



Macrofungal biodiversity of Gürpınar (Van) district

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Gürpınar (Van) yöresinin makromantar biyoçeşitliliği

Abstract: The study was based on macrofungi samples collected from Gürpınar district of Van province between 2015 and 2017. As a result of field and laboratory studies 94 macrofungi species belonging to 49 genera, 27 families, seven orders and three classes within Ascomycota and Basidiomycota were determined. The list of the determined taxa were presented together with their habitats, substrates, collection localities and personel voucher numbers.

Key words: Biodiversity, macrofungi, mycota, Turkey

Özet: Çalışma 2015 ve 2017 yıllarında Van'ın Gürpınar ilçesinden toplanan makromantar örnekleri üzerinde gerçekleştirilmiştir. Arazi ve laboratuvar çalışmaları sonucunda *Ascomycota* ve *Basidiomycota* bölümleri içinde yer alan üç sınıf, yedi takım, 27 familya ve 49 cinsine ait 94 tür belirlenmiştir. Belirlenen taksonlar, habitatları, substratları, toplanma yerleri ve toplayıcı numaraları ile birlikte listelenmiştir.

Anahtar Kelimeler: Biyoçeşitlilik, makromantar, mikota, Türkiye

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1. Introduction

The kingdom Fungi constitutes the second most diverse living group in the world with about more than 1.5 million species (Hawksworth et al., 1995). They can grow almost everywhere in the world as saprophytes, parasites and symbionts, and those with fruiting bodies that can be seen by naked eye are known as macrofungi. Besides being consumed as food, macrofungi are used in cosmetics and pharmacology and have high economic value (Adanacioğlu et al., 2016; Süfer et al., 2016).

Studies on the macrofungal biodiversity of Turkey have been started in the first quarter of the 19th century, and lots of works have been conducted by many researchers (Alkan et al., 2010; Demirel et al., 2010; Doğan et al., 2012; Türkekul and Işık, 2016; Uzun et al., 2017; Yıldız et al., 2019; Acar et al., 2020). Sesli and Denchev (2014) present about 2.400 macrofungi species in Turkey, and Kaya and Uzun (2018) introduces this number as 2.500. Considering, the 15.000 macromycete taxa (Lukić, 2008) determined in Europe, it becomes clear that there is a lot of work to be done in Turkey.

Gürpınar is the largest district of Turkey with a surface area of 4.063 km² within the boundaries of Van province (Fig. 1), and located between 37°44'-28°29' north latitudes and 43°07'-44°07' east longitudes. The district lies within the Irano-Turanian phytogeographical flora sector. The climate of the research area is Mediterranean with an annual rainfall of 281 mm and an annual average temperature of 8.1 °C (Bani and Adıgüzel, 2008). Though the list of naturally growing edible mushrooms was presented by Şelem et al. (2019), there isn't a detailed study on the overall macrofungal biodiversity of Gürpınar district.

The study aims to determine naturally growing macrofungi of the district and make a contribution to the mycobiota of Turkey.

2. Materials and Method

Macrofungi samples were collected from the region within the boundaries of Gürpınar districts of Van province. During field studies, first of all the fruit bodies were photographed at their natural habitats. Then necessary notes about the ecological and morphological characteristics and the geographical positions of the the samples were recorded. The collected samples were in paper boxes and transferred to the fungarium. They were dried in an air conditioned room and kept as fungarium materials in polyethylene bags. Further investigations were carried out in the fungarium on dried samples. Microscopic investigations were performed under a compound microscope. The specimens were identified by comparing the obtained data with the relevant literature (Moser, 1983; Breitenbach and Kränzlin, 1984, 1986, 1991, 1995, 2000; Buczacki, 1989; Bresinsky and Besl, 1990; Jordan, 1995; Pegler et al., 1995; Philips, 1991; Dähncke, 2004; Hausknecht, 2009; Uzun, 2010; Kuo and Methven, 2014). The determined macrofungi samples are kept in the fungarium of Biology Department, Science Faculty, Van Yüzüncü Yıl University(VANF).

