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Amaurodon mustialaënsis (Basidiomycota, Thelephoraceae) new to Italy

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Abstract: *Amaurodon mustialaënsis* is reported for the first time from Italy. Based on Italian specimens, a brief description, microscopical and macroscopical photographs, ecological and distributional data of this rare taxon are presented.

INTRODUCTION

Amaurodon J. Schröter includes ten species distributed worldwide. *Amaurodon* is not recognized by Stalpers (1993) as a thelephoroid genus, but Kõljalg (1996) and Larsson et al. (2004) confirmed its classification among *Thelephorales* Corner ex Oberw. as a distinct monophyletic genus. *Amaurodon* belongs to the group of resupinate *Thelephorales* together with three other genera, *Tomentellopsis* Hjortstam, *Pseudotomentella* Svrček and *Tomentella* Pers. ex Pat. (Kõljalg 1996). Resupinate *Thelephorales* includes about 100 species (Kirk et al. 2008). *A. acquicoeruleus* Agerer has been reported only from Japan (Agerer and Bougher, 2001) and is characterized by the presence of bluish spores in water. *A. angulisporus* Gardt & Yorou was recently reported from Togo and Burkina Faso (West Africa), characterized by pale blue spores in water (Gardt et al., 2011). Within the genus *Amaurodon* only *A. viridis* (Alb. & Schwein.) J. Schröt. has previously been recorded in Italy (Saitta et al., 2011). *A. mustialaënsis* (P. Karst.) Kõljalg & K.H. Larss. is easily recognizable microscopically for the smooth basidiospores, and macroscopically it differs from the widely distributed *A. viridis* by virtue of a quite smooth hymenophore, or the presence of very rare warts.

MATERIALS & METHODS

Basidiomata were identified while fresh and microscopic features were observed in H_2O, 3% KOH solution, Melzer's reactive, and Cotton blue in lactic acid, using a Leica microscope DMLB. Spore measurements were based on 50 observations of dried specimens. Nomenclature follows Mycobank (http://www.mycobank.org). The description is based on personal observations of fresh and dried specimens. The specimens are kept in the fungal dried reference collection of the recently established mycological herbarium of the new Department of Agricultural and Forest Sciences (activated by the University of Palermo on 2014), provisional numbers SAF 003, SAF 004.

RESULTS

Identification

Amaurodon mustialaënsis (P. Karst.) Kõljalg & K.H. Larss. (Figs 1–2).

Basidiomata annual, resupinate, continuous, arachnoid, pellicular, up to 8 cm in diam., fragile and easily separable from the substrate. Hymenophoral surface, smooth or slightly granulose, bluish in the fresh specimens, green-yellow when dried. Margin sterile, white, arachnoid. Subiculum thin, white-greyish.

Hyphal system monomitic. Subicular hyphae cylindrical, thin-walled, 2.2–4 µm wide, with clamps. Subhymenial hyphae with clamps, 2.5–4 µm wide, thin-walled.

Basidia tetrasporic, basally clamped, utriform, often attenuated, 22–30 × 4.5–5.5, sterigmata 1.8–2.7 µm long. Basidiospores thick-walled, smooth, (4.5–)4.8–5.2 × 3.5–4 (–4.2) µm, subglobose to ellipsoid in lateral and frontal face, apiculus prominent , with a violet reaction after few seconds in 3% KOH solution, hyaline in water.

Specimen studied: Italy, Appennino Lucano, Abetina di Laurenzana, Laurenzana, Potenza, 40.41267°N, 15.96197°E, on the bark of a fallen trunk of *Abies alba* Mill. in a mixed forest of *A. alba* and *Fagus sylvatica* L., 1200 m a. s. l., 31 Oct 2012, coll. A. Saitta & A. La Rosa (SAF 003; SAF 004).

