

## New records for Turkish macromycota

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**Abstract.** This study is based on the macrofungal specimens collected from West Anatolia between 2003 and 2004. Three species identified among these specimens have been recorded for the first time in Turkey. These species are described and illustrated.

**Key words:** macromycota, taxonomy, Turkey

### Introduction

West Anatolia is located in a region possessing a Mediterranean climate. So, typical Mediterranean plants including *Pinus brutia* Ten. and *Quercus ilex* L. and *Q. coccifera* L. are widespread in the region. Because of the suitable climate and the type of common vegetation, the region has a rich macromycota.

Many investigations on the macrofungi of Turkey have been completed in recent years and these are still being continued (Demirel & Nacar 2000; Gezer 2000; Kaya 2000, 2001; Mat 2000; Hüseyinov *et al.* 2001; Kaşık *et al.* 2001, 2002, 2003a, b; Demirel *et al.* 2002, 2003; Öztürk *et al.* 2002, 2003; Solak & Yılmaz 2002; Solak *et al.* 2002, 2003; Yılmaz & Işıloğlu 2002; Aktaş *et al.* 2003; Doğan *et al.* 2003; Pekşen & Karaca 2003; Türkekul 2003; Afyon & Yağız 2004; Kaya *et al.* 2004; Uzun *et al.* 2004; Yılmaz Ersel & Solak 2004a, b). However, all of the mushrooms growing in different parts of Turkey have not been determined. About 300 articles by many scientists between 1932 and 2004 have been produced. As a result of these studies, approximately 1400 species of macrofungi have been documented in Turkey (The Turkish Macrofungi Data Base is still ongoing).

Specimens collected during field trips from West Anatolia between 2003 and 2004 have been identified. By examining the previous studies, three species among the identified specimens have been found for the first time in Turkey: *Hebeloma candidipes*, *H. collariatum*, and *Clitocybe vibecina*.

### Materials and Methods

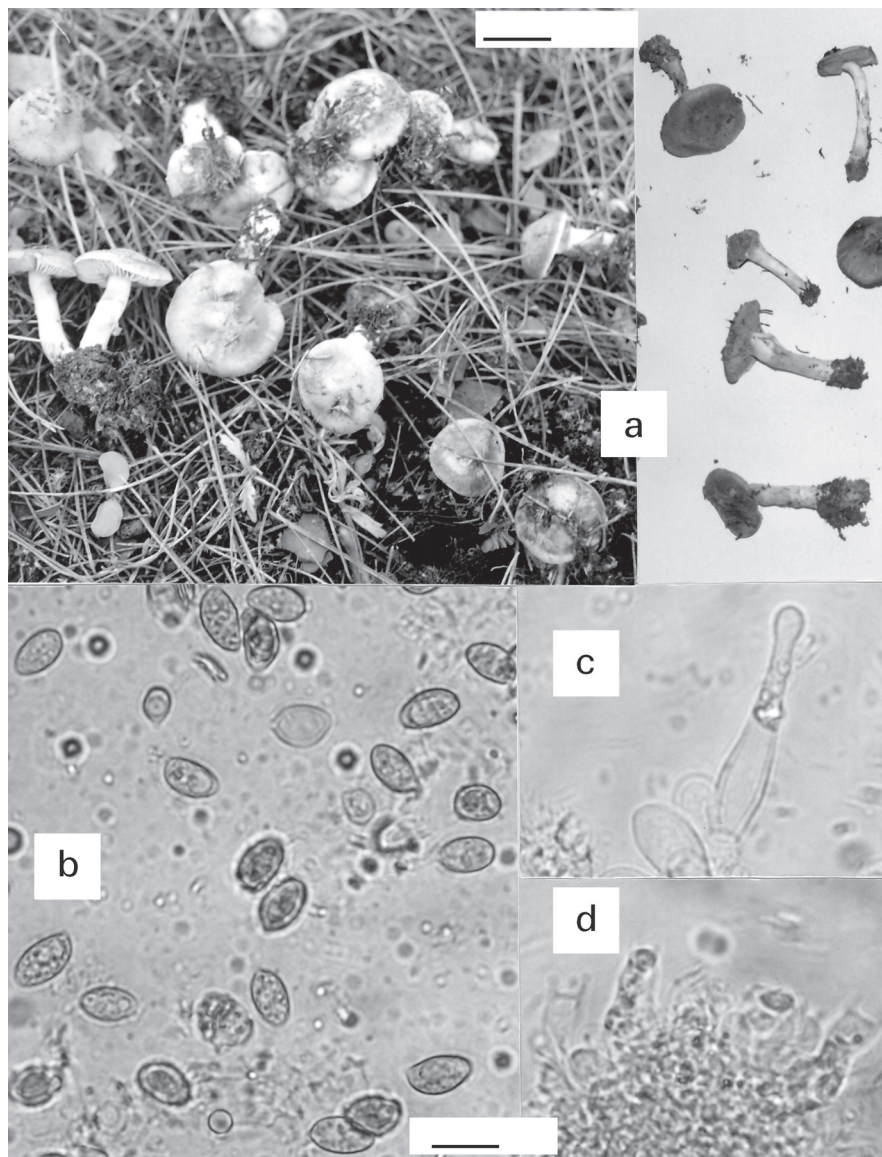
The morphological and ecological characteristics of collected specimens were recorded and they were photographed in their natural habitats. The fungal specimens were brought to the laboratory. Their spore prints were taken and the spores were photographed through a microscope. Dried specimens were numbered and placed in closed bags. In addition, they had been put in a deep freezer for a week to protect against internal and external parasite attacks. The specimens were identified by the use of reference books (Moser 1983; Breitenbach & Kränzlin 1991, 2000). All specimens are being kept currently at the fungarium of Muğla University.