3. Results

The determined taxa are listed in alphabetical order. Index Fungorum (accessed on 20 December 2020) were followed for the systematics of taxa. Previously reported taxa were given with the citation.

Ascomycota Whittaker

Leotiomycetes O.E. Erikss. & Winka

Helotiales Nannf.

Helotiaceae Rehm

1. *Hymenoscyphus calyculus* (Fr.) W. Phillips: On decaying *Populus* sp., twigs, locality 17, 05.10.2016, Şelem 276.

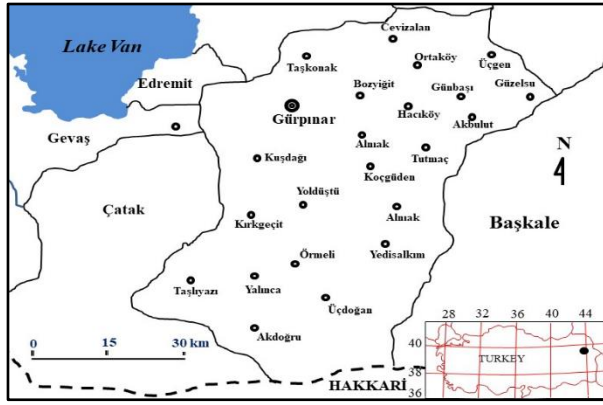


Figure 1. Map of the research area

Lachnaceae Raitv.

2. *Lachnum bicolor* (Bull.) P. Karst.: On dead *Salix* sp. branches, locality 17, 05.10.2016, Şelem 263.

Pezizomycetes O.E.Erikss. & Winka

Pezizales J.Schröt.

Helvellaceae Fr.

3. *Helvella acetabulum* (L.) Qué! (Şelem et al., 2019).

4. *Helvella crispa* (Scop.) Fr.: On soil under *Populus* sp., locality 17, 05.10.2016, Şelem 276.

5. *Helvella lacunosa* Afzel.: (Şelem et al., 2019).

6. *Helvella leucopus* Pers.: (Şelem et al., 2019).

7. *Paxina queletii* (Bres.) Stangl: (Şelem et al., 2019).

Table 1. Collection localities of the macrofungi samples

Loc. No	Locality	Coordinates	Altitude (m)
1	Akbulut village	38°18'06"N; 43°41'02"E	2186
2	Albenek village	38°36'01"N; 43°17'01"E	2022
3	Almak village	38°13'12"N; 43°42'48"E	2502
4	Bozyiğit Village	38°22'57"N; 43°34'08"E	1845
5	Cevizalan village	38°24'19"N; 43°47'56"E	2172
6	Çörekli village	38°21'53"N; 43°47'54"E	2001
7	Cevizalan village	38°22'16"N; 43°47'34"E	2025
8	Erkaldı quarter	38°21'26"N; 43°33'04"E	1809
9	Giyimli village	38°12'16"N; 43°47'05"E	2322
10	Günbaşı village	38°18'46"N; 43°43'45"E	2168
11	Gürpınar (entrance)	38°19'27"N; 43°24'06"E	1745
12	Gürpınar centre	38°19'33"N; 43°24'24"E	1751
13	Gürpınar-Hakkari highway 14th km	38°21'59"N; 43°34'02"E	2010
14	Güzelsu village	38°18'58"N; 43°48'04"E	1982
15	Güzelsu village	38°18'52"N; 43°48'25"E	1980
16	Güzelsu village	38°19'11"N; 43°48'07"E	1996
17	Güzelsu village	38°19'00"N; 43°47'58"E	1977
18	Güzelsu village	38°19'02"N; 43°48'12"E	1986
19	Güzelsu village	38°18'57"N; 43°48'00"E	1972
20	Hacıköy village	38°18'22"N; 43°38'23"E	2205
21	Hamurkesen village	38°20'38"N; 43°37'29"E	1948
22	Işıkpınar village	38°19'16"N; 43°37'01"E	2134
23	Kırgeçit village	38°08'17"N; 43°29'43"E	2105
24	Kırgeçit village	38°08'35"N; 43°31'27"E	2147
25	Kırgeçit village	38°08'08"N; 43°31'17"E	2165
26	Koçgüden village	38°09'20"N; 43°38'33"E	2570
27	Kuşdağı village	38°14'35"N; 43°27'29"E	1905
28	Murataldı village	38°15'17"N; 43°51'08"E	2136
29	Ortaköy village	38°22'02"N; 43°38'04"E	1910
30	Ortaköy village	38°21'50"N; 43°37'55"E	1868
31	Örmeli village	38°07'05"N; 43°30'52"E	2231
32	Sapakonak village	38°12'46"N; 43°36'35"E	2537
33	Sevindik village	38°18'11"N; 43°52'51"E	2098
34	Sevindik village	38°18'22"N; 43°52'27"E	2038
35	Taşdöndüren village	38°16'01"N; 43°48'53"E	2031
36	Tepegören village	38°21'35"N; 43°53'13"E	2107
37	Tutmaç village	38°15'08"N; 43°42'34"E	2401
38	Üçgen village	38°22'31"N; 43°44'46"E	2141

