

Macromycetes determined in Yomra (Trabzon) district

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Abstract: This study was carried out on macrofungi samples collected from Yomra district during 2007–2012, and 236 taxa belonging to 58 families were identified. *Crocicreas cyathoideum* (Bull.) S.E.Carp., *Phaeohelotium fagineum* (Pers.) Hengstm., and *Dacrymyces chrysospermus* Berk. & M.A.Curtis are recorded for the first time from Turkey. *Calyptella capula* (Holmsk.) Quél., *Campanella caesia* Romagn., and *Guepiniopsis buccina* (Pers.) L.L.Kenn. are the first members of the genera *Calyptella* Quél., *Campanella* Henn., and *Guepiniopsis* Pat. respectively, in Turkey.

Key words: Macrofungi, biodiversity, Yomra, Turkey

1. Introduction

Yomra is a district of Trabzon Province with a surface area of 207 km², situated in the A7 square according to Davis' grid square system (Davis, 1965) (Figure 1). It has a typical oceanic climate with high and evenly distributed precipitation, which is heaviest in autumn and spring. The temperatures are relatively warm all year. Unlike the cool and damp winters, summers are warm and humid. The plant cover of the district is dominated by conifers, especially black pine, scots pine, fir, and spruce, which are accompanied by deciduous trees such as hazelnut, chestnut, beech, oak, cherry laurel, alder, hornbeam, poplar, apple, and fig.

The knowledge on Turkish macromycota has a history of about 100 years (Kaya, 2009). The number of mycological studies has increased particularly in the last 3 decades and the accumulated data were presented as checklists (Solak et al., 2007; Sesli and Denchev, 2008). New additions were also made to these lists from different regions of the country (Kaya et al., 2010; Akata et al., 2011; Doğan et al., 2012; Türkoğlu and Yağız, 2012; Güngör et al., 2013; Türkoğlu and Castellano, 2013; Sesli, 2014; Solak et al., 2014). Although some mycological investigations have taken place around the study area (Sesli, 1993, 2007; Baydar and Sesli, 1994) and some new records were given by Sesli (1998a, 1998b, 1999), Akata et al. (2012), and Akata and Kaya (2013), a detailed mycological investigation had not been carried out in the Yomra district so far. This study aims to determine the macrofungal diversity of the district and to make a contribution to the mycobiota of Turkey.

2. Materials and methods

The macrofungi samples were collected from different localities within the district of Yomra (Trabzon) between 2007 and 2012. Necessary morphological and ecological characteristics of the samples were recorded and they were photographed in their natural habitats. Fruit bodies at different developmental stages were collected and put in paper packaging, and the local edibility status of the samples was investigated by asking villagers. The samples were then taken to the laboratory and spore prints were obtained from mature specimens. Microstructural data were obtained by light microscopy. Reagents such as distilled water, Melzer's reagent, 5% KOH, cotton blue, and Congo red were used for microscopic investigations. Identification of the specimens was based on the following literature: Breitenbach and Kränzlin (1984–2000), Hansen and Knudsen (1992–2000), Ryvarden and Gilbertson (1993), Pegler et al. (1995, 1997), Calonge (1998), Heilmann-Clausen et al. (1998), Kränzlin (2005), and Medardi (2006). All specimens are deposited in the Herbarium of Ankara University (ANK).

3. Results

The systematics of the taxa are given in accordance with Cannon and Kirk (2007), Kirk et al. (2008), and the Index Fungorum (www.indexfungorum.org; accessed 1 April 2013). The taxa are listed in alphabetical order with locality, habitat, collection date, and accession numbers (Akata, Yuzun). Taxa new for Turkish mycobiota are described briefly.

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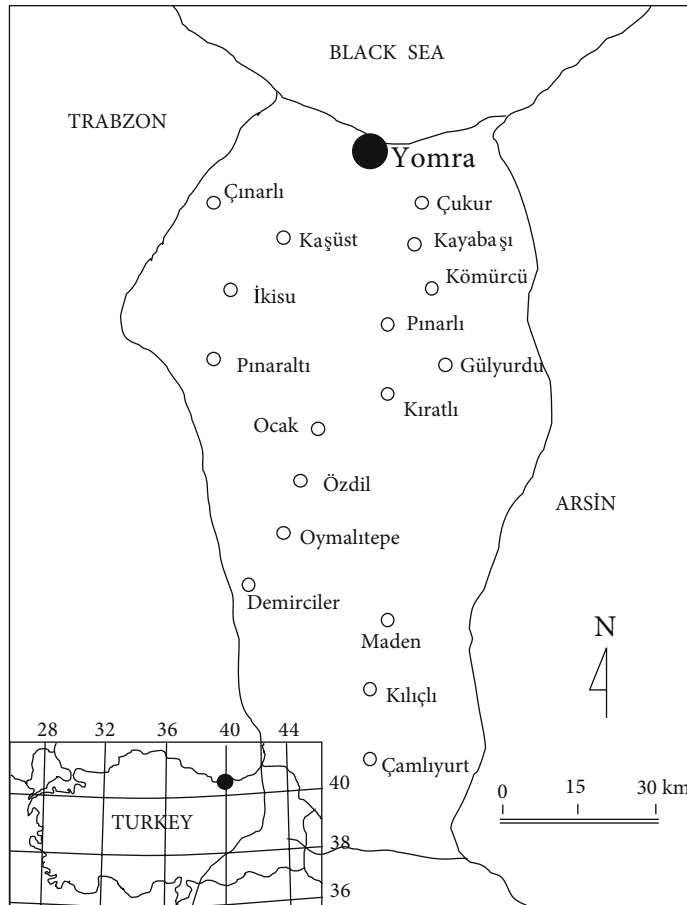


Figure 1. Map of the research area.

Ascomycota Caval.-Sm.

Helotiales Nannf.

Helotiaceae Rehm.

1. *Bisporella citrina* (Batsch) Korf & S.E.Carp.

Kaşüstü village, on beech branch, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 169.

2. *Crocicreas cyathoides* (Bull.) S.E.Carp.

İkisu village, near oak and beech forest, on herbs, 40°56'N, 39°48'E, 340 m, 06.06.2012, *Akata & Yuzun* 1044.

Fruit body stipitate, smooth, 0.5–1 mm broad, goblet- to cup-shaped when young, then saucer- to plate-shaped (Figure 2a). Hymenium smooth, whitish to cream, other surface concolorous, somewhat lighter. Asci 40–50 × 4–5 µm, cylindrical and 8-spored (Figure 2b). Ascospores uniseriate or biseriate, 8–10 × 1.5–2.5 µm hyaline, smooth and narrowly fusiform (Figure 2c). Paraphyses cylindrical and nonseptate (Figure 2d).

3. *Phaeohelotium fagineum* (Pers.) Hengstm.

Kaşüstü village, under beech, on fallen beech husk, 40°57'N, 39°48'E, 230 m, 30.08.2012, *Akata & Yuzun* 1108.

Fruit body sessile to shortly stipitate, 1–2 mm broad, turbinate when young, then flat to convex disc-shaped.

Hymenium smooth, whitish to yellowish, other surface concolorous (Figure 2e). Asci 100–120 × 8–9 µm, clavate, 8-spored (Figure 2f). Ascospores 9–12 × 4–5 µm, hyaline, smooth and fusiform (Figure 2g). Paraphyses septate, cylindrical, slightly swollen at the tips (Figure 2h).

Hyaloscyphaceae Nannf.

4. *Neodasyscypha cerina* (Pers.) Spooner

İkisu village, on fallen chestnut trunk, 40°56'N, E 39°48'E, 220 m, 14.08.2010, *Akata & Yuzun* 669.

5. *Lachnum bicolor* (Bull.) P.Karst. var. *bicolor*

İkisu village, on fallen oak branch, 40°55'N, 39°47'E, 150 m, 25.05.2010, *Akata & Yuzun* 642.

6. *Lachnum virgineum* (Batsch) P.Karst.

Oymaltepe village, on beech cupule, 40°48'N, 39°49'E, 920 m, 23.05.2010, *Akata & Yuzun* 621.

Rutstroemiaceae Holst-Jensen, L.M.Kohn & T.Schumach.

7. *Lanzia echinophila* (Bull.) Korf

Çınarlı village, on the inner surface of chestnut husk, 40°56'N, 39°49'E, 140 m, 18.09.2010, *Akata & Yuzun* 792.

Pezizales J. Schröt.

