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Studies in the genus *Mollisia* s. l. II: Revision of some species of *Mollisia* and *Tapesia* described by J. Velenovský (part 1)

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The author presents the results of his revision of several mollisiaceous species described by J. Velenovský. Some of these are seen as good species and are combined into *Mollisia*: *M. ladae* comb. nov., *M. peruni* comb. nov., *M. phragmitis* comb. nov., *M. velenovskyi* nom. nov. *Tapesia sesleriae* is seen as a nomen dubium and *Mollisia sesleriae* ss. Krieglsteiner (1999) is therefore described as *M. lothariana* spec. nov.

Key words: Ascomycota, *Helotiales*, *Dermateaceae*, *Mollisioideae*, type studies.

Gminder A. (2006): Studie rodu *Mollisia* s. l. II: Revize některých druhů rodů *Mollisia* a *Tapesia* popsaných Josefem Velenovským (část 1). – Czech Mycol. 58(1–2): 125–148.

Autor předkládá výsledky své revize některých druhů mollisioidních hub popsaných J. Velenovským. Některé z nich jsou dobrými druhy a jsou přeřazeny do rodu *Mollisia*: *M. ladae* comb. nov., *M. peruni* comb. nov., *M. phragmitis* comb. nov., *M. velenovskyi* nom. nov. *Tapesia sesleriae* se jeví jako pochybný druh a *Mollisia sesleriae* ss. Krieglsteiner (1999) je proto popsána jako *M. lothariana* spec. nov.

INTRODUCTION

Velenovský (1934) in his circumscription of the family *Mollisiaceae* Rehm includes the genera *Belonidium*, *Belonopsis*, *Cejpia* gen. nov., *Coronellaria*, *Crustula* gen. nov., *Mollisia*, *Niptera*, *Tapesia* and *Trichobelonium*. Velenovský (1947) later added the new (monotypic) genera *Capricola*, *Cornuntum*, *Pseudoniptera* and *Robincola*. In this part of the study the types of *Pseudoniptera* as well as several species of *Mollisia* and *Tapesia* were examined.

METHODS

Abbreviations: CRB = cresyl blue (aqueous), H_2O = tap-water, IKI = Lugol's solution (1%), KOH = potassium hydroxide 3%, MLZ = Melzer's reagent, Q = length-width ratio of the spores, vol. = spore volume ($l \times b^2 \times 0.523$, according to the formula of a rotation ellipsis). In the description of the spores the notation (20/1/1) stands for 20 spores from 1 apothecium of 1 collection measured.

All drawings come from dried material mounted in 3% KOH.

For further explanations and an introduction to the methods used in the examination of mollisioid fungi by the author see Gminder (1996) or an updated version at http://www.mollisia.de.

RESULTS AND DISCUSSION

Mollisia anserina Velen., Monogr. Discom. Bohem., p. 124, 1934 Fig. 1a-b

Collection examined: Czech Republic, Bohemia, Mnichovice, in fimo anserino, IV. 1931, leg./det. J. Velenovský (PRM 152223 = holotype).

The packet contains one small part of a grass leaf, with a few mollisioid apothecia.

Description. Apothecia very small, 0.2–0.5 mm diam., not seated on a subiculum, roundish, margin not very conspicuous, disc watery light grey to greyish-white, external surface brownish only near the base.

Ectal excipulum consisting of a textura globulosa-angularis, brownish only near the base, towards the margin ± hyaline, no subicular hyphae seen. Marginal cells not very conspicuous, sphaeropedunculate to broadly claviform, ± hyaline. Medullary excipulum hyaline, without crystals. Subhymenium a hyaline textura intricata and together with the hymenium approximatively 60 µm thick. Paraphyses cylindrical, 2–2.5 µm broad, septate, not reacting yellow when KOH is added. Asci 35–38 × 4–4.5 µm, with croziers, reacting dark blue when adding Lugol either to a water– or a KOH-preparation. Ascospores narrowly elliptical, one end more pointed than the other, without or with only very few tiny droplets at one or both ends, 7–8 × 2 µm (only a few ascospores observed).

Discussion. In the original diagnosis, Velenovský states the substrate to be dung of goose, which could not be verified by the examination of the only specimen. Furthermore, the ascospore length of 8–12 µm (living material in water) given by Velenovský was longer than the value of 7–8 µm found by the author. The author is convinced, that this specimen is identical with *Mollisia palustris* (Roberge) P. Karst.

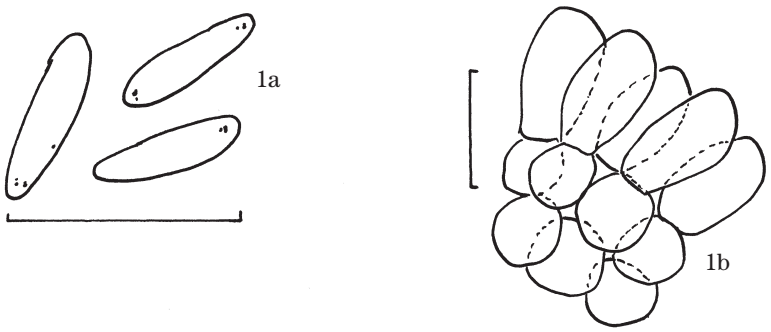


Fig. 1. *Mollisia anserina* Velen. (PRM 152223 = holotype).
a. Ascospores. **b.** Marginal cells. Del. A. Gminder (scale bars = 10 µm).

Mollisia betulina Velen., Monogr. Discom. Bohem., p. 117, 1934 Fig. 2a-b

Collection examined: Czech Republic, Bohemia, Mnichovice, Kunice, ad truncum *Betulae*, 29. IX. 1928, leg./det. J. Velenovský (PRM 152300 = holotype).

The packet of PRM 152300 is indicated as a lectotype, but I can see no reason why this should not be the holotype. No other collection was mentioned by Velenovský and the data on the label („Mnichovice, Kunice, ad truncum *Betulae*, 29. 09. 1928“) agree fully with the protologue („in superficie trunci secti *Betulae* prope Kunice in copia vasta, sept. 1928“).

It contains two small pieces of hardwood (approximatively 1 cm^2 each), containing many apothecia in apparently overmature state.

Description. Apothecia small, saucer-shaped, hymenium ochraceous greyish.

