ***Strobilurus tenacellus*** (Pers.) Singer: On decaying *Pinus* sp. cones, locality 1, 24.05.2014, K. 8951.

Pleurotaceae

82. ***Pleurotus eryngii*** (DC.) Quél.: On *Ferula* sp. remains, locality 21, 30.04.2016, A.Şahin 29.
83. ***Pleurotus ostreatus*** (Jacq.) P. Kumm.: On *Salix* sp. stump, locality 24, 26.10.2012, K. 7458.

Pluteaceae

84. ***Pluteus romellii*** (Britzelm.) Lapl.: On decaying twigs, locality 29, 27.04.2019, K. 15312.
85. ***Volvariella bombycina*** (Schaeff.) Singer: On *Populus* sp. stump, locality 27, 29.10.2014, A.Şahin 21.
86. ***Volvopluteus gloiocephalus*** (DC.) Vizzini, Contu & Justo: On soil among grass, locality 30, 28.05.2017, A.Şahin 31.

Psathyrellaceae

87. ***Candolleomyces candolleanus*** (Fr.) D. Wächt. & A. Melzer: Around *Salix* sp. stump, locality 2, 19.05.2012, A.Şahin 3; locality 12, 27.10.2012, K. 7481.
88. ***Coprinellus disseminatus*** (Pers.) J.E. Lange: Around decaying *Populus* sp, trunk, locality 12, 27.10.2012, K. 7478.
89. ***Coprinellus micaceus*** (Bull.) Vilgalys, Hopple & Jacq. Johnson: Around *Salix* sp., locality 22, 08.10.2006, K. 3820; around *Populus* sp. trunk, locality 25, 26.10.2012, K. 7457.
90. ***Coprinellus xanthothrix*** (Romagn.) Vilgalys, Hopple & Jacq. Johnson: On manured soil among grass, locality 17, 27.10.2012, K. 7476.
91. ***Coprinopsis atramentaria*** (Bull.) Redhead, Vilgalys & Moncalvo: Around decaying Salix sp. stump, locality 4, 18.06.2011, A.Şahin 1.
92. ***Coprinopsis nivea*** (Pers.) Redhead, Vilgalys & Moncalvo: On manured soil, locality 10, 21.06.2019, A.Şahin 40.

Schizophyllaceae

93. ***Schizophyllum commune*** Fr.: On decaying *Populus* sp. trunk, locality 27, 27.04.2019, K. 15308.

Strophariaceae

94. ***Agrocybe molesta*** (Lasch) Singer: (Kaşık et al., 2003).
95. ***Agrocybe paludosa*** (J.E. Lange) Kühner & Romagn. ex Bon: (Kaşık et al., 2003).
96. ***Agrocybe pediades*** (Fr.) Fayod: Among grass, locality 14, 27.04.2019, K. 15316.
97. ***Deconica coprophila*** (Bull.) P. Karst.: On cow manure, locality 3, 07.06.2014, A.Şahin 7.
98. ***Hypholoma fasciculare*** (Huds.) P. Kumm.: Around *Populus* sp. stump, locality 27, 16.11.2019, K. 15355.
99. ***Pholiota aurivella*** (Batsch) P. Kumm.: On *Salix* sp. stump, locality 26, 26.10.2012, K. 7467.
100. ***Pholiota limonella*** (Peck) Sacc.: (Türkoğlu and Gezer, 2006).
101. ***Pholiota populnea*** (Pers.) Kuyper & Tjall.-Beuk.: On *Populus* sp. stump, locality 28, 08.11.2014, A.Şahin 22.

Tricholomataceae

102. ***Tricholoma imbricatum*** (Fr.) P. Kumm.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
103. ***Tricholoma populinum*** J.E. Lange: Around *Populus* sp. stump, locality 22, 08.10. 2006, K. 3821.
104. ***Tricholoma terreum*** (Schaeff.) P. Kumm.: On soil among needle litter, locality 1, 27.04.2019, K. 15305.
105. ***Tricholoma virgatum*** (Fr.) P. Kumm.: (Kaşık et al., 2003).

Tubariaceae

106. ***Cyclocybe cylindracea*** (DC.) Vizzini & Angelini: Around *Salix* sp. stump, locality 29, 18.10.2014, A.Şahin 15.
107. ***Tubaria furfuracea*** (Pers.) Gillet: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Auriculariales

Incertae sedis

108. ***Guepinia helvelloides*** (DC.) Fr.: (Türkoğlu et al., 2007).

Boletales

Boletaceae

109. ***Neoboletus erythropus*** (Pers.) C. Hahn: (Kaşık et al., 2003).
110. ***Suillellus luridus*** (Schaeff.) Murrill: Around *Quercus* sp., locality 8, 01.07.2019, A.Şahin 41.