39	Üçgen village	38°23'05"N; 43°44'34"E	2135
40	Yedisalkım village	38°11'08"N; 43°42'11"E	2441
41	Yoldüştü village	38°09'15"N; 43°33'12"E	2187
42	Yurtbaşı village	38°14'08"N; 43°47'59"E	2108
43	Zernek village	38°21'26"N; 43°39'25"E	1934
44	Zernek village	38°21'24"N; 43°39'26"E	1900

Morchellaceae Rchb.

8. *Mitrophora semilibera* (DC.) Lév.: (Şelem et al., 2019).

9. *Morchella elata* Fr.: (Şelem et al., 2019).

10. *Morchella esculenta* (L.) Pers.: (Şelem et al., 2019).

11. *Morchella esculentoides* M. Kuo, Dewsbury, Moncalvo & S.L. Stephenson: (Şelem et al., 2019).

12. *Morchella prava* Dewsbury, Moncalvo, J.D. Moore & M. Kuo.: (Şelem et al., 2019).

13. *Verpa conica* (O.F. Müll.) Sw.: On soil under *Populus* and *Salix* sp., locality 13, 03.06.2016, Şelem 34.

14. *Geopora arenicola* (Lév.) Kers: In soil under *Populus* sp., locality 12, 05.10.2016, Şelem 101; locality 15, 05.10.2016, Şelem 310; locality 23, 03.06.2016, Şelem 254.

15. *Geopora arenosa* (Fuckel) S. Ahmad: On soil under *Populus* sp., locality 16, 18.05.2015, Şelem 23.

16. *Geopora sepulta* (Fr.) Korf & Burds.: On soil under *Populus* sp., locality 29, 18.05.2015, Şelem 74.

17. *Pulvinula convexella* (P. Karst.) Pfister.: On burned ground, locality 15, 05.10.2016, Şelem 289.

18. *Scutellinia scutellata* (L.) Lambotte: On damp soil among leaf litter, locality 15, 05.10.2016, Şelem 290.

19. *Tricharina praecox* (P. Karst.) Dennis: On damp soil, locality 17, 05.10.2016, Şelem 273.

20. *Trichophaea pseudogregaria* (Rick) Boud.: (Keleş and Şelem, 2017).

Pezizaceae Dumort.

21. *Peziza succosa* Berk.: On burned ground, locality 18, 18.05.2015, Şelem 30.

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

22. *Agaricus bisporus* (J.E. Lange) Imbach: (Şelem et al., 2019).

23. *Agaricus campestris* L.: (Şelem et al., 2019).

24. *Agaricus urinascens* (Jul. Schäff. & F.H. Møller) Singer: (Şelem et al., 2019).

