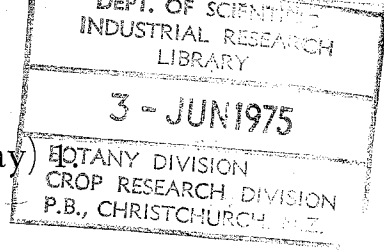


Operculate Discomycetes from Rana (Norway) *Chalazion sociabile* gen. nov., sp. nov.

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Dissing, H. & Sivertsen, S. 1975. Operculate Discomycetes from Rana (Norway) 1. *Chalazion sociabile* gen. nov., sp. nov. *Norw. J. Bot.* 22, 1-4.

The new genus *Chalazion*, with one species: *C. sociabile*, is described and illustrated. The very small, white, soil-inhabiting fruit bodies with large, thick-walled, non-amyloid asci and large, biseriate, cyanophilic, warty spores place it in a unique position quite far from other known Discomycetes.

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At the end of August 1971, incidental observations of the operculate Discomycetes in the district of Rana, Norway, were made by one of us (S.S.). As these observations were rather promising, the present authors commenced a joint field survey during the first week of September 1972. The work was continued in the fall of 1973.

The survey has been kept roughly within the boundaries of the municipality of Rana. The district has proved very rich in operculate Discomycetes. Material consisting of about 120 species was collected during the two periods. The geological conditions are variable with a profusion of limestone and dolomite marbles extending from sea level into the low-alpine belt. The climate is pronounced suboceanic in the area of study, but with some local variation due to topography. The large glaciers in the Svartisen and Okstindene areas on either side of the municipality serve as evidence of the generally heavy precipitation. Considerable expanses of spontaneous spruce forests cover the lowland, while *Betula* dominates the

deciduous woods especially above, though also below the conifer limit. Dense *Alnus incana* stands are common, while *Ulmus* occurs sporadically at the head of the Rana Fjord.

The project's main field work is to be concluded in 1975. The results of the studies will be published in a series of smaller papers treating selected problems. Finally, a catalogue of the species, giving also a full presentation of the area and the collecting sites, will be made. The collected specimens will be deposited in the herbarium of the Royal Norwegian Society of Sciences and Letters, Trondheim (TRH) with a suitable selection of duplicates or parallel collections at the Botanical Museum, Copenhagen (C).

CHALAZION Dissing et Sivertsen gen. nov.

Carposoma parvum, superficiale, discoides vel pulvinatum, albidum vel colore perpallido, grandinem parvam revocans, unde nomen. Excipulum exterius simplex, e cellulis cyanophilis membranibus tenuibus compositum, nullis pilis vestitum. Asci operculati, magni, promi-

mentes, non amyloides, clavati, membranis crassis. Paraphyses hyalinae vel colore perpallido, septatae, sursum incrassatae. Ascosporae biseriatae, membranis crassis, colore nullo, maturae ornamentis cyanophilis notatae, guttulas continentes.

Species typifica: *Chalazion sociabile* Dissing et Sivertsen 1975.

CHALAZION Dissing & Sivertsen gen. nov.

Fruit bodies small, superficial, discoid to pulvinate, whitish or very lightly pigmented. Outer excipulum simple, of thin walled, cyanophilic cells, without hairs. Asci operculate, large, protruding, non-amyloid, clavate, thick walled. Paraphyses hyaline or very lightly coloured, enlarged above, septate. Ascospores thick walled, biseriate, colourless, with guttules, at maturity with a cyanophilic ornamentation.

Type species: *Chalazion sociabile* Dissing & Sivertsen.

Etymology: Greek: Chalazion = small hail.

Chalazion sociabile Dissing et Sivertsen sp. nov.

Carposmata sparsa, superficialia, sessilia, omnino albida, 300–600 μm lata, initio subsphaerica, marginibus inconspicuis, matura turbinata vel pulvinata, marginibus carentia, ascis valde prominentibus.

Excipulum exterius 20–30 μm crassum, e stratis perpauca cellularum compositum cyanophilicarum serias subparallelas laxa cohaerentes formantium, membranas tenues exhibentium, apicalibus paraphysium forma similibus, 30–45 \times 8–10 μm magnis, mediis doliiformibus, 20–30 \times 10–15 μm magnis, basalibus subsphaericis, 25–35 \times 20–30 μm diam. Superficies excipuli ob hyphas laxa contextas paulum inaequa.