Caloscyphaceae Harmaja

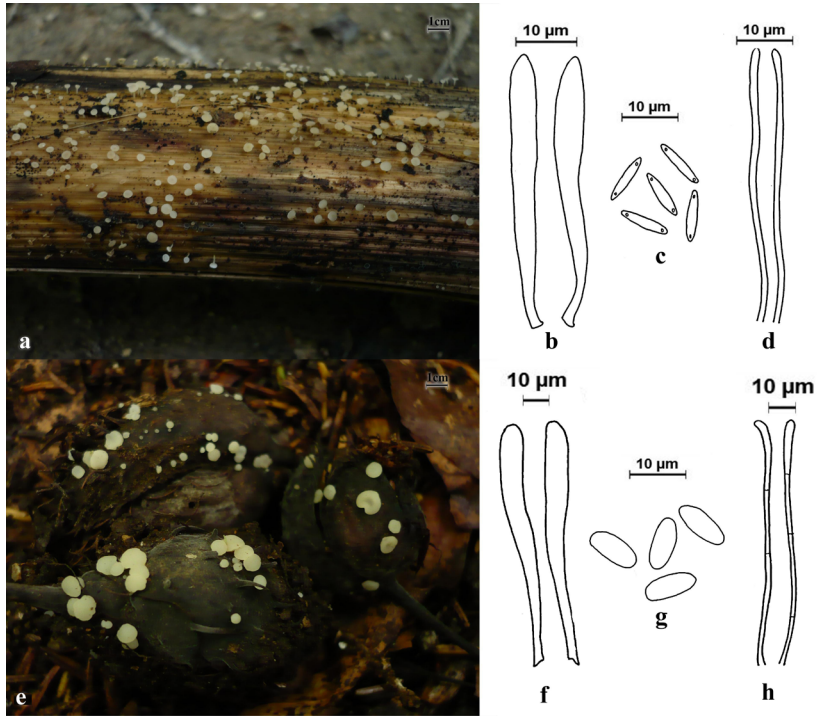


Figure 2. *Crocicreas cyathoideum*: a- ascocarps, b- asci, c- ascospores, d- paraphyses. *Phaeohelotium fagineum*: e- ascocarps, f- asci, g- ascospores, h- paraphyses.

8. Caloscypha fulgens (Pers.) Boud.

İkisu village, under spruce, 40°56'N, 39°48'E, 190 m, 17.04.2011, *Yuzun* 099.

Helvellaceae Fr.

9. Helvella acetabulum (L.) Quél.

İkisu village, in common hazel garden, 40°55'N, 39°47'E, 260 m, 20.04.2010, *Akata & Yuzun* 531.

10. Helvella atra J.König

Kaşüstü village, in common hazel garden, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 145; Gülyurdu village, in common hazel garden, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 700.

11. Helvella crispa (Scop.) Fr.

Kaşüstü village, in common hazel garden, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 83; Kıratlı village, in common hazel garden, 40°50'N, 39°50'E, 650 m, 06.09.2009, *Akata & Yuzun* 398.

12. Helvella elastica Bull.

Çınarlı village, in common hazel garden, 40°56'N, 39°49'E, 140 m, 18.09.2010, *Akata & Yuzun* 799.

13. Helvella lactea Boud.

Özdil village, in common hazel garden, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 498; Kayabaşı village, 40°55'N, 39°52'E, 260 m, 14.09.2010, *Akata & Yuzun* 726.

14. Helvella lacunosa Afzel.

İkisu village, in common hazel garden, 40°56'N, 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 315.

15. Helvella leucomelaena (Pers.) Nannf.

Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 204.

16. Helvella queletii Bres.

İkisu village, in common hazel garden, 40°55'N, 39°47'E, 260 m, 20.04.2010, *Akata & Yuzun* 530.

Morchellaceae Rchb.

17. Morchella esculenta (L.) Pers.

İkisu village, near common hazel garden, 40°56'N, 39°48'E, 190 m, 17.04.2011, *Yuzun* 96.

Pezizaceae Dumort

18. Peziza arvernensis Roze & Boud.

İkisu village, in common hazel garden, 40°56'N, 39°48'E, 190 m, 17.04.2011, *Yuzun* 93.

19. Peziza depressa Pers.

Gülyurdu village, in common hazel garden, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 702.

20. Peziza domiciliana Cooke

Pınarlı village, roadside, 40°53'N, 39°49'E, 650 m, 02.06.2010, *Akata & Yuzun* 649.

21. Peziza succosa Berk.

Pınarlı village, in common hazel garden, 40°53'N, E 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 335; Kömürcü village, 40°50'N, E 39°51'E, 200 m, 05.10.2010, *Akata & Yuzun* 817.

Pyronemataceae Corda

22. Aleuria aurantia (Pers.) Fuckel

Kaşüstü village, roadside, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 92.

23. *Anthracobia melaloma* (Alb. & Schwein.) Boud.
İkisü village, on burned wood of common hazel, 40°56'N, 39°47'E, 270 m, 25.12.2010, *Yuzun* 90.
24. *Humaria hemisphaerica* (F.H.Wigg.) Fuckel
Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 405.
25. *Otidea alutacea* (Pers.) Masse
Çınarlı village, in common hazel garden, 40°56'N, 39°49'E, 140 m, 18.09.2010, *Akata & Yuzun* 790.
26. *Otidea cochleata* (Huds.) Fuckel
Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 251.
27. *Otidea onotica* (Pers.) Fuckel
Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 406.
28. *Scutellinia scutellata* (L.) Lambotte
Çamlıyurt village, on spruce stump, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 220.
29. *Tarzettia catinus* (Holmsk.) Korf & J.K.Rogers
Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 188.
30. *Tarzettia cupularis* (L.) Svrcek
Çınarlı village, in common hazel garden, 40°56'N, 39°49'E, 150 m, 24.10.2008, *Akata & Yuzun* 226.
- Sarcoscyphaceae** Le Gal ex Eckblad
31. *Sarcoscypha coccinea* (Gray) Boud.
İkisü village, on alder stump, 40°56'N, 39°48'E, 370 m, 20.01.2010, *Yuzun* 85.
- Xylariales** Nannf.
- Diatrypaceae** Nitschke
32. *Diatrype stigma* (Hoffm.) Fr.
İkisü village, on beech branch, 40°56'N, 39°47'E, 250 m, 06.08.2009, *Akata & Yuzun* 276.
- Xylariaceae** Tul. & C.Tul.
33. *Annulohyoxylon multiforme* (Fr.) Y.M.Ju, J.D.Rogers & H.M.Hsieh var. *multiforme*
İkisü village, on beech branch, 40°56'N, 39°48'E, 240 m, 14.08.2010, *Akata & Yuzun* 679.
34. *Daldinia concentrica* (Bolton) Ces. & De Not.
İkisü village, on oak branch, 40°56'N, 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 290; on beech branch, 40°56'N, 39°48'E, 240 m, 14.08.2010, *Akata & Yuzun* 665.
35. *Hypoxylon fragiforme* (Pers.) J.Kickx
İkisü village, on beech branch, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 032.
36. *Hypoxylon fuscum* (Pers.) Fr.
İkisü village, on common hazel branch, 40°56'N, 39°48'E, 290 m, 25.10.2008, *Akata & Yuzun* 255.
37. *Xylaria carpophila* (Pers.) Fr.
İkisü village, on beech husk, 40°56'N, 39°48'E, 290 m, 25.10.2008, *Akata & Yuzun* 261.
38. *Xylaria hypoxylon* (L.) Grev.
Kaşüstü village, on common hazel stump, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 071.
39. *Xylaria polymorpha* (Pers.) Grev.
İkisü village, on beech stump, 40°56'N, 39°48'E, 260 m, 06.08.2009, *Akata & Yuzun* 270.
- Basidiomycota** Whittaker ex Moore
- Agaricales** Underw.
- Agaricaceae** Chevall.
40. *Agaricus campestris* L. var. *campestris*
İkisü village, in grass, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 030.
41. *Agaricus cupreobrunneus* (Jul.Schäff. & Steer) Pilát
İkisü village, in grass, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 045.
42. *Agaricus moelleri* Wasser
Pınarlı village, in common hazel garden, 40°53'N, 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 340.
43. *Bovista aestivalis* (Bonord.) Demoulin
Ocak village, in grass, 40°50'N, 39°51'E, 800 m, 05.09.2010, *Akata & Yuzun* 694.
44. *Bovista nigrescens* Pers.
Pınarlı village, in grass, 40°53'N, 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 342; Özdil village, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 506.
45. *Bovista plumbea* Pers.
İkisü village, in grass, 40°56'N, E 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 309; in grass and pastureland, İkisü village, 40°56'N, E 39°47'E, 280 m, 15.09.2010, *Akata & Yuzun* 743.
46. *Chlorophyllum rhacodes* (Vittad.) Vellinga
Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 252.
47. *Coprinus comatus* (O.F.Müll.) Pers.
Maden village, path side, 40°46'N, 39°52'E, 870 m, 14.10.2009, *Akata & Yuzun* 527.
48. *Crucibulum laeve* (Huds.) Kambly
Kaşüstü village, on fallen common hazel branch, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 85; Gülyurdu village, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 718; Kömürcü village, 40°50'N, 39°51'E, 200 m, 05.10.2010, *Akata & Yuzun* 816.
49. *Cyathus olla* (Batsch) Pers.
Kaşüstü village, in common hazel garden, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 127.
50. *Cyathus striatus* (Huds.) Willd.
Pınarlı village, on rotten common hazel branch, 40°53'N, 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 359.
51. *Cystoderma carcharias* (Pers.) Fayod
Çamlıyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 785.
52. *Echinoderma jacobi* (Vellinga & Knudsen) Gminder
Çınarlı village, in common hazel garden, 40°56'N, 39°49'E, 150 m, 24.10.2008, *Akata & Yuzun* 229.

