First record of *Ramularia cercosporelloides* from Germany

Uwe BRAUN, Jutta GABLER & Gert HORN

Abstract: Braun, U., Gabler, J. & Horn, G. 2024: First record of *Ramularia cercosporelloides* from Germany. Schlechtendalia **41**: 85–86.

The occurrence of *Ramularia cercosporelloides* in Germany has been proven for the first time. The morphology of the first German specimen is described and compared with previous records. Distribution and taxonomy of this species are briefly discussed.

Zusammenfassung: Braun, U., Gabler, J. & Horn, G. 2024: Erster Nachweis von *Ramularia cercosporelloides* aus Deutschland. Schlechtendalia **41**: 85–86.

Das Vorkommen von *Ramularia cercosporelloides* in Deutschland wurde erstmals nachgewiesen. Die Morphologie der ersten deutschen Kollektion wird beschrieben und mit früheren Angaben verglichen. Verbreitung und Taxonomie dieser Art werden kurz besprochen.

Key words: *Carthamus tinctorium*, *Ramularia*, *Mycosphaerellaceae*, HAL.

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Braun & Crous (in Braun 1998: 419) clarified the taxonomy of a leaf-spotting anamorphic ascomycete on safflower (*Carthamus tinctorius*), which had originally been described in 1926 as *Cercosporella carthami*, and introduced the new name *Ramularia cercosporelloides*, owing to the name *Ramularia carthami* Zaprom., 1926, a synonym of *R. cynarae* Sacc. (Braun 1998). *R. cynarae* on safflower differs from *R. cercosporelloides* in having much narrower conidia, usually 2–5 µm wide, which are regularly formed in chains, often even in branched chains. The symptoms of *R. cercosporelloides* are very characteristic (see Votzi et al. 2020: Figs 1 and 2) by forming rather large, subcircular to irregular leaf spots, to about 2.5 cm diam., finally confluent, brown to greyish or whitish by abundant caespituli. *R. cercosporelloides* is known from Russia (type collection), the Caucasus region (Vasil'evskij & Kakakulin 1937), the Netherlands (Braun 1998), Austria (Votzi et al. 2020, Kauschlitz et al. 2021), and Mexico (Huerta-Espino et al. 2006, Quintana-Obregón et al. 2013, Quintana-Obregón & Martín-Hernández 2019). See also survey in Videira et al. (2016). Quintana-Obregón et al. (2013) emphasized that sequences retrieved from this species are genetically not distinct from sequences of *Ramularia acroptili* Bremer (≡ *Cercosporella acroptili* (Bremer) U. Braun). Later, Quintana-Obregón & Martín-Hernández (2019) supposed a close relation between *R. cercosporelloides* and *Zymoseptoria tritici* (Desm.) Quaedvl. & Crous (= *Mycosphaerella graminicola* (Fuckel) J. Schröt.). However, these results are doubtful and not very meaningful since they were just based on ITS, which is insufficient for species of the *Mycosphaerellaceae*. Multilocus sequence analyses are urgently needed to clarify the phylogeny of *R. cercosporelloides*. Kirschner (2009) carried out detailed examinations of *Cercosporella* and *Ramularia* spp., aiming at the differentiation between these genera, mainly based on differences in the conidiogenous loci. In any case, the conidiogenous loci of *R. cercosporelloides* are in line with *Ramularia*. They are about 1–2 µm in diam., with a central bulging dome, surrounded by a raised rim, i.e., they are rather *Cladosporium*-like.

Although already known from the neighbouring countries Austria and the Netherlands, *R. cercosporelloides* was so far not known from Germany. However, this year severe infections of safflower cropped up in Sachsen-Anhalt, which represents the first record from Germany:

Ramularia cercosporelloides U. Braun & Crous, in Braun, Monogr. *Cercosporella*, *Ramularia* Allied Genera (Phytopathol. Hyphomyc.) **2**: 419. 1998.

≡ *Cercosporella carthami* Murashk., Izv. Zapadno-Sibirsk. Otd. Russk. Geogr. Obshch. **5**: 4. 1926.

Illustrations: Braun (1998: 420, Fig. 671), Votzi et al. (2020: 3–4, Figs 4 and 5).

Specimen examined: Germany, Sachsen-Anhalt, Saalekreis, Einheitsgemeinde Salzatal, Ortsteil Zappendorf, "Bierhügel", on cultivated *Carthamus tinctorius*, 29 Jul. 2024, G. Horn (HAL 3774 F).

The first German specimen of *R. cercosporelloides* agrees well with previous collections and descriptions (Braun 1998, Votzi et al. 2020): Conidiophores in small to moderately large fascicles, loose (divergent) to dense, emerging through stomata, 15–80 × 2–6 µm, septate, hyaline;

conidiogenous loci terminal and at lateral shoulders formed by sympodial proliferation, 1–2 µm diam., thickened and darkened, coronate (*Cladosporium*-like); conidia formed singly or occasionally in unbranched short chains, ellipsoid, ovoid, cylindrical, subclavate, 0–3-septate, 14–40 × 5–12 µm, hila thickened and darkened-refractive.

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Addresses of the authors

Uwe Braun, Martin-Luther-Universität, Institut für Biologie, Bereich Geobotanik und Botanischer Garten, Am Kirchtor 3, 06099 Halle (Saale), Germany.
(E-mail: uwe.braun@botanik.uni-halle.de)

Jutta Gabler, Alte Reihe 6, 06333 Falkenstein/Harz, OT Neuplatendorf, Germany.
(E-mail: juttagabler@googlemail.com)

Gert Horn, Exsemine GmbH, Am Wehr 4, 06198 Salzatal, OT Zappendorf, Germany.
(E-mail: g.horn@exsemine.de)