

Weddellomyces pertusariicola (Ascomycota, Dacampiaceae), a new species growing on *Pertusaria lactea* in Turkey

Mehmet Gökhan Halıcı

Erciyes Üniversitesi, Fen Edb. Fak. Biyoloji Bölümü, 38039, Kayseri, Turkey (mghalici@erciyes.edu.tr)

Received 6 Feb. 2009, revised version received 2 Mar. 2009, accepted 5 Mar. 2009

Halıcı, M. G. 2010: *Weddellomyces pertusariicola* (Ascomycota, Dacampiaceae), a new species growing on *Pertusaria lactea* in Turkey. — *Ann. Bot. Fennici* 47: 148–150.

Weddellomyces pertusariicola Halıcı (Ascomycota, Dacampiaceae) is described as new from the thallus of *Pertusaria lactea* on siliceous rocks in the East Black Sea Region of Turkey. It is the first known species of *Weddellomyces* on *Pertusaria* and differs from most other species of the genus by smooth-walled, shorter and narrower ascospores. The host lichen was also infected by *Taeniolella pertusariicola*.

Key words: cephalothecoid exciple, lichenicolous fungi, morphology, taxonomy

The genus *Weddellomyces*, described by Hawksworth (1986), comprises 14 species (including the new species described here) occurring on saxicolous lichens. The delimitation of the genus and its differentiation from other genera was discussed by Navarro-Rosinés and Roux (1995). A key to eight species was provided by Calatayud and Navarro-Rosinés (1998), but they did not include *W. periphericus* and *W. tartaricola*, as those species do not share the general features of the genus. Recently, *W. turcicus* was described on a grey *Acarospora* on calcareous rocks by Halıcı *et al.* (2005) and *Phaeospora gasparrinia* was transferred to the genus *Weddellomyces* by Hawksworth and Iturriaga (2006), because of the presence of interascal filaments and thick-walled, brown 3-septate ascospores constricted at the septa, mentioned in its original description.

During a field excursion in the East Black Sea Region of Turkey in 2008, I collected a

lichenicolous *Weddellomyces* specimen on the thallus of *Pertusaria lactea*, which clearly differs from the other species of the genus and is described here as new to science. The host lichen is also infected by the lichenicolous *Taeniolella pertusariicola*, which was subsequently reported as new for Turkey (Halıcı 2008).

The specimens were examined with an Olympus BH-2 research microscope fitted with Nomarski differential interference contrast optics and a drawing tube. Photomicrographs were prepared on an Olympus Altra 20 Soft Imaging System. Sections were prepared by hand and examined in Lugol's iodine, with [K/I] or without [I] pre-treatment with 10% KOH, 10% KOH alone, and water. Ascospore measurements were made in water and are given in the following sequence: (min)–[mean – SD]–*mean*–[mean + SD]–(max). Length/breadth ratios of ascospores are given in the same way.

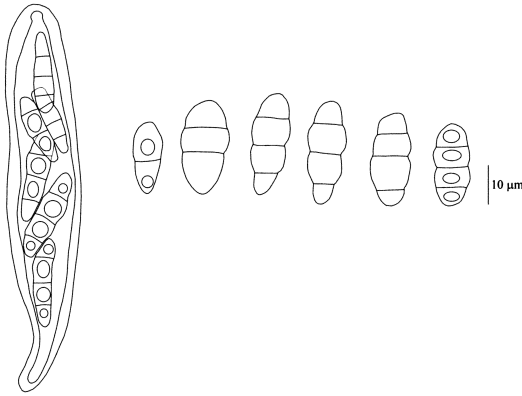


Fig. 1. *Weddellomyces pertusariicola* (holotype). Ascus and ascospore outlines.

