First reports of *Thedgonia bellocensis* on *Verbascum* spp. from Germany

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Abstract: Kruse, J. & Braun, U. 2021: First reports of *Thedgonia bellocensis* on *Verbascum* spp. from Germany. Schlechtendalia **38**: 160–162.

In spring and summer 2020 and spring 2021, the plant pathogenic microfungus *Thedgonia bellocensis* was found on leaves of three different mullein species (*Verbascum* cf. *densiflorum, V. lychnitis*, and *V*. cf. *thapsus*) in Rhineland-Palatinate and Hessen (Germany). These are the first German records of *Th. bellocensis*.

Zusammenfassung: Kruse, J. & Braun, U. 2021: Erstnachweise von *Thedgonia bellocensis* auf *Verbascum* spp. in Deutschland. Schlechtendalia **38**: 160–162.

Im Frühjahr und Sommer 2020 und Frühjahr 2021 wurde der pflanzenparasitische Kleinpilz *Thedgonia bellocensis* auf Königskerzen *(Verbascum* cf. *densiflorum, V. lychnitis* und *V.* cf. *thapsus)* in Rheinland-Pfalz und Hessen (Deutschland), gefunden. Das sind die ersten Nachweise für Deutschland.

Key words: *Thedgonia*, mullein, new record.

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Massalongo and Saccardo, in Saccardo (1908), introduced the mucedinaceous hyphomycete *Septocylindrium bellocense*, based on type material from Italy on *Verbascum nigrum*. Braun (1992) reallocated this species to *Thedgonia*, described by Sutton (1973) with *Thedgonia ligustrina* as type species. Crous et al. (2009) clarified the phylogenetic affinity of *Thedgonia* and showed that its type species, *Th. ligustrina*, belongs to the *Helotiales*. However, *Thedgonia lupini* (Davis) U. Braun (≡ *Ramularia lupini* Davis), another species assigned to this genus, proved to be phylogenetically allied to the *Mycosphaerellaceae* (Kaiser & Crous 1989). The latter authors described the sexual morph of this species as *Mycosphaerella lupini* W.J. Kaiser & Crous. These results based on sequence analyses showed that the previous circumscription of *Thedgonia* (Braun 1995) does not reflect a monophyletic genus. This genus must probably be confined to its type species, *Th. ligustrina*. However, the phylogenetic affinity of *Th. bellocensis* is still unresolved. Therefore, this species can currently only tentatively be maintained in *Thedgonia*, pending phylogenetic examinations in future.

Thedgonia bellocensis is known from France, Hungary, Great Britain, Italy (Braun 1995), Norway (Homble 2012) and Poland (Mułenko et al. 2008) on *Verbascum austriacum* (Hungary), *V. densiflorum* (France), *V. lychnitis* (France, Poland), and *V. nigrum* (Italy, Norway, UK). In spring and summer 2020 and spring 2021, *Th. bellocensis* has been found in Germany for the first time.

Thedgonia bellocensis (C. Massal. & Sacc.) U. Braun Figs 1, 2

Specimens examined: Germany, Rhineland-Palatinate, county Bad Dürkheim, Leistadt, below conservation area Berntal, scrubby vineyard terrace, N 49° 29' 46", E 08° 09' 27", c. 215 m a. s. l., on living leaves of *Verbascum* cf. *thapsus*, 04 March 2020, leg. & det. Julia Kruse, conf. Uwe Braun (Herb. Kruse S1474, POLL 9787; HAL 3369 F); Rhineland-Palatinate, county Bad Kreuznach, c. 1,6 km ENE Boos, street to power station, natural conservation area Nahetal from Boos to Niedernhausen, ruderal area, N 49° 48' 13", E 07° 44' 08", c. 140 m a. s. l., on living leaves of *Verbascum* cf. *densiflorum*, 14 June 2020, leg. & det. Julia Kruse (Herbar Kruse S1509, POLL 9796); Hessen, county Bergstraße, Lampertheim: E of Hüttenfeld, remnants of sand dunes in pinewood, N 49° 35' 40", E 08° 33' 27", c. 100 m a. s., on living leaves of *Verbascum lychnitis*, 08 March 2021, leg. & det. J. Kruse, (POLL 9797).