### New records

*Hebeloma candidipes* Bruchet (Fig. 1)

**Pileus** 20-40 mm across, conical, later convex to plane with a small umbo, surface deep gray brown when young, later fading to the margin, silky and somewhat viscid when moist, dull when dry, with white zone in margin. **Flesh** whitish, later light brown, thin, odor raphanoid, taste bitter. **Lamellae** whitish when young, later beige brown, broad, narrowly attached. **Stipe** 40-60 × 4-7 mm, cylindrical, flexible, solid when young, hollow when old, surface white, later brownish in base, longitudinally fibrillose, with an annular zone. **Spores** 10-12.5 × 6-7.5 µm, amygdaliform, weakly verrucose. **Basidia** slenderly clavate, with 4 sterigmata and basal clamp. **Cheilocystidia** cylindrical with a ventricose base.

Fig. 1. *Hebeloma candidipes*: a – basidiomata, b – spores, c – cheilocystidia, d – basidia. Bars = 2 cm for basidiomata, and 10  $\mu$ m for spores, cheilocystidia, and basidia



Habitat: gregarious in coniferous forests near *Pinus*.

*Specimen examined*: Muğla, Yaraş, near the Horoz stream, 3 Dec 2004, FY (2381).

*Hebeloma collariatum* Bruchet (*H. subcaespitosum* Bon, *H. versipelle* ss. Konr. & Maubl.) (Fig. 2)

**Pileus** 15-30 mm across, hemispherical when young, later convex to plane and slightly indented in the center, surface smooth, dull, hazel brown, darker and grading toward orange-brown in the center, beige toward the margin, with whitish velar fibrils attached when very young. **Flesh** whitish to cream colored, thin, odor raphanoid, taste bitter. **Lamellae** light gray-brown when young, later hazel brown, broad, edges whitish ciliate. **Stipe** 25-45  $\times$  4-6 mm cylindrical, flexuous, sometimes twisted, solid when young, later hollow, surface whitish, later browning, apex white-pruinose, longitudinally whitish-fibrillose below. **Spores** 11-15  $\times$  6-7.5  $\mu$ m, elliptical,

weakly verrucose. **Basidia** clavate, with 4 sterigmata and a basal clamp. **Cheilocystidia** slenderly lageniform.