Ectal excipulum consisting of a textura globulosa-angularis consisting of brownish cells. No subicular hyphae were observed. The marginal cells are inconspicuous, balloon-shaped and ± greyish brown. Medullary excipulum and subhymenium are of a yellow-brownish textura, the coloration apparently due to the bad condition of the specimen and most likely hyaline in fresh state. The same is true for the hymenium, so that a possibly positive reaction with KOH may have been masked. Therefore it is not clear, whether this is a KOH-positive species or not. Paraphyses cylindrical, approximatively 2 µm broad. Asci 50–60 × 5–6 µm, clavate. Due to the poor state of the apothecia it could not be verified whether croziers are present or absent. Porus reacting blue in IKI, with and without KOH pretreatment. Ascospores broadly elliptical, ovoid to slightly ciborioid, ends rounded, rarely with one small drop near each end, 4–5.1–6 × 2–2.3–2.8 µm (10/1/1 in KOH), Q = 1.8–2.2–2.3(2.7), vol. = 9–14–20 $µm^3$.

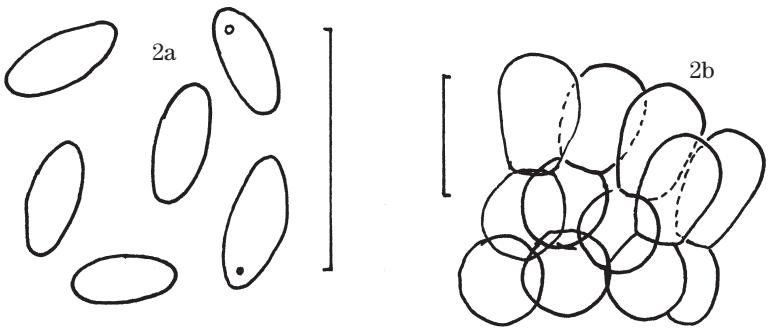


Fig. 2. *Mollisia betulina* Velen. (PRM 152300 = holotype).
a. Ascospores. **b.** Marginal cells. Del. A. Gminder (scale bars = 10 µm).

Discussion. The collection is quite rich, but unfortunately in a bad state. Possibly it was collected in an overmature state. The overall structure indicates that it belongs to *Mollisioideae*, but is not necessarily a *Mollisia*.

A species with similar small ascospores is *M. aquosa* (Berk. et Broome) W. Phillips, which is in fact a *Pyrenopeziza* (H.O. Baral, pers. comm.). A recent collection from the herbarium of Krieglsteiner (389/91KR in STU, det. H.O. Baral) agrees in all features with PRM 152300 except for a higher oil content of the ascospores. This may be due to the fact that the collection from STU is only 10 years old and the latter is much older and poorly preserved. For the moment I consider *M. betulina* a synonym of *M. aquosa*.

Pseudoniptera quercina Velen., Novit. Mycol. Noviss., p. 108, 1947 Fig. 3a-c

Collection examined: Czech Republic, Bohemia, Mnichovice, Božkov, Bílá Skála, *Quercus*, IX.1941, leg. L. Hostáňová, det. J. Velenovský (PRM 152904 = lectotype, designated here).

PRM 152904 is labelled as holotype, but as the date of collection in the protologue is given as „augusto 1941“ (instead of IX.1941 on the packet) and furthermore Velenovský (1947: 108) stated „in duobus stationibus“, this collection cannot be accepted as a holotype. Nevertheless, it was very likely a part of the authentic material examined by Velenovský for describing his species and is therefore selected as lectotype, although very little material has remained.

The packet contains a portion of a leaf (of *Quercus*, acc. to the herbarium label), with one small and one half of a mature apothecium. Due to the scanty material only a tiny portion was examined.

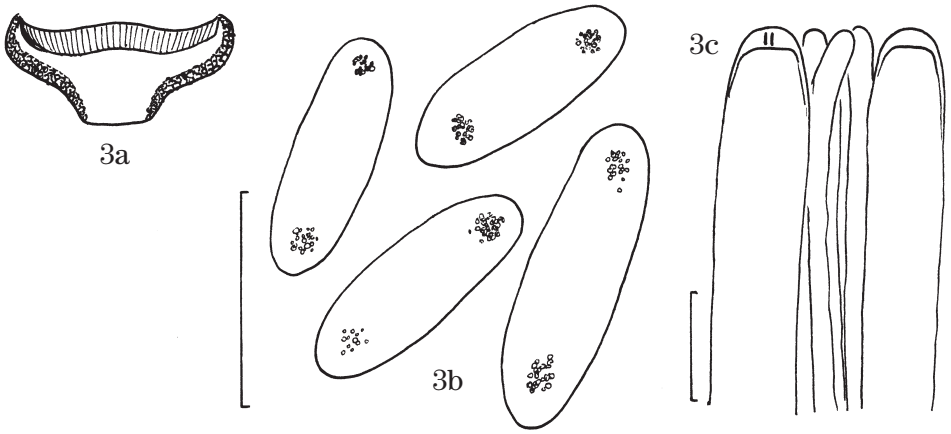


Fig. 3. *Pseudoniptera quercina* Velen. (PRM 152904 = lectotype).
a. Apothecium. **b.** Ascospores. **c.** Ascus with apical pore of the *Hymenoscyphus*-type, paraphyses. Del. A. Gminder (scale bars = 10 µm).

Description. Apothecia turbinate with a broad base, disc brownish, margin concolorous, external surface dark brownish up to margin.

Ectal excipulum consisting of a textura globulosa-angularis of dark brown cells and containing quite some gelatinous substance between the cells. No subicular hyphae were observed, nor any marginal cells. Medullary excipulum orange-yellowish coloured, without crystals. Subhymenium and hymenium of the same colour, together approximatively 120 µm thick. Paraphyses cylindrical, 2-2.5 µm broad. Asci 95 x 8 µm, clavate, probably with croziers (but could not be observed well enough to be absolutely certain), only one single ascus reacted blue when adding Lugol to the KOH-preparation, all others negative, the one porus was clearly of the *Hymenoscyphus*-type. Ascospores elliptical to ciborioid, ends rounded, usually with one group of not always obvious droplets in each end, 11–12.8–14(17) × 4–4.1–4.2(4.5) µm (12/1/1 in KOH), Q = 2.6–3.15–4.3, vol. = 92–111–117(145) µm^3.

Discussion. *Pseudoniptera quercina* clearly is a member of the *Helotiaceae* and judging from the form of the apical porus, it is a species of *Hymenoscyphus* s. l. It might belong to the subgenus *Phaeohelotium*, but is rather exceptional because of the dark brown excipular structure.

As *Pseudoniptera quercina* is the type species of the hitherto monotypic genus *Pseudoniptera*, its systematic position has to be changed from *Dermateaceae* to *Helotiaceae*.