25. *Bovista plumbea* Pers.: (Şelem et al., 2019).

26. *Coprinus comatus* (O.F. Müll.) Pers.: (Şelem et al., 2019).

27. *Cyathus olla* (Batsch) Pers.: On soil near woody debris, locality 17, 18.05.2015, Şelem 59.

28. *Lepiota cristata* (Bolton) P. Kumm: On soil among leaf litter, locality 8, 05.06.2015, Şelem 171.

29. *Lepiota subincarnata* J.E. Lange: On soil under *Salix* sp., locality 15, 05.10.2016, Şelem 299.

Bolbitiaceae Singer

30. *Conocybe aporos* Kits van Wav.: On soil under *Salix* sp., locality 17, 05.06.2015, Şelem 137.

31. *Conocybe fuscimarginata* (Murrill) Singer: On soil under *Salix* sp., locality 14, 18.05.2015, Şelem 43; locality 17, 05.06.2015, Şelem 145.

32. *Conocybe pygmaeoaffinis* (Fr.) Kühner: On soil under *Salix* sp., locality 17, 05.06.2015, Şelem 146.

33. *Conocybe rickeniana* P.D. Orton: On soil among grass, locality 17, 05.06.2015, Şelem 149.

34. *Conocybe tenera* (Schaeff.) Fayod: On soil among grass, locality 17, 18.05.2015, Şelem 43.

35. *Conocybe vestita* (Fr.) Kühner: On soil among grass, locality 11, 18.05.2015, Şelem 27.

Cortinariaceae R. Heim ex Pouzar

36. *Cortinarius decipiens* (Pers.) Fr.: On soil under *Salix* sp., locality 8, 05.06.2015, Şelem 175.

37. *Cortinarius vernus* H. Lindstr. & Melot: On soil under *Populus* sp., locality 15, 05.10.2016, Şelem 297.

Cyphellaceae Lotsy

38. *Chondrostereum purpureum* (Pers.) Pouzar: On *Populus* sp. stump, locality 11, 18.11.2015, Şelem 297; locality 8, 05.06.2015, Şelem 167.

Entolomataceae Kotl. & Pouzar

39. *Entoloma caccabus* (Kühner) Noordel.: On soil under *Salix* sp., locality 11, 19.05.2016, Şelem 343.

40. *Entoloma rusticoides* (Gillet) Noordel.: On soil under *Malus* sp., locality 11, 18.05.2015, Şelem 108.

Hymenogastraceae Vittad.

41. *Hebeloma mesophaeum* (Pers.) Quéf.: On soil under *Salix* sp., locality 17, 05.06.2015, Şelem 139.

42. *Hebeloma pusillum* J.E. Lange: On soil under *Salix* sp., locality 17, 18.05.2015, Şelem 53; on soil under *Populus* sp., locality 17, 05.10.2016, Şelem 256.

43. *Hypholoma fasciculare* (Huds.) P. Kumm.: On *Populus* sp. stump, locality 17, 05.06.2015, Şelem 165.

44. *Psilocybe coronilla* (Bull.) Noordel.: (Şelem et al., 2019).

Incertae sedis

45. *Panaeolus fimicola* (Pers.) Gillet: On decaying cow dung, locality 4, 18.11.2015, Şelem 201.

Inocybaceae Jülich

46. *Crepidotus vulgaris* Hesler & A.H. Sm.: On decaying *Salix* sp. stump, locality 13, 03.06.2016, Şelem 222.

47. *Inosperma maculatum* (Boud.) Matheny & Esteve-Rav.: On soil under *Salix* sp., locality 28, 08.11.2015, Şelem 280.

48. *Inocybe cincinnata* (Fr.) Quél.: On soil under *Populus* sp., locality 30, 18.06.2016, Şelem 79.

49. *Inocybe dulcamara* (Pers.) P. Kumm.: On soil under *Populus* sp., locality 13, 18.05.2015, Şelem 81; on soil under *Salix* sp., locality 14, 05.06.2015, Şelem 119; locality 17, 18.11.2015, Şelem 235.

