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

Damien ERTZ and Paul DIEDERICH

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 Roccella, 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 Calloriopsidaceae 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 Calloriopsidaceae. 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–) \( \bar{X} - \sigma_X - 1\times \bar{X} + \sigma_X \) (–maximum), all values rounded to the nearest multiple of 0.5 \( \mu m \), 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) \( X(4–)4.5–5.5(–6) \mu m \), ascomatibus 150–400 \( \mu m \) 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 & Duvivier (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 \( \mu m \) 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 \( \mu m \), basally consisting of conglutinated, elongate to more or less isodiametric cells, pale yellowish to orange brown, indistinctly delimited, c. 7–20 \( \mu m \),
without hairs. Subhymenium yellowish. Epihymenium pale orange brown (same pigment as exciple), K+ darker. Hymenium colourless to yellowish, 70–140 μm thick, I , K/I –. 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 , K/I –, 55–90 × 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) × (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,
a lichenicolous species confined to *Roccella*, which has much smaller ascomata, 70–120 μm diam., and slightly longer and narrower ascospores, 8–10·5(–12) × 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 × 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 hysteropalae* 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) × (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) × 4·5–6·5(–7) μm, and similarly sized ascomata, 150–400 μm diam. However, in that species the ascomata
are light dirty reddish brown to greyish amber, somewhat translucent, the excipular and epihymenial pigment is pale yellowish ochraceous, K+ pale olivaceous, and the host is different.

**Key to the lichenicolous species of Gelatinopsis**

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<th>Description</th>
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<td>Exciple and epihymenium olivaceous; ascospores 10·5–14 × 3–3·5 μm; on Dibaeis</td>
<td>G. ericetorum</td>
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<tr>
<td>2(1)</td>
<td>Ascomata 70–120 μm diam.; ascospores 8–10·5(–12) × 3–4(–5); on Roccella</td>
<td>G. roccellae</td>
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<tr>
<td></td>
<td>Ascomata 150–400 μm diam.; ascospores (6–)7–8(–9) × (4–)4·5–5·5(–6) μm; on Leptogium</td>
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We thank Jean-Pierre Duvivier, who collected the type specimen with us, R. Cezanne and M. Eichler for allowing us to include their specimen in this paper and Omer Van de Kerckhove for inking the drawing.

**References**


Accepted for publication 6 May 2000