

Gelatinopsis leptogii (Helotiales, Ascomycota), a new lichenicolous fungus on *Leptogium byssinum* from Belgium and Germany

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Abstract: The new lichenicolous fungus, *Gelatinopsis leptogii*, is described from Belgium and Germany, where it grows on *Leptogium byssinum*. It differs from *G. ericetorum*, which grows on *Dibaeis*, in the shorter and broader ascospores and different ascomatal pigments, and from *G. roccellae*, which grows on *Rocella*, in the shorter ascospores and larger ascomata.

Introduction

Within the framework of our studies on lichenicolous *Helotiales* (e.g. Diederich & Etayo 2000; Etayo *et al.* 2001), we discovered specimens apparently belonging to undescribed species. In this paper, we describe a new species of *Gelatinopsis* Rambold & Triebel, based on specimens from Belgium and Germany, both lichenicolous on *Leptogium byssinum*. The genus *Gelatinopsis* was described by Rambold & Triebel (1990) for two fungicolous (incl. one lichenicolous) species of *Helotiales* with gelatinous apothecia. The genus was later revised by Baral & Marson (2001) who accepted and keyed out eight species. It is now included in the *Calloriopsidae* together with *Calloriopsis* Sydow and *Gelatinipulvinella* Hosoya & Otani. The mycoparasitic, non-ascocarpous, intrahymenial genus *Helicogonium* W. L. White shares many characters with *Gelatinopsis* and might well belong to the *Calloriopsidae*. No molecular data are available yet for these fungi.

Methods

The methods used are the same as in Diederich & Etayo (2000). Ascospore measurements are indicated as

(minimum–) $\bar{X} - \sigma_x - \bar{X} + \sigma_x$ (–maximum), all values rounded to the nearest multiple of 0.5 μm , followed by the number of measurements (n); the length/breadth ratio of the ascospores is indicated as l/b.

The New Species

Gelatinopsis leptogii Ertz & Diederich sp. nov.

Fungus lichenicola in thallo vigenti *Leptogii byssini*, insignis ascosporis (6–)7–8(–9) \times (4–)4.5–5.5(–6) μm , ascomatibus 150–400 μm et excipulo epihymenioque aurantiaco-brunneo differt.

Typus: Belgium, Oret (près de Mettet), hameau de Coroy, 245 m, IFBL H5.32, carrière de sable, sol argilo-sablonneux, sur *Leptogium byssinum*, 9 February 2003, Ertz 3040 & Duwivier (BR—holotypus; hb Diederich—isotypus).

(Figs 1–3)

Ascomata lichenicolous, immersed, more rarely slightly erumpent, scattered on the host thallus or in groups of 2–5, dark reddish brown when moist, black when dry, \pm circular, sometimes with a slightly elevated margin, hymenial disc flat or slightly concave, 150–400 μm diam. *Exciple* laterally orange-brown, K+ slightly darker reddish brown, N–, made up of elongate, frequently branched hyphae embedded in a dense gel, 20–50 μm , basally consisting of conglutinated, elongate to more or less isodiametric cells, pale yellowish to orange brown, indistinctly delimited, *c.* 7–20 μm ,

