

New records of microfungi from Mt. Strandzha in Bulgaria (south-eastern Europe). I

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Received 6 June 2007 / Accepted 22 July 2007

Abstract. Seventeen species of non-lichenized ascomycetes, anamorphic fungi, and rust fungi are reported for the first time from Mt. Strandzha in Bulgaria. Eight species among them are new records for the fungi in Bulgaria.

Key words: anamorphic fungi, ascomycetes, Bulgaria, fungal diversity, microfungi, Mt. Strandzha, rust fungi

Introduction

In 2005, during field investigations in Mt. Strandzha in Bulgaria, seventeen species of rust fungi, non-lichenized ascomycetes, and anamorphic fungi have been collected and identified. These collections are reported herein. Two species of rust fungi, one species of ascomycetes, and five species of anamorphic fungi (marked by an asterisk in the text) are new records for the fungi in Bulgaria. Four new hosts of previously recorded from Bulgaria species of ascomycetes and anamorphic fungi are also recorded (asterisked in the text). Two species of ascomycetes and three species of anamorphic fungi represent new records for the microfungi of Mt. Strandzha in Bulgaria.

Materials and Methods

Specimens of the fungus were taken to the laboratory and microscopically examined under the Leica compound microscope. Sections were hand cut using a razor blade. The fungi were identified using the relevant literature (Jaczewski 1913, 1917; Grove 1935, 1937; Munk 1957; Shvartsman *et al.* 1971; Kuprevich & Ulyanishchev 1975; Sutton 1980; Teterevnikova-Babayan *et al.* 1983; Sivanesan 1984; Ellis &

Ellis 1987; Vanev *et al.* 1997; Mel'nik 2000; Azbukina 2005). The author abbreviations of fungi are according to Kirk & Ansell (2004). All specimens are deposited in the Mycological Collection of the Arts and Sciences Faculty of Ahi Evran University, Kırşehir, Turkey.

New records

Urediniomycetes

**Puccinia leioderma* Lindr. (Fig. 1)

Aecia 2–3 mm in diam, aeciospores (18–) 22.5–25 × (15–) 17.5–22.5 (–23) µm. Telia 1–3 mm in diam, teliospores 30–34 × 20–22.5 µm.

On living leaves of *Aegopodium podagraria* L. Bulgaria: Bourgas Distr., Mt. Strandzha, Vitanovo Reserve, near Mechi Dol stream, 42°00'180" N, 27°26'642" E, 307 m, 21 Jun 2005.

**Pucciniastrum arcticum* (Lagerh.) Tranzschel (Fig. 2)

Uredinia 100–200 µm in diam, urediniospores 23–27.5 (–30) × (18–) 22.5–25 µm. Telia 0.1–0.3 mm in diam, teliospores (27.5–) 30–35 × 20–21 (–22.5) µm.