On basal leaves, forming several circular to subcircular or irregular leaf spots, sometimes coalescent, at first light brown, later dark brown and papery, with a conspicuous violet purplish margin. Mycelium internal. Caespituli amphigenous, mainly epiphyllous, whitish. Conidiophores arising from stromata, often hardly separable from conidia, densely arranged in groups or fascicles, 23–115 × 5–6 µm (n = 10), sometimes up to 150 µm long, straight to curved, subcylindrical, septate, hyaline. Conidia in long chains, cylindrical, 17–55 × 5–6 µm (n = 30), hyaline, pluriseptate.

The macroscopic symptoms of *Th. bellocensis* are similar to *Ramularia digitalis* (Fuckel) U. Braun (in Braun & Bensch 2020; syn. *R. variabilis* Fuckel), which is known as causal agent of leaf spot diseases on *Digitalis* and *Verbascum* species (Braun 1998). One obvious difference lies in the location and structure of the colonies (caespituli). *Ramularia digitalis* usually forms thin caespituli on the lower

surface of necrotic spots, whereas *Th. bellocensis* produces thick colonies on both sides of the necrotic spots, which are easily discernable with the naked eye, even without magnifying glass. *Ramularia* caespituli are often only difficult to recognise, above all due to the dense tomentum of the host leaves. At the site near Leistadt, some plants showed mixed infections of the two hyphomycetes. Lesions caused by both species were located on basal leaves of sterile, non-flowering individuals, which made the identification of the host plants difficult and somewhat uncertain.

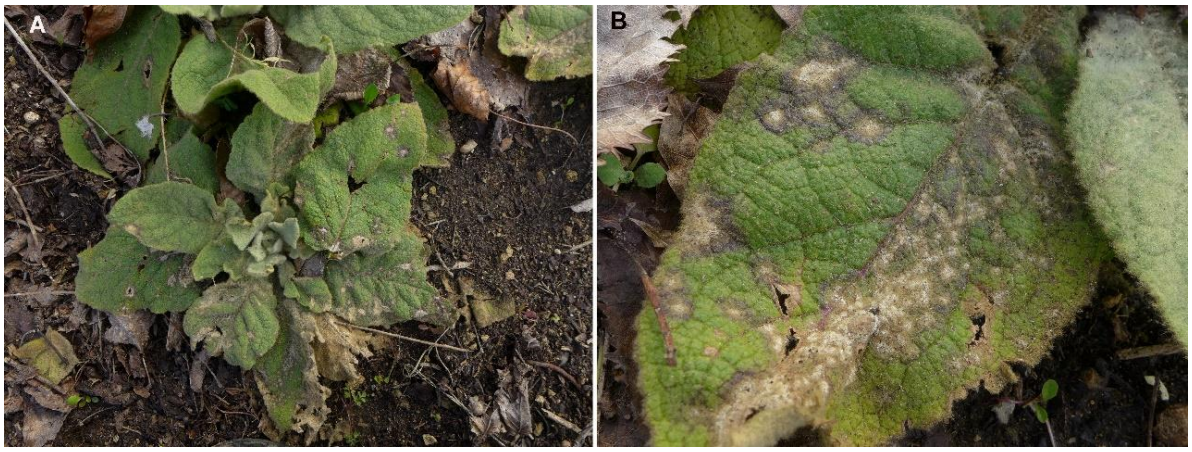

Fig. 1: *Thedgonia bellocensis*. A. Symptoms on basal leaves (photo taken at the collection side near Leistadt). B. Close-up of a basal leaf.

Fig. 2: *Thedgonia bellocensis*. Straight to curved, hyaline conidiophores and cylindrical conidia. Bar = 10 µm.

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