53. *Lepiota cristata* (Bolton) P.Kumm.
Çınarlı village, in grass, 40°56'N, 39°49'E, 140 m, 18.09.2010, *Akata & Yuzun* 807.
54. *Lepiota griseovirens* Maire
İkisu village, near common hazel garden, 40°56'N, 39°48'E, 240 m, 14.08.2010, *Akata & Yuzun* 667.
55. *Lepiota subgracilis* Wasser
Ocak village, in chestnut, oak, and beech forest, 40°50'N, 39°51'E, 800 m, 05.09.2010, *Akata & Yuzun* 685.
56. *Leucoagaricus barssii* (Zeller) Vellinga
Ocak village, in grass, 40°50'N, 39°51'E, 800 m, 05.09.2010, *Akata & Yuzun* 687.
57. *Leucocoprinus badhamii* (Berk. & Broome) Locq.
Gülyurdu village, in common hazel garden, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 715.
58. *Lycoperdon dermoxanthum* Vittad.
Özdil village, in grass, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 521.
59. *Lycoperdon excipuliforme* (Scop.) Pers.
Demirciler village, in grass, 40°48'N, 39°48'E, 1020 m, 23.09.2009, *Akata & Yuzun* 435.
60. *Lycoperdon lividum* Pers.
Pınarlı village, in grass, 40°53'N, 39°49'E, 650 m, 02.06.2010, *Akata & Yuzun* 647.
61. *Lycoperdon molle* Pers.
Kaşüstü village, in common hazel garden, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 151.
62. *Lycoperdon nigrescens* Pers.
Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 245.
63. *Lycoperdon perlatum* Pers.
Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 250.
64. *Lycoperdon pratense* Pers.
Pınarlı village, near road, 40°53'N, 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 330; Kayabaşı village, in common hazel garden, 40°55'N, 39°52'E, 260 m, 14.09.2010, *Akata & Yuzun* 735.
65. *Lycoperdon pyriforme* Schaeff.
Çamliyurt village, on spruce stump, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 787.
66. *Lycoperdon utriforme* Bull.
İkisu village, in grass and pastureland, 40°56'N, 39°48'E, 230 m, 06.06.2009, *Akata & Yuzun* 264.
67. *Macrolepiota excoriata* (Schaeff.) Wasser
İkisu village, in grass, 40°56'N, 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 312.
68. *Macrolepiota konradii* (Huijsman ex P.D.Orton) M.M.Moser
Çınarlı village, in chestnut, oak, and beech forest, 40°56'N, E 39°49'E, 140 m, 18.09.2010, *Akata & Yuzun* 795.
69. *Macrolepiota procera* (Scop.) Singer var. *procera*
İkisu village, in common hazel garden, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 29; Çamliyurt village, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 418.
70. *Tulostoma brumale* Pers.
İkisu village, roadside, 40°56'N, 39°48'E, 190 m, 17.04.2011, *Yuzun* 104.
- Amanitaceae** R. Heim ex Pouzar
71. *Amanita caesarea* (Scop.) Pers.
İkisu village, in chestnut, oak, and beech forest, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 035.
72. *Amanita ceciliae* (Berk. & Broome) Bas
Pınarlı village, in common hazel garden, 40°53'N, 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 361.
73. *Amanita citrina* (Schaeff.) Pers. var. *citrina*
Kaşüstü village, in common hazel garden, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 64.
74. *Amanita excelsa* (Fr.) Bertill. var. *excelsa*
Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 415.
75. *Amanita fulva* Fr.
Özdil village, in common hazel garden, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 493.
76. *Amanita gemmata* (Fr.) Bertill.
Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 186.
77. *Amanita muscaria* (L.) Lam. var. *muscaria*
Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 182; 1000 m, 22.09.2009, *Akata & Yuzun* 413.
78. *Amanita pantherina* (DC.) Krombh.
Kıratlı village, in common hazel garden, 40°50'N, 39°50'E, 650 m, 06.09.2009, *Akata & Yuzun* 390.
79. *Amanita phalloides* (Vaill. ex Fr.) Link
Özdil village, in chestnut, oak, and beech forest, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 500.
80. *Amanita rubescens* Pers. var. *rubescens*
İkisu village, in chestnut, oak, and beech forest, 40°56'N, 39°48'E, 330 m, 30.05.2008, *Yuzun* 17.
81. *Amanita vaginata* (Bull.) Lam.
Kaşüstü village, in common hazel garden, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 79.
- Bolbitiaceae** Singer
82. *Conocybe apala* (Fr.) Arnolds
Özdil village, in grass, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 510.
83. *Conocybe subovalis* Kühner & Watling
Özdil village, near common hazel garden, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 494.
84. *Conocybe tenera* (Schaeff.) Fayod
Kömürcü village, in grass, 40°50'N, 39°51'E, 200 m, 05.10.2010, *Akata & Yuzun* 813.

Entolomataceae Kotl. & Pouzar

85. *Entoloma chalybeum* (Pers.) Noordel. var. *chalybeum*

İkisu village, near common hazel garden, 40°56'N, 39°48'E, 290 m, 25.10.2008, *Akata & Yuzun* 262.

Fistulinaceae Lotsy

86. *Fistulina hepatica* (Schaeff.) With.

İkisu village, on chestnut stump, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 040.

Hydnangiaceae Gäum. & C.W.Dodge

87. *Laccaria laccata* (Scop.) Cooke

İkisu village, in common hazel garden, 40°56'N, 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 283.

Hygrophoraceae Lotsy

88. *Hygrocybe acutoconica* (Clem.) Singer var. *acutoconica*

Pınarlı village, near common hazel garden, 40°53'N, 39°49'E, 650 m, 02.06.2010, *Akata & Yuzun* 645.

89. *Hygrocybe acutoconica* var. *konradii* (R.Haller Aar.) Boertm.

Ocak village, near common hazel garden, 40°50'N, 39°51'E, 800 m, 05.09.2010, *Akata & Yuzun* 684.

90. *Hygrocybe conica* (Schaeff.) P.Kumm.

Gülyurdu village, in grass and pastureland, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 710; İkisu village, 40°56'N, 39°47'E, 280 m, 15.09.2010, *Akata & Yuzun* 741.

91. *Hygrocybe psittacina* (Schaeff.) P.Kumm. var. *psittacina*

Çamlıyurt village, near spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 753.

92. *Hygrophorus erubescens* (Fr.) Fr.

Çamlıyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 762.

Inocybaceae Jülich

93. *Crepidotus caspari* Velen.

İkisu village, on fallen branch of common hazel, 40°56'N, 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 327.

94. *Crepidotus mollis* (Schaeff.) Staude

Kömürcü village, on beech branch, 40°50'N, 39°51'E, 200 m, 05.10.2010, *Akata & Yuzun* 812.

95. *Inocybe adaequata* (Britzelm.) Sacc.

İkisu village, in chestnut, oak, and beech forest, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 025.

96. *Inocybe asterospora* Quél.