Tapesia alpina Velen., Monogr. Discom. Bohem., p. 132, 1934 Fig. 4a-e

Collections examined: Slovakia, Tatra Magna, *Quercus*, VIII.1924, leg. A. Pilát, det. J. Velenovský (PRM 148518 = lectotype, designated here). – ibidem, VIII.1926 (PRM 154085). – Czech Republic, Bohemia, Mnichovice, *Betula*, VII.1926, leg./det. J. Velenovský (PRM 825007, mixed with *Tapesia crataegi* nom. nud. in herb.).

The packet of the lectotype PRM 148518 contains 5 pieces of hardwood covered with many apothecia all in good condition.

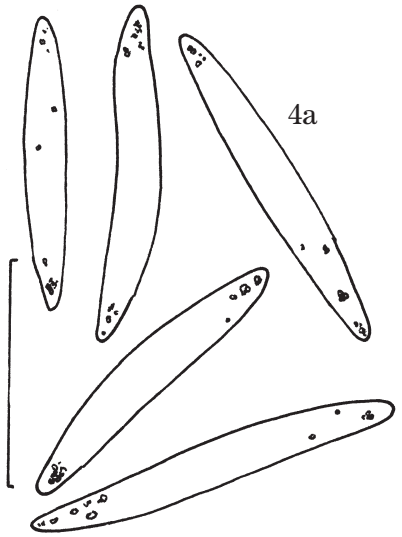
Description (PRM 148518). Apothecia small, 0.8–3 mm diam., seated on a strongly developed brown subiculum, roundish when young, then lobate, margin not very conspicuous, disc greyish-ochraceous (probably greyish when fresh), external surface brownish up to margin.

Ectal excipulum approximatively 60 µm thick, consisting of a textura globulosa-angularis, subhyaline to orange-yellowish. Subicular hyphae 3.5-5.5 µm, not very thick-walled, wall faintly rough, not swelling in KOH. Marginal cells not very conspicuous, sphaeropedunculate to balloon-shaped, towards the margin broadly claviform, brownish. Medullary excipulum approximatively 30 µm thick, hyaline, without crystals. Subhymenium a hyaline textura intricata, together with the hymenium 90-100 µm thick. Paraphyses cylindrical, 2–2.5 µm broad, septate, no yellow reaction noticed when KOH was added. Asci 60–72 × 4.5–5.5 µm, clavate, with croziers, porus 1.5–1.8 × 1–1.2 µm, reacting blue when adding Lugol either to a water– or a KOH-preparation. Ascospores long elliptical to needle-shaped, often bent or curved, ends pointed, usually with few small droplets in one or both ends, 12–14.2–16(17) × 2–2.2–2.5 µm (30/1/1 in KOH), Q = 5.2–6.5-8, vol. = 30–36–45 µm^3.

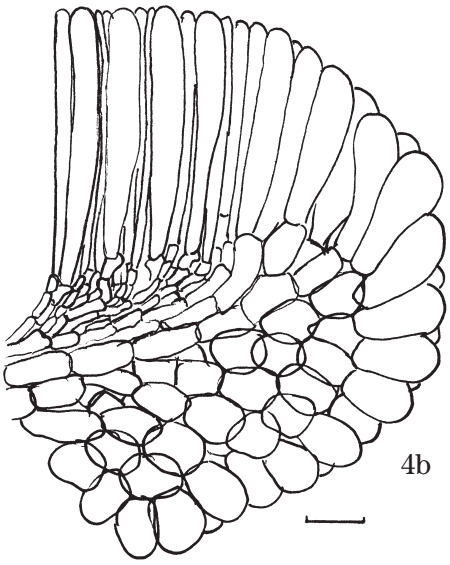
Discussion. The authentic collection, PRM 825007, has been examined and found to be identical with the lectotype in all respects except for the slightly shorter ascospores, which measured (9)10–12.3–15 × 2–2.15–2.5 µm (30/1/1 in KOH), Q: 4.4–5.8–7(7.5), vol.: 20–30–45(50) µm^3. Probably there are more immature ascospores present in this collection. A third collection, PRM 154085, had considerably broader ascospores [13–14.3–17 × 3–3.05–3.2 µm (15/1/1 in KOH), Q: (4)4.3–4.7–5.3(5.7), vol.: 60–70–80 µm^3], but was also identical in all other respects. In my opinion, the three collections represent the same species.

T. alpina is in many respects similar to *Mollisia fusca* (Pers.) P. Karst., but differs by the following characters:

Fig. 4. *Mollisia velenovskyi* Gminder, syn. *Tapesia alpina* Velen. (**a.–b.** PRM 148518 = lectotype, **c.** PRM 825007, **d.–e.** PRM 154085).
a. Ascospores. **b.** Marginal cells and part of the hymenium. **c.** Ascospores. **d.** Marginal cells. **e.** Ascospores, one with germ tube and secondary septation. Del. A. Gminder (scale bars = 10 µm).



4a



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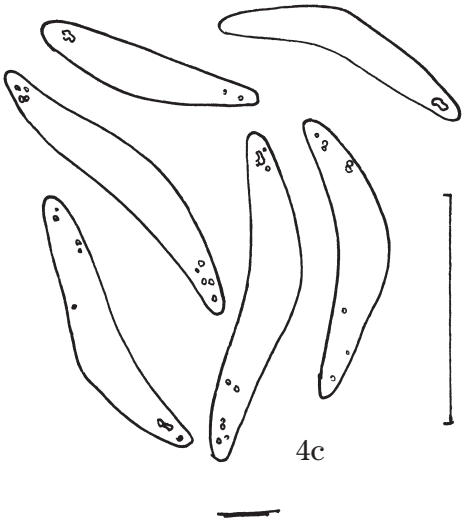

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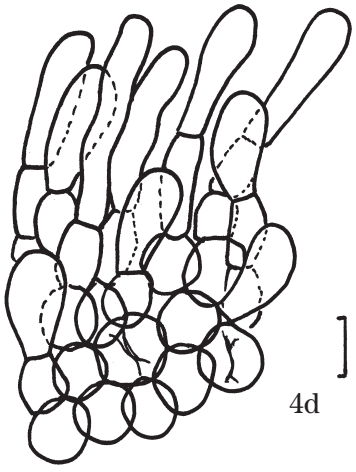