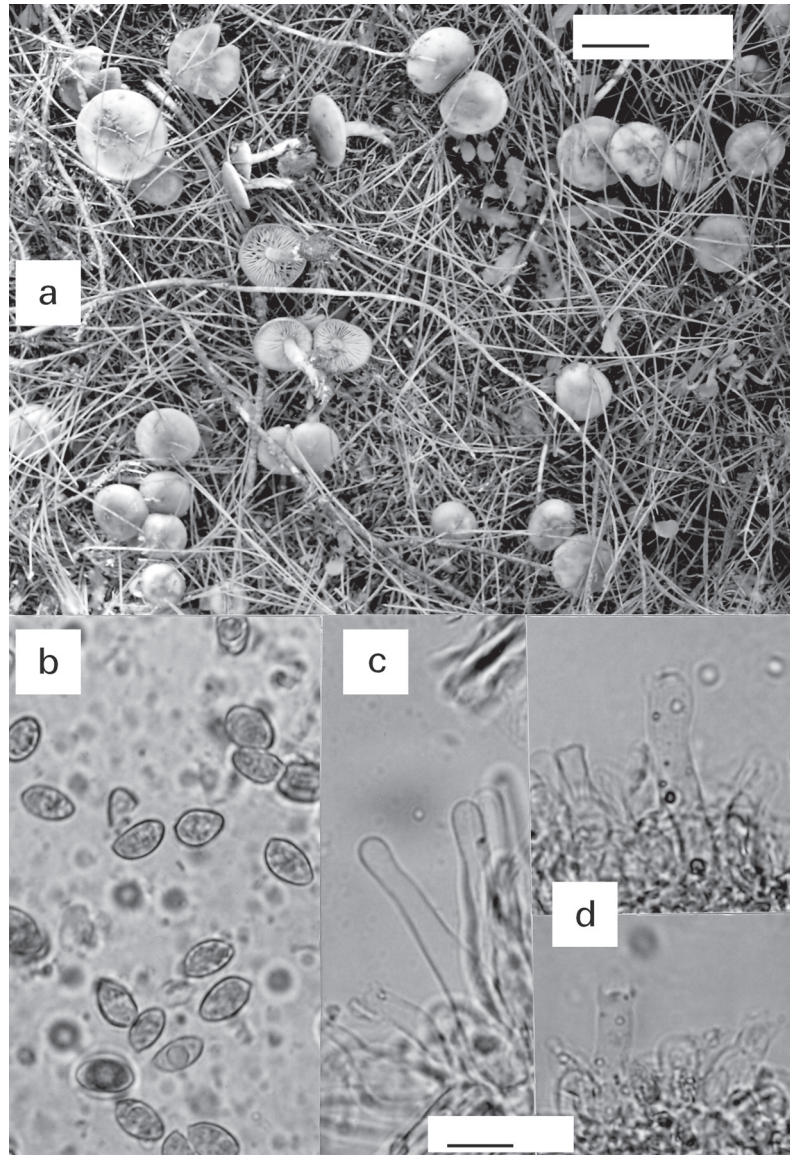
Habitat: gregarious in open of coniferous forests and wet places.

*Specimen examined*: Muğla, Yaraş, near the Horoz stream, 3 Dec 2004, FY (2380).

*Clitocybe vibecina* (Fr. : Fr.) Quél. [*C. langei* Sing., *C. pausiaca* (Fr.) Gill.] (Fig. 3)

**Pileus** 20-50 mm across, planoconvex with an obtuse umbo when young, soon depressed and infundibuliform, surface shiny, butyraceous, striate, hygrophanous, grayish to beige brown when moist, beige when dry. **Flesh** thin, odor barely to faintly farinaceous, taste mild. **Lamellae** grayish-beige, broad, strongly decurrent, edges smooth. **Stipe** 30-60  $\times$  4-8 mm, cylindrical to somewhat conic, surface with whitish longitudinal fibrils, pale beige, solid when young, hollow when old, fragile, base whitish-tomentose. **Spores** 5-

**Fig. 2.** *Hebeloma collariatum*: **a** – basidiomata, **b** – spores, **c** – cheilocystidia, **d** – basidia. Bars = 2 cm for basidiomata, and 10  $\mu$ m for spores, cheilocystidia, and basidia



6.5  $\times$  3–4  $\mu$ m, elliptic, smooth, hyaline, with drops. **Basidia** slenderly clavate, with 4 sterigmata and basal clamp. **Cystidia** not seen.