Çınarlı village, in common hazel garden, 40°56'N, 39°49'E, 140 m, 18.09.2010, *Akata & Yuzun* 789; Kömürcü village, 40°50'N, 39°51'E, 200 m, 05.10.2010, *Akata & Yuzun* 815.

97. *Inocybe calida* Velen.

Pınarlı village, in common hazel garden, 40°53'N, 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 334.

98. *Inocybe calospora* Quél.

İkisu village, in chestnut, oak, and beech forest, 40°56'N, 39°47'E, 280 m, 15.09.2010, *Akata & Yuzun* 745.

99. *Inocybe cincinnata* (Fr.) Quél. var. *cincinnata*

Gülyurdu village, in common hazel garden, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 705.

100. *Inocybe fuscidula* Velen. var. *fuscidula*

Kılıçlı village, in common hazel garden, 40°45'N, 39°52'E, 800 m, 04.09.2009, *Akata & Yuzun* 379.

101. *Inocybe geophylla* (Pers.) P. Kumm. var. *geophylla*

Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 187.

102. *Inocybe geophylla* var. *lilacina* Gillet

Gülyurdu village, in common hazel garden, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 717.

103. *Inocybe praetervisa* Quél.

Ocak village, in chestnut, oak, and beech forest, 40°50'N, 39°51'E, 800 m, 05.09.2010, *Akata & Yuzun* 681.

104. *Inocybe rimosa* (Bull.) P.Kumm.

İkisu village, in common hazel garden, 40°56'N, 39°48'E, 240 m, 14.08.2010, *Akata & Yuzun* 670.

105. *Inocybe whitei* (Berk. & Broome) Sacc.

Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 217.

106. *Tubaria romagnesiana* Arnolds

İkisu village, on rotting remains of common hazel wood, 40°55'N, 39°47'E, 260 m, 20.04.2010, *Akata & Yuzun* 539.

Lyophyllaceae Jülich

107. *Hypsizygus ulmarius* (Bull.) Redhead

İkisu village, on hornbeam stump, 40°56'N, 39°48'E, 260 m, 06.08.2009, *Akata & Yuzun* 272.

Marasmiaceae Roze ex Kühner

108. *Calyptella capula* (Holmsk.) Quél.

İkisu village, on dead plant remains, 40°56'N, 39°47'E, 280 m, 15.09.2010, *Akata & Yuzun* 746.

Fruit body 2–4 mm broad, cupulate, stipitate, delicate, outer surface smooth, finely floccose, white to cream-colored, becoming grayish when old, hymenium smooth, white to cream-colored, margin irregular, crenulate (Figure 3a). Pseudostem up to 1.5 mm long, connecting with the cup centric to eccentric. Basidia clavate, 20–24 × 6–8 µm, 4-spored, clamped (Figure 3b). Basidiospores 6.5–8 × 4–4.5 µm, elliptical with apiculus, thin-walled, hyaline, smooth, inamyloid (Figure 3c).

109. *Campanella caesia* Romagn.

İkisu village, on herbaceous stem, 40°56'N, 39°47'E, 280 m, 15.09.2010, *Akata & Yuzun* 740.

Fruit body 5–15 mm broad, stalkless, eccentrically or dorsally attached to surface, cupulate or convex, then plano-convex, outer surface entirely gelatinous, smooth or vaguely striate, whitish to pale grayish, paler towards to margin. Lamellae reticulate, whitish to cream (Figure 3d).

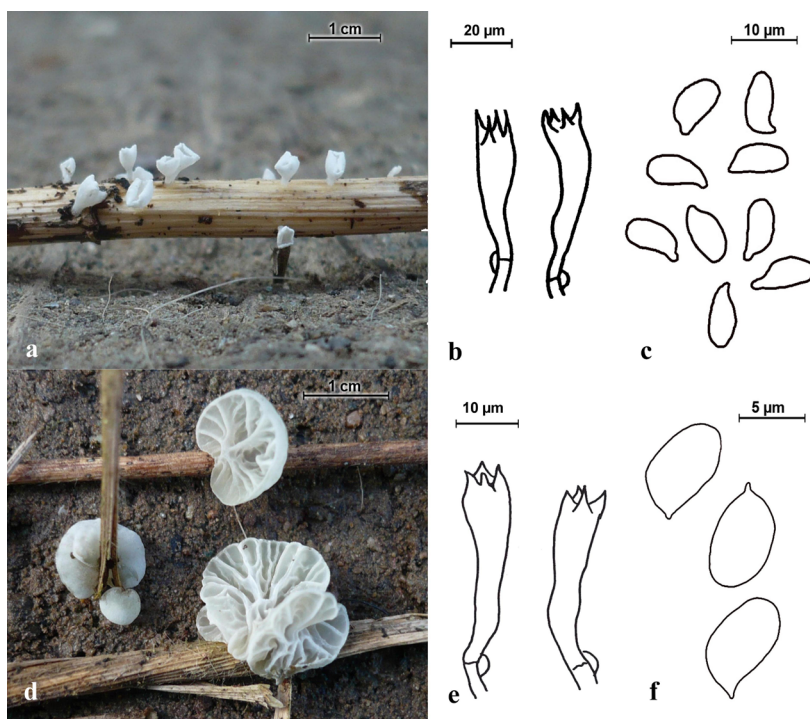


Figure 3. *Calyptella capula*: a- basidiocarps, b- basidia, c- basidiospores. *Campanella caesia*: d- basidiocarps, e- basidia, f- basidiospores.

Basidia 30–35 × 8–10 µm, 2- to 4-spored, clamped (Figure 3e). Basidiospores 8–9 × 4–5 µm, ellipsoid to oblong, with apiculus, thin-walled, hyaline and smooth (Figure 3f).

110. *Gymnopus dryophilus* (Bull.) Murrill

Pınarlı village, in common hazel garden, 40°53'N, 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 339.

111. *Gymnopus fusipes* (Bull.) Gray

Oymaltepe village, on chestnut stump, 40°48'N, 39°49'E, 920 m, 23.05.2010, *Akata & Yuzun* 612.

112. *Marasmiellus candidus* (Fr.) Singer

İkisu village, on common hazel twigs, 40°56'N, 39°48'E, 240 m, 14.08.2010, *Akata & Yuzun* 672.

113. *Marasmius oreades* (Bolton) Fr.

Kaşüstü village, in grass, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 139.

114. *Marasmius rotula* (Scop.) Fr.

İkisu village, on common hazel branch, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 49; Maden village, 40°46'N, 39°52'E, 870 m, 14.10.2009, *Akata & Yuzun* 528.

115. *Mycetinis scorodonius* (Fr.) A.W.Wilson & Desjardin

Çamlıyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 761.

Mycenaceae Overeem

116. *Mycena acicula* (Schaeff.) P.Kumm.

Oymaltepe village, on fallen leaves of common hazel, 40°48'N, 39°49'E, 920 m, 23.05.2010, *Akata & Yuzun* 630.

117. *Mycena pura* (Pers.) P.Kumm.

İkisu village, under spruce, among needle litter, 40°55'N, 39°47'E, 150 m, 25.05.2010, *Akata & Yuzun* 641.

118. *Panellus stipticus* (Bull.) P.Karst.

Maden village, on oak stump, 40°46'N, 39°52'E, 870 m, 14.10.2009, *Akata & Yuzun* 525.

Physalacriaceae Corner

119. *Armillaria mellea* (Vahl) P.Kumm.

İkisu village, on oak stump, 40°56'N, 39°48'E, 290 m, 25.10.2008, *Akata & Yuzun* 254; Kıratlı village, on beech stump, 40°50'N, 39°50'E, 650 m, 06.09.2009, *Akata & Yuzun* 392.

120. *Xerula radicata* (Relhan) Dörfelt

İkisu village, in chestnut, oak, and beech forest, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 038.

121. *Xerula pudens* (Pers.) Singer

İkisu village, on oak root, 40°56'N, 39°48'E, 260 m, 06.08.2009, *Akata & Yuzun* 274.

Pluteaceae Kotl. & Pouzar

122. *Pluteus atromarginatus* (Konrad) Kühner

Oymaltepe village, on spruce stump, 40°48'N, 39°49'E, 920 m, 23.05.2010, *Akata & Yuzun* 622; Çamlıyurt village, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 760.

123. *Volvariella murinella* (Quél.) M.M.Moser

Kılıçlı village, near common hazel garden, 40°45'N, 39°52'E, 800 m, 04.09.2009, *Akata & Yuzun* 378.