Hymenium ad 165 μm altum. Asci octospori, haud amyloides, pleurorhynchi, clavati, apice rotundati, breviter stipitati, 165–200 \times 30–40 μm magni, operculo orbiculari, valde conspicuo, convexo, ad 12 μm lato, juvenes membranis ad 6 μm crassis, maturi 2–3 μm crassis induti, juvenes tincturam cotton blue avidè intra suscipientes. Paraphyses colore nullo, ad septa constrictae, apice saepe curvae incrassatae, nullis ramificatis vel anastomoses formantibus visis, cellulis apicalibus granulosis, 24–33 μm longis, 5–10 μm latis, inferi-

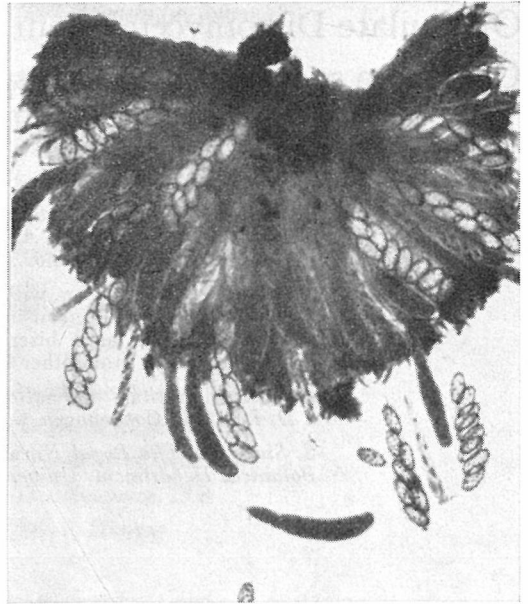


Fig. 1. *Chalazion sociabile*. Fruit body, in cotton blue; note the excipulum is very thin (from Mo 73.60, Holotype). \times 135.

oribus manifesto brevioribus, 10–15 μm longis.

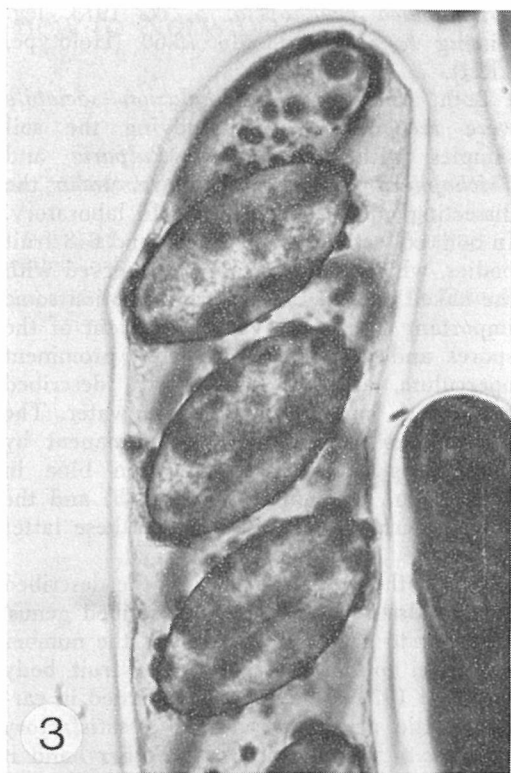
Sporae biseriatae, ellipsoides, raro paulum asymmetricae, membranis crassis indutae, colore nullo, 32.3–33.2–35.6 \times 14.9–16.1–17.5 μm magnae, primum laeves, demum verrucis hemisphaericis vel subregularibus cyanophilis carminophilis, 2–4 μm latis, 2–3 μm altis, interdum connatis vel carinulis conjunctis ornatae, initio vacuola multa parva, deinde bina magna guttulis circumdata, demum farte guttulas solum continentes (Scutellinae scutellatae multum ad instar), bullis debaryanis nullis visis.

