

Plectocarpon hypogymniae (Roccellaceae), a new lichenicolous species from Siberia

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ABSTRACT. *Plectocarpon hypogymniae* sp. nov. is described from *Hypogymnia bitteri* in Siberia. It is distinguished from all known *Plectocarpon* species with the pigment Atra-brown by the particularly narrow ascospores, and from all species by the host.

KEYWORDS. Arthoniales, lichenicolous ascomycetes, *Plectocarpon*, Russia, Siberia.



Plectocarpon Fée is a widespread genus of Roccellaceae, with over thirty species accepted, all lichenicolous, and many confined to hosts of the Lobariaceae and Nephromataceae. Four species have been known on members of the Parmeliaceae: *P. encausticum* (Nyl.) R. Sant. (on *Brodiaea intestiniformis*), *P. melanohaleae* Christnach, Ertz & Diederich (on *Melanohalea ushuaiensis*), *P. usneae* Diederich & Etayo (on *Usnea exasperata*) and an undescribed species on *Usnea* (Ertz et al. 2005). The aim of this paper is to describe a further new species, collected on *Hypogymnia bitteri* in Siberia. The methods of study are the same as those of Ertz et al. (2005).

Plectocarpon hypogymniae Zhurb. & Diederich
sp. nov. **Figs. 1–3**

Plectocarpon lichenicola in *thallis* *Hypogymniae vigens*, *insignis* *ascomatibus atris non cecidogenis*, *pigmento stromatico* 'Atra-brown', *ascis 8-sporis* $36\text{--}43 \times 9\text{--}12.5 \mu\text{m}$, *ascosporis* $13\text{--}15.5 \times 3.5\text{--}4 \mu\text{m}$.

TYPE: RUSSIA. SOUTH SIBERIA, TIVA REPUBLIC:

Todzhinskaya Depression, Biy-Khem (Big Yenisey) River valley, near Toora-Khem, $52^{\circ}26'N$, $96^{\circ}05'E$, 850 m alt., in *Larix* forest, on *Hypogymnia bitteri* (thallus) over fallen *Larix* trunk, 10 Jul 1997, T. N. Otnyukova (LE 210433—holotypus).

Description. Ascomata superficial, not gall-inducing, dispersed or more often confluent, moderately to strongly convex, without elevated host margin, basally not constricted, rounded to angular,

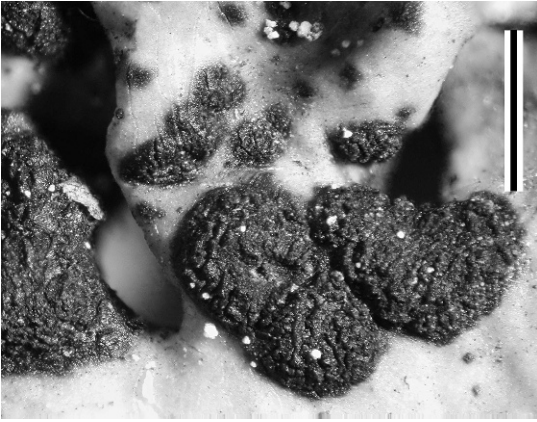


Figure 1. *Plectocarpon hypogymniae*, habit (holotype). Scale = 1 mm.

0.5–2.5 mm diam., 0.2–0.4 mm high, brownish-black, without pruina, shiny when wet, surface from the very beginning coarsely wrinkled, later with distinct labyrinthiform or lirellate ornamentation; stroma multilocular; loculi numerous, globose to compressed-globose, 100–170 μm diam., 100–120 μm high, separated to confluent, surrounded by medium orange brown stromatic tissue, K+ weakly olivaceous (with insoluble crystals), N+ becoming slowly bright orange (pigment: Atra-brown, see Ertz et al. 2005: 12); hymenium not or slightly exposed, hyaline, I+ red, K/I+ blue; epihymenium hyaline to unevenly pale brownish olive when exposed, I+ blue, K/I+ blue; interascal filaments richly branched and anastomosing, 1–2 μm diam., apically not or moderately swollen; asci narrowly clavate, of the *Opegrapha*-type, (35–)36–43 \times (8–)9–12.5(–14) μm (n=11), with distinct apical K/I+ blue ring, (5–)8-spored; ascospores hyaline, fusiform to narrowly skittle-shaped, 3-septate, not or occasionally constricted at the median septum, wall ca. 0.5 μm , (12–)13–15.5(–17) \times (3–)3.5–4(–4.5) μm , length:width ratio = (3.1–)3.6–4.7(–5.3) (n=53), distinct perispore and brown pigmentation not

