

Zeitschrift: Mycologia Helvetica
Herausgeber: Swiss Mycological Society
Band: 4 (1990-1991)
Heft: 2

Artikel: Wood-inhabiting resupinate fungi from southern Switzerland :
Gloeodontia columbiensis Burt ex Burdsall & Nakasone
Autor: Martini, Elia
DOI: <https://doi.org/10.5169/seals-1036492>

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Wood-Inhabiting Resupinate Fungi from Southern Switzerland

1. *Gloeodontia columbiensis* Burt ex Burdsall & Nakasone

Elia Martini
CH-6676 Bignasco

Summary. *Gloeodontia columbiensis* (Basidiomycetes, Auriscalpiaceae) is reported for the first time in Europe. A description and illustration, based on collections made in Ticino, are provided.

Riassunto. *Gloeodontia columbiensis* (Basidiomycetes, Auriscalpiaceae) viene descritta e illustrata sulla base di raccolte effettuate in Ticino. Si tratta della prima segnalazione per l'Europa.

Zusammenfassung: Das Vorkommen von *Gloeodontia columbiensis* (Basidiomycetes, Auriscalpiaceae) wird erstmals für Europa nachgewiesen. Ein Fund aus dem Tessin wird beschrieben und illustriert.

Résumé: *Gloeodontia columbiensis* (Basidiomycètes, Auriscalpiacées) a été trouvé pour la première fois en Europe. Une collection faite au Tessin est décrite et illustrée.

Gloeodontia Boidin is a small corticioid genus belonging to the Auriscalpiaceae. It was introduced for *Irpex discolor* Berk. & Curt., a species with dimitic hyphal system, thickwalled and encrusted cystidia, gloeocystidia staining blackish in sulphobenzaldehyde, and amyloid spores. The genus was later amended to include *G. columbiensis* Burt ex Burdsall & Lombard, a monomitic species otherwise sharing the same characters. Recently the circumscription of the genus has become somewhat vague because of the inclusion of poorly known species such as *G. americana* Rajchenberg from Brazil, which has no skeletocystidia, and *G. pyramidata* (Berk. & Curt.) Hjortstam from Cuba, a disputed species on account of the uncertain presence of gloeocystidia and structure of the hyphal system. No species of *Gloeodontia* were known to occur in Europe up to now.

Gloeodontia columbiensis is present in the northern United States and Canada where it has been found on dead wood of *Acer*, *Alnus*, *Populus*, *Pinus* and *Salix* (Burdsall & Lombard 1976; Lindsey & Gilbertson 1978). Outside this area, it has been reported only by Hallenberg (1978 & 1981), who collected it in North Iran on a fallen branch and a twig from deciduous trees.

The three collections presented here were made in Ticino, southern Switzerland, in two localities 2 km apart: one site in a dry and sunny *Fagus*

forest and the others in a humid wood dominated by *Tilia cordata*. The very different habitat suggests that *G. columbiensis* may not be too infrequent in European subalpine deciduous woods.

Gloeodontia columbiensis Burt ex Burdsall & Lombard

Mem. NY Bot. Gard. 1976, 28: 17.

Basidiome resupinate, effuse, closely adnate, subceraceous to submembranous, crustose on drying; **hymenial surface** white to pale yellowish (Munsell 10 YR 8/3, 8/6), initially porulose, discontinuous with sparse small tubercles visible with a lens, becoming continuous and distinctly odontoid with small crowded conical teeth, up to 1 mm long, sometimes fimbriate at the apex by the protruding cystidia. **Subiculum** very thin, up to 100 μm . **Margin** indistinct or gradually thinning out.

Hyphal system monomitic, all hyphae with clamps at the septa. **Subhymenial hyphae** hyaline, thinwalled, 1.5-3.2 μm , short celled. **Tramal hyphae** hyaline, with thickening walls, strongly intertwined and agglutinated, rather indistinct, 2-4 μm in diam. **Subicular hyphae** few, hyaline to pale yellowish, thickwalled, regular, with more spaced septa, 3-4 μm wide. **Cystidia** cylindrical, thickwalled, strongly encrusted, somewhat fasciculate in the core of aculei and protruding through the apex, irregularly spreading out laterally, variable in length, up to 9 μm in diam. **Gloeocystidia** numerous, reacting positively with sulphobenzaldehyde, thinwalled, ventricose, vesicular, cylindrical, often with a small, rounded, apical appendage, 20-40(-70) \times 5-8 μm . **Basidia** clavate, often with a median constriction and somewhat stalked, 16-32 \times 5-6 μm , with a clamp at the basal septum and bearing four sterigmata up to 4(-5) μm long. **Spores** ellipsoid, finely asperulate, smooth or nearly so in KOH, thickwalled, hyaline or very pale yellowish, strongly amyloid, acyanophilous, (5-) 5.5-6.0-6.8 (-7.2) \times 3.8-4.3-4.8 μm , Q= 1.38-1.44 (measured in Cotton Blue), with a small lateral apiculus.