50. *Inocybe flocculosa* Sacc.: On soil under *Populus* sp., locality 14, 18.05.2015, Şelem 37.

51. *Inocybe fuscomarginata* Kühner: On soil under *Salix* sp., locality 17, 05.06.2015, Şelem 145.

52. *Inocybe perbrevis* (Weinm.) Gillet: On soil under *Salix* sp., locality 17, 05.10.2016, Şelem 121; on soil under *Populus* sp., locality 16, 05.06.2015, Şelem 278.

53. *Pseudosperma rimosum* (Bull.) Matheny & Esteve-Rav.: On soil under *Populus* sp., locality 8, 05.06.2015, Şelem 169; on soil under *Salix* sp., locality 4, 18.11.2015, Şelem 197.

Pleurotaceae Kühner

54. *Pleurotus eryngii* (DC.) Quél.: (Şelem et al., 2019).

55. *Pleurotus ostreatus* (Jacq.) P. Kumm.: (Şelem et al., 2019).

56. *Pleurotus populinus* O. Hilber & O.K. Mill.: (Şelem et al., 2019).

Pluteaceae Kotl. & Pouzar

57. *Pluteus aurantiorugosus* (Trog) Sacc.: (Şelem et al., 2019).

58. *Pluteus romellii* (Britzelm.) Sacc.: (Şelem et al., 2019).

59. *Volvopluteus gloiocephalus* (DC.) Vizzini, Contu & Justo: (Şelem et al., 2019).

Psathyrellaceae Vilgalys, Moncalvo & Redhead

60. *Coprinellus disseminatus* (Pers.) J.E. Lange: (Şelem et al., 2019).

61. *Coprinellus domesticus* (Bolton) Vilgalys, Hopple & Jacq. Johnson: On soil around *Populus* sp. stump, locality 44, 18.05.2015, Şelem 68.

62. *Coprinellus micaceus* (Bull.) Vilgalys, Hopple & Jacq. Johnson: (Şelem et al., 2019).

63. *Coprinopsis acuminata* (Romagn.) Redhead, Vilgalys & Moncalvo: On soil around *Populus* sp. stump, locality 12, 18.11.2015, Şelem 213.

64. *Coprinopsis atramentaria* (Bull.) Redhead, Vilgalys & Moncalvo: (Şelem et al., 2019).

65. *Parasola auricoma* (Pat.) Redhead, Vilgalys & Hopple: On soil among grass, locality 17, 05.06.2015, Şelem 164.

66. *Parasola hemerobia* (Fr.) Redhead, Vilgalys & Hopple: On soil under *Salix* sp., locality 17, 05.06.2015, Şelem 152.

67. *Parasola kuehneri* (Uljé & Bas) Redhead, Vilgalys & Hopple: On soil under *Salix* sp., locality 17, 05.06.2015, Şelem 138.

68. *Parasola lactea* (A.H. Sm.) Redhead, Vilgalys & Hopple: On soil under *Salix* sp., locality 17, 05.06.2015, Şelem 142.

69. *Parasola plicatilis* (Curtis) Redhead, Vilgalys & Hopple: On soil among grass, locality 15, 05.10.2016, Şelem 294.

70. *Psathyrella candolleana* (Fr.) Maire: (Şelem et al., 2019).

71. *Psathyrella fatua* (Fr.) P. Kumm. *Populus* sp. ağaçları altı, 17, 18.05.2015, Şelem 56.

72. *Psathyrella panaeoloides* (Maire) Arnolds: On soil under *Salix* sp., locality 17, 05.06.2015, Şelem 162; locality 15, 05.10.2016, Şelem 302.

73. *Psathyrella potteri* A.H. Sm.: On soil under *Populus* and *Salix* sp., locality 13, 18.05.2015, Şelem 103.

74. *Psathyrella prona* (Fr.) Gillet: On soil under *Populus* and *Salix* sp., locality 13, 18.05.2015, Şelem 204; locality 17, 05.10.2015, Şelem 263; locality 15, 05.10.2016, Şelem 301.