Weddellomyces pertusariicola Halici, *sp. nova* (Figs. 1 and 2)

Mycobank No: 513050

Fungus lichenicola. Ascomata globosa, 400–600 μm diam., nigra. Excipulum superum ex segmentis cephalothecoidibus constructum. Hamathecium ex hyphis ramosis, anastomosantibus et septatis compositum. Asci maturi 4(–6)-spori. Ascosporae brunneae, 3-septatae, (21–)21.5–23.5–25.5(–26) × 8–8.7–9.4(–10) μm.

TYPE: Turkey. Trabzon: Of District, Uzungöl, 40°37.1'N, 40°16.9'E, 1250 m, 30.IX.2008 *M. G. Halıcı 0.4629* (holotype: herbarium of Erciyes University, Science & Art Faculty, Biology Department, Kayseri).

Lichenicolous, on thallus of *Pertusaria lactea*. Ascomata perithecioid, black, matt, scattered in host thallus, at early stage immersed, later slightly erumpent, apex visible through an irregularly shaped split in host cortex, globose, 400–600 μm diam. Exciple in surface view of polygonal cephalothecoid plates 20–90 × 20–45 μm, comprising dark pigmented areas separated by pale areas, plates becoming indistinct in lower part of exciple; in vertical section exciple 20–40 μm wide laterally and basally, 40–60 μm thick near apex; cells slightly tangentially compressed, mostly 6–13 × 4–11 μm, walls 1–2.5 μm thick. Hamathecium of richly branched and anastomosing interascal filaments, ca. 3 μm thick, without periphyses, K/I–, I–. Asci cylindrical or largely cylindrical clavate, (75–)78.7–

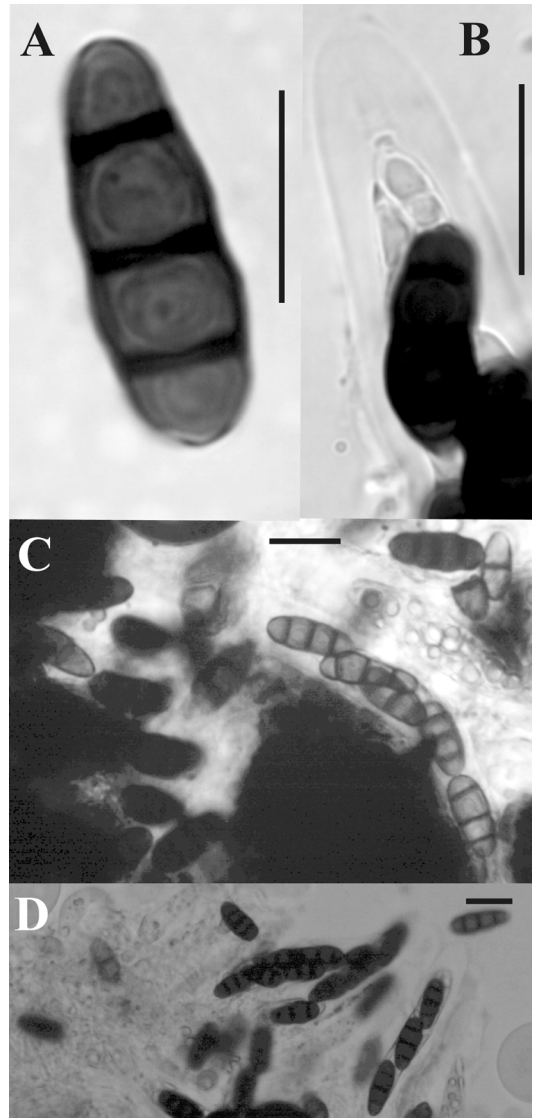


Fig. 2. *Weddellomyces pertusariicola* (holotype). — **A:** Ascospore (scale = 15 μm). — **B:** Ascus, showing the ocular chamber (scale = 15 μm). — **C:** 6-spored ascus (scale = 20 μm). — **D:** 4-spored and 6-spored asci (scale = 20 μm).