Specimens examined. Switzerland, Ticino, Valle Bavona, Mondada, 540 m above sea level, on fallen, decorticated and decayed branch of *Tilia cordata*, 23. X. 1987 [EM-1511]; Mondada, 600 m, on decorticated, moist and decayed branch of angiosperm wood, 3. III. 1990 [EM-2480]; Val Serenello, 1000 m, on a more or less decorticated, dry branch of *Fagus sylvatica*, 9. VII. 1988 [EM-18851].

Remarks. The species is easily recognised by the presence of peculiar characters; thickwalled and encrusted cystidia, monomitic hyphal system, sulphopositive gloeocystidia and amyloid, slightly thickwalled and ornamented spores. *Gloeodontia discolor*, the type species of *Gloeodontia*, is readily separated by a dimittic hyphal system and smaller spores measuring 3.5-4.5(-5.5) \times 2.5-3(-3.5) μm (Burdsall & Lombard 1976). Worthy of mention is the loss of spore ornamentation when treated with KOH and the presence of

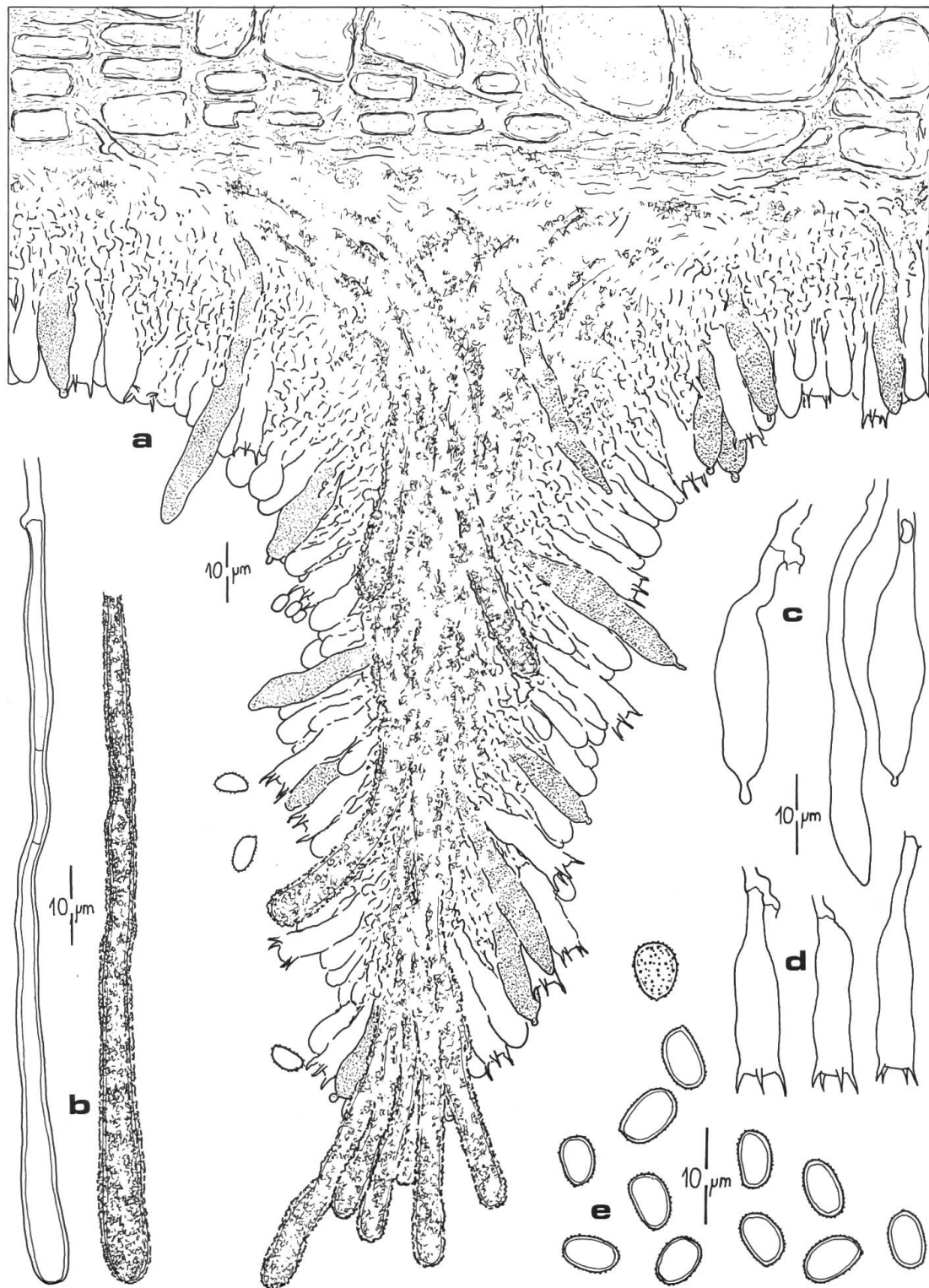


Figure 1: *Gloeodontia columbiensis* [coll. EM-1511]. a) vertical section through basidiome, b) thickwalled and encrusted cystidia, c) gloeocystidia, d) basidia, e) spores.

skeletocystidia that can superficially lead to species of the genus *Steccherinum*, like the rare *Steccherinum litschaueri* which has a reduced dimitic hyphal system; yet this genus has neither gloeocystidia nor amyloid spores.

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