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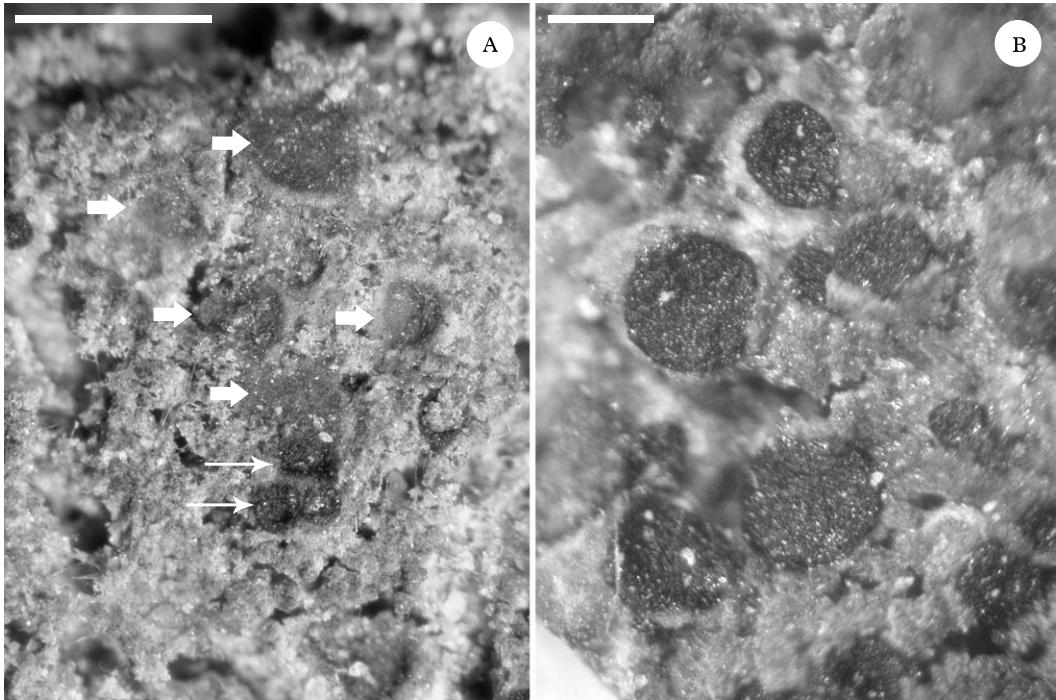


FIG. 1. *Leptogium byssinum*. A, thallus with brown apothecia (thick arrows) and black apothecia of the lichenicolous *Gelatinopsis leptogii* (thin arrows) (holotype); B, young thallus of cf. *L. byssinum* with apothecia of *G. leptogii* (Cezanne & Eichler 7059). Scales: A=1 mm; B=0.2 mm.

without hairs. *Subhymenium* yellowish. *Epihymenium* pale orange brown (same pigment as exciple), K+ darker. *Hymenium* colourless to yellowish, 70–140 μm thick, I–, KI–. *Paraphyses* septate, simple or branched in the upper part, 1–1.5 μm thick, apically gradually thickened, 2–3 μm thick, with many small oil guttules, embedded in a dense gel. *Asci* subcylindrical, apically rounded or slightly applanate, 8-spored, thin-walled, wall apically not or slightly thickened, internally without indentation, I–, KI–, 55–90 \times 6.5–9 μm . *Ascospores* uniseriate in the ascus, non-septate, colourless, shortly ellipsoid, occasionally slightly pointed at one end, smooth-walled, without a perispore, containing one or two large oil droplets when alive, (6–)7–8(–9) \times (4–)4.5–5.5(–6) μm , l/b ratio 1.4–1.7 ($n=34$).

Pycnidia unknown.

Distribution and host. The species is known from two localities, one in Belgium and the

other in Germany, both in disused quarries. In the Belgian collection, it is lichenicolous on richly fertile *Leptogium byssinum*. In the German collection, it grows on a thin, sterile cyanolichen, which most probably represents young, non-sorediate thalli of *L. byssinum*. According to the collectors' notes, typical, fertile *L. byssinum* is abundant in the same locality. We conclude that *Gelatinopsis leptogii* is likely to be confined to *L. byssinum*. The species does not visibly damage the host thalli and can be regarded as commensalistic.

Discussion. The new taxon shares with *Gelatinopsis* the same ascus type, smooth-walled, hyaline, aseptate ascospores, the same simple or branched paraphyses, a similarly formed exciple, a strongly gelatinized exciple and epihymenium, and poorly delimited ascomata with a slightly raised margin. It is very similar to *Gelatinopsis roccellae* Etayo, Paz-Bermúdez & Diederich,

