

TWO UNUSUAL AURICULARIROID FUNGI FROM NORWAY

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Abstract: *Helicogloea caroliniana* (Coker) G. E. Baker is described as new to Europe, based on collections in southwestern Norway. The parasitic species *Achroomyces chlamydsopora* was found growing in the hymenium of *H. caroliniana* and is described as new to science.

Key words: *Helicogloea*, *Achroomyces*, heterobasidiomycetes, parasites

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The following two species of auricularioid fungi (Basidiomycota) were collected in the southwestern, coastal part of Norway during the Nordic Mycological Congress in September 2000. One appears to be new to Europe, the other new to science.

Helicogloea caroliniana (Coker) G. E. Baker (Fig. 1)

Ann. Missouri Bot. Gard. **23**: 92. 1936.

Saccoblastia caroliniana (Coker) Coker, J. Elisha Mitchell Sci. Soc. **43**: 233. 1928. – *Saccoblastia ovispora* var. *caroliniana* Coker, J. Elisha Mitchell Sci. Soc. **35**: 121. 1920.

Basidiomes gelatinous, whitish, pustular at first, then coalescing and becoming irregularly effused, tuberculate, ca 2–8 mm deep. Hyphae distinct and easily visible, 3–5 µm wide, occasionally swollen, thin- to thick-walled, lacking clamp-connections. Probasidial sac distinct, up to 40 × 10 µm, growing away from the hymenium. Basidia arising from base of probasidia, tubular to weakly clavate, ca 140 × 8 µm, becoming 3-septate. Sterigmata short, lateral, ca 5–6 µm long. Basidiospores oblong (Q = 1.6–2.1), ca 12–19 × 7–10 µm, becoming 1–3-septate when mature, sometimes producing secondary spores, germination not seen.

SPECIMENS EXAMINED. NORWAY. SOGN OG FJORDANE: Luster, Loi, on rotten *Ulmus* wood, 8 Sept. 2000, P. Roberts, s.n. [K(M) 85258 and K(M) 85276].

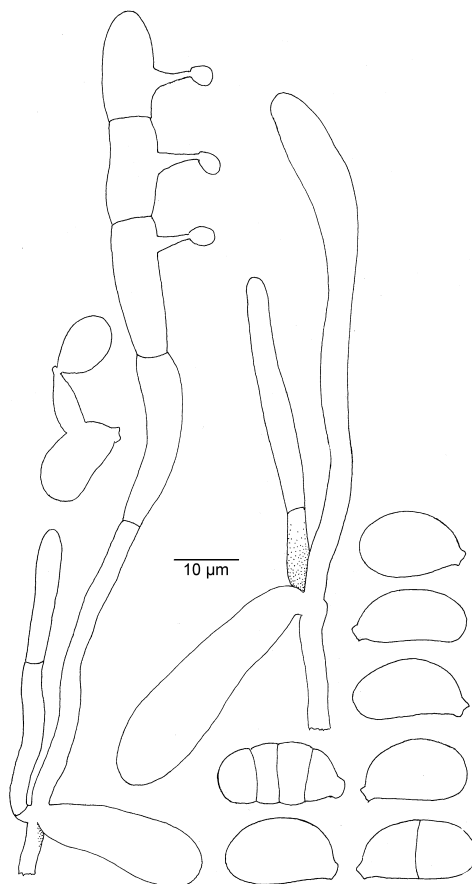


Fig. 1. *Helicogloea caroliniana* (Coker) G. E. Baker [P. Roberts, s.n. K(M) 85258]. Basidia, showing probasidial sacs; basidiospores, one self-replicating, two showing septa.

NOTES. The two collections cited above were made on old, rotten, pollarded elms in steep and densely shaded deciduous woodland at the edge of a fjord. In the field, they were mistaken for poor specimens of *Exidia thuretiana* (Lév.) Fr., but under the microscope it was clear that they belonged to the auricularioid genus *Helicogloea* Pat., typified *inter alia* by its distinctive probasidia (Fig. 1).

Known species of *Helicogloea* in Europe are either thin, effused, and ceraceous-athelioid [*H. farinacea* (Höhn.) D. P. Rogers and *H. graminicola* (Bres.) G. E. Baker] or thin, effused, and gelatinous (*H. lagerheimii* Pat.). The Norwegian collections are macroscopically and microscopically distinct, but closely match the North American species, *Helicogloea caroliniana*, described on oak from North Carolina, USA. According to the type description in Coker (1920), the basidiomes formed 'an extensive, crumpled, convoluted cushion of irregular thickness [...] pallid straw to pallid white [...] subgelatinous'. The probasidial sacs were described as measuring '25.0–45.0 × 8.5–16.0 μm', and the basidiospores '15.0–17.0 × 7.0–7.7 μm'. These characters match the Norwegian collections well, as do the illustrations in Coker (1920) and Baker (1936).