Psathyrellaceae Vilgalys, Moncalvo & Redhead

- 124. *Coprinellus disseminatus*** (Pers.) J.E.Lange
Kaşüstü village, on common hazel stump, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Yuzun* 76; İkisu village, on apple stump, 40°55'N, 39°47'E, 150 m, 25.05.2010, *Akata & Yuzun* 637.
- 125. *Coprinellus domesticus*** (Bolton) Vilgalys, Hopple & Jacq. Johnson
Kaşüstü village, on common hazel stump, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 070.
- 126. *Coprinellus ephemerus*** (Bull.) Redhead, Vilgalys & Moncalvo
Özdil village, on dung in grass, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 511.
- 127. *Coprinellus micaceus*** (Bull.) Vilgalys, Hopple & Jacq. Johnson
İkisu village, on common hazel stump, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 060.
- 128. *Coprinopsis atramentaria*** (Bull.) Redhead, Vilgalys & Moncalvo
İkisu village, in common hazel garden, 40°56'N, 39°48'E, 290 m, 25.10.2008, *Akata & Yuzun* 258.
- 129. *Coprinopsis lagopides*** (P.Karst.) Redhead, Vilgalys & Moncalvo
Pınarlı village, on common hazel leaves, 40°53'N, 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 336.
- 130. *Lacrymaria lacrymabunda*** (Bull.) Pat.
Gülyurdu village, in common hazel garden, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 709.
- 131. *Panaeolus fimicola*** (Pers.) Gillet
Çukurköy village, in grass and pastureland, 40°55'N, 39°50'E, 300 m, 28.07.2010, *Akata & Yuzun* 651.
- 132. *Panaeolus papilionaceus*** (Bull.) Quél. var. *papilionaceus*
İkisu village, in grass and pastureland, 40°55'N, 39°47'E, 260 m, 20.04.2010, *Akata & Yuzun* 533.
- 133. *Parasola plicatilis*** (Curtis) Redhead, Vilgalys & Hopple
İkisu village, in common hazel garden, 40°56'N, 39°48'E, 180 m, 14.08.2008, *Yuzun* 021.
- 134. *Psathyrella candolleana*** (Fr.) Maire
Çukurköy village, on common hazel stump, 40°55'N, 39°50'E, 300 m, 28.07.2010, *Akata & Yuzun* 658.
- 135. *Psathyrella spadiceogrisea*** (Schaeff.) Maire
Çınarlı village, in common hazel garden, 40°56'N, 39°49'E, 140 m, 18.09.2010, *Akata & Yuzun* 795.
- Schizophyllaceae** Quél.
- 136. *Schizophyllum commune*** Fr.
İkisu village, on oak branch, 40°56'N, 39°47'E, 370 m, 26.04.2009, *Akata* 2219; Kayabaşı village, on walnut stump, 40°55'N, 39°52'E, 260 m, 14.09.2010, *Akata & Yuzun* 728.
- Strophariaceae** Singer & A.H.Sm.
- 137. *Agrocybe praecox*** (Pers.) Fayod
İkisu village, in common hazel garden, 40°55'N, 39°47'E, 260 m, 20.04.2010, *Akata & Yuzun* 537.
- 138. *Galerina clavata*** (Velen.) Kühner
Pınarlı village, in grass and pastureland, 40°53'N, 39°49'E, 650 m, 02.06.2010, *Akata & Yuzun* 646.
- 139. *Hypholoma fasciculare*** (Huds.) P.Kumm. var. *fasciculare*
Kaşüstü village, on common hazel stump, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 104.
- 140. *Stropharia caerulea*** Kreisel
İkisu village, in common hazel garden, 40°56'N, 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 324.
- 141. *Stropharia coronilla*** (Bull.) Quél
İkisu village, in common hazel garden, 40°55'N, 39°47'E, 260 m, 20.04.2010, *Akata & Yuzun* 532.
- 142. *Stropharia rugosoannulata*** Farl. ex Murrill
İkisu village, under spruce, 40°55'N, 39°47'E, 150 m, 25.05.2010, *Akata & Yuzun* 638.
- Tricholomataceae** R.Heim ex Pouzar
- 143. *Arrhenia spathulata*** (Fr.) Redhead
İkisu village, near road, on mosses, 40°56'N, 39°48'E, 290 m, 25.10.2008, *Akata & Yuzun* 253.
- 144. *Clitocybe gibba*** (Pers.) P.Kumm.
Çamlyurt village, in spruce forest, on needle litter, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 237.
- 145. *Clitocybe nebularis*** (Batsch) P.Kumm.
Çamlyurt village, in spruce forest, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 246.
- 146. *Clitocybe odora*** (Bull.) P.Kumm.
Kömürücü village, in chestnut, oak, and beech forest, 40°50'N, 39°51'E, 200 m, 05.10.2010, *Akata & Yuzun* 810.
- 147. *Clitocybe phyllophila*** (Pers.) P.Kumm.
Çamlyurt village, in spruce forest, on needle litter, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 747.
- 148. *Delicatula integrella*** (Pers.) Fayod
Demirciler village, on common hazel stump, 40°48'N, 39°48'E, 1020 m, 23.09.2009, *Akata & Yuzun* 429.
- 149. *Lepista flaccida*** (Sowerby) Pat.
Çamlyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 765.
- 150. *Lepista nuda*** (Bull.) Cooke
Çamlyurt village, in spruce forest, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 249.
- 151. *Tricholoma fracticum*** (Britzelm.) Kreisel
Demirciler village, under black pine, 40°48'N, 39°48'E, 1020 m, 23.09.2009, *Akata & Yuzun* 424.
- 152. *Tricholoma terreum*** (Schaeff.) P.Kumm.
Çamlyurt village, in spruce forest, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 242.
- 153. *Tricholomopsis rutilans*** (Schaeff.) Singer
Çamlyurt village, on spruce stump, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 240.
- Auriculariales** J.Schröt.
- Auriculariaceae** Fr.

154. *Exidia plana* Donk
Kaşüstü village, on common hazel branch, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 143.
155. *Pseudohydnum gelatinosum* (Scop.) P.Karst.
Çamlıyurt village, on spruce stump, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 786.
- Boletales** E.-J.Gilbert
Boletaceae Chevall.
156. *Boletus chrysenteron* Bull.
Kaşüstü village, in common hazel garden, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 150.
157. *Boletus edulis* Bull.
Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 184.
158. *Boletus erythropus* Pers. var. *erythropus*
Çamlıyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 751.
159. *Boletus speciosus* Frost
Özdil village, in chestnut, oak, and beech forest, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 509.
160. *Phylloporus pelletieri* (Lév.) Quéf.
Çamlıyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 749.
- Diplocystidiaceae** Kreisel
161. *Astraeus hygrometricus* (Pers.) Morgan
İkisü village, in common hazel garden, 40°56'N, 39°47'E, 270 m, 05.12.2007, *Yuzun* 2.
- Gomphidiaceae** Maire ex Jülich
162. *Chroogomphus rutilus* (Schaeff.) O.K.Mill.
Ocak village, under black pine, 40°50'N, 39°51'E, 800 m, 05.09.2010, *Akata & Yuzun* 690.
163. *Gomphidius glutinosus* (Schaeff.) Fr.
Çamlıyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 748.
- Paxillaceae** Lotsy
164. *Paxillus involutus* (Batsch) Fr.
Çınarlı village, near road, 40°56'N, 39°49'E, 150 m, 24.10.2008, *Akata & Yuzun* 231.
165. *Paxillus rubicundulus* P.D.Orton
Kılıçlı village, under alder, 40°45'N, 39°52'E, 800 m, 04.09.2009, *Akata & Yuzun* 381.
- Sclerodermataceae** Corda
166. *Scleroderma areolatum* Ehrenb.
Kılıçlı village, near road, 40°45'N, 39°52'E, 800 m, 04.09.2009, *Akata & Yuzun* 384.
167. *Scleroderma cepa* Pers.
Kaşüstü village, roadside, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 97.
168. *Scleroderma citrinum* Pers.
İkisü village, roadside among common hazel garden, 40°56'N, 39°48'E, 260 m, 06.08.2009, *Akata & Yuzun* 269.
169. *Scleroderma polyrhizum* (J.F.Gmel.) Pers.
Demirciler village, in common hazel garden, on path, 40°48'N, 39°48'E, 1020 m, 23.09.2009, *Akata & Yuzun* 432.
170. *Scleroderma verrucosum* (Bull.) Pers.
Gülyurdu village, near road, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 720.
- Tapinellaceae** C.Hahn
171. *Tapinella atrotomentosa* (Batsch) Šutara
Çamlıyurt village, on spruce stump, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 409.
- Cantharellales** Gäum.
Cantharellaceae J. Schröt
172. *Cantharellus cibarius* Fr.
İkisü village, in common hazel garden, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 34; İkisü village, 40°56'N, 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 287.
173. *Cantharellus cinereus* (Pers.) Fr.
Kayabaşı village, in common hazel garden, 40°55'N, 39°52'E, 260 m, 14.09.2010, *Akata & Yuzun* 732.
174. *Craterellus cornucopioides* (L.) Pers.
Kaşüstü village, in chestnut, oak, and beech forest, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 160; Kayabaşı village, 40°55'N, 39°52'E, 260 m, 14.09.2010, *Akata & Yuzun* 733.
175. *Craterellus lutescens* (Fr.) Fr.
Kaşüstü village, in chestnut, oak, and beech forest, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 161.
176. *Pseudocraterellus undulatus* (Pers.) Rauschert
Çukurköy village, in chestnut, oak, and beech forest, 40°55'N, 39°50'E, 300 m, 28.07.2010, *Akata & Yuzun* 663.
- Clavariaceae** Chevall.
177. *Clavaria acuta* Sowerby
Ocak village, near common hazel garden, 40°50'N, 39°51'E, 800 m, 05.09.2010, *Akata & Yuzun* 693.
178. *Clavulinopsis corniculata* (Schaeff.) Corner
Çınarlı village, in common hazel garden, 40°56'N, 39°49'E, 140 m, 18.09.2010, *Akata & Yuzun* 794.
- Clavulinaceae** Donk
179. *Clavulina cinerea* (Bull.) J.Schröt
Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 210; Çamlıyurt village, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 782.
180. *Clavulina rugosa* (Bull.) J.Schröt.
Çamlıyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 763.
- Hydnaceae** Chevall.
181. *Hydnum repandum* L.
Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 195; İkisü village, 40°56'N, 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 304; Çamlıyurt village, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 784.
- Dacrymycetales** Lindau
Dacrymycetaceae J.Schröt.

