

## Collemopsidium angermannicum, a widespread but rarely collected aquatic lichen

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The new combination *Collemopsidium angermannicum* (Degel.) A.Nordin is proposed and information on the morphology, ecology and distribution of the species is given, together with a distribution map of Swedish localities. *Pyrenocollema strontianense* (Swinscow) R.C.Harris is reduced to synonymy.

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During work with material collected by G. E. Du Rietz on shores and banks of lakes and rivers in northern Sweden in the 1950-ies and 1960-ies (Nordin 2002), I came across a specimen with a thin, dark thallus and inconspicuous, scattered perithecioid ascomata, which eventually turned out to be identical with the type material of *Arthopyrenia angermannica* Degel., by then only known from the type collection (Degelius 1931). Since the photobiont is a yellowish pigmented cyanobacterium and not *Trentepohlia*, as was stated by Degelius (1931), it became clear that the generic position should be reconsidered. Harris (1975) placed the North American cyanophilous *Arthopyrenia*-like species in *Pyrenocollema*, which was adopted in the fifth American checklist (Egan 1987) and later by European authors (e. g. Santesson 1993). However, according to Grube & Ryan (2002), the type of *Pyrenocollema* is most probably a parasite on *Nostoc* and does not agree with the other species. The species treated by them – three marine species also occurring in Scandinavia – were instead placed in *Collemopsidium*, where also

*Arthopyrenia angermannica* is better placed. Material of *Pyrenocollema strontianense*, originally described as *Arthopyrenia strontianensis* (Swinscow 1967), was also found to belong to *Collemopsidium angermannicum*, and the names are consequently to be regarded as synonyms.

### **Collemopsidium angermannicum** (Degel.) A.Nordin *comb. nov.*

*Arthopyrenia angermannica* Degelius 1931: 23. – Type: Sweden, Ångermanland, Säbrå par, 'vid Helligumsån nära Helligum', 15.VI.1930, G. Degelius (UPS, holotype!).

*Arthopyrenia strontianensis* Swinscow 1967: 415. – *Pyrenocollema strontianense* (Swinscow) R.C.Harris in Egan 1987: 164. – Type: Scotland, Westerness, Allt Choire Mhuilinn, 2 miles east of Kilchoan, basalt rock in stream, 3.VII.1962, T. D. V. Swinscow (BM, holotype!).

*Short characterization:* Thallus thin, smooth to slightly rimose, dark olivaceous to blackish. Ascomata perithecioid, c. 0.2 mm in diam., scattered, black, sometimes partly

covered by thalline tissue; exciple dark brown throughout or paler in lower part, thickened around ostiolum; involucrellum absent; pseudoparaphyses numerous, richly branched and anastomosing; asci obovate, c. 100 x 25 µm, fissitunicate; spores colourless, 1-septate, 17–26 x 6–12 µm, upper cell often wider than lower. Photobiont cyanobacterial, cells globose, 3–9 µm, or sometimes slightly elongate and up to 12 µm long, cells densely aggregated in irregularly formed clusters and enclosed in yellowish to slightly brownish pigmented envelopes.

*Ecology:* *Collemopsidium angermannicum* grows on often submerged siliceous or calciferous rocks at margins of lakes and rivers. In the terminology of Du Rietz (Nordin 2002) it belongs to the lower or the middle geolitoral zone, in that of Gilbert & Giavarini (1997, 2000) to the submerged zone or the lower splash zone. Associated species include *Verrucaria* spp., *Ephebe lanata*, *Placynthium fabellosum* and *Polyblastia cruenta*.

*Distribution:* The species is known from a few localities in the northern parts of Sweden, but also from one single locality in Blekinge (Figure 1). Outside Sweden it has been reported from Great Britain and North America (as *Arthopyrenia strontianensis* or *Pyrenocollema strontianense*). Apparently it is a widespread species, and it is most probably overlooked and should be looked for in suitable habitats.

*Additional specimens examined* (Swedish material determined by the author in 2001 or 2002): (**England**. *Lancashire*?): River Dee, Bonwm(?), permanently submerged, 1968, Salisbury (BM, two collections). **Scotland**. *Westerness* (*Argyllshire*): Stream by Belsgrove, 2 miles N of Strontian, on granite rock at edge of stream, 1962, Swinscow (BM) (see also type of *Arthopyrenia strontianensis*). **Sweden**. *Blekinge*: Tving par., on shore of lake, 1873, Svanlund (UPS). *Lule Lappmark*: Gällivare par., Lule River, Satisjaure, on vertical rock in rivulet, 1963, Gunnar

Eriksson 360 (UPS; in collection of *Polyblastia cruenta*). *Lycksele Lappmark*: Tärna par., Ume River, Lake Över-Uman, Kåtaviken, rocky shore W of the landing-stage, c. 10 cm below water surface in the lower geolitoral zone, 1960, Du Rietz 1090 (UPS); Lake Över-Uman, island SW of Högstabynäset, E side, on vertical calcareous rock in the middle geolitoral zone, 1960, Du Rietz 2134c (UPS); Kåtabäcken, above the road, loose siliceous stones below water surface, 1960, Du Rietz 2203a (UPS). *Norrbottnen*: Älvsby par., Pite River, Storforsen, W side, bare siliceous rocks in wet depressions above the path towards the rapid, in the middle geolitoral zone, 1962, Du Rietz 537a, 542 (UPS); Åkerselforsen, lower part, N side, small siliceous rock just below the rocky point, in the middle geolitoral zone, 1962, Du Rietz 587c, 597 (UPS). *Pite Lappmark*: Arvidsjaur par., Pite River, Benbryteforsen, S side c. 60 m below the bridge, 65°54'N, 19°59'E, alt. 185 m, on slightly sloping siliceous rock in the middle geolitoral zone, 2002, A. Nordin 5449 (UPS); Nedre Ljusseleforsen, S side just below the bridge, siliceous rock in the upper part of the middle geolitoral zone, 1962, Du Rietz 472 (UPS). *Ångermanland*: see type of *Arthopyrenia angermannica*.

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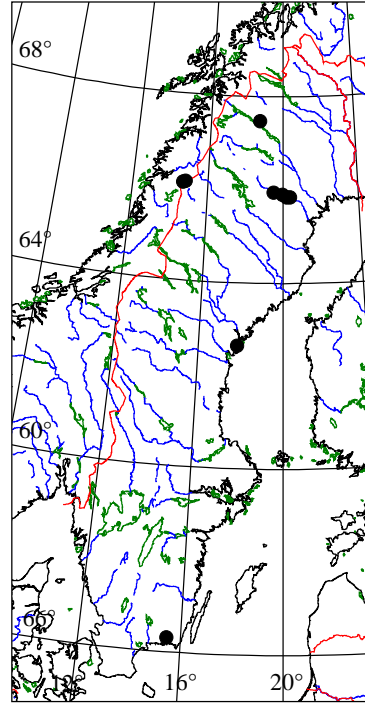


Figure 1. Known Swedish distribution of *Collemopsidium angermannicum*.