Diplocystidiaceae

111. ***Astraeus hygrometricus*** (Pers.) Morgan: Among leaf litter under *Quercus* sp., locality 16, 22.05.2021, K. 15371.

Gomphidiaceae

112. ***Chroogomphus rutilus*** (Schaeff.) O.K. Mill.: Among needle litter, locality 11, 23.05.2021, K. 15383.

Omphalotaceae

113. ***Omphalotus olearius*** (DC.) Singer: (Kaşık et al., 2003).

Rhizopogonaceae

114. ***Rhizopogon luteolus*** Fr.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Sclerodermataceae

115. ***Pisolithus arhizus*** (Scop.) Rauschert: On soil among grass, locality 28, 24.05.2014, K. 8950.
116. ***Scleroderma bovista*** Fr.: In soil among grass, locality 9, 27.06.2014, A.Şahin 10.

Suillaceae

117. ***Suillus grevillei*** (Klotzsch) Singer: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

118. ***Suillus luteus*** (L.) Roussel: Among grass under *Pinus* sp., locality 1, 27.04.2019, K. 15307.

Geastrales

Geastraceae

119. ***Geastrum fimbriatum*** Fr.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Gomphales

Clavariadelphaceae

120. ***Clavariadelphus truncatus*** Donk: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Gomphaceae

121. ***Ramaria flava*** (Schaeff.) Quél.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Hymenochaetales

Hymenochaetaceae

122. ***Inocutis rheades*** (Pers.) Fiasson & Niemelä: (Kaşık et al., 2003).
123. ***Inonotus hispidus*** (Bull.) P. Karst.: On *Malus* sp. stump, locality 26, 26.10.2012, K. 7466; locality 31, 18.10.2014, A.Şahin 16; locality 32, 17.11.2019, K. 15358.
124. ***Phellinus igniarius*** (L.) Quél.: On *Salix* sp. stump, locality 24, 26.10.2012, K. 7459.

Hyphodontiaceae

125. ***Kneiffiella floccosa*** (Bourdot & Galzin) Jülich & Stalpers: (Doğan et al., 2011).

Incertae sedis

126. ***Trichaptum abietinum*** (Pers. ex J.F. Gmel.) Ryvarden: (Kaşık et al., 2003).

Polyporales

Fomitopsidaceae

127. ***Fomitopsis pinicola*** (Sw.) P. Karst: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).

Laetiporaceae

128. ***Laetiporus sulphureus*** (Bull.) Murrill: On *Salix* sp. stump, locality 27, 08.11.2014, A.Şahin 24.

Phanerochaetaceae

129. ***Bjerkandera adusta*** (Willd.) P. Karst.: On decaying *Populus* sp. trunk, locality 12, 27.10.2012, K. 7479.

Polyporaceae

130. ***Cerioporus squamosus*** (Huds.) Quél.: (Kaşık et al., 2003).
131. ***Ganoderma adspersum*** (Schulzer) Donk: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
132. ***Lentinus arcularius*** (Batsch) Zmitr.: On decaying *Quercus* sp. twigs, locality 15, 22.05.2021, K. 15372.
133. ***Lentinus brumalis*** (Pers.) Zmitr.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
134. ***Lentinus tigrinus*** (Bull.) Fr.: Around decaying *Populus* sp. trunk, locality 12, 16.11.2019, K. 15354.
135. ***Neolentinus cyathiformis*** (Schaeff.) Della Magg. & Trassin.: Around *Quercus* sp. stump, locality 29, 19.05.2015, A.Şahin 27.
136. ***Neolentinus lepideus*** (Fr.) Redhead & Ginns: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
137. ***Trametes gibbosa*** (Pers.) Fr.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
138. ***Trametes pubescens*** (Schumach.) Pilát: On decaying *Prunus* sp. twigs, locality 25, 26.10.2012, K. 7463.
139. ***Trametes*** trogii Berk.: On decaying *Populus* sp. trunk, locality 22, 08.10.2005, K. 3819.

Russulales

Russulaceae

140. ***Lactarius deliciosus*** (L.) Gray: On soil, among needle litter, locality 11, 16.11.2019, K. 15352.
141. ***Russula delica*** Fr.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
142. ***Russula grisea*** Fr.: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
143. ***Russula olivaceoviolascens*** Gillet: (Türkoğlu et al., 2007).

Stereaceae

144. ***Stereum hirsutum*** (Willd.) Pers.: On decaying *Populus* sp. trunk, locality 25, 26.10.2012, K. 7471.

Thelephorales

Bankeraceae

145. ***Boletopsis leucomelaena*** (Pers.) Fayod: (Kaşık et al., 2003; Türkoğlu and Gezer, 2006).
146. ***Hydnellum glaucopus*** (Maas Geest. & Nannf.) E. Larss., K.H. Larss. & Kõljalg: (Kaşık et al., 2003).