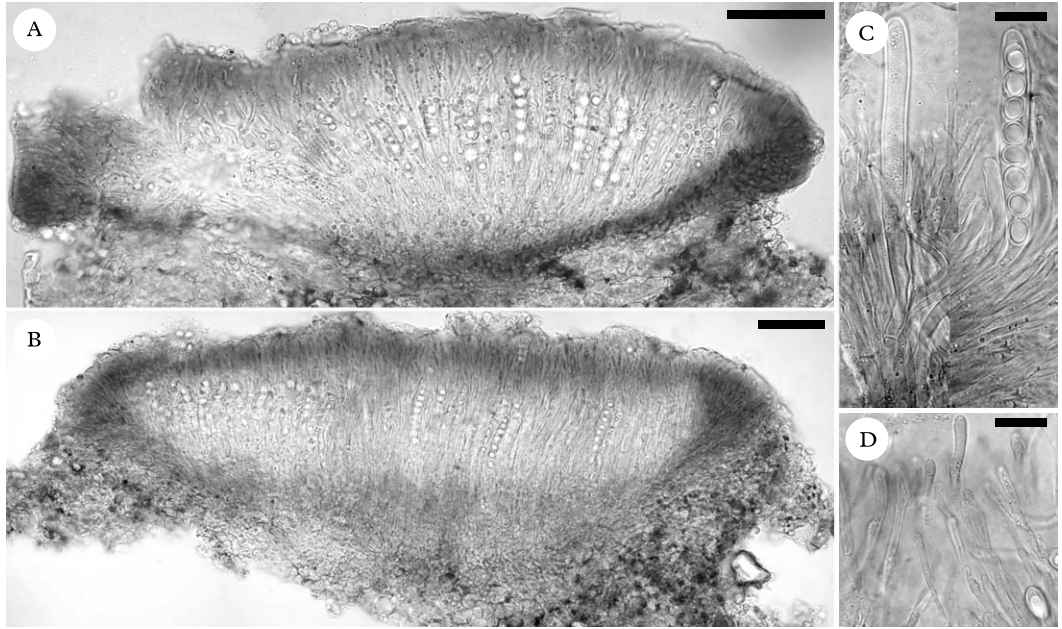


FIG. 2. *Gelatinopsis leptogii*, examined in water. A & B, section through an apothecium; C, asci with ascospores; D, apices of paraphyses; (A, Cezanne & Eichler 7059; B–D, holotype). Scales: A & B=50 μm , C & D=10 μm .

a lichenicolous species confined to *Rocella*, which has much smaller ascomata, 70–120 μm diam., and slightly longer and narrower ascospores, 8–10.5(–12) \times 3–4(–5) μm (Etayo *et al.* 2001). *Gelatinopsis ericetorum* (Körb.) Rambold & Triebel, a lichenicolous species growing on *Dibaeis baeomyces*, has much longer and narrower ascospores, 10.5–14 \times 3–3.5 μm , and an olivaceous excipular and epihymenial pigment (Baral & Marson 2001). Amongst the non-lichenicolous taxa described by Baral & Marson (2001), two species have ellipsoid, aseptate ascospores. *Gelatinopsis hysteropatellae* Baral & G. Marson, fungicolous on *Hysteropatella*, is easily distinguished by an ochraceous to olivaceous excipular and epihymenial pigment, shorter ascospores, (4–)4.5–5.5(–7) \times (3.5–)4–4.5(–5) μm , and smaller ascomata, 80–100 μm diam. *Gelatinopsis exidiophila* Baral & G. Marson, fungicolous on *Exidia*, has similar ascospores (7.5–)8–10(–13) \times 4.5–6.5(–7) μm , and similarly sized ascomata, 150–400 μm diam. However, in that species the ascomata

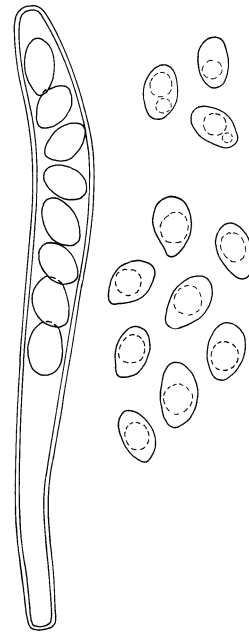


FIG. 3. *Gelatinopsis leptogii* (holotype), ascus and ascospores (three alive in water above, eight dead in water below). Scale=10 μm .