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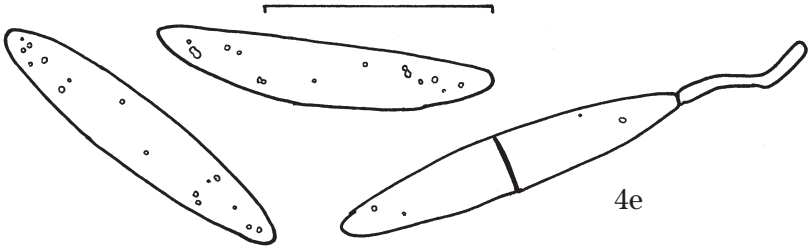


4e

– KOH-reaction negative
– content of the ascospores consisting of only few tiny drops
– marginal cells on average less broad but slightly longer, sometimes 2-3-celled
– subicular hyphae with thinner walls (< 1 µm), not swelling in KOH mounts
– hymenium becoming ochraceous with age, initially seemingly pure grey

These differences, although mainly quantitative, make *T. alpina* a well recognisable, independent species and so far I have not been able to identify it with an older taxon. Therefore *T. alpina* is regarded as a good species. As the epithet cannot be transferred to *Mollisia* because of the existence of the name *Mollisia alpina* Rostr., the species must have a new name:

Mollisia velenovskyi Gminder nom. nov.

Syn.: *Tapesia alpina* Velen., Monogr. Discom. Bohem., p. 132, 1934; non *Mollisia alpina* Rostr., Medd. Groenl. 3: 609, 1891.

Tapesia cinerea Velen., Monogr. Discom. Bohem., p. 142, 1934 Fig. 5a-e

Collections examined: Czech Republic, Bohemia, Mnichovice, prope Struhařov, in foveis aquosis pineti, *Carex vesicaria*, VII.1933, leg./det. J. Velenovský (PRM 153121 = lectotype, designated here). – Mnichovice, Božkov (lacus), *Carex stricta*, VII.1926, leg. A. Pilát, det. J. Velenovský (PRM 147392, as *Tapesia caricina cinerea* in herb.).

The packet of PRM 153121 contains approximatively 10 pieces of *Carex* stems, sparse covered with apothecia (not all checked).

Description (PRM 153121). Apothecia 1.5-4 mm in diam., strongly lobate to nearly discinoid (roundish and only up to 2 mm in PRM 147392), margin not very conspicuous, disc medium grey, external surface brownish up to the margin, no conspicuous subiculum visible.

Ectal excipulum approximatively 50-60 µm thick, consisting of a textura globulosa-angularis, brownish, with remarkably thick walls (gelatinous?). Subicular hyphae very abundant, brown, thick-walled (wall 1-1.5(2) µm), strongly swelling in KOH and then up to 7-8 µm broad. At the place where the apothecium is attached to the matrix short and thick-walled („sclerotioid“). Marginal cells not very conspicuous, sphaeropendunculate to balloon-shaped, towards the margin broadly clavate, brownish. Medullary excipulum approximatively 30-40 µm thick, without crystals, hyaline, cells thick-walled. Subhymenium a hyaline textura intricata, together with the hymenium 80 µm thick. Paraphyses cylindrical, 2–2.5 µm broad, septate, not reacting yellow with KOH, but in PRM 147392 the whole hymenium became orange-yellowish when KOH was added. Asci 52–56 × 5–6 µm, clavate, with croziers, reacting blue when adding Lugol either to a water- or a KOH-preparation. Ascospores asymmetrically elliptical, one end rounded, the other pointed, often slightly curved, usually with few small droplets in one or both

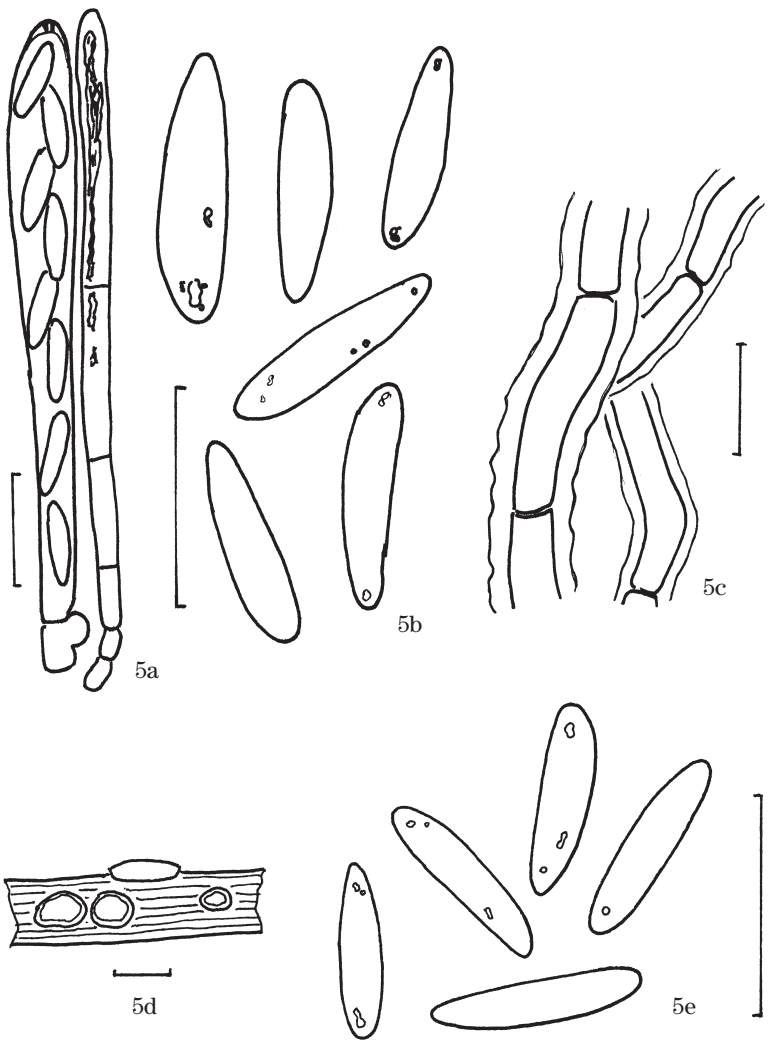


Fig. 5. *Tapesia cinerea* Velen. (**a.-c.** PRM 153121 = lectotype, **d.-e.** PRM 147392).
a. Ascus and paraphyse. **b.** Ascospores. **c.** Subiculare hyphae with swelling walls. **d.** Apothecia. **e.** Ascospores. Del. A. Gminder (scale bars **a.-c.**, **e.** = 10 µm; **d.** = 1 mm).

ends, 8–10.1–12(13) × (2.2)2.5–2.65–2.8 µm (16/1/1 in KOH), Q = 3.2–3.8–4.3(5.2), vol. = 21.5–38–50 µm^3.

Discussion. The authentic collection PRM 147392 was examined and found to be conspecific with the lectotype in all respects except for slightly smaller ascospores, which measure 8–8.6–11 × 1.8–2–2.5 µm (20/1/1 in KOH), Q = 3.6–4.3–5.5, vol. = 13.5–18.5–32.3 µm^3 and the hymenium staining orange-yellowish with KOH.

The species belongs to the complex of *Mollisia palustris*, from which it differs by larger ascospores. As there are so many greyish species described from graminicolous substrates, it seems not very useful to add another new name to this list (the species would deserve a new name in *Mollisia*) before there is more knowledge of that group.

One collection labelled *T. phragmitis* (PRM 153152, see there) is very similar macro– and microscopically, but differs by slightly smaller ascospores with both ends pointed and narrower subicular hyphae which do not show a wall swelling in KOH.

Tapesia eriophori Velen., Monogr. Discom. Bohem., p. 140, 1934 Fig. 6a-c

Collections examined: Czech Republic, Bohemia, Mnichovice, Božkov (lacus), *Carex caespitosa*, IX.1928, leg./det. J. Velenovský (PRM 147734 = lectotype, designated here).

The packet of PRM 147734 contains five small pieces of grass-like stems (*Carex caespitosa* according to specimen label).

Description. Apothecia 0.5–1.5 mm diam., not seated on a subiculum, roundish, margin whitish and slightly fimbriate, disc light grey, external surface brownish, but hyaline at the margin.

Ectal excipulum approximatively 50 µm, consisting of a brown textura globulosa-angularis. Subicular hyphae abundant, short and thick-walled („sclerotioid“) where the apothecium is attached to the matrix, otherwise long and flexuose, light brown, 2–3 µm broad. Marginal cells conspicuous, multicellular, approximatively 25–35 µm long, ± hyaline, end cell utriform or cylindrical, brownish and broadly club-shaped to sphaeropedunculate towards the base. Medullary excipulum only approximatively 20 µm thick, hyaline, without crystals. Subhymenium a hyaline textura intricata, together with the hymenium approximatively 100 µm thick. Paraphyses cylindrical, 2–2.5 µm broad, septate, without reaction when KOH is added. Asci 50–55 × 5–6 µm, clavate to subcylindrical, with croziers, porus with blue reaction when adding Lugol either to a water- or a KOH-preparation. Ascospores asymmetrically elliptical with one pointed and one blunt end, sometimes with tiny droplets in one or both ends or scattered over the ascospore, 8.5–9.8–11 × 2–2.15–2.5 µm (30/1/1 in KOH), Q = 4–4.6–5.5, vol. = 18–23–34 µm^3, non-septate.

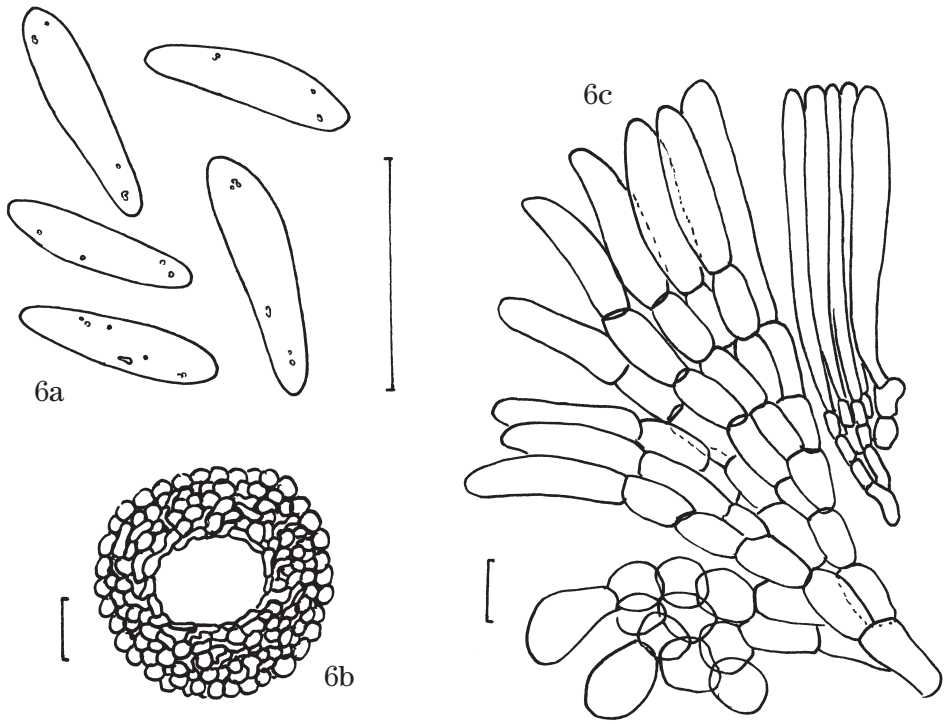


Fig. 6. *Tapesia eriophori* Velen. (PRM 147734 = lectotype).
a. Ascospores. **b.** Apothecium base at the point of attachment. **c.** Marginal cells. Del. A. Gminder (scale bars **a.**, **c.** = 10 µm; **b.** = 100 µm).

Discussion. A species from the *M. palustris* group, differing especially in the conspicuous, hyaline marginal „hairs". As already pointed out, this complex needs further studies before taxonomic decisions could be made. Like in *T. cinerea*, this epithet cannot be transferred to *Mollisia*, because of the existence of the name *Mollisia eriophori* (Opiz 1855) Rehm 1891.

Tapesia globulifera Velen., Monogr. Discom. Bohem., p. 134, 1934 Fig. 7a-e

Collections examined: Czech Republic, Bohemia, Mnichovice, Potočiny, *Rosa canina*, VIII.1931, leg./det. J. Velenovský (PRM 153090 = authentic collection). – Mnichovice, Hubáčkov, *Rosa canina*, 15.VII.1931, leg./det. J. Velenovský (PRM 153169 = holotype).

The packet of PRM 153090 contains one small piece of hardwood with approximatively 10 mollisioid apothecia.

Description (PRM 153090). Apothecia small, 0.5–1 mm diam., not seated on a subiculum, roundish, margin often uneven, whitish and slightly crenulate, disc brownish-orange, external surface brownish only near the base.

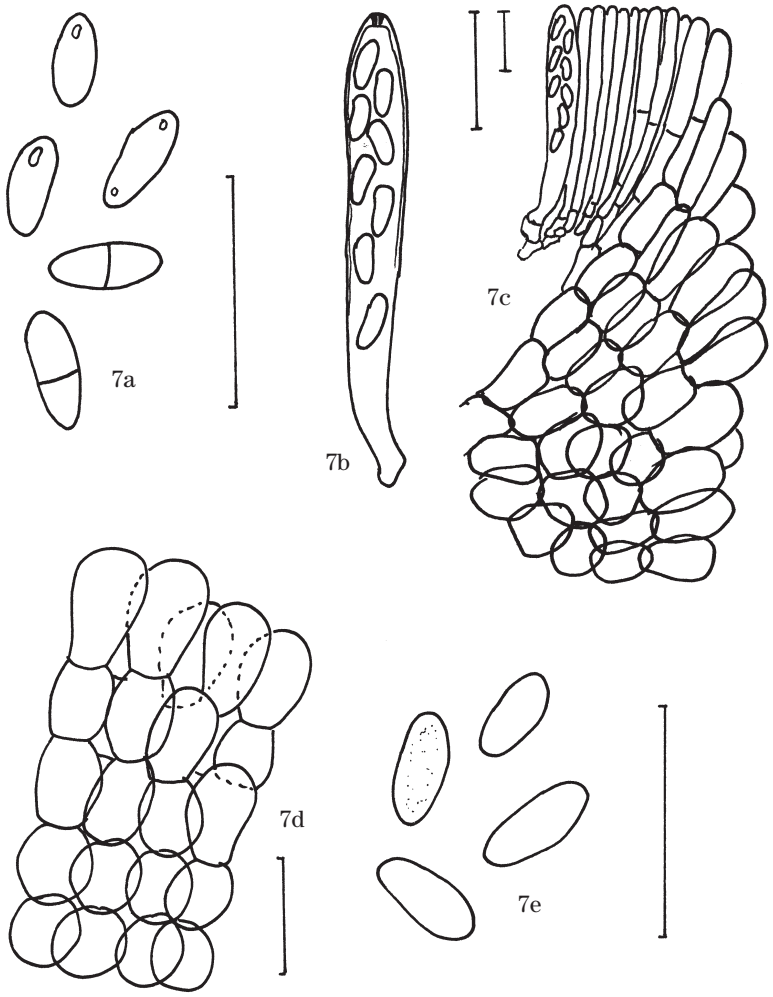


Fig. 7. *Tapesia globulifera* Velen. (**a.-c.** PRM 153090, **d.-e.** PRM 153169 = holotype).
a. Ascospores. **b.** Ascus **c.** Marginal cells. **d.** Marginal cells. **e.** Ascospores. Del. A. Gminder (scale bars = 10 µm).

Ectal excipulum consisting of a textura globulosa-angularis, subhyaline to orange-yellowish, no subicular hyphae seen. Marginal cells not very conspicuous, sphaeropedunculate to broadly claviform, ± hyaline. Medullary excipulum hyaline, without crystals. Subhymenium a hyaline textura intricata. Paraphyses cylindrical, 2–2.5 µm broad, septate, not reacting yellow when KOH is added. Asci 32–40 × 4–5 µm, broadly clavate, with croziers, porus weakly blue with IKI, either in water or with KOH-pretreatment. Ascospores broadly elliptical to egg-shaped, usually with one drop, sometimes in each end one small droplet, (3.5)4–5.5 × 2(2.2) µm, occasionally asymmetrically septate.

Discussion. The colour of the apothecia, the slightly crenulate margin as well as the size and shape of the ascospores resemble species of *Calycina* or *Calycellina*. Also the shape of the asci does not suggest a *Mollisia* species. I first thought it might be an aberrant collection with deformed asci and ascospores or a case of parasitism by a *Helicogonium* species. But the asci and ascospores are too uniform in shape and size to be aberrant and the asci of *Helicogonium* never react blue with iodine (Baral 1999). The holotype, PRM 153169, has ± the same characters, but no crenulate margin has been observed. This collection is even more scanty and the few apothecia seem to be in poor condition (yellow discoloration).

Mollisia betulina is somewhat similar, but this species has longer asci, a stronger porus reaction and different macroscopical characters.

For the time being, *Tapesia globulifera* is not regarded a member of *Mollisia* s. l.

Tapesia ladae Velen., Novit. Mycol. Noviss., p. 111, 1947 Fig. 8a-b

Collections examined: Czech Republic, Bohemia, Mnichovice, Božkov (lacus), *Salix aurita*, 14.VIII.1942, leg./det. J. Velenovský (PRM 153172 = holotype).

The packet contains two pieces of a twig, with only few apothecia in a fairly bad state. The hymenium is discoloured yellowish, probably due to an overmature state or being dried too slowly.

Description. Apothecia 1–2.5 mm diam., roundish when young, greyish-ochraceous, disc yellowish-ochraceous (due to bad preservation?), seated on a visible subiculum.

Ectal excipulum consisting of a textura angularis-globulosa made up of dark brown cells. Subicular hyphae quite abundant, brown, rather thin-walled, 2.5–3.5(4) µm broad. Marginal cells conspicuous, long and slender cylindrically to narrowly claviform, ± hyaline near the margin, brownish towards the base, up to 26–35(40) × 5–7 µm. Medullary excipulum approximatively 30 µm thick, hyaline, without crystals, separated from the subhymenium by a ± distinct mediostratum. Subhymenium a hyaline textura intricata, together with the hymenium approximatively 70 µm thick. Paraphyses cylindrical, 2–2.5(3) µm broad, no contents seen. Asci approximatively 60 × 4 µm, clavate, with croziers, reacting blue with Lugol. Ascospores medium sized, with pointed ends, sometimes in each end

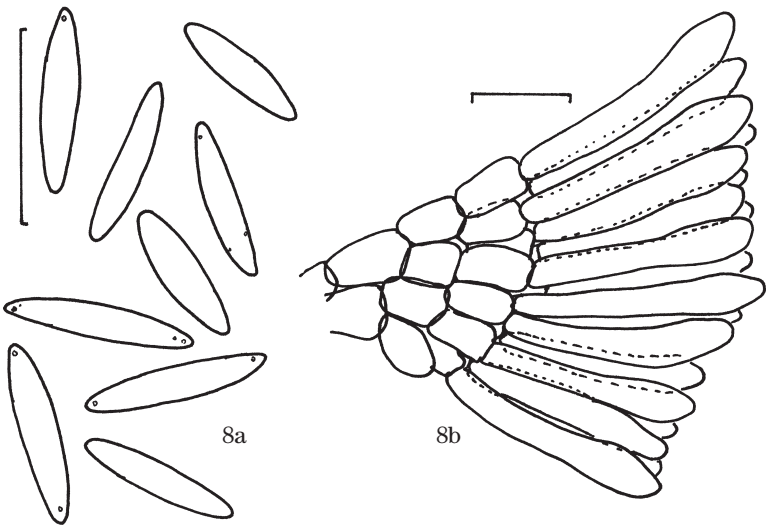


Fig. 8. *Mollisia ladae* (Velen.) Gminder (PRM 153172 = holotype).
a. Ascospores. **b.** Marginal cells. Del. A. Gminder (scale bars = 10 µm).

one small droplet, but many ascospores without contents, 7–10.5 × 1.8–2–2.2 µm (20/1/1 in KOH), Q: 4.2–5.5–6(7.5), Vol.: 1.3–2.8–3.8(5.3) µm^3, non-septate. All observed ascospores were straight, whereas Velenovský (1947) states „nonnullae subcurvatae".

Discussion. The species is characterised above all by the large marginal cells which I have not observed in any other wood inhabiting *Mollisia* except *M. ramealis*, which differs by several characters, e.g. completely different ascospore size and content. Also the pointed ascospores are quite distinctive. Therefore *Tapesia ladae* seems to be a distinct species of *Mollisia* and the following new combination is proposed:

Mollisia ladae (Velen.) Gminder comb. nov.

Basionym: *Tapesia ladae* Velen., Novit. Mycol. Noviss., p. 111, 1947

It would be desirable to collect this species again in fresh state and enlarge the somewhat incomplete description, especially of the ascospore characteristics and the hymenium colour. In the original diagnosis Velenovský (1947) describes the species as turning reddish when bruised or dried which would be a hitherto unique feature within *Mollisia*.

Tapesia peruni Velen., Monogr. Discom. Bohem., p. 135, 1934 Fig. 9a-g

Collections examined: Czech Republic, Central Bohemia: Zvánovice, *Lonicera xylosteum*, VIII.1933, leg./det. J. Velenovský (PRM 812443 = lectotype, designated here). – Radotín, Radotínské údolí, *Acer campestre*, 31.III.1927, leg./det. J. Velenovský (PRM 154087, cited in the protologue).

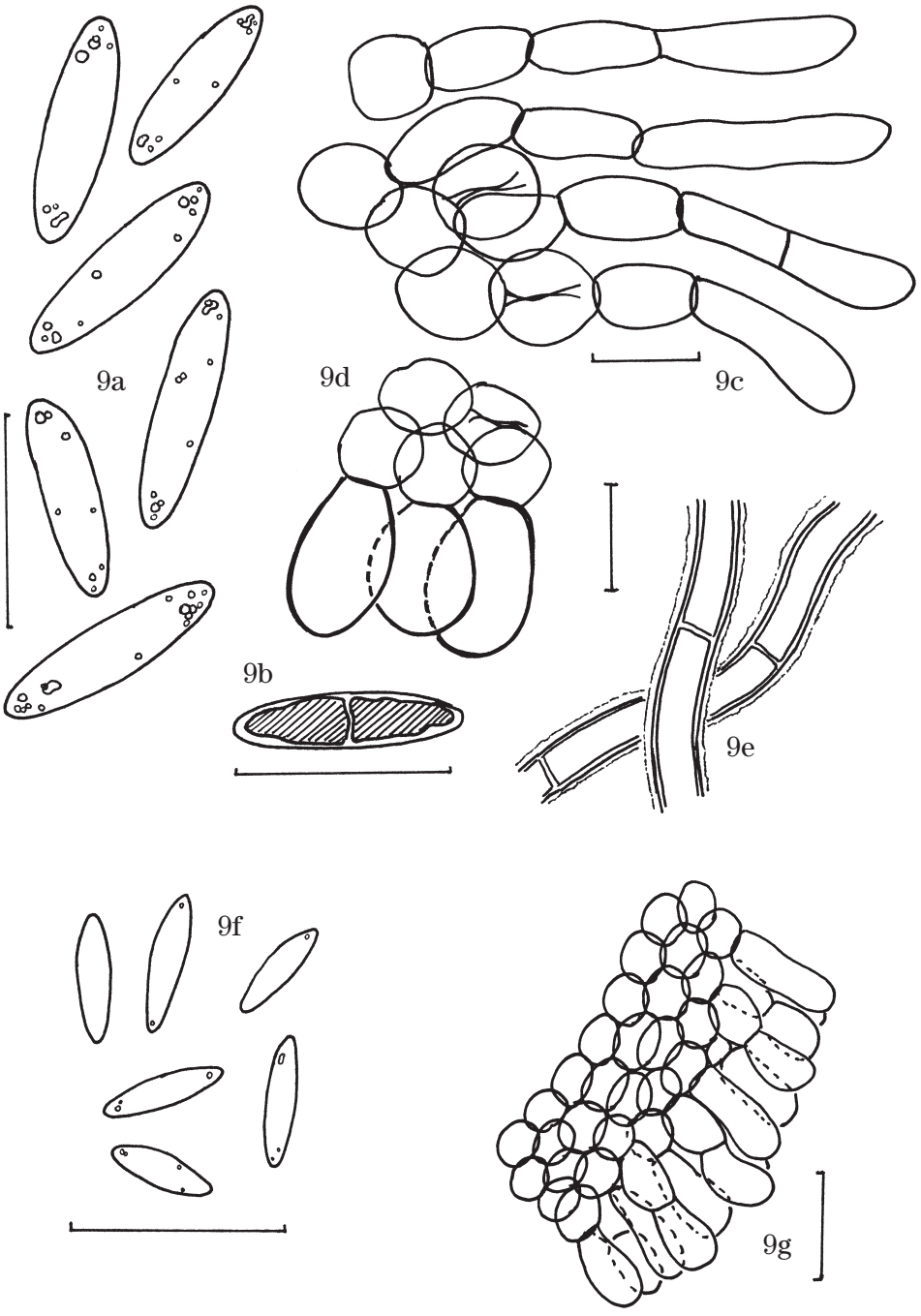
The packet of PRM 812443 contains approximatively 15 apothecia on a small piece of wood (*Lonicera xylosteum* according to herbarium label). The description is mainly based on this collection.

There is a third collection of *Tapesia peruni* in Velenovský's herbarium, PRM 153143, which was examined by Svrček and found to contain a *Mollisia* spec. not identical with *Tapesia peruni* and a *Hyaloscypha* spec. (notes on herbarium label). This specimen was not mentioned by Velenovský in the protologue, although it was collected in September 1933 and could well have been included. I did not examine this collection.

Description. Apothecia 1.5–2.5 mm diam., ± rounded, never lobate, margin distinct, disc greyish (in the single apothecium of PRM 154087 white and on drying yellowish), no visible subiculum.

Ectal excipulum consisting of a textura angularis-globulosa made up of dark brown cells, approximatively 10–18 µm. Subicular hyphae moderately numerous to abundant, brown, 4–5.5(6.5) µm broad, wall approximatively 0.5–1 µm thick, slightly swelling in KOH. Marginal cells hairlike, (1)2–3(4)-celled, up to 45 µm long, end cell cylindrical or narrow claviform, 16–20 × 4.5–7 µm, hyaline, towards the base brownish and broadly claviform to balloon-shaped, 13–20 × 8–10 µm. Medullary excipulum hyaline, without crystals. Subhymenium a hyaline textura intricata, together with the hymenium approximatively 75 µm thick. Paraphyses cylindrical, 2–2.5(3) µm broad, no content seen, no reaction with KOH. Asci approximatively 55–60 × 6 µm, clavate, with croziers, porus reacting blue with Lugol. Ascospores comparatively broad, with blunt ends, with a loose accumulation of small drops in each end and some also scattered within the ascospore, 9–10.6–11.5(12) × 2–2.5–3 µm (30/1/1 in KOH), Q: 3.6–4.2-5, vol.: (20)25–36–56 μm^3, in Lugol sometimes appearing to be septate.

Discussion. The two specimens, both mentioned in the protologue, are found to be conspecific, but PRM 154087 (erroneously labelled as holotype) is a mixed collection. It contains a species not agreeing with the original desription by having small apothecia with small ascospores 5–7 × 1.5–2 µm. But it also includes at least one apothecium with a diameter of 2 mm, whitish hymenium and ascospores of 8–10 × 2.5–2.8 µm, agreeing in all respects with collection PRM 812443. It was therefore separated. Except for the different ascospore size, the characters of these two collections agree well with the original description, especially concerning the whitish hymenium colour and the pluricellular marginal cells. As it is not seldom the case that the true ascospore size is quite different


9a
9b
9c
9d
9e
9f
9g

from the measurements given by Velenovský, and both collections are part of the protologue, a lectotype can without hesitation be chosen from these two specimens. As PRM 154087 is a mixed collection and it is not clear whether it contains more than the one apothecium found, specimen PRM 812443 is chosen as lectotype, although the apothecia found were ± greyish and not white.

The distinct marginal cells do not allow an identification with any other wood inhabiting species known to me. *Mollisia melaleuca* comes quite close, but it never has abundant subicular hyphae and its ascospores have a higher oil content.

Although fresh material would be desirable to establish especially the ascospore characters, *Tapesia peruni* is for the time being accepted as a distinct species which should be newly combined:

Mollisia peruni (Velen.) Gminder comb. nov.

Basionym: *Tapesia peruni* Velen., Monogr. Discom. Bohem., p. 135, 1934.

Tapesia phragmitis Velen., Monogr. Discom. Bohem., p. 141, 1934 Fig. 10a-g

Collections examined: Czech Republic, Bohemia, Třemblaty, *Phragmites communis*, IX.1926, leg./det. J. Velenovský (PRM 147397 = lectotype, designated here). – ibidem, 30.IX.1924, leg./det. J. Velenovský (PRM 147782). – Mnichovice, VI.1934, leg./det. J. Velenovský (PRM 153152 = *Mollisia* spec.).

A fourth collection, PRM 149135, has not been studied, as it was indicated on the label that the collection is immature.

The packet of PRM 147397 contains a small piece of *Phragmites* with several apothecia.

Description. Apothecia 1–4 mm diam., 0.15–0.2 mm thick, roundish when young, soon becoming lobate, margin thick and often uneven, whitish, disc grey, not seated on a clearly visible subiculum.

Ectal excipulum approximatively 60 µm thick, consisting of a textura angularis with a tendency to become globulose (maybe cells not completely extracted), subhyaline, subicular hyphae only few (in PRM 147782 abundant), brown, thick-walled, 3–4 µm broad. Marginal cells not conspicuous, sphaeropedunculate to broadly claviform, ± hyaline, up to 15 × 7 µm, towards the base more conspicuous, brownish and up to 20 × 10 µm, sometimes with apical wall thickening. Medullary excipulum approximatively 30 µm thick, hyaline, without crystals. Subhymenium a hyaline textura intricata, together with the hymenium approximatively 60 µm

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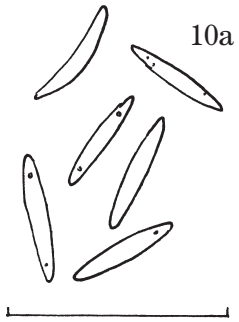
Fig. 9. *Mollisia peruni* (Velen.) Gminder (**a.-e.** PRM 812443 = lectotype, **f.-g.** PRM 154087).
a. Ascospores. **b.** Ascospore in Lugol's solution. **c.** Marginal cells in upper part of the apothecium. **d.** Marginal cells near the apothecium base. **e.** Subicular hyphae with swelling walls. **f.** Ascospores. **g.** Marginal cells. Del. A. Gminder (scale bars = 10 µm).



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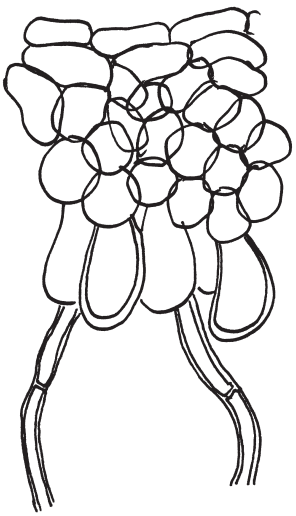

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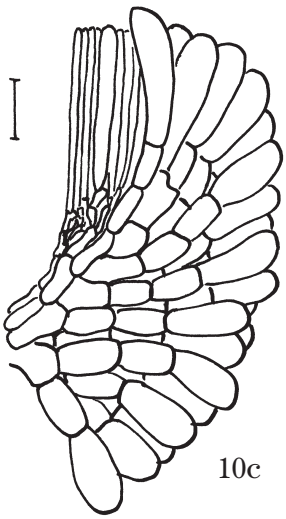

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