182. *Calocera viscosa* (Pers.) Fr.

Çamliyurt village, on spruce stump, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 420; Çamliyurt village, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 750.

183. *Dacrymyces chrysospermus* Berk. & M.A.Curtis

İkisu village, on spruce stump, 40°56'N, 39°48'E, 210 m, 14.08.2011, *Akata & Yuzun* 867.

Fruit body 5–10 mm broad, up to 15 mm high, sessile to substipitate, pulvinate, obconical or discoid, surface viscid, glabrous, bright yellowish to orange, stipe of the same color (Figure 4a). Basidia 55–65 × 3–4 µm, fork-shaped (Figure 4b). Basidiospores 18–21 × 7–8 µm, smooth, ellipsoid, cylindrical to suballantoid, becoming 7-septate at maturity (Figure 4c).

184. *Dacrymyces stillatus* Nees

Çınarlı village, on chestnut stump, 40°56'N, 39°49'E, 140 m, 18.09.2010, *Akata & Yuzun* 804.

185. *Guepiniopsis buccina* (Pers.) L.L.Kenn.

Kömürcü village, on common hazel stump, 40°50'N, 39°51'E, 200 m, 05.10.2010, *Akata & Yuzun* 814.

Fruit body 5–8 mm broad, up to 10 mm high, consisting of head and stipe, head cup-shaped or conical to flat, surface finely ribbed, yellow, orange-yellow to orange, stipe of the same color, central and longitudinally ribbed (Figure 4d). Basidia 30–40 × 4–6 µm, fork-shaped (Figure 4e). Basidiospores 12–14 × 5–6 µm, smooth, ellipsoid,

cylindrical to curved-cylindrical, becoming 1–3-septate at maturity (Figure 4f).

Geastrales K.Hosaka & Castellano**Geastraceae Corda****186. *Geastrum fimbriatum* Fr.**

Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 177; Oymalitepe village, 40°48'N, 39°49'E, 920 m, 23.05.2010, *Akata & Yuzun* 624.

187. *Geastrum pectinatum* Pers.

Çamliyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 769.

188. *Geastrum rufescens* Pers.

Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 407; Çamliyurt village, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 775.

189. *Sphaerobolus stellatus* Tode

Demirciler village, on common hazel stump, 40°48'N, 39°48'E, 1020 m, 23.09.2009, *Akata & Yuzun* 425.

Gomphales Jülich**Clavariadelphaceae Corner****190. *Clavariadelphus truncatus* Donk**

Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1180 m, 23.06.2008, *Akata & Yuzun* 207.

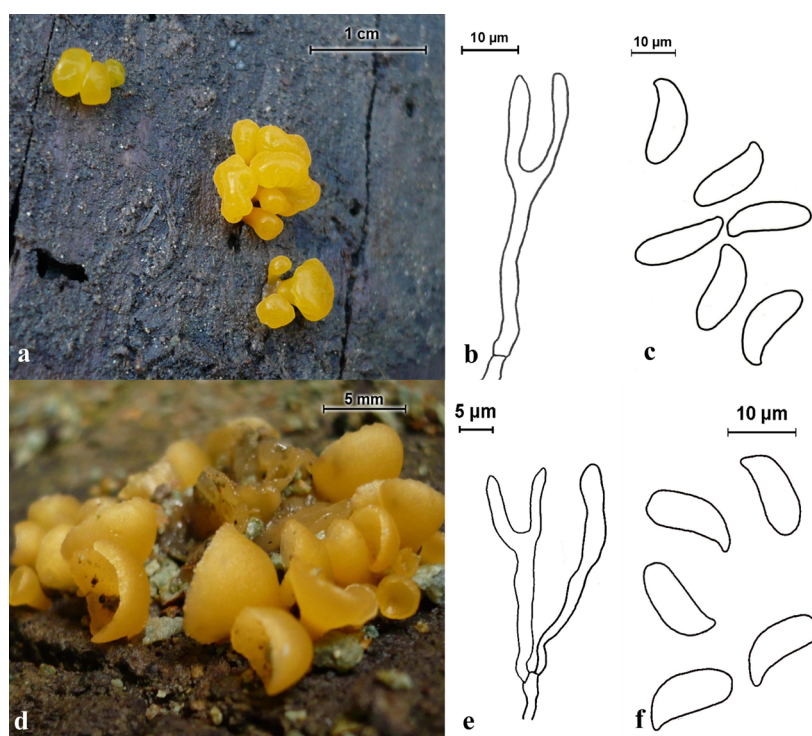
Gomphaceae Donk

Figure 4. *Dacrymyces chrysospermus*: a- basidiocarps, b- basidium, c- basidiospores. *Guepiniopsis buccina*: d- basidiocarps, e- basidium, f- basidiospores.