86.8–94.9(–95) × (14–)15.3–17.2–19 μm ($n = 24$), initially up to 8-spored, but 4(–6)-spored at maturity, wall gradually thickened towards apex, I–, ocular chamber present. Ascospores (1–)3-septate, (21–)21.5–23.5–25.5(–26) × 8–8.7–9.4(–10) μm ($n = 42$), length/breadth ratio (2.2–)2.4–2.7–3.0(–3.1); brown, terminal cells concolorous with central cells, surface smooth, non-halonate,

slightly constricted at septa, uniseriate or irregularly biseriolate.

Weddellomyces pertusariicola seems to be pathogenic as the cortex of the host thallus (*Pertusaria lactea*) is damaged in the infected parts. This needs to be confirmed when further collections become available. The host thallus is also infected by *Taeniolella pertusariicola*, which was the first report of this species from Turkey (Halıcı 2008). *Weddellomyces pertusariicola* is only known from the East Black Sea Region of Turkey, where an oceanic climate prevails at the altitude of 1250 m. As the host lichen has a wide distribution on siliceous rocks in the northern hemisphere, *W. pertusariicola* should be searched for also elsewhere.

Weddellomyces pertusariicola is the first member of the genus recognized on *Pertusaria*. It is characterised by having smooth-walled and smaller ascospores than most other species in the genus. The ascospore size of *W. pertusariicola* is most similar to that of *W. xanthoparmeliae* [(22–)23–25.8–30(–32) × (7–)8–8.5–9(–10) μm] (Calatayud & Navarro-Rosinés 1998) and *W. pachyosporicola* [(20–)21–23.8–26(–30) × (7–)8–8.7–9.5(–10) μm] (Navarro-Rosinés & Roux 1995). *Weddellomyces pachyosporicola* was described on the thallus of *Aspicilia coronata*; it differs from *W. pertusariicola* in having markedly granulose-verrucose ascospores and constantly (4–)8-spored asci (Navarro-Rosinés & Roux 1995, Calatayud & Navarro-Rosinés 1998). *Weddellomyces xanthoparmeliae*, the only species of the genus that is known to

grow on a foliose lichen genus (*Xanthoparmelia*; Calatayud & Navarro-Rosinés 1998, Kocourková 1999) has smaller ascomata (200–400 μm), and constantly 8-spored and longer asci (110–145 μm) (Calatayud & Navarro-Rosinés 1998).

Acknowledgements

I thank Okan Sezer and Mahmut Buğra Sert for their help in preparing the figures.

References

- Calatayud, V. & Navarro-Rosinés, P. 1998: *Weddellomyces xanthoparmeliae* sp. nov. and additions to the chorology of other species of the genus. — *Mycotaxon* 69: 503–514.
- Halıcı, M. G. 2008: A key to the lichenicolous *Ascomycota* (including mitosporic fungi) of Turkey. — *Mycotaxon* 104: 253–286.
- Halıcı, M. G., Orange, A. & Aksoy, A. 2005: *Weddellomyces turcicus*, a new species on a grey *Acarospora* from Turkey. — *Mycotaxon* 94: 249–252.
- Hawksworth, D. L. 1986: Notes on British lichenicolous fungi V. — *Notes from The Royal Botanical Garden* 43: 497–519.
- Hawksworth, D. L. & Iturriaga, T. 2006: Lichenicolous fungi described from Antarctica and the sub-Antarctic islands by Carroll W. Dodge (1895–1988). — *Antarctic Science* 18: 291–301.
- Kocourková, J. 1999: Lichenicolous fungi from the Czech Republic. 1. *Weddellomyces xanthoparmeliae* Calatayud et Nav.-Ros. — *Czech Mycology* 51: 179–184.
- Navarro-Rosinés, P. & Roux, C. 1995: Le genre *Weddellomyces* (*Dothideales*, *Dacampiaceae*) en Catalogne et en Provence. — *Mycotaxon* 53: 161–187.