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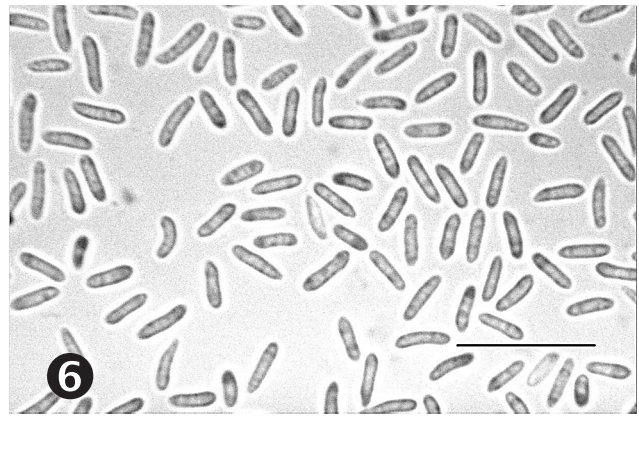
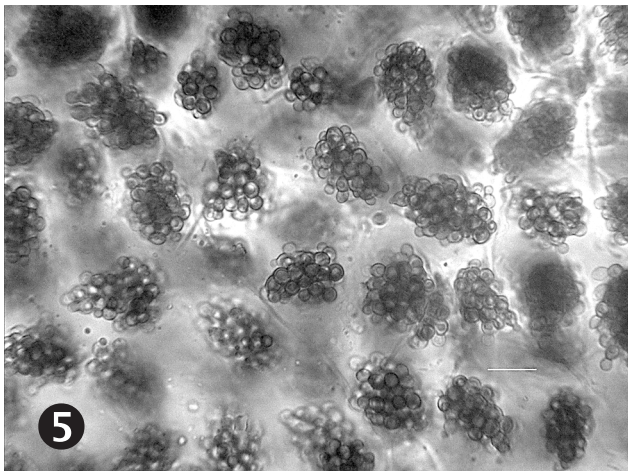
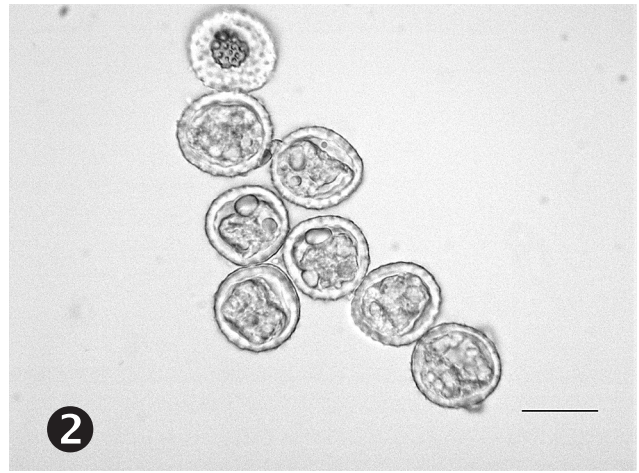
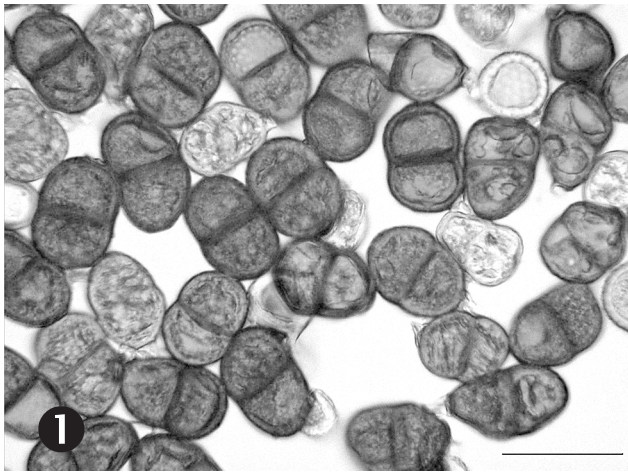
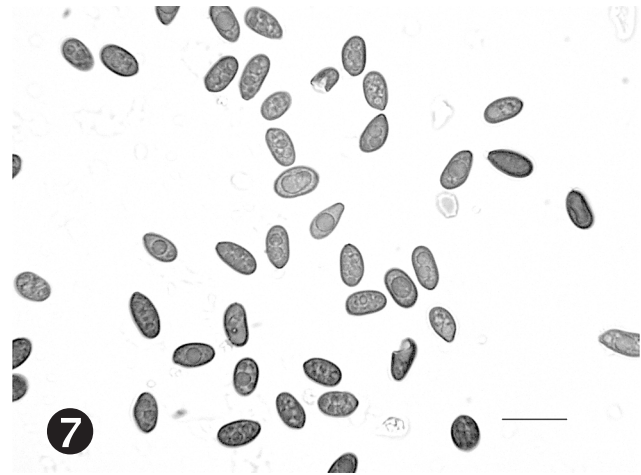


Fig. 1. Aeciospores and teliospores of *Puccinia leioderma*. Scale bar = 25 μ m. Fig. 2. Urediniospores of *Pucciniastrum arcticum*. Scale bar = 20 μ m. Fig. 3. Asci and ascospores of *Hysterium angustatum*. Scale bar = 20 μ m. Fig. 4. Conidia of *Cercospora depazeoides*. Scale bar = 30 μ m. Fig. 5. Compound conidia of *Cheirospora botryospora*. Scale bar = 15 μ m. Fig. 6. Conidia of *Discula campestris*. Scale bar = 10 μ m

Fig. 7. Conidia of *Melanconium stromaticum*. Scale bar = 20 μ m



On living leaves of *Rubus sanctus* Schreber. Bulgaria: Bourgas Distr., Mt. Strandzha, Malko Turnovo, 41°59'560" N, 27°32'967" E, 317 m, 21 Jun 2005.

