

## Cystoderma adnatifolium and *C. arcticum* n.sp. in Spitzbergen

HARRI HARMAJA

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*Cystoderma adnatifolium* (Peck) Harmaja (Agaricales: Tricholomataceae) is reported from Spitzbergen (Svalbard) for the first time. A new species, *Cystoderma arcticum* Harmaja, is described from Spitzbergen. It belongs to the group of *C. fallax* Smith & Sing., but has larger spores than the other species of the group.

Harri Harmaja, Botanical Museum, University of Helsinki, Unioninkatu 44, SF-00170 Helsinki, Finland

During my revisory work on the genus *Cystoderma* Fayod (Agaricales: Tricholomataceae), I examined the material collected in Spitzbergen (Svalbard) by Finnish mycologists from Turku University. One of the two specimens, an unpublished record, represents *C. adnatifolium* (Peck) Harmaja, which has not been reported before from arctic or oroarctic areas. The other specimen represents an undescribed species of the *C. fallax* Smith & Sing. group and will be described below as *C. arcticum* Harmaja. This specimen has been published as *C. granulorum* (Batsch: Fr.) Kühn. by Ohenoja (1971). Representatives of this genus are evidently infrequent in Spitzbergen; Ohenoja (1971) mentions only one earlier record from the area (likewise of *C. granulorum*).

### *Cystoderma adnatifolium* (Peck) Harmaja

*Specimen examined*: Norway, Spitzbergen, Isfjorden, Longyearbyen, 1.VIII.1977 Paavo Kallio (TUR 72531).

### *Cystoderma arcticum* Harmaja, n.sp.

*Cystoderma fallacis* similis. *Ab ea praecipue differt sporis distincte maioribus, 6.0–8.0 (–10.0) × 4.0–6.0 μm, non nec sclerosporis et sclerobasidiis dextrinoideis. E loco arctico collecta est. – Holotypus*: Norway, Spitzbergen (Svalbard), Isfjorden, Longyearbyen, meadow below the village, 22.VIII.1966 Esteri Kankainen (now Ohenoja; TUR 69527).

The great majority of the spores are rather broadly ellipsoid, some being moderately ellipsoid and some subglobose-lacrymoid. Good non-collapsed spores are observed on the pileus surface, but they are found in variable amounts in the gills as well. This new species belongs to the group of *C. fallax*, differing from all the other species known in the group chiefly in its larger spores and the fact that minor

proportions of the spores and basidia consist of conspicuous thick-walled somewhat dextrinoid sclerospores and sclerobasidia. Moreover, the other species of the group are mostly inhabitants of boreal and/or montane coniferous forests, none of them having been collected beyond or above the forest limit, while *C. arcticum* was collected in the middle arctic zone (cf. Eurola 1968). *C. tuomikoskii* Harmaja (Harmaja 1979) is closely related to *C. arcticum*, but its spores measure 5.2–7.2 × 3.7–4.5 μm and are slightly differently shaped, and its sphaerocysts are more coarsely encrusted, so that the pileus colour is darker. The dry pileus of *C. arcticum* is rusty brown, and the dry gills are devoid of a pink tinge (which is usually present in *C. fallax*).

Although the specimen of *C. arcticum* was published as *C. granulorum*, Ohenoja (1971) observed that it had a fairly distinct ring around the stipe and that the spores were larger than those of *C. granulorum*. On the other hand, the spore size was given as averaging only 6.2 × 4.0 μm and the spore wall was reported to be inamyloid. Afterwards the specimen has been named as *C. fallax*, by Ohenoja herself.

It is probable that some of the records of *C. fallax* and *C. amianthinum* (Scop.) Konr. & Maubl. from Iceland (Hallgrímsson 1973), the record of *C. sp.* from Alaska (Kobayasi et al. 1967), and the records of *C. fallax* and *C. tuomikoskii* from Alaska (Laursen & Ammirati 1982) actually refer to *C. arcticum*.

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