- 191. *Ramaria flaccida* (Fr.) Bourdot**
Çamlıyurt village, in spruce forest, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 412.
- 192. *Ramaria flavescens* (Schaeff.) R.H.Petersen**
Çukurköy village, in chestnut, oak, and beech forest, 40°55'N, 39°50'E, 300 m, 28.07.2010, *Akata & Yuzun* 657.
- Hymenochaetales Oberw.**
Hymenochaetaceae Imazeki & Toki
- 193. *Fuscoporia torulosa* (Pers.) T.Wagner & M.Fisch.**
Pınarlı village, on oak, 40°53'N, 39°49'E, 680 m, 03.09.2009, *Akata & Yuzun* 357.
- 194. *Hymenochaete rubiginosa* (Dicks.) Lév.**
İkisü village, on chestnut branch, 40°56'N, 39°47'E, 270 m, 15.09.2010, *Akata & Yuzun* 742.
- 195. *Inonotus hispidus* (Bull.) P.Karst.**
Kılıçlı village, on apple tree, 40°45'N, 39°52'E, 800 m, 04.09.2009, *Akata & Yuzun* 369.
- 196. *Phylloporia ribis* (Schumach.) Ryvarden**
İkisü village, on alder stump, 40°55'N, 39°47'E, 270 m, 20.04.2010, *Akata & Yuzun* 534.
- Phallales E. Fisch.**
Phallaceae Corda
- 197. *Clathrus ruber* P.Micheli ex Pers.**
İkisü village, in common hazel garden, 40°56'N, 39°48'E, 330 m, 30.05.2008, *Yuzun* 15.
- 198. *Mutinus caninus* (Huds.) Fr.**
Çamlıyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 779.
- 199. *Phallus impudicus* L. var. *impudicus***
İkisü village, in common hazel garden, 40°56'N, 39°48'E, 240 m, 14.08.2010, *Akata & Yuzun* 671.
- Polyporales Gäum.**
Fomitopsidaceae Jülich
- 200. *Daedalea quercina* (L.) Pers.**
Kılıçlı village, on oak stump 40°45'N, 39°52'E, 800 m, 04.09.2009, *Akata & Yuzun* 367.
- 201. *Fomitopsis pinicola* (Sw.) P.Karst.**
Çamlıyurt village, on spruce stump, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 745.
- 202. *Ischnoderma benzoinum* (Wahlenb.) P.Karst.**
Çamlıyurt village, on spruce stump, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 770.
- 203. *Laetiporus sulphureus* (Bull.) Murrill**
İkisü village, on cherry laurel, 40°56'N, 39°48'E, 330 m, 10.10.2010, *Akata & Yuzun* 824.
- 204. *Postia caesia* (Schrad.) P.Karst.**
Çamlıyurt village, on spruce stump, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 410.
- Ganodermataceae Donk**
- 205. *Ganoderma adpersum* (Schulzer) Donk**
İkisü village, on oak stump, 40°56'N, 39°47'E, 370 m, 26.04.2009, *Akata* 2216.
- 206. *Ganoderma applanatum* (Pers.) Pat**
İkisü village, on beech stump, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 024.
- 207. *Ganoderma lucidum* (Curtis) P.Karst.**
Pınarlı village, on common hazel root, 40°53'N, 39°49'E, 650 m, 02.06.2010, *Akata & Yuzun* 650.
- Meripilaceae Jülich**
- 208. *Meripilus giganteus* (Pers.) P.Karst.**
İkisü village, on beech, 40°56'N, 39°48'E, 260 m, 06.08.2009, *Akata & Yuzun* 275.
- Meruliaceae Rea**
- 209. *Abortiporus biennis* (Bull.) Singer**
İkisü village, on chestnut root, 40°56'N, 39°48'E, 260 m, 06.08.2009, *Akata & Yuzun* 273.
- 210. *Bjerkandera adusta* (Willd.) P.Karst.**
Çınarlı village, on alder, 40°56'N, 39°49'E, 150 m, 24.10.2008, *Akata & Yuzun* 227.
- Polyporaceae Fr. ex Corda**
- 211. *Dichomitus campestris* (Quél.) Domański & Orlicz**
İkisü village, on common hazel branch, 40°56'N, 39°48'E, 240 m, 14.08.2010, *Akata & Yuzun* 678.
- 212. *Daedaleopsis confragosa* (Bolton) J.Schröt.**
Özdil village, on alder, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 501.
- 213. *Lenzites betulina* (L.) Fr.**
İkisü village, on beech stump, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 55.
- 214. *Polyporus arcularius* (Batsch.) Fr.**
İkisü village, on hornbeam branch, 40°56'N, 39°48'E, 190 m, 17.04.2011, *Yuzun* 107.
- 215. *Polyporus brumalis* (Pers.) Fr.**
Kıratlı village, on common hazel stump, 40°50'N, 39°50'E, 650 m, 06.09.2009, *Akata & Yuzun* 397.
- 216. *Polyporus squamosus* (Huds.) Fr.**
Kılıçlı village, on fig stump, 40°45'N, 39°52'E, 800 m, 04.09.2009, *Akata & Yuzun* 388.
- 217. *Trametes gibbosa* (Pers.) Fr.**
Kayabaşı village, on common hazel stump, 40°55'N, 39°52'E, 260 m, 14.09.2010, *Akata & Yuzun* 738.
- 218. *Trametes hirsuta* (Wulfen) Lloyd**
Kaşüstü village, on common hazel stump, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 109; Demirciler village, 40°48'N, 39°48'E, 1020 m, 23.09.2009, *Akata & Yuzun* 427.
- 219. *Trametes pubescens* (Schumach.) Pilát**
Özdil village, on beech stump, 40°49'N, 39°49'E, 780 m, 24.09.2009, *Akata & Yuzun* 508.

- 220. *Trametes versicolor* (L.) Lloyd**
İkisu village, on common hazel branch, 40°56'N, 39°47'E, 270 m, 05.12.2007, *Yuzun* 5.
- 221. *Trichaptum bifforme* (Fr.) Ryvarden**
Demirciler village, on cherry laurel, 40°48'N, 39°48'E, 1020 m, 23.09.2009, *Akata & Yuzun* 428.
- Russulales** Kreisel ex P.M.Kirk, P.F.Cannon & J.C.David
Auriscalpiaceae Maas Geest.
- 222. *Lentinellus cochleatus* (Pers.) P.Karst**
Demirciler village, on beech root, 40°48'N, 39°48'E, 1020 m, 23.09.2009, *Akata & Yuzun* 430.
- Bondarzewiaceae** Kotl. & Pouzar
- 223. *Heterobasidion annosum* (Fr.) Bref.**
Çamliyurt village, on spruce stump, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 755.
- Hericiaceae** Donk
- 224. *Hericium erinaceus* (Bull.) Pers.**
İkisu village, on oak stump, 40°56'N, 39°47'E, 280 m, 02.09.2009, *Akata & Yuzun* 296.
- Peniophoraceae** Lotsy
- 225. *Peniophora quercina* (Pers.) Cooke**
Oymaltepe village, on oak branch, 40°48'N, 39°49'E, 920 m, 23.05.2010, *Akata & Yuzun* 628.
- Russulaceae** Lotsy
- 226. *Lactarius vellereus* (Fr.) Fr. var. *vellereus***
İkisu village, in oak and beech forest, 40°56'N, 39°48'E, 290 m, 25.10.2008, *Akata & Yuzun* 256.
- 227. *Lactarius volemus* (Fr.) Fr.**
Çınarlı village, in common hazel garden, 40°56'N, 39°49'E, 150 m, 24.10.2008, *Akata & Yuzun* 225; Gülyurdu village, 40°52'N, 39°51'E, 430 m, 13.09.2010, *Akata & Yuzun* 706.
- 228. *Russula cyanoxantha* (Schaeff.) Fr.**
İkisu village, in common hazel garden, 40°56'N, 39°48'E, 350 m, 20.10.2008, *Akata & Yuzun* 27.
- Stereaceae** Pilát
- 229. *Stereum hirsutum* (Willd.) Pers.**
İkisu village, on oak branch, 40°56'N, 39°48'E, 330 m, 30.05.2008, *Yuzun* 18; Kirathı village, 40°50'N, 39°50'E, 650 m, 06.09.2009, *Akata & Yuzun* 395.
- Thelephorales** Corner ex Oberw.
- Bankeraceae** Donk
- 230. *Hydnellum auratile* (Britzelm.) Maas Geest.**
Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1210 m, 25.10.2008, *Akata & Yuzun* 235.
- 231. *Hydnellum caeruleum* (Hornem.) P.Karst.**
Çamliyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 753.
- 232. *Hydnellum conrescens* (Pers.) Banker**
İkisu village, in chestnut, oak, and beech forest, 40°56'N, 39°47'E, 280 m, 15.09.2010, *Akata & Yuzun* 739.
- 233. *Hydnellum peckii* Banker**
Çamliyurt village, in spruce forest, 40°44'N, 39°50'E, 1000 m, 22.09.2009, *Akata & Yuzun* 421.
- 234. *Sarcodon imbricatus* (L.) P.Karst.**
Çamliyurt village, in spruce forest, 40°44'N, 39°48'E, 1610 m, 16.09.2010, *Akata & Yuzun* 757.
- Thelephoraceae** Chevall.
- 235. *Thelephora caryophyllea* (Schaeff.) Pers.**
İkisu village, near road, 40°55'N, 39°47'E, 150 m, 25.05.2010, *Akata & Yuzun* 640.
- Tremellales** Fr.
- Tremellaceae** Fr.
- 236. *Tremella mesenterica* Retz.**
Kaşüstü village, on beech branch, 40°57'N, 39°48'E, 210 m, 21.10.2008, *Akata & Yuzun* 106.