Non-lichenized ascomycetes

**Eutypella quaternata* (Pers. : Fr.) Rappaz (*Quaternaria persoonii* Tul. & C. Tul.)

Perithecia 600-700 μ m in diam. Asci 50-80 \times 8-10 μ m, ascospores 15-17.5 \times 2.5-3 μ m.

On dead branches of *Fagus orientalis* Lipsky. Bulgaria: Bourgas Distr., Mt. Strandzha, Silkosia Reserve, 42°05'320" N, 27°45'219" E, 277 m, 22 Jun 2005.

Hysterium angustatum Alb. & Schwein. (Fig. 3)

Perithecia 1-3 mm in long and 0.5-0.7 mm in width; asci 75-90 \times 15-16 μ m, ascospores 20-22.5 (-24) \times 5.5-7.5 μ m.

On wood of **Carpinus betulus* L. Bulgaria: Bourgas Distr., Mt. Strandzha, between Gramatikovo-Kondolovo, 42°05'805" N, 27°38'424" E, 266 m, 22 Jun 2005.

Microthyrium ilicinum De Not.

Thyriothecia 150-200 μ m in diam, ostiole 10-20 μ m in diam. Asci 35-45 \times 7.5-8 μ m, ascospores 12.5-15 \times 2.5-3 μ m.

On fallen acorns of *Quercus frainetto* Ten. Bulgaria: Bourgas Distr., Mt. Strandzha, Malko Turnovo, near Chereshata, 41°00'512" N, 27°32'011" E, 460 m, 20 Jun 2005. This is a new species record for Mt. Strandzha in Bulgaria.

Nectria cinnabarina (Tode : Fr.) Fr. (anamorph *Tubercularia vulgaris* Tode : Fr.)

Stroma 1-2 mm in diam, perithecia 200-400 \times 220-300 μ m, asci 70-100 \times 8-12 μ m, ascospores 12.5-18 \times 5-7 μ m. Conidiophores 25-50 \times 1.5-3 μ m, conidia 5.5-8 \times 1.5-3 μ m.

On dead, thick branches of *Carpinus betulus* L. Bulgaria: Bourgas Distr., Mt. Strandzha, entrance of Vitanovo Reserve, Mechi Dol stream, 42°00'505" N, 27°26'721" E, 317 m, 21 Jun 2005. This is a new species record for Mt. Strandzha in Bulgaria.

Podospaera leucotricha (Ellis & Everh.) E.S. Salmon

Cleistothechia 70-95 μ m in diam. Asci 58-67 \times 48-57 μ m, ascospores 21-25 \times 12-15 μ m. Conidia 24-34 \times 13-18 μ m.

On living leaves and offshoot of **Malus sylvestris* (L.) Mill. subsp. *orientalis* (A. Uglitzkich) Browicz, Bulgaria: Bourgas Distr., Mt. Strandzha, entrance of Vitanovo Reserve, Mechi Dol stream, 42°00'457" N, 27°26'733" E, 330 m, 21 Jun 2005.

Anamorphic fungi

**Asteromella quercifolii* C. Massal.

Pycnidia 90-100 μ m in diam, ostiole 20-30 μ m in diam. Conidia 2-2.5 \times 0.5 μ m.

On living leaves of *Quercus petraea* (Mattuschka) Liebl. subsp. *petraea*. Bulgaria: Bourgas Distr., Mt. Strandzha, Malko Turnovo, Chereshata, 42°00'552" N, 27°31'229" E, 461 m, 20 Jun 2005.

Botrytis cinerea Pers. : Fr.

Conidiophores 150-200 \times 10-23 μ m. Conidia 7.5-10 (-12) \times (4.5-) 5-6 (-7) μ m.

On living leaves and flowers of **Mespilus germanica* L. Bulgaria: Bourgas Distr., Mt. Strandzha, near Malko Turnovo, Sredoka Reserve, 42°01'054" N, 27°31'617" E, 345 m, 20 Jun 2005.