Typus die 5 Sept. anni 1973 cum *Trichophaea woolhopeia* in solo calcario loci oppido norvegico Mo i Rana 7 km in occidentem siti sub numero Mo 73.60 ab auctoribus lectus, in Herbario Nidrosiano (TRH) depositus; paratypus die 4 Sept. anni 1972 cum *Pulparia* (= *Marcelleina*) sp. eodem loco sub numero Mo 72.07 ab iisdem lectus, in Herbario Hauniensi (C) depositus.

Chalazion sociabile Dissing & Sivertsen sp. nov.

Figs. 1–3.

Fruit bodies scattered, superficial, sessile, whitish all over, 300–600 μm broad, first



Figs. 2-3. *Chalazion sociabile*. Fig. 2. Asci with spores, in cotton blue; the ornamentation of the spores and the content of young asci are cyanophilous. $\times 700$. Fig. 3. Upper part of ascus with spores, in cotton blue. $\times 1000$ (Figs. 2-3 from Mo 73.60, Holotype).

nearly globose, with a barely visible margin, when mature turbinate to pulvinate, without margin; asci strongly protruding.

Outer excipulum 20-30 μm thick, made up of very few layers of loosely connected, sub-parallel rows of cyanophilic, thin walled cells, which above are paraphyse-like, 30-45 \times 8-10 μm , below drum-shaped, 20-30 \times 10-15 μm , and at the base subglobose, 25-35 \times 20-30 μm . The surface appears slightly rough due to the loose context of the excipulum.

Hymenium to 165 μm high. Asci 8-spored, non-amyloid, pleurorhynchous, clavate, rounded above and with a short stipe, 165-200 \times 30-40 μm , with a very prominent circular, convex operculum, up to 12 μm broad; young asci with very thick walls, till 6 μm thick, the wall is 2-3 μm thick when mature. Content of young asci heavily staining in cotton blue. Paraphyses colourless, often curved and enlarged above, top cell

with a granular content, 24-33 μm long, 5-10 μm broad, cells below distinctly shorter, 10-15 μm long, with constrictions at the septa; no branching or anastomosing paraphyses seen.

Spores biserial, ellipsoid, rarely slightly asymmetrical, thick walled, colourless, 32.3 - 33.2-35.6 \times 14.9-16.1-17.5 μm , first smooth, finally ornamented with semiglobular or slightly irregular, cyanophilic, carminophilic warts, 2-4 μm broad, 2-3 μm high. Occasionally the warts are fused or connected by low ridges; ascospores first with many small vacuoles, later with two large vacuoles and small guttules, finally filled up with small guttules (much like *Scutellinia scutellata*). No de Bary bubbles seen.

Material: Norway: Nordland, Rana, Store Alteren, 7 km W of Mo in Rana, on calcareous soil, together with *Pulparia* (= *Marcellina*) sp., 4. ix. 1972, leg. Dissing & Sivertsen, Mo 72.07 (C); - *ibid.*, together with

Trichophaea woolhopeia, 5. ix. 1973, leg. Dissing & Sivertsen, Mo 73.60 (Holotype, TRH).

Both collections of *Chalazion sociabile* were recognized when studying the soil samples with material of *Pulparia* and *Trichophaea*, as indicated above, under the dissecting microscope in the field laboratory. In both collections there were found 6–8 fruit bodies, which could hardly be observed with the naked eye. In the above description some important characters, viz. the content of the spores and paraphyses, the very prominent operculum, and the colours, are described from fresh material mounted in water. The same slides were made semi-permanent by substituting the water by cotton blue in lactophenol. The photos (Figs. 1–3) and the final description are made from these latter slides.

For us there is no doubt that the described species also represents an undescribed genus. In order to get an impression of the number of nuclei in the ascospores, one fruit body from the 1973 collection was mounted in carminoacetic acid, but without a satisfactory staining of the nuclei. On the other hand it was seen that the warty ornamentation on the spores was stained by the dye.

Since information on cytological and cultural characters is lacking, a serious discussion of the possible relationship to genera in the family Thelebolaceae must await studies of further collections. As the spore characters of the genus would appear strongly deviating within this family as currently defined, in-

formation on the cytology of vegetative cells of *Chalazion* should be considered necessary before its inclusion there (see Kimbrough 1972). A possible relationship to genera in other currently recognized families within Pezizales (Eckblad 1968, Korf 1972) appears at present very problematic.

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