75. *Psathyrella pseudogracilis* (Romagn.) M.M. Moser: On decaying stump, locality 17, 18.05.2015. Şelem 58.

Strophariaceae Singer & A.H. Sm.

76. *Agrocybe dura* (Bolton) Singer: (Şelem et al., 2019).

77. *Agrocybe paludosa* (J.E. Lange) Kühner & Romagn. ex Bon: On soil among grass, locality 17, 05.06.2015. Şelem 148.

78. *Agrocybe pediades* (Fr.) Fayod: (Şelem et al., 2019).

79. *Agrocybe praecox* (Pers.) Fayod: (Şelem et al., 2019).

80. *Cyclocybe cylindracea* (DC.) Vizzini & Angelini: (Şelem et al., 2019). On *Populus* sp. stump, locality 13, 05.10.2016, Şelem 268.

81. *Pholiota aurivella* (Batsch) P. Kumm.: (Şelem et al., 2019).

Tricholomataceae Lotsy

82. *Melanoleuca angelesiana* A.H. Sm.: On soil among needle litter under *Pinus* sp., locality 29, 05.06.2015, Şelem 179.

83. *Melanoleuca brevipes* (Bull.) Pat.: (Şelem et al., 2019).

84. *Melanoleuca cognata* (Fr.) Konrad & Maubl.: (Şelem et al., 2019).

85. *Pseudoclitocybe cyathiformis* (Bull.) Singer: (Şelem et al., 2019).

86. *Lepista personata* (Fr.) Cooke: (Şelem et al., 2019).

Tubariaceae Vizzini

87. *Tubaria conspersa* (Pers.) Fayod: On damp soil among leaf litter under *Salix* sp., 17, 05.06.2015, Şelem 122.

88. *Tubaria furfuracea* (Pers.) Gillet: On woody debris, locality 30, 18.11.2015, Şelem 195

Boletales E.-J. Gilbert

Suillaceae Besl & Bresinsky

89. *Suillus collinitus* (Fr.) Kuntze: (Şelem et al., 2019).

Hymenochaetales Oberw.

Hymenochaetaceae Donk

90. *Phellinus igniarius* (L.) Quél.: On *Malus* sp. stump, locality 29, 18.11.2015, Şelem 189.

Polyporales Gäum.

Polyporaceae Fr. ex Corda

91. *Fomes fomentarius* (L.) Fr.: On *Populus* sp. stump, locality 20, 28.06.2017, Şelem 41.

92. *Cerioporus squamosus* (Huds.) Quél.: (Şelem et al., 2019).

93. *Trametes trogii* Berk.: On *Populus* sp. stump, locality 17, 05.06.2015, Şelem 118; locality 18, 19.05.2016, Şelem 332; locality 26, 13.06.2017, Şelem 375; locality 5, 13.11.2016, Şelem 381.

94. *Trametes versicolor* (L.) Lloyd: On *Populus* sp. stump, locality 19, 19.05.2016, Şelem 362.

4. Discussions

Ninety four macrofungi species belonging to 49 genera, 27 families, seven orders and three classes were determined from Gürpınar district. Twenty one of the determined taxa belong to *Ascomycota* (*Leotiomycetes* 2, *Peizizomycetes* 19) while 73 belong to *Basidiomycota* (*Agaricomycetes* 73). Except previously reported 36 edible species (Şelem et al., 2019), all the taxa are new for the region.

The taxa are distributed in 7 orders (Fig. 2) and 27 families. *Psathyrellaceae* and *Inocybaceae* were found to the most crowded first two families with 16 and 7 taxa respectively. *Agaricaceae*, *Bolbitiaceae*, *Incertae sedis*, *Morchellaceae* and *Strophariaceae*, are the third crowded families each with 6 taxa. Then *Helvellaceae* and *Pyronemataceae* come each with 5 taxa. Two of the families (*Hymenogasteraceae*, *Polyporaceae*) comprise 4, Three of them (*Pleurotaceae*, *Pluteaceae*, *Tubariaceae*) comprises 3, three of them (*Cortinariaceae*, *Entolomataceae*, *Pulvinulaceae*) comprises 2 taxa, and the rest of the 10 families comprises 1 taxon.