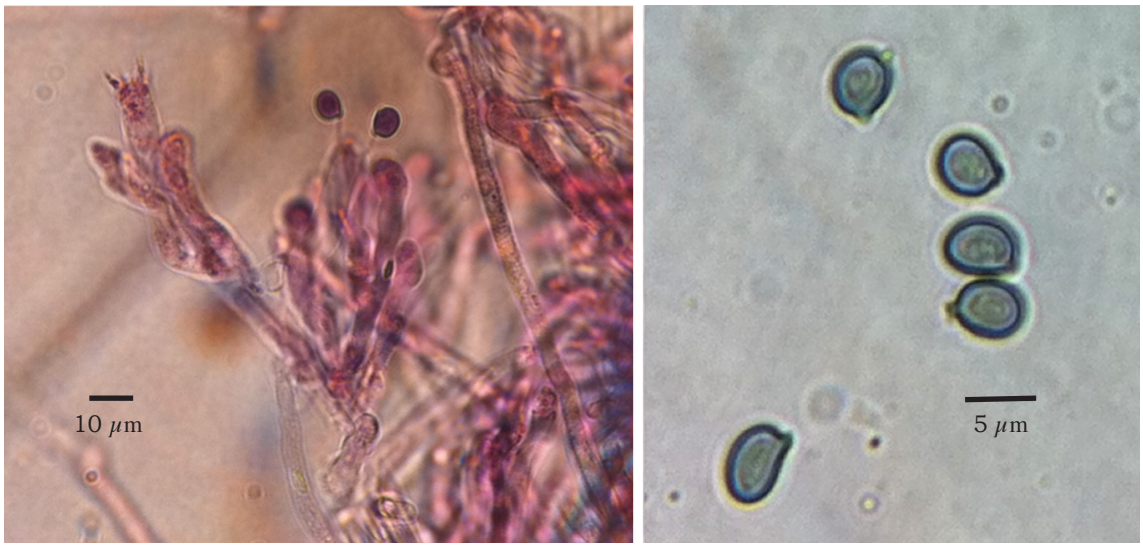

Fig. 1. Basidia and spores of *Amaurodon mustialaënsis*

Fig. 2. Basidiomata of *Amaurodon mustialaënsis*

DISCUSSION

Distinctly smooth subglobose basidiospores are reported within the genus *Amaurodon* only for *A. mustialaënsis*. The other nine known *Amaurodon* species have echinulate spores which are hyaline or bluish in KOH. Among these *A. viridis* is widely distributed in the Mediterranean region and is common in oak woodlands, especially in *Quercus ilex* L. communities.

A. mustialaënsis is included in the Danish (DD), Estonian (CR) and Swedish (DD) Red List of threatened fungi. The basidiomata were collected on degraded wood of *Abies alba* (with white rot) in a mixed forest of *A. alba* and *F. sylvatica*.

A. mustialaënsis is rare but widely distributed in the Northern Hemisphere (Kõljalg, 1996). The European distribution is limited to Denmark, Estonia, Finland, France, Germany, Russia, Slovakia, Spain, Sweden, and the United Kingdom (http://data.gbif.org/occurrences/125717190/, http://data.gbif.org/occurrences/125717190/, Bourdot & Galzin, 1928; Wakefield, 1952; Jülich, 1984; Gärdenfors, 2005; Melo et al., 2006; Čížek et al., 2007; Pérez-Gorjón et al., 2008; Shiryaev, 2008; Kotiranta & Saarenoksa, 2009), Armenia and Dagestan in Asia (Kõljalg, 1996), and Canada and the USA in North America (Gilbertson, 1974; Ginns, 1989).

As reported by Gardt et al. (2011), the genus *Amaurodon* is associated with a wide range of angiosperm and gymnosperm species. Previously it was collected on wood of *Castanea sativa* Mill. (Melo et al., 2006), *Fagus orientalis* Lipsky (Kõljalg, 1996), *Picea abies* (L.) H. Karst. (http://elurikkus.ut.ee), *Platanus orientalis* L. (Kõljalg, 1996), *Populus nigra* L. (Čížek et al., 2007), *Quercus pyrenaica* Willd. (Pérez-Gorjón et al., 2008), and *Quercus robur* L. (Shiryaev 2008).

This first record of *A. mustialaënsis* in Italy widens the knowledge of the distribution and ecology of this rare, or at least seldom collected species in Europe.

The forest "Abetina of Laurenzana" is a relictual forest of *Abies alba* of Appennino Lucano, Southern Italy. This type of vegetation is included in the priority Habitats of Annex I of the Directive 92/43/EEC and its interpretation manual for Italy (Blasi et al., 2007). *A. alba* grows among oak and beech to form consortia that can be framed in the habitat "Apennine beech forests with *Abies alba* and beech forests with *Abies nebrodensis* (*9220)". The "Abetina of Laurenzana" is a Natural Reserve belonging to the "Parco Nazionale dell'Appennino Lucano-Val d'Agri-Lagonegrese".

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