Stromatopogon geminatum spec. nova, a further lichenicolous fungus growing on *Usnea*

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Abstract: *Stromatopogon geminatum*, a parasite on the lichen *Usnea*, is described as new.

Zusammenfassung: *Stromatopogon geminatum* wird als Parasit auf *Usnea* neu beschrieben.

The name *Stromatopogon baldwinii* ZAHLBR. (ZAHLBRUCKNER 1897) was introduced for a lichen similar to *Usnea* with gall-like deformations including black spherical perithecia. Type material was studied by DIEDERICH (1992) who demonstrated *Stromatopogon* to be a gall-forming lichenicolous fungus on an *Usnea* thallus and with two types of conidia produced within the same conidioma. The name was lectotypified on the macroconidial element. Known samples of this species are from Hawaiian Islands and Tasmania. Recently, DIEDERICH & SÉRUSIAUX (2003) described a European species of the genus growing on *Cladonia*: *S. cladoniae*, which differs - besides infesting a different host - in having smaller conidiomata and smaller macro- and microconidia.

During recent field studies in North America, the second author collected a new representative of the genus that is well characterized by its odd conidia. It is described as new below.

The specimen has been studied using the standard microscopical techniques. All drawings and measurements have been made from material mounted in water.

***Stromatopogon geminatum* ETAYO & BREUSS, spec. nova** (Fig. 1)

Diagnosis latina: Fungus lichenicola thallo *Usneae* infestans, non cecidioformans. A *Stromatopogone baldwinii* macroconidiis minoribus, 4-cellulis, bipartitis, leptodermaticis differt.

Typus: USA, Oregon, Coos Co., vicinity of Eel Creek Campground, Oregon Dunes National Recreation Area, on *Usnea* spec., elev. 4-50 m s. m., 43°35´N, 124°11´W, 13. 8. 2000, O. BREUSS no. 17.459 (LI - holotype, hb. ETAYO - isotype).

Characters

Conidiomata: pycnidial, immersed in blackish spots on the thallus (cortex) of *Usnea*, 100-130 µm in diam., black, subspherical to ellipsoid; ostiole absent, the conidiomata opening irregularly by breaking of the upper part of the wall. Wall 8-12 µm thick, dark brown, composed of several rows of gelatinized cells.

Conidia: Two kinds of conidia are produced in the same conidioma, but from separate regions of the inner conidiomatal wall.

Macroconidial morph: predominating; conidiophores absent, conidiogenous cells lining the conidiomatal cavity, ampulliform to subcylindrical, brown with verrucose outer wall in basal part, more or less hyaline in upper, 6-8 x 4-5 µm; conidia holoblastic, arising singly, not catenate, filling the conidiomatal cavity; each conidium looking like two ellipsoidal 1-septate conidia glued together at different height (Fig. 1A), composed of 4(-5) cells, irregularly ellipsoidal, apically and basally acute, hyaline, thin-walled, smooth, 9-14(-17) x 6-7.5 µm.

Microconidial morph: rarer, developed in a small part of the conidiomatal wall; conidiophores present, similar to the conidiogenous cells of macroconidia; conidiogenous cells usually terminal, strongly tapering towards the apex, hyaline, smooth, sometimes with one annellation, 11-17 x 2.5-3.5 µm; conidia holoblastic, arising singly, not catenate, ellipsoidal to subcylindrical, simple, hyaline, smooth, thin-walled, 2.5-4.5 µm.

Vegetative hyphae: abundant, brown, with extracellular pigment.

Etymology: the name *geminatum* refers to the odd conidia that look like two uniseptate conidia glued together.

Remarks

Stromatopogon geminatum is a second species growing on *Usnea* thalli which differs in several important characters from *S. baldwinii*.

The most characteristic feature of *Stromatopogon geminatum* as compared to *S. baldwinii* is the shape of the conidia. In the latter species, the conidia are composed of 2-7 cells, spherical or ellipsoidal to obpyriform, rounded at apices, thick-walled, 11-20 x 6-15 µm (DIEDERICH 1992). In *Stromatopogon geminatum* however, the conidia invariably look like formed by two conidia glued together at different heights, they have acute ends, and are thin-walled and smaller, 9-14(-17) x 6-7.5 µm. Although we have not studied the type of *S. baldwinii*, illustrations in DIEDERICH (1992) show without doubt a different kind of conidia in that species. Furthermore, in *Stromatopogon geminatum* the conidiomata are dispersed or aggregated on the *Usnea* thallus without forming apparent galls, on black dots due to the abundant brown vegetative hyphae of the fungus. Sometimes they grow on small galls, apparently of *Biatoropsis usnearum* RÄSÄNEN. DIEDERICH (1992) does not comment on the possibility that the galls of *S. baldwinii* might be those of *Biatoropsis usnearum*, but there is evidence that the fungus produces its own galls. Different sizes of the microconidia, different conidiogenous cells, and different distributions also support the distinctiveness of the two closely related species.

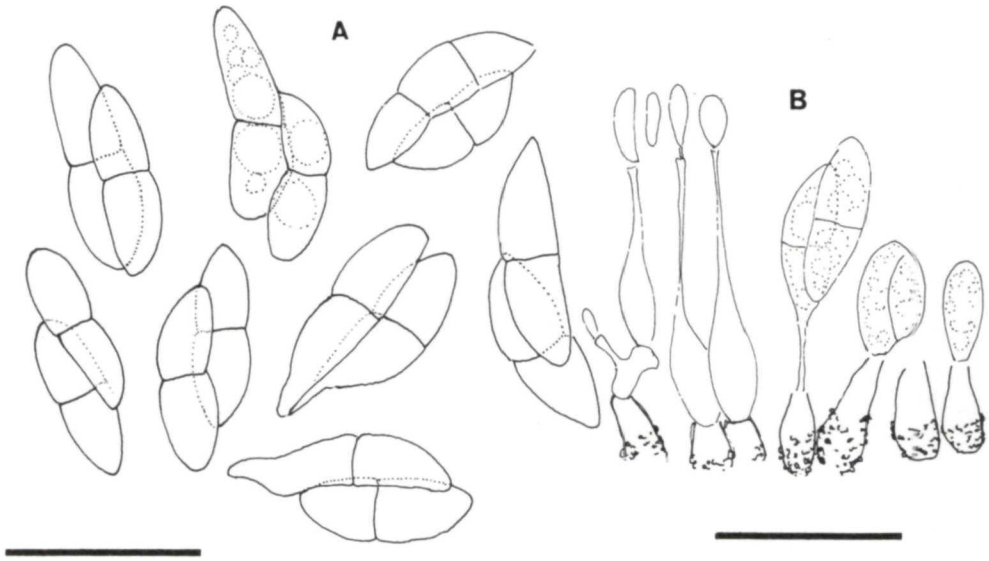

Fig. 1. *Stromatopogon geminatum* (holotype). *A* Macroconidia. *B* Conidiogenous cells with micro- and macroconidia. Bars: *A* and *B*: 10 µm.

Ecology and distribution

Stromatopogon geminatum is known only from the type locality in Oregon (USA), where it was found growing on *Usnea* spec.

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