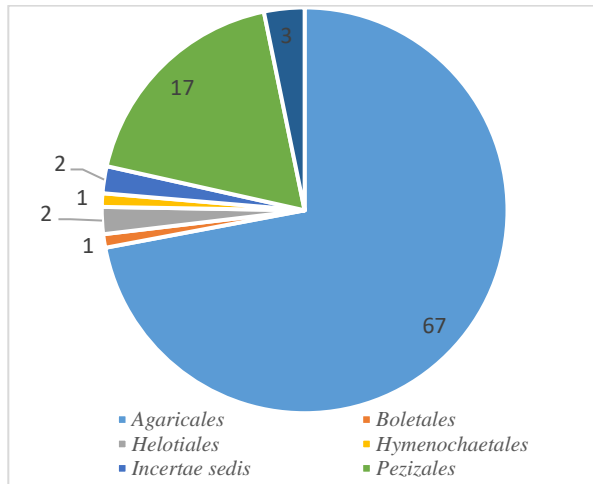


Figure 2. Distribution of the determined taxa within orders.

The determined taxa are distributed in 49 genera. The most crowded genera are *Conocybe* and *Psathyrella* each with 6 taxa. *Inocybe* and *Parasola* were found to be the second

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crowded two genera each with 5 taxa. Three of the genera (*Agrocybe*, *Helvella*, *Morchella*) comprise 4 taxa, five of them (*Agaricus*, *Coprinellus*, *Geopora*, *Melanoleuca*, *Pleurotus*) comprise 3 taxa, eight of them (*Coprinopsis*, *Cortinarius*, *Entoloma*, *Hebeloma*, *Lepiota*, *Pluteus*, *Trametes*, *Tubaria*) comprise 2 taxa, and the rest of the 29 taxa comprise one taxon.

Coprinus comatus, *Coprinellus disseminatus*, *C. micaceus*, *Coprinopsis atramentaria*, *Psathyrella candolleana*, *Pleurotus ostreatus*, *P. eryngii*, *Inocybe dulcamara* and *Pholiota aurivella* were found to be the most widespread species in the region.

Thirty six (%38.30) of the determined taxa are edible. Among them *Pleurotus eryngii* is collected and consumed in all villages of the district. This mushroom is known with the Turkish name "heliz mantarı" and also has regional economic importance. *Agaricus bisporus*, *A. campestris*, *A. urinascens* and *P. ostreatus* are regionally known in research area and they are also collected and consumed by some locals. Forty four (%46.81) of them are inedible and 14 (%14.89) of them are more or less poisonous.

The taxa determined in Gürpınar district were compared with the findings of the studies carried out in neighbouring regions and some similarities were observed. These studies and the similarity percentages are given in Table 2.

Table 2. Similarity percentages of neighbouring studies with Gürpınar district.

Neighbouring study	# of identical taxa	Total taxa	Similarity (%)
Bitlis (Kaya, 2001)	17	60	28.33
Ağrı (Demirel et al., 2002)	20	45	44.44
Erzurum (Demirel et al., 2003)	17	114	14.91
Malazgirt (Akçay et al., 2010)	16	50	32.00
Van (Demirel et al., 2015)	40	122	32.79
Bingöl (Uzun et al., 2017)	16	112	14.29
Şemdinli and Yüksekova (Acar et al., 2020)	40	197	20.30
Muradiye (Çağlı and Öztürk, 2020)	38	86	44.19
Karz Dağı (Sadullahoğlu and Uzun, 2020)	25	95	26.32

Conflict of Interest

Authors have declared no conflict of interest.

Authors' Contributions

The authors contributed equally.

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