The following key differentiates known European species of *Helicogloea*:

1. Hyphae with clamp-connections; basidiomes thin, white, effused 2
- 1* Hyphae lacking clamp-connections; basidiomes effused or pustular-tuberculate 3
2. Basidiospores 8.5–12.5 × 5.0–6.5 μm; probasidial sac 12–16 × 8–9 μm
..... *Helicogloea graminicola*
- 2* Basidiospores larger, 9.5–17.0 × 8.0–11.0 μm; probasidial sac larger, 30–50 × 12 μm
..... *Helicogloea farinacea*
3. Basidiomes thin (under 2 mm deep), effused, violaceous-grey; basidiospores 8.0–12.0 × 4.5–6.0 μm
..... *Helicogloea lagerheimii*
- 3* Basidiomes thick (over 2 mm deep), pustular or coalesced and tubercular, whitish; basidiospores larger, 12–19 × 7–10 μm
..... *Helicogloea caroliniana*

***Achroomyces chlamydospora* P. Roberts, sp. nov.**
(Fig. 2)

Basidiomata nulla, in hymeniis Helicogloea carolinianae parasitica. Hyphae 1.0–2.5 μm latae, fibulatae. Basidia semel transeptata, 15–18 × 5–6 μm. Chlamydosporae oblongae, 7–15 × 4–5 μm, dextrinoideae. Basidiosporae oblongae vel cylindratae, 8.5–13.0 × 4.0–5.0 μm.

Basidiomes not present, the species occurring intrahymenially in basidiomes of *Helicogloea caroliniana*. Hyphae 1.0–2.5 μm wide, thin-walled, with clamp-connections. Probasidia absent. Basidia arising from clamp-connections, oblong, 15–18 × 5–6 μm, becoming once-septate. Sterigmata

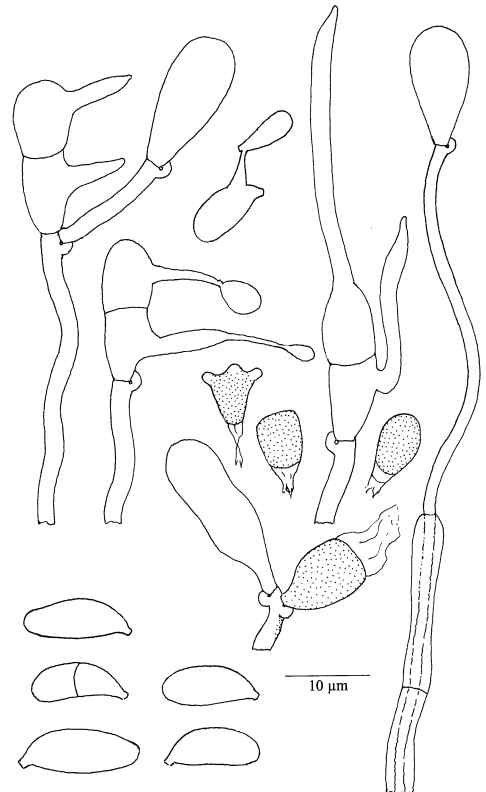


Fig. 2. *Achroomyces chlamydospora* P. Roberts, sp. nov. [drawn from holotype, P. Roberts, s.n. K(M) 85276]. Two-celled basidia; basidiospores, one self-replicating (above), one showing septum (below); chlamydospores (shaded), probably arising from sterile basidium (shaded); young basidium arising from narrow, clamped hypha emerging from hypha of the host.

lateral or terminal, *ca* 7–35 μm long. Chlamydo-spores oblong or clove-shaped, 7–15 \times 4–5 μm , probably derived from segments of sterile basidia, often with remnants of subtended hyphae attached, sometimes with four short, hyaline projections, yellowish in alkali, becoming weakly but distinctly dextrinoid in Melzer's reagent. Basidiospores oblong to cylindrical ($Q = 1.7\text{--}2.6$), *ca* 8.5–13.0 \times 4.0–5.0 μm , occasionally becoming once-septate when mature, sometimes producing secondary spores, germination not seen.

TYPE: NORWAY. SOGN OG FJORDANE: Luster, Loi, in basidiome of *Helicogloea caroliniana* on rotten *Ulmus* wood, 8 Sept. 2000, *P. Roberts, s.n.* [HOLOTYPE: K(M) 85276; ISOTYPE: O].

OTHER SPECIMEN EXAMINED. NORWAY. SOGN OG FJORDANE: Luster, Loi, in basidiomes of *Helicogloea caroliniana* on rotten *Ulmus* wood, 8 Sept. 2000, *P. Roberts, s.n.* [K(M) 85258].

NOTES. This cryptic, intrahymenial species was found in both collections of *Helicogloea caroliniana*, cited above. It is immediately distinguished from its host by the narrow, clamped hyphae and two-spored basidia. The parasitic hyphae appear to emerge from (and can be detected within) the

host hyphae, but the host-parasite interface was not clearly seen (see Fig. 2). The chlamydo-spores are abundant in mounts from the two collections cited above. It is not wholly clear how they arise, but it seems most probable that they are formed from the two separated segments of sterile basidia. Basidiospores are rather uncommon, but appear distinct from those of the host.

Achroomyces chlamydo-spore has no obvious relationship with any other known species of auricularioid fungi. For the time being it is placed in the catch-all genus *Achroomyces* Bonord., pending further research.

ACKNOWLEDGEMENT. Thanks to Prof. Leif Ryvarden of Oslo University for facilitating the visit to the Nordic Congress in September 2000.

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Received 10 February 2002