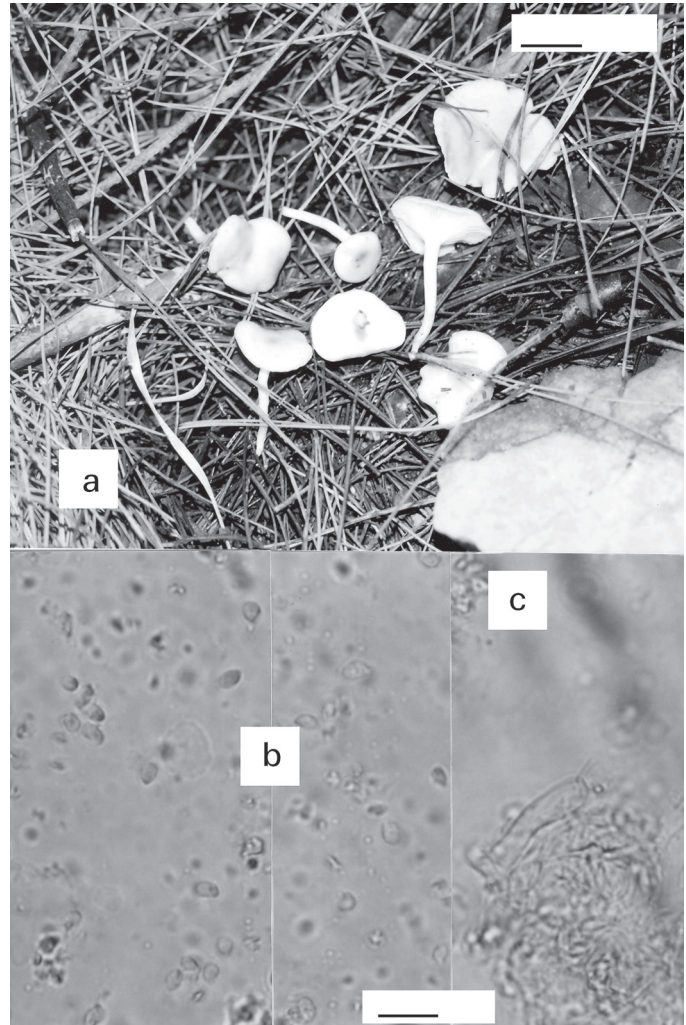
**Habitat:** in coniferous forest, on needle litter.

**Specimen examined:** Muğla, Yaraş, Yeniköy village, 19 Oct 2004, FY (2321).

## References

- Afyon, A. & Yağız, D. 2004. Macrofungi of Sinop Province. – Turkish Journal of Botany 28: 351-360.
- Aktaş, S., Öztürk, C., Kaşık, G., Sabahlar, Ş. & Doğan, H.H. 2003. Macrofungi flora of Bozkır District (Konya). – Turkish Journal of Botany 27: 37-43.
- Breitenbach, J. & Kränzlin, F. 1991. Fungi of Switzerland. Vols 3(1) & 3(2). Verlag Mykologia, Luzern.
- Breitenbach, J. & Kränzlin, F. 2000. Fungi of Switzerland. Vol. 5. Verlag Mykologia, Luzern.
- Demirel, K. & Nacar, M. 2000. Macrofungi of Çemişgezek (Tunceli) District. – Hacettepe Bulletin of Natural Sciences and Engineering, Series A, 29:1-7.
- Demirel, K., Uzun, Y. & Kaya, A. 2002. Macrofungi of Ağrı Province. – Turkish Journal of Botany 26: 291-295.
- Demirel, K., Kaya, A. & Uzun, Y. 2003. Macrofungi of Erzurum Province. – Turkish Journal of Botany 27: 29-36.
- Doğan, H.H., Öztürk, C., Kaşık, G. & Aktaş, S. 2003. New records for the mycoflora of Turkey from Mut environ. – Ot Sistematik Botanik Dergisi 10(2): 197-211.
- Gezer, K. 2000. Contributions to the macrofungi flora of Antalya Province. – Turkish Journal of Botany 24: 293-298.
- Huseyinov, E., Selçuk, F. & Aslantaş, I. 2001. Some data on agaricoid fungi from Sivas Province (Turkey). – Mikologia & Fitopatologia 35(4): 29-33.
- Kaşık, G., Öztürk, C. & Toprak, E. 2001. Macrofungi of Niğde Province (Turkey). – Ot Sistematik Botanik Dergisi 8(2): 137-142.

