

## Two New and Unusual Mollisioid Discomycetes

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Müller, Emil (Wieslerstrasse 15, CH-8702 Zollikon, Switzerland). Two new and unusual mollisioid discomycetes. Mem. New York Bot. Gard. 49: 311-314. 1989. Two unusual inoperculate discomycetes, *Pyrenopeziza granulosa* and *Mollisia rumicis*, are described. These taxa are atypical in their respective genera. The problems with their classification are discussed.

Key Words: Ascomycetes, *Pyrenopeziza*, *Mollisia*, taxonomy

### Introduction

Two large genera, *Mollisia* (Fr.) Karsten and *Pyrenopeziza* Fuckel, as well as several closely related genera, occupy a key position within the family Dermateaceae (Helotiales). Unfortunately, the *Mollisia*-*Pyrenopeziza* complex causes a number of taxonomic problems, as has been demonstrated in the publications of several past and living authors. The main problem occurs at the generic level: there are simply no clear gaps between *Mollisia*, *Pyrenopeziza*, and the related genera *Pirottaea* Sacc., *Tapesia* Fuckel, *Niptera* Fr., and *Beloniopsis* (Sacc.) Rehm. The well documented attempts to more clearly define these genera (e.g., Aebi, 1972; Hütter, 1958; LeGal & Mangelot, 1956, 1958, 1960, 1961, 1966; Nannfeldt, 1935, 1985, 1986) exclude a number of species that are currently uncomfortably included in either *Mollisia* or *Pyrenopeziza* (Hütter, 1958; Nannfeldt, 1986).

According to Hütter, the genera *Mollisia* and *Pyrenopeziza* can be distinguished on the basis of apothecial anatomy, morphology, and relation of the apothecium to the substrate (Table I). Similarly, Nannfeldt (1985) gave a clear definition of *Pirottaea*, in which the salient feature of the genus is the formation of dark, thick-walled apothecial setae.

*Mollisia* and *Tapesia* cannot be satisfactorily separated because the subiculum that characterizes *Tapesia* is not consistently formed. Given, then, that there is no clear distinction between *Mollisia* and *Tapesia*, one might suggest amalgamating the two genera, with *Tapesia* being the older name. It is, however, precocious to suggest amalgamation. A large number of described *Mollisia* and *Tapesia* species are imperfectly known and it is highly likely that at least some of them will not fit into a redefined *Mollisia*/*Tapesia*, but will rather require their own genera. Until a thorough review of all of these species is undertaken, authors will continue to maintain these genera. The two fungi described below are such problematic species. Both were collected in the Alps above 2000 m on herbaceous stems, but they are otherwise very different from each other.

*Pyrenopeziza granulosa* E. Müller, sp. nov.

Figs. 1-4.

Apothecia caulicola, superficialia, solitaria, cupuliformis, 500-700  $\mu\text{m}$  diam., 350-450  $\mu\text{m}$  altitudine, grisea fusca, margine clariori. Excupulum duobus stratis compositum, stratum exterius textura angularis globosa, granis numerosis ornatum; stratum interius textura prismatica, margine setis cellulatis brunneis orna-

tum. Asci cylindrici, J+, 60–70 × 6–7 μm, octospori, paraphysibus filiformibus circumdati. Ascosporeae elongato-fusoideae vel cylindriceae, unicellulatae, hyalinae, 8–15 × 2–2.5 μm. Hab. in caulibus emortuis *Cirsii spinosissimi* (L.) Scop.; Helvetia, Raetia, in regione Albula, 2300 m, 24.8.1980, leg. E. Müller (ZT).

Apothecia caulicolous, scattered, superficial, 500–700 μm diam., 350–450 μm high, grey-brown, distinctly lighter towards the margin, involuted when dry, round when wet, flat. Excipulum composed of two layers, outer layer 6–8 μm thick, cells abruptly transforming into subhyaline *textura prismatica* towards the interior, with a ring of brownish, cylindric hairs near and at the margin, hairs cylindric, ≤60 μm long × 33–34 μm wide; at exterior of excipulum clusters of dark brown, extremely thick walled cells (grana) forming, clusters sometimes growing out as short, thin-walled, brownish, 2–3 μm thick, hyphal appendages. Asci cylindric to narrowly clavate, 60–70 × 6–7 μm, apical plug minute, J+ (iodine); 8-spored, ascospores biseriatae. Ascospores bacillar to elongate-fusoid, 8–15 × 2–2.5 μm, straight, unicellular, hyaline. Paraphyses filiform, distinctly longer than the asci.