Thelephoraceae

147. ***Thelephora terrestris*** Ehrh. ex Fr.: Among needle litter, locality 11, 23.05.2021, K. 15380.

Discussion

Sixty nine macromycete species belonging to 56 genera, 35 families and 7 orders were determined. Fourty three of them are new for the district. New localities were presented for the remaining 26 species. The compilation of the determined and previously reported taxa revealed a list of 147 macrofungi species growing within the boundaries of Yahyalı district.

Thirteen of them (%8.84) belong to *Ascomycota* and 134 (%91.16) to *Basidiomycota.* The determined taxa are distributed in 10 orders (*Agaricales* 94, *Pezizales* 13, Polyporales 13, Boletales 10, Hymenochaetales 5, Russulales 5, *Thelephorales* 3, *Gomphales* 2, *Auriculariales* 1, *Geastrales* 1) (Fig. 1).

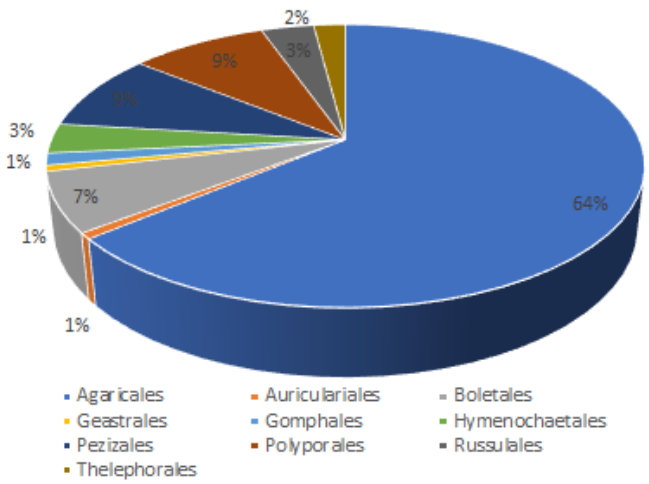

Figure 1. Order-wise distribution of the compiled species

Twenty two of the compiled 147 species are currently in Incertae sedis position. The remaining 125 taxa are distributed in 47 families. *Agaricaceae* and *Polyporaceae* are the two most crowded families in the region each with 10 species. They were followed by *Strophariaceae, Morchellaceae, Psathyrellaceae* and *Mycenaceae* with 8, 7, 6 and 5 taxa respectively. *Bolbitiaceae, Hymenogastraceae, Inocybaceae, Lycoperdaceae, Russulaceae* and *Tricholomataceae* were found to comprise 4 species in the region. *Hygrophoraceae, Hymenochaetaceae, Marasmiaceae, Physalacriaceae* and *Pluteaceae* followed them each with 3 taxa. Ten families (*Bankeraceae, Boletaceae, Cortinariaceae, Helvellaceae, Omphalotaceae, Pleurotaceae, Pyronemataceae, Sclerodermataceae, Suillaceae, Tubariaceae*) are resembled in the region with 2 taxa, while the remaining 20 families are resembled with only one taxon.

According to the compiled list, *Morchella* is the most crowded genus in the region with 7 species. It is followed by *Melanoleuca* with 5 species. In the region, four of the genera (*Agaricus, Clitocybe, Conocybe, Tricholoma*) are resembled with 4 taxa, eight of them (*Agrocybe, Coprinellus, Inocybe, Lentinus, Panaeolus, Pholiota, Russula, Trametes*) are represented with 3 taxa and 15 of them (*Coprinopsis, Geopora, Hebeloma, Hygrophorus, Lepiota, Lepista, Leucocybe, Lycoperdon, Macrolepiota, Marasmius, Mycena, Neolentinus, Pleurotus, Suillus, Xeromphalina*) are represented with 2 taxa while the remaining 65 genera are resembled with only one taxon.

The compiled list bare similarities to some extend with those studies (Kaşık et al., 2001, 2002a,b; Atila and Kaya, 2013; Çevik et al., 2021; Berber et al., 2022) carried out in neighboring regions. This similarity would be due to the similarities of flora and vegetations of the regions.

The study contributes to the macrofungal biodiversity of Yahyalı district by adding 43 taxa, new for the district, and new localities for 26 previously reported taxa. The compilation of overall list of macromycetes growing in Yahyalı district is also another contribution.

Author Contributions

All authors have equal contribution.

Conflict of Interest

There is no conflict of interest with any institution or person.

Ethical Statement: It is declared that scientific and ethical principles have been followed while carrying out and writing this study and that all the sources used have been properly cited (Abdülkadir ŞAHİN, Yasin UZUN, Abdullah KAYA).

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