Fig. 3. *Clitocybe vibecina*: a – basidiomata, b – spores, c – basidium. Bars = 2 cm for basidiomata, and 10 µm for spores and basidium



- Kaşık, G., Öztürk, C., Türkoğlu, A. & Doğan, H.H. 2002. Macrofungi flora of Yeşilhisar District (Kayseri). – *Ot Sistematik Botanik Dergisi* 9(2):123-134.
- Kaşık, G., Doğan, H.H., Öztürk, C. & Aktaş, S. 2003a. New records of Tricholomataceae and Cortinariaceae for Turkish macrofungi flora from Alanya (Antalya) district. – *Ot Sistematik Botanik Dergisi* 10(1): 143-168.
- Kaşık, G., Öztürk, C. Türkoğlu, A. & Doğan, H.H. 2003b. Macrofungi of Yahyalı (Kayseri) Province. – *Turkish Journal of Botany* 27: 453-462.
- Kaya, A. 2000. New records of Tricholomataceae for the mycoflora of Turkey. – *Bulletin of Pure and Applied Sciences* 19B(2): 77-81.
- Kaya, A. 2001. Contributions to the macrofungi flora of Bitlis Province. – *Turkish Journal of Botany* 25: 379-383.
- Kaya, A., Akan, Z. & Demirel, K. 2004. A checklist of macrofungi of Besni (Adıyaman) District. – *Turkish Journal of Botany* 28: 247-251.
- Mat, A. 2000. Poisonous mushrooms and mushroom poisonings in Turkey. Nobel Tıp Press, İstanbul.
- Moser, M. 1983. Keys to agarics and boleti. Gustav Fisher Verlag, Stuttgart.
- Öztürk, C., Doğan, H.H. Aktaş, S. & Kaşık, G. 2002. New records for the macrofungi flora of Turkey from Ahırılı and Yalıhüyük districts (Konya). – *Ot Sistematik Botanik Dergisi* 9(2):135-148.
- Öztürk, C., Kaşık, G., Doğan, H.H. & Aktaş, S. 2003. Macrofungi of Alanya District. – *Turkish Journal of Botany* 27: 303-312.
- Pekşen, A. & Karaca, G. 2003. Macrofungi of Samsun Province. – *Turkish Journal of Botany* 27: 173-184.
- Solak, M.H. & Yılmaz, F. 2002. Contributions to the macrofungi flora of Manisa Province. – *Ecology* 10(43): 30-32.
- Solak, M.H., Yılmaz Ersel, F., Gücin, F. & Işıloğlu, M. 2002. Macrofungi of Balıkesir Province from Turkey. – *Bio-Science Research Bulletin* 18(2): 137-149.
- Solak, M.H., Gücin, F., Yılmaz, F. & Işıloğlu, M. 2003. Some macrofungi from Çanakkale Province. – *Ot Sistematik Botanik Dergisi* 10(1): 97-109.
- Türkekul, İ. 2003. A contribution to the fungal flora of Tokat Province. – *Turkish Journal of Botany* 27: 313-320.
- Uzun, Y., Keleş, A., Demirel, K. & Solak, M.H. 2004. Some macrofungi from Bayburt Province in Turkey. – *Bulletin of Pure and Applied Sciences* 23(1): 47-55.
- Yılmaz, F. & Işıloğlu, M. 2002. Macrofungi of Değirmenboğazı (Balıkesir). – *Turkish Journal of Botany* 26: 161-164.
- Yılmaz Ersel, F. & Solak, M.H. 2004a. Contributions to the Macrofungi of İzmir Province. – *Turkish Journal of Botany* 28: 487-490.
- Yılmaz Ersel, F. & Solak, M.H. 2004b. Three New Records for the Turkish Macromycota. – *Ecology* 13(52): 7-8.