4. Discussion

In the boundaries of the Yomra district, 236 macrofungi taxa, belonging to 58 families and 16 orders, were determined. The list includes 39 Ascomycota (7 Helotiales, 24 Pezizales, and 8 Xylariales) and 197 Basidiomycota (114 Agaricales, 2 Auriculariales, 16 Boletales, 10 Cantharellales, 4 Dacrymycetales, 4 Geastrales, 3 Gomphales, 4 Hymenochaetales, 3 Phallales, 22 Polyporales, 8 Russulales, 6 Thelephorales, and 1 Tremellales).

All the taxa are new for the district. Thirty-eight taxa are recorded for the first time from the Eastern Black Sea Region. Another contribution of this study is the addition of *Calyptella capula* (Holmsk.) Quél., *Campanella caesia* Romagn., and *Guepiniopsis buccina* (Pers.) L.L.Kenn. as new records for the Turkish mycobiota at the species as well as the genus level, and *Crocicreas cyathoideum* (Bull.) S.E.Carp., *Phaeohelotium fagineum* (Pers.) Hengstm., and *Dacrymyces chrysospermus* Berk. & M.A.Curtis at the species level.

In general, the taxonomic characters of all the determined taxa are in agreement with those given in literature.

Sixty of 236 taxa are edible, but only 9 taxa, *Agaricus campestris*, *Cantharellus cibarius*, *Coprinus comatus*, *Hydnum repandum*, *Lactarius volemus*, *Macrolepiota procera*, *Morchella esculenta*, *Polyporus squamosus*, and *Sarcodon imbricatus*, are collected and consumed in the region by local people. Among these taxa, the most popular one is *L. volemus*.

The taxa determined in the district reflect similarity with those of the other studies conducted in its close environs. These studies and their similarity percentages are given in the Table. The reason for this similarity may be the common climate and vegetation.

Table. Similarity percentages of studies from areas neighboring the Yomra district.

	Number of identical taxa	Total taxa	Similarity percentage
Uzun et al. (2006)	31	105	29.52
Demirel et al. (2010)	39	126	30.95
Sesli (1999)	19	40	47.50
Sesli (1993)	26	64	40.63
Türkekul (2003)	27	59	45.76
Türkekul and Zülfükaroğlu (2010)	30	51	58.82
Baydar and Sesli (1994)	12	42	28.57
Pekşen and Karaca (2000)	38	72	52.78
Pekşen and Karaca (2003)	85	169	50.30

References

- Akata I, Halıcı MG, Uzun Y (2011). Additional macrofungi records from Trabzon province for the mycobiota of Turkey. *Turk J Bot* 35: 309–314.
- Akata I, Kaya A (2013). Three pyronemataceous macrofungi genera, new to Turkish Mycota. *Turk J Bot* 37: 977–980.
- Akata I, Kaya A, Uzun Y (2012). New Ascomycete records for Turkish macromycota. *Turk J Bot* 36: 420–424.
- Baydar S, Sesli E (1994). The macromycetes determined in Akçaabat District of Trabzon Province. *Turk J Bot* 18: 99–101.
- Breitenbach J, Kränzlin F (1984–2000). *Fungi of Switzerland, Volumes 1–5*. Lucerne, Switzerland: Verlag Mykologia.
- Calonge FD (1998). *Gasteromycetes, I. Lycoperdales, Nidulariales, Phallales, Sclerodermatales, Tulostomatales*. Vol. 3. Madrid, Spain: Flora Mycol Iberica.
- Cannon PF, Kirk PF (2007). *Fungal Families of the World*. Wallingford, UK: CAB International.
- Davis PH (1965). *Flora of Turkey and the East Aegean Islands, Vol. 1*. Edinburgh, UK: Edinburgh University Press.
- Demirel K, Erdem O, Uzun Y, Kaya A (2010). Macrofungi of Hatila Valley National Park (Artvin, Turkey). *Turk J Bot* 34: 457–465.
- Doğan HH, Aktaş S, Öztürk C, Kaşık G (2012). Macrofungi distribution of Cocakdere valley (Arslanköy, Mersin). *Turk J Bot* 36: 83–94.
- Güngör H, Alı H, Işıloğlu M (2013). Three new macrofungi records for Turkey. *Turk J Bot* 37: 411–413.
- Hansen L, Knudsen H (1992–2000). *Nordic Macromycetes: Polyporales, Boletales, Agaricales, Russulales, Volumes 1–3*. Copenhagen, Denmark: Nordsvamp.
- Heilmann-Clausen J, Verbeken A, Vesterholt J (1998). *The Genus Lactarius (Fungi of Northern Europe)*, Vol. 2. Copenhagen, Denmark: Danish Mycological Society.
- Kaya A (2009). Macrofungal diversity of Adıyaman Province (Turkey). *Mycotaxon* 108: 31–34.
- Kaya A, Uzun Y, Keleş A, Demirel K (2010). Three coprinoid macrofungi taxa, new to Turkey. *Turk J Bot* 34: 351–354.
- Kirk PF, Cannon PF, Minter DW, Stalpers JA (2008). *Dictionary of the Fungi*. 10th ed. Wallingford, UK: CAB International.
- Kränzlin F (2005). *Fungi of Switzerland, Vol. 6. Russulaceae*. Lucerne, Switzerland: Verlag Mykologia.
- Medardi G (2006). *Ascomyceti d'Italia*. Trento, Italy: Centro Studi Micologici (in Italian).
- Pegler DN, Laessle T, Spooner BM (1995). *British Puffballs, Earthstars and Stinkhorns: An Account of the British Gasteroid Fungi*. Kew, UK: Royal Botanic Gardens.
- Pegler DN, Roberts PJ, Spooner BM (1997). *British Chanterelles and Tooth Fungi*. Kew, UK: Royal Botanic Gardens.
- Pekşen A, Karaca GH (2000). Hacısman ormanı (Samsun) makromantarları. *Ot Sistematiik Botanik Dergisi* 7: 211–218 (in Turkish).
- Pekşen A, Karaca GH (2003). Macrofungi of Samsun Province. *Turk J Bot* 27: 173–184.
- Ryvarden L, Gilbertson RL (1993). *Synopsis Fungorum, Volumes 6–7. European Polypores, Parts 1–2*. Oslo, Norway: Fungiflora.
- Sesli E (1993). Trabzon ili Maçka yöresi makrofungusları. *Turk J Bot* 17: 179–182 (in Turkish).
- Sesli E (1998a). Ten new records of macrofungi for Turkey. *Turk J Bot* 22: 43–50.
- Sesli E (1998b). Four interesting records of Pezizales of the macrofungal flora of Turkey. *Turk J Bot* 22: 289–293.
- Sesli E (1999). A5 (Samsun-Bafra) ve A6 (Ordu) karelerinde saptanan makrofunguslar. *Ot Sistematiik Botanik Dergisi* 6: 89–94 (in Turkish).
- Sesli E (2007). Preliminary checklist of macromycetes of the East and Middle Black Sea regions of Turkey. *Mycotaxon* 99: 71–74.

- Sesli E (2014). Studies on new fungal records for Turkish Mycota from Trabzon. Turk J Bot 38: 608–616.
- Sesli E, Denchev CM (2008). Checklists of the myxomycetes, larger ascomycetes, and larger basidiomycetes in Turkey. Mycotaxon 106: 65–67 (complete version, 1–138, new version uploaded in January 2012).
- Solak MH, Allı H, Işılođlu M, Güngör H, Kalmıř E (2014). Contributions to the macrofungal diversity of Antalya Province. Turk J Bot 38: 386–397.
- Solak MH, Işılođlu M, Kalmıř E, Allı H (2007). Macrofungi of Turkey, Vol. 1. İzmir, Turkey: Üniversiteliler Ofset (in Turkish).
- Türkecul İ (2003). A contribution to the fungal flora of Tokat Province. Turk J Bot 27: 313–320.
- Türkecul İ, Zülfükarođlu E (2010). Macrofungi flora of Çamlıbel town (Tokat). Sakarya University Fen Edebiyat Fakültesi Dergisi 1: 55–63.
- Türkođlu A, Castellano MA (2013). New records of truffle fungi (Basidiomycetes) from Turkey. Turk J Bot 37: 970–976.
- Türkođlu A, Yađız D (2012). Contributions to the macrofungal diversity of Uřak Province. Turk J Bot 36: 580–589.
- Uzun Y, Keleř A, Demirel K (2006). Contributions to the macrofungi flora of Gümüşhane Province. Turk J Bot 30: 39–46.