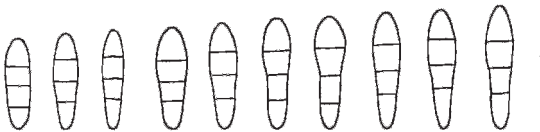


Figure 2. *Plectocarpon hypogymniae*, ascospores (holotype). Scale = 10 μm .

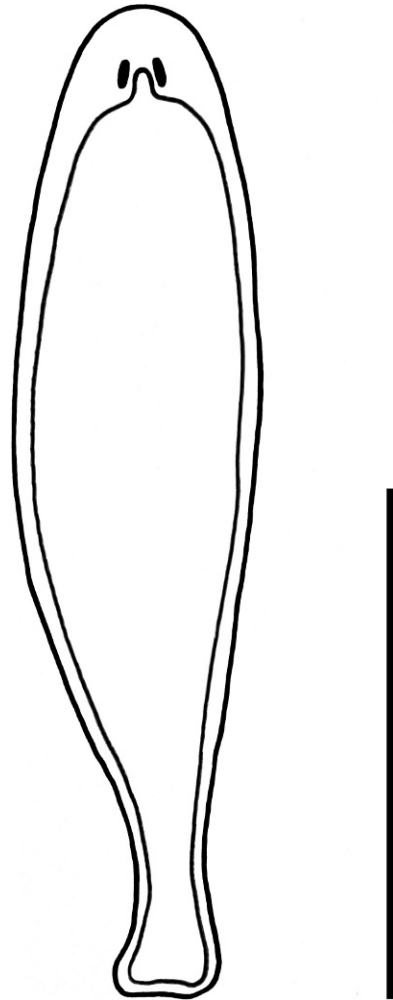


Figure 3. *Plectocarpon hypogymniae*, ascus in K/I (holotype). Scale = 20 μm .

observed, overlapping in 2–3 rows in an ascus; pycnidia not observed.

Host. The species grows on the upper and lateral surface of the lobes of *Hypogymnia bitteri*. It seems to be commensalistic, as it does not cause any visible damage to the host. It is not gall-inducing.

Distribution. Known only from the type locality in Tuva Upland (Russia) in central Asia.

Observations. *Plectocarpon hypogymniae* belongs to a large species complex with black, non-gall-inducing apothecia with the stromatic tissue containing the pigment Atra-brown. These mainly correspond to the species keyed out in Ertz et al. (2005: 22–23) in couplets 26–32. The new species is easily distinguished from all *Plectocarpon* species by

the particularly small and narrow, 3-septate ascospores. According to Ertz et al. (2005), 3-septate ascospores constantly narrower than 4.5 μm are known from *P. cristalliferum* Christnach, Ertz & Diederich (on *Sticta*), a species distinguished by brown ascomata containing conspicuous crystal agglomerates in the fertile layer, particularly small, (2-)4-spored asci, 30–40 \times 9–12 μm , longer ascospores 15–21 \times 3.5–4.5 μm , and the absence of the pigment Atra-brown; from *P. linitae* (R. Sant.) Wedin & Hafellner (on *Lobaria linita*), distinguished by brown, flat ascomata, longer ascospores, 16–21 \times 3.5–4.5 μm , and the absence of

the pigment Atra-brown; and from *P. nephromeum* (Norman) R. Sant. (on *Nephroma bellum*), a species with similar ascospores, 13–19 \times 3.5–4.5 μm , but differing by a K+ green stromatic pigment (absence of Atra-brown) and basally distinctly constricted ascomata.

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