Cercospora depazeoides (Desm.) Sacc. (Fig. 4)

Conidiophores 20-155 \times 3-5 μ m. Conidia 37.5-107.5 \times 3.5-5 μ m.

On living leaves of *Sambucus nigra* L. Bulgaria: Bourgas Distr., Mt. Strandzha, Vitanovo Reserve, 42°00'228" N, 27°26'700" E, 320 m, 21 Jun 2005. This is a new species record for Mt. Strandzha.

**Cheirospora botryospora* (Mont.) Berk. & Broome (Fig. 5)

Acervuli 400-500 μ m in diam. Conidiophores 150-200 \times 2-4 μ m. Compound conidia 25-35 μ m in diam, separately 3-5 μ m in diam.

On dead thin branches of *Fagus orientalis* Lipsky. Bulgaria: Bourgas Distr., Mt. Strandzha, Ouzounboudzhak Reserve,

41°58'665" N, 27°47'068" E, 250 m, 23 Jun 2005. A new species and genus records for the mycota of Bulgaria.

Discula campestris (Pass.) Arx (Fig. 6)
Acervuli 60–80 µm in diam. Conidia (7.5–) 9–11 × 2–2.5 µm.

On living leaves of *Acer platanoides* L. Bulgaria: Bourgas Distr., Mt. Strandzha, entrance of Vitanovo Reserve, Mechi Dol stream, 42°00'505" N, 27°26'721" E, 317 m, 21 Jun 2005.

Entomosporium mespili (DC.) Sacc. (teleomorph *Diplocarpon mespili* (Sorauer) B. Sutton).

Acervuli 200–500 µm in diam. Conidia 17.5–20 (–22.5) × 7.5–8 µm.

On living leaves of *Cydonia oblonga* Mill. Bulgaria: Bourgas Distr., Mt. Strandzha, Vitanovo Reserve, 42°00'249" N, 27°26'693" E, 332 m, 21 Jun 2005. This is a new species record for Mt. Strandzha in Bulgaria.

**Melanconium stromaticum* Corda (Fig. 7)

Acervuli 1.5–2 µm in diam. Conidiophores 40–45 × 1.5–2.5 µm. Conidia (10–) 11–15 × 6–7.5 µm.

On dead, thin branches of *Carpinus betulus* L. Bulgaria: Bourgas Distr., Mt. Strandzha, between Gramatikovo-Kondolovo, 42°05'805" N, 27°38'424" E, 266 m, 22 Jun 2005.

**Moniliopsis foliicola* (Woronin) Siemaszko (*Monilia foliicola* Woronin)

Spots 2–3 mm in diam. Conidiophores 8–10 × 4–5 µm. Conidia 12.5–15 (–16) × (7.5–) 9–11 µm.

On living leaves of *Mespilus germanica* L., causing decay of these leaves. Bulgaria: Bourgas Distr., Mt. Strandzha, near Malko Turnovo, Sredoka Rezerve, 42°01'054" N, 27°31'617" E, 345 m, 20 Jun 2005.

**Phoma exigua* Desm. var. *exigua*

Pycnidia 130–250 µm in diam, ostiole 20–30 µm in diam. Conidia 5.5–8 × 2–3 µm.

On living leaves of *Euonymus europaeus* L. Bulgaria: Bourgas Distr., Mt. Strandzha, Vitanovo Reserve, Mechi Dol stream, 42°00'433" N, 27°26'747" E, 330 m, 21 Jun 2005.

Septoria cornicola Desm. var. *cornicola*

Pycnidia 80–150 µm in diam, ostiole 20–25 µm in diam. Conidia 30–40 × 2–2.5 µm.

On living leaves of *Cornus sanguinea* L. Bulgaria: Bourgas Distr., Mt. Strandzha, entrance of Vitanovo Reserve, Mechi Dol stream, 42°00'505" N, 27°26'721" E. 317 m, 21 Jun 2005. This is a new species record for Mt. Strandzha in Bulgaria.

Acknowledgements. The authors wish to express their thanks for the financial support from The National Science Fund, Bulgarian Ministry of Education and Science (Project no. B-1302) and TÜBİTAK (The Scientific and Technological Research Council of Turkey) Project no: TBAG-U/100 (104T095).

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