ISSN (print) 0093-4666 ISSN (online) 2154-8889

MYCOTAXON

DOI: 10.5248/113.351

Volume 113, pp. 351–354 *July–September 2010*

Passalora acericola – a rare cercosporoid species found for the first time in Poland

Urszula Świderska-Burek &Wiesław Mułenko

**urszula.swiderska-burek@poczta.umcs.lublin.pl*
Department of Botany and Mycology, Maria Curie-Sklodowska University
Akademicka 19, PL-20-033 Lublin, Poland

Abstract – The rare cercosporoid hyphomycete *Passalora acericola* has been found for the first time in Poland, on *Acer pseudoplatanus*. Previously, this rare species has been found in only three other localities. It is described illustrated and discussed, based on the Polish material.

Key words – anamorphic fungi, hyphomycetes, distribution

Introduction

Passalora Fr. was previously regarded as an anamorph genus of the ascomycetous genus *Mycosphaerella* Johanson (e.g., Braun & Mel'nik 1997, Shin & Kim 2001, Crous & Braun 2003) and belonged to the so-called cercosporoid fungi. *Passalora* is now considered polyphyletic within *Mycosphaerellaceae* and not a genus-specific anamorph of *Mycosphaerella* s. str., which is restricted to species having *Ramularia* anamorphs (Crous et al. 2009). *Passalora*-like fungi are usually phytopathogenic, often causing leaf spots, but they may occasionally also be hyperparasitic or rarely saprobic (Crous & Braun 2003). Fries introduced *Passalora* as a genus in 1849. Braun (1995) discussed in detail the differentiation of *Passalora* and allied genera within the cercosporoid fungi. Recently Crous & Braun (2003) recognized four true cercosporoid genera, viz. *Cercospora* Fresen., *Passalora, Pseudocercospora* Speg., and *Stenella* Syd. and cited several other morphologically similar genera based on molecular sequence analyses and a reassessment of morphological characters.

Passalora acericola is a very rare species known from only three other localities in the world. Liu & Guo (1982) first described the fungus as *Phaeoramularia acericola* X.J. Liu & Y.L. Guo on *Acer truncatum* Bunge in China. Six years later the same authors (Liu & Guo 1988) proposed the combination *Mycovellosiella*

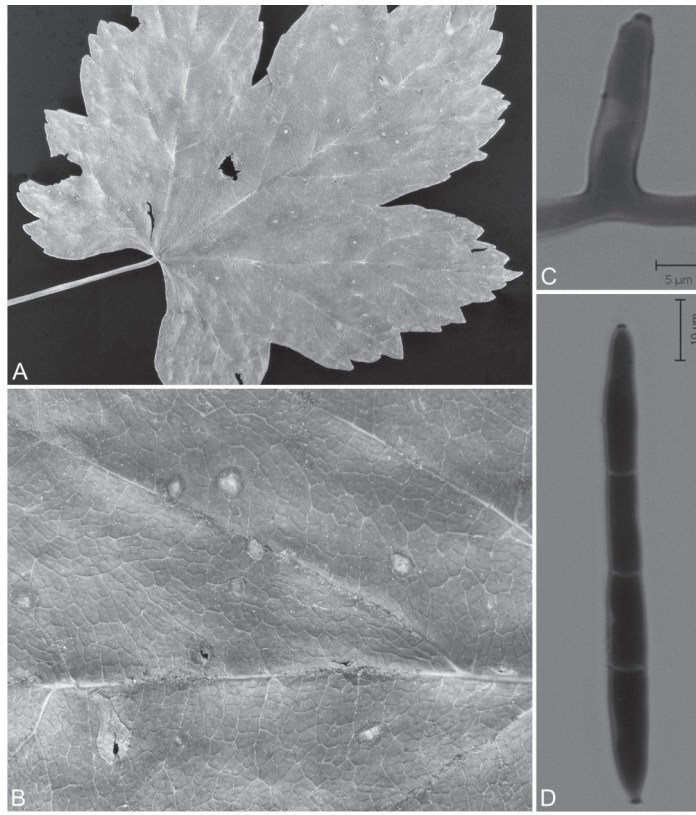

Fig. 1. *Passalora acericola*.
A, B. Leaf spots on *Acer pseudoplatanus*. C, Conidiophore. D. Conidium.

acericola (X.J. Liu & Y.L. Guo) X.J. Liu & Y.L. Guo, which Crous & Braun (2003) transferred to *Passalora* since *Mycovellosiella* was considered a synonym of that genus. This pathogen has also been reported from Italy on *Acer opalus* Mill. and from both Italy and Germany on *A. pseudoplatanus* (Braun & Crous 2005). This fourth record is the first report of *Passalora acericola* from Poland.

Materials and methods

Acer pseudoplatanus (great maple, sycamore) is a native tree in Poland, often found in mountain and upland mixed forests. On lowlands, it is usually cultivated as an ornamental in parks and gardens and along roadsides. In Poland, *A. pseudoplatanus* reaches the northeastern limit of its natural range in Europe. The distinctive brownish lesions were collected from leaves of the tree in June 1989 and originally deposited in

the herbarium as *Cercospora acericola* Woron. After 20 years it was reexamined and redetermined as *Passalora acericola*.

The collected leaves of host plants were air-dried and examined by light microscopy (LM) in lactophenol Cotton Blue. The fungal nomenclature and taxonomy follows Crous & Braun (2003). The specimen examined is deposited in the herbarium of the Department of Botany and Mycology in Lublin (LBL M 8655).

Taxonomy

Passalora acericola (X.J. Liu & Y.L. Guo) U. Braun & Crous,
Mycosphaerella and its anamorphs 1: 436. 2003. Figs. 1, 2

Leaf spots amphigenous, scattered, sometimes confluent, circular to subcircular, 1–4 mm in diameter, center grayish white, with wider yellowish brown halo and sometimes with border lines. Conidiophores solitary or 2–6 in fascicles, pale olivaceous-brown, straight or slightly curved, 0-1-septate, indistinct, conidial scars conspicuous, thickened and darkened, 15–42.5 × 4.5–6.5(–7)

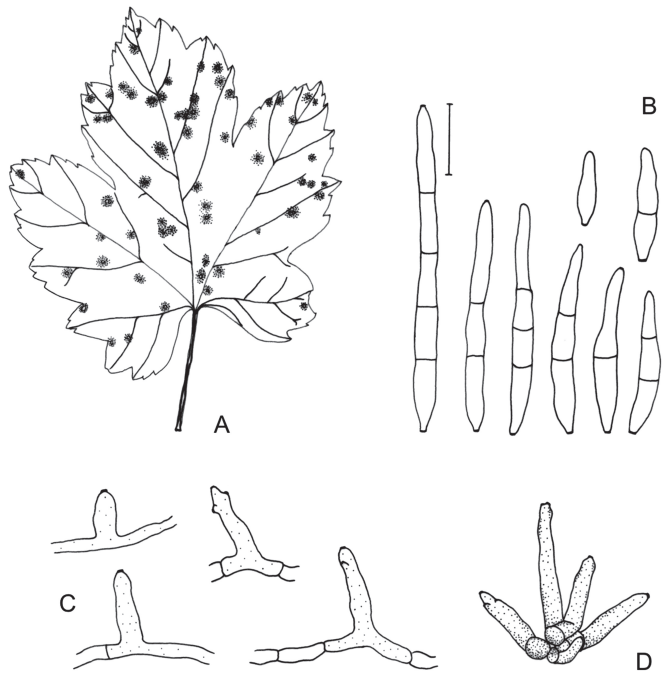

Fig. 2. *Passalora acericola* on *Acer pseudoplatanus.*
A. Leaf spots. B. Conidia. C, D. Conidiophores.
Scale bar = 20 μm. U. Świderska-Burek del.

μm. Conidia hyaline to subhyaline, solitary or occasionally catenate, obclavate to cylindrical, straight to slightly curved, usually 1–4-septate, 35–85 × 3.5–5 μm, hila slightly thickened and darkened.

Specimen examined: POLAND. Wyżyna Lubelska Upland, Lipowiec village near Tyszowce town, on *Acer pseudoplatanus* L., 15 June 1989, W. Mułenko (LBL M 8655).

Several species of cercosporoid fungi have been reported worldwide on hosts of the genus *Acer*, including three species of *Cercospora* (*C. acerigena* U. Braun & Crous, *C. negundinis* Ellis & Everh., *C. saccharini* Liberta & Boewe), one species of *Pseudocercospora* (*Ps. acericola* (Woron.) Y.L. Guo & X.J. Liu), and only a single species of *Passalora* (*P. acericola*) (Crous & Braun 2003). The last species has previously been confused with *Pseudocercospora acericola* (= *Cercospora acericola* Woron.), which is, however, easily distinguishable by its inconspicuous, unthickened, non-pigmented loci (Braun & Crous 2005). The conidiophores in the Polish sample are somewhat wider than in the Chinese original description by Liu & Guo (1982), viz. 15–42 × 4.5–6.5(–7) (versus 15–43.8 × 3.8–6.3 μm), but otherwise it agrees well with the type description.

Acknowledgements

The authors would like to thank Uwe Braun (Halle/Saale, Germany) for his support in the identification of the pathogen and a presubmission review. We also thank Marcin Piątek (Kraków, Poland) for his valuable remarks.

Literature cited

Braun U. 1995. A monograph of *Cercosporella*, *Ramularia* and allied genera (phytopathogenic hyphomycetes). Vol. 1. IHW-Verlag Eching. 333 p.

Braun U, Crous PW. 2005. Additions and corrections to names published in *Cercospora* and *Passalora*. Mycotaxon 92: 395–416.

Braun U, Mel'nik VA. 1997. Cercosporoid fungi from Russia and adjacent countries. Trudy Botanischeskogo Instituta Imeni V. L. Komarova, St. Petersburg, 20: 1–130.

Crous PW, Braun U. 2003. *Mycosphaerella* and its anamorphs: 1. Names published in *Cercospora* and *Passalora*. CBS Biodiversity Series 1: 1–571.

Crous PW, Summerell BA, Carnegie AJ, Wingfield MJ, Hunter GC, Burgess TI, Andjic V, Barber PA, Groenewald JZ. 2009. Unravelling *Mycosphaerella*: do you believe in genera? Persoonia 23: 99–118. doi:10.3767/003158509X479487

Liu XJ, Guo YL. 1982. Studies on some species of the genus *Phaeoramularia* in China. Acta Phytopathologica Sinica 12: 1–15.

Liu XJ, Guo YL. 1988. Studies on the genus *Mycovellosiella* of China. Mycosystema 1: 241–268.

Shin HD, Kim JD 2001. *Cercospora* and allied genera from Korea. Plant Pathogens from Korea 7. 302 p.