HOLOTYPE. Switzerland. Kt. Grison: Albulapass, summit, 2300 m, on overwintered stems of *Cirsium spinosissimum*, 24 Aug 1980, E. Müller (ZT).

ADDITIONAL SPECIMEN EXAMINED. SWITZERLAND. KT. GRISON: Albula region, path to Murtel digl Crap alv, 2100 m, on overwintered stems of *Cirsium spinosissimum*, 5 Sep 1978, E. Müller, O. Petrini & G. J. Samuels (ZT).

NOTES. Almost all of the characteristics of *Pyrenopeziza granulosa* correspond to the genus *Pirottaea* (as interpreted by Nannfeldt, 1985). *Pirottaea*, however, is distinguished primarily through the formation of dark apothecial setae, and these are lacking in *Pyrenopeziza granulosa*. *Pyrenopeziza escharodes*, discussed by Nannfeldt (1985), joins *P. granulosa* in the same developmental line as *Pirottaea*, but *P. granulosa* may be the only species to have such marked, dark excipular grana. Both specimens of *P. granulosa* occur on *Cirsium spinosissimum*, a plant endemic to the Alps that supports a rich mycobiota on its stems and leaves.

*Mollisia rumicis* E. Müller, sp. nov. Figs. 5–8.

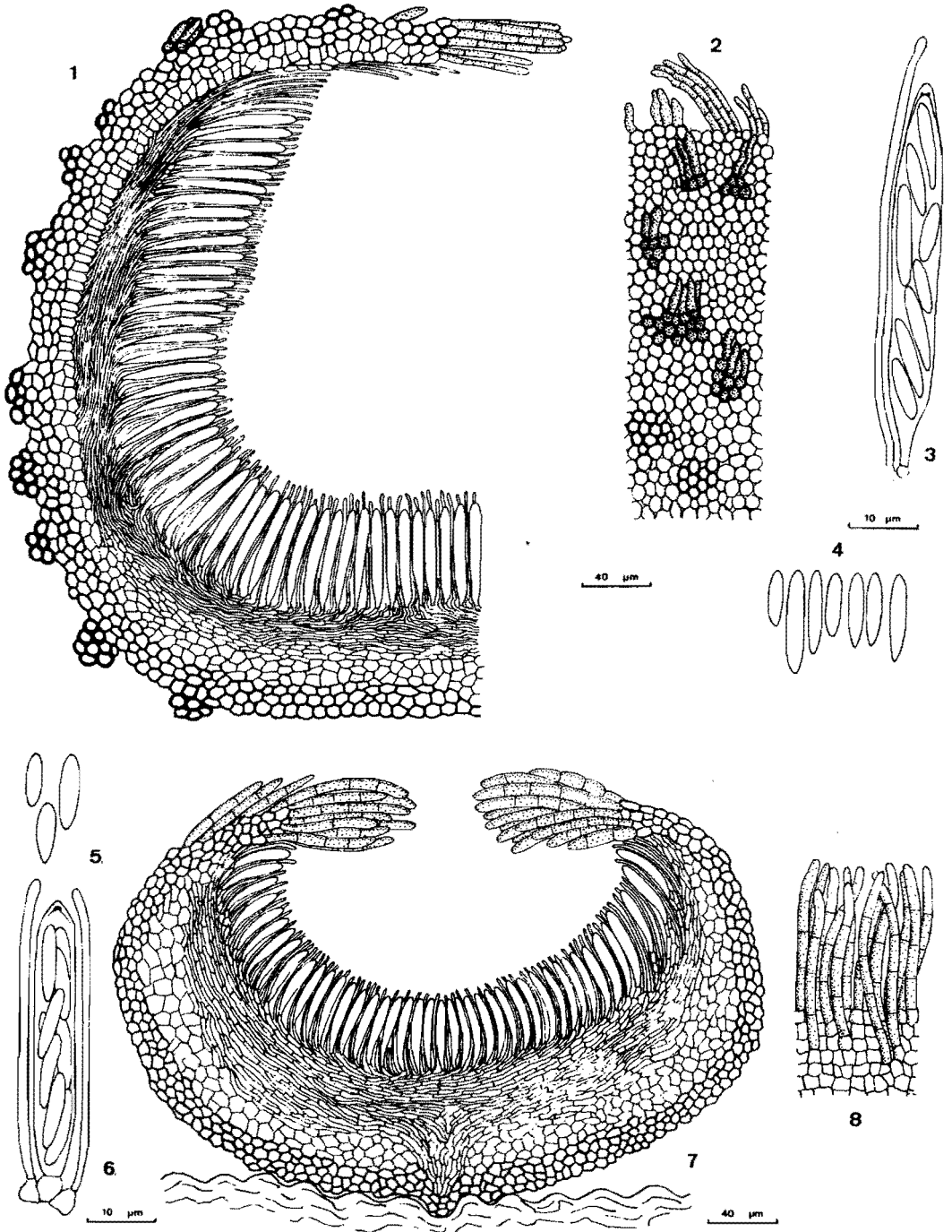
Apothecia in caulibus emortuis, solitaria, cupuliformia, 400–500 μm diam., 200–300 μm

Table I  
Diagnostic differences between  
*Mollisia* and *Pyrenopeziza*

<i>Mollisia</i>	<i>Pyrenopeziza</i>
Apothecia basally flat with a plug-like anchorage, composed of elongated, hyaline cells.	Apothecia basally rounded, without anchorage; if a plug-like anchorage is formed it is composed of isodiametric cells.
Margin without free hairs, mostly ending with clavately swollen cells.	Margin mostly beset with long, free hairs, which only rarely are apically swollen.
Apothecia erumpent in an early developmental stage, or superficial from the beginning.	Apothecia mostly immersed at first but later becoming erumpent.

altitudine, basaliater breviter stipitatae. Excipulum 30–40 μm crassum, duobis stratis compositum; stratum exterius 10–14 μm crassum, cellulis isodiametricis, 6–10 μm diam., brunneis compositum; stratum interius 15–25 μm crassum, cellulis isodiametricis, hyalinis compositum. Asci cylindrici, apicaliter iodo coeruleascenti, octospori, 38–45 × 2–2.5 μm, ascosporeae 9–13 × 2–2.5 μm. Paraphyses filiformes. Hab. in caulibus emortuis *Rumicis alpinis* L.; Helvetia, Raetia, in regione Albula, Crap alv, 14.7.1983, leg. E. Müller (ZT).

Apothecia caulicolous, cup-shaped but often irregular in outline, opening widely, 400–500 μm diam., 200–360 μm high, almost superficial but with a distinct, minute, ± immersed hypostroma composed of hyaline, elongated cells, located in the center of the flat apothecial base. Excipulum basally ≤40 μm thick, thinnest at sides, two-layered; external layer 10–14 μm thick, composed of brown, polyhedral, 6–10 μm diam. cells; interior layer 20–25 μm wide at base, thinner at sides and absent at the margin, composed of thin-walled, polyhedral, hyaline cells. Margin and outermost excipular cells with pointed fascicles of cylindrical, hyphal hairs; hairs cylindric, ≤60 μm long × 6 μm wide, light brown, ends pointed. Hypothecium 20–30 μm thick, thinner towards the margin, composed of parallel, elongated, thin-walled, hyaline cells. Asci cylindrical, 38–45 × 5–6 μm, tip conical, J+, base broadly attached to cells of the hypothecium; 8-spored, ascospores biseriatae. Ascospores cylindrical, 9–13 × 2–2.5



FIGS. 1-4. *Pyrenopeziza granulosa*. 1. Section through portion of an apothecium ( $\times 250$ ). 2. Portion of the surface of lateral excipulum with clusters of grana, some with short lateral hairs ( $\times 250$ ). 3. Asci and paraphyses ( $\times 1000$ ). 4. Ascospores ( $\times 1000$ ).

FIGS. 5-8. *Mollisia rumicis*. 5. Ascospores ( $\times 1000$ ). 6. Ascus with paraphyses ( $\times 1000$ ). 7. Median section through an apothecium ( $\times 250$ ). 8. Portion of surface of apothecial margin with hairs ( $\times 250$ ).

$\mu\text{m}$ , often  $\pm$  curved, unicellular, hyaline. Paraphyses filiform, extending beyond the asci.

HOLOTYPE. Switzerland. Kt. Grison: Albula region, path to Murtel digl Crap alv, 2100 m, on *Rumex alpinus*, 14 Jul 1983, E. Müller (ZT).

NOTES. The apothecium of *M. rumicis* is anchored to the substrate by plug-like basal stroma (Fig. 7). This stroma is typical of *Mollisia*, but the margin has hairs that are seen in many species of *Pyrenopeziza* (e.g., *P. chamaenerii* Nannf.). This ring of hairs is very conspicuous and may obscure the whole apothecial opening. Thus, the fungus shares characteristics of both genera. *Mollisia rumicis* does not conform completely to the protologue of *Mollisia*, as emended by Hütter (1958) but, because free marginal hairs are not always present in *Pyrenopeziza* [e.g., *P. petiolaris* (Alb. & Schw.) Nannf.], it is better to accommodate this taxon in *Mollisia*.

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