A NEW LICHENIZED ATHELIA FROM FLORIDA

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Several species of the genus *Athelia* show a close relationship with either free-living algae or algae within lichens. Although most taxa of *Athelia* live as saprophytes, a growing number of species is known to form basidiolichens and as such grow constantly together with algae which do not seem to be much damaged.

Apart from the species which are known as parasites of algae and lichens, there are three species which live symbiotically with filamentous Cyanophyceae (Algae), viz. *Athelia andina* Jülich, *A. epiphylla* Pers., and *A. phycophila* Jülich. *Athelia epiphylla* occurs mostly as a saprophyte on a variety of substrates, whereas the other two species are only known as basidiolichens. *Athelia andina* and *A. phycophila* are devoid of clamps at every septum of the basidiocarp, but *A. epiphylla* shows some clamp-connexions on the basal hyphae.

The specimen which I received from Professor J. Poelt (Graz, Austria) develops a clamp at every septum and deviates in this respect clearly from the three above mentioned species. The spores are distinctly broadened at the basal part, a feature also known from *A. andina*, but rather uncommon within the Corticiaceae. In all characters it is a typical *Athelia*: the basidiocarp is more or less pellicular, the subiculum is rather loose, the hyphae are straight, more or less cylindrical and clearly visible, and in the hymenial part a tuft of clavate basidia is formed; the spores are thin, hyaline, smooth, and inamyloid.

Thus the specimen which Prof. Poelt collected in Florida just prior to the Second International Mycological Congress, belongs undoubtedly to the genus *Athelia*, but is not conspecific with any of the known species of that genus. Hence it is here described as a new species, dedicated to Prof. Poelt who not only collected the specimen but who, as my teacher, also introduced me into the exciting world of fungi and guided my work on the taxonomy of the Corticiaceae.

Athelia poeltii Jülich, *spec. nov.*—Fig. 1a

Carposoma resupinatum, effusum, molle, membranaceum vel pelliculare, margine indistincta; rhizomorphae desunt. Hymenium laeve vel paulum grandinioideum, albidum. Systema hypharum monomiticum. Hyphae hyalinae, cylindraceae, 4–6.5 μm latae, fibulatae. Cystidia non evoluta. Basidia hyalina, maturitate clavata, 15–18 × 5.5–6.5 μm, laeves, fibulata, tetraspora. Sporae hyalinae, ovatae, 5.5–6 × 4–4.5 μm, tenui-tunicatae, inamyloideae. — Hab.: supra filamenta Cyanophyceae.

Typus: *J. Poelt*, Black Hammock prope Oviedo, Sandford Co., Florida, America septentrionalis, 27.8.1978 (GZU, L).

Basidiocarp annual, resupinate, small, effused up to several mm, 80–150 μm thick, loosely adnate; consistency soft-membranaceous to pellicular; context homogeneous; margin whitish, indistinct; rhizomorphs or hyphal strands lacking. Hymenial surface whitish, even to very slightly grandinioid. Hyphal system monomitic. Hyphae hyaline, cylindrical, sometimes slightly flexuous, loosely arranged in subhymenium and trama, branching near the septa, 4–

6.5 μm in diam. in subhymenium and trama, rather firm-walled in all parts of the basidiocarp, with smooth surface; clamps present at every septum; contents homogeneous. Cystidia lacking. Basidia hyaline, clavate when mature, more or less ellipsoidal when young, 15–18 × 5.5–6.5 μm, thin-walled, with smooth surface, with four subulate sterigmata; a basal clamp always present; contents homogeneous. Spores hyaline, ovate, distinctly broadened near the base, with a small apiculus, 5.5–6 × 4–4.4 μm, not glued together, thin-walled, with smooth surface, not amyloid; contents homogeneous.

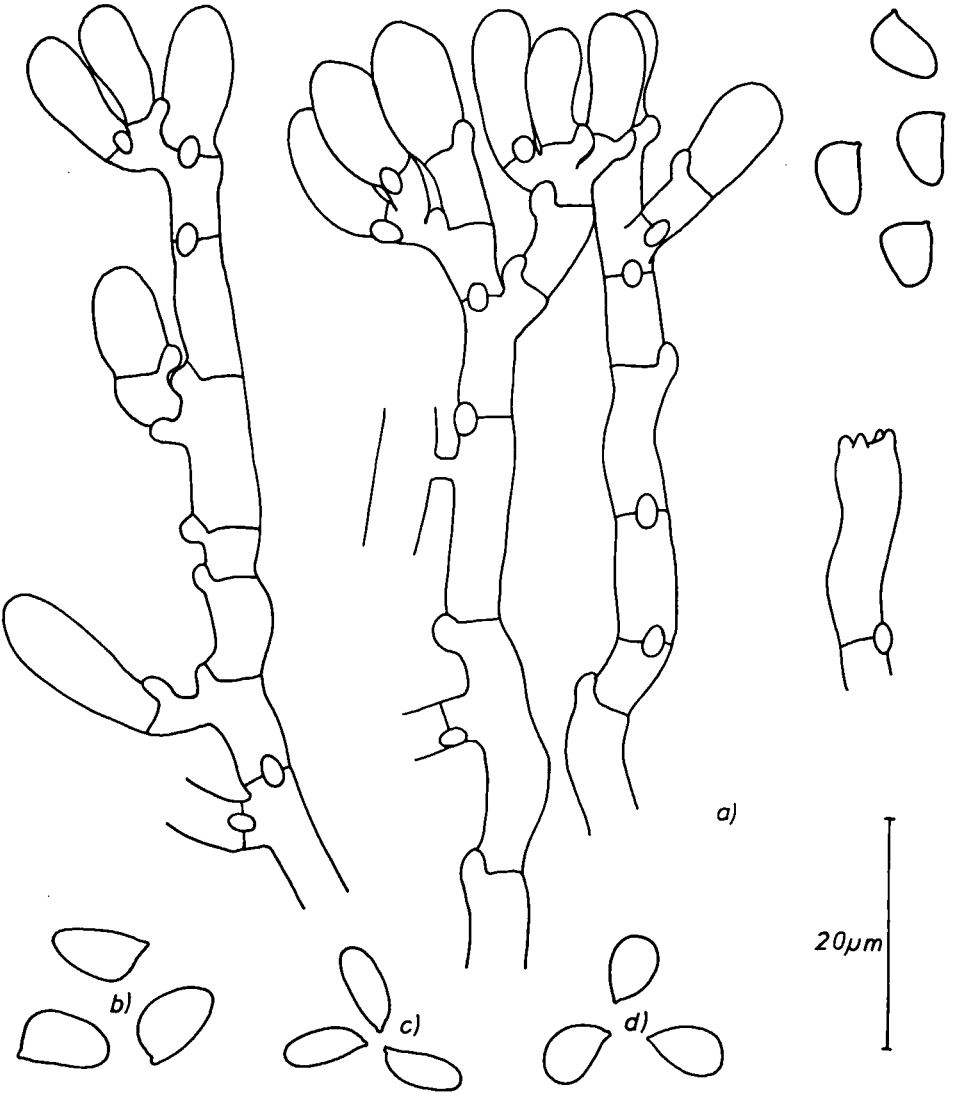

Fig. 1. Lichenized species of *Athelia*. — a. *A. poeltii* (holotype). — b. *A. andina*, spores. — c. *A. epiphylla*, spores. — d. *A. phycophila*, spores.

REACTIONS.—No part of the basidiocarp is amyloid or dextrinoid.
CYTOLOGY.—Spores 1-, hyphae 2-, young basidia 2-nucleate.
SUBSTRATE.— Weakly parasitic on filamentous Cyanophyceae.
DISTRIBUTION.—Only known from the holotype-collection.
SPECIMEN STUDIED.—U.S.A., Florida, Sanford Co., Black Hammock near Oviedo, Sabal-Quercus-forest, 27.VIII.1978, *J. Poelt* (Holotype in GZU, part of holotype in L).

KEY TO THE LICHENIZED SPECIES OF ATHELIA
(for a full description see Jülich, *1972*)

1a. Clamps present at all septa of the hyphae, also at the base of the basidia. Spores 5.5–6 × 4–4.4 μm. Known only from Florida . . . . . *A. poeltii* Jülich
b. Clamps absent or only occasionally present at some septa of the trama, never present in the subhymenium or at the base of the basidia 2
2a. Spores more or less cylindrical or narrowly ellipsoid, (5.5–)6–7.5(–8) × 2.8–3.2 μm. Known from Europe, North America, Russia, and Venezuela . . . . . *A. epiphylla* Pers.
b. Spores broader, distinctly pyriform or ovate 3
3a. Spores pyriform, the apical part distinctly broadened, 5–6.5 × 3.5–4.2 μm. Known only from Venezuela . . . . . *A. phycophila* Jülich
b. Spores ovate, the basal part distincyly broadened, 5.5–6 × 4–4.5 μm. Known only from Venezuela *A. andina* Jülich

REFERENCE

JÜLICH, W. (1972). Monographie der Athelieae (Corticiaceae, Basidiomycetes). *In* Willdenowia, Beih. 7: 1–283.