

First report of the powdery mildew *Golovinomyces cichoracearum* on *Telekia speciosa* in Germany

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A first report of the occurrence of the powdery mildew *Golovinomyces cichoracearum* (DC.) V. P. Gelyuta on the neophyte *Telekia speciosa* (Schreb.) Baumg. in Germany is given. At one locality, the host plant was additionally infected with the rust *Coleosporium telekiae* Thüm., the occurrence of which has as yet only rarely been reported for Germany.

Key words: sun wheels, *Erysiphales*, anamorph, teleomorph

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Je publikována první zpráva o výskytu padlí druhu *Golovinomyces cichoracearum* (DC.) V. P. Gelyuta na neofytu *Telekia speciosa* (Schreb.) Baumg. v Německu. Na jedné z lokalit byla hostitelská rostlina navíc infikována rzí *Coleosporium telekiae* Thüm., která byla dosud jen velmi vzácně udávána z Německa.

INTRODUCTION

Telekia speciosa (Schreb.) Baumg. (sun wheels, yellow oxeye) is a relatively recent synanthropic neophyte in Central Europe originating from a Southeast European-Caucasian natural distribution area, introduced to Germany in the course of the establishment of landscape gardens in the second half of the 19th century (Jäger 1976). To date, it has not been known to host powdery mildew in Germany (Braun 1995 and pers. comm. 2006). *Golovinomyces cichoracearum* (DC.) V. P. Gelyuta is, however, known to infect *T. speciosa* in Bulgaria, Hungary, Romania, as well as in the territory of the former countries of Yugoslavia and the Soviet Union (Braun 1995). Regions within these countries (especially the East Carpathians and the Caucasus) belong to the natural distribution area of *T. speciosa* (Meusel and Jäger 1992).

RESULTS

The first German records of powdery mildew-infected *T. speciosa* were collected at the locations listed below (all coordinates are based upon the Potsdam map datum). The collections are deposited at the State Museum of Natural History Görlitz (GLM) and/or herb. W. Dietrich.

Bavaria, Niederwerdenfelser Land region, Isar floodplain to the south of Mittenwald, 11° 15' E; 47° 24' N, alt. 900 m, 22 July 2004 leg. & det. W. Dietrich (Herb. W. Dietrich, dupl. at GLM, F078504), *Oidium* anamorph and sparse juvenile teleomorph chasmothecia.

Saxony, Elbsandsteingebirge region, Rathen, verge of a meadow adjacent to the river Elbe (Fig. 1), 14° 04' 24" E; 50° 57' 31" N, alt. 125 m, 1 July 2006 leg. S. Hoeflich, det. H. Boyle (GLM, F074699), *Oidium* accompanied by abundant chasmothecia (Fig. 2).

Saxony, Erzgebirge mountains, road embankment at a lime quarry southwest of Lengfeld, 13° 10' 25" E; 50° 42' 03" N, alt. 625 m, 11 July 2006 leg. S. Bräutigam (GLM F074731), *Oidium*, det. H. Boyle.

Saxony, Erzgebirge mountains, Schellerhau, verge of a road near the botanic garden, 13° 42' E; 50° 46' N, alt. 760 m, 16 August 2006 leg. & det. W. Dietrich (Herb. W. Dietrich, dupl. at GLM F078503), *Oidium* and chasmothecia, co-infected by the rust *Coleosporium telekiae* Thüm. (uredia and telia), of which only few records exist for Germany, this being the first recorded occurrence for the province of Saxony.

Saxony, Oberlausitzer Gefilde region, Kuppritz, estate park, 14° 35' 14" E; 51° 09' 07" N, alt. 240 m, 12 September 2006 leg. & det. H. Boyle (GLM F074972), *Oidium*.

Saxony, Erzgebirge mountains, Schneeberg, path along the banks of the Filzteich pond, 12° 36' 48" E; 50° 30' 29" N, alt. 545 m, 30 September 2006 leg. S. Hoeflich (GLM F078408), *Oidium*, det. H. Boyle.

The morphology of our collections, anamorph as well as teleomorph, corresponds to *Golovinomyces cichoracearum* as described in Braun (1987, 1995) and the collections were accordingly identified. The conidia, c. 25–40 × 15–22 µm, were microscopically observed in fresh state and lack fibrosin bodies. Occasionally observed germinating conidia are of the “*cichoracearum*-type” fide Braun (1987). The diameter of the chasmothecia ranges from c. 80 to 150 µm. The appendages are located mainly at the bottom half of the ascocarps and are mostly unbranched. Ripe chasmothecia contain numerous 2-spored asci, spore size c. 20–30 × 10–20 µm.



Fig. 1. *Telekia speciosa* infected by the powdery mildew *Golovinomyces cichoracearum*, locality Rathen, Germany. Photo by Herbert Boyle.

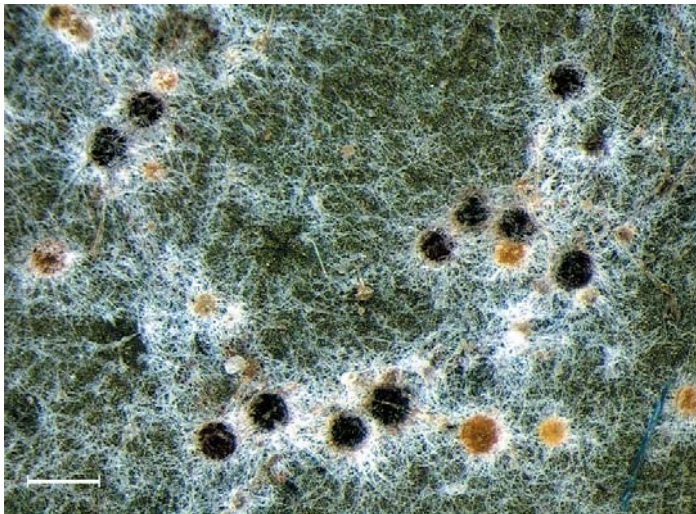


Fig. 2. Oidium and chasmothecia of *Golovinomyces cichoracearum* (40×) on *Telekia speciosa* from Rathen, Germany (GLM F074699). Bar = 300 µm. Photo by Herbert Boyle & Jürgen Schulz.

The occurrence at widely separated locations within Germany indicates that the recent incidence in this country is not a limited local phenomenon, but shows that the host-parasite relationship has in the meanwhile become established at a considerable distance from the native distribution area of the host. Particularly remarkable is the fact that this process has taken over 150 years in spite of the meanwhile well-established host plant (Meusel and Jäger 1992, Hardtke and Ihl 2000) and the commonness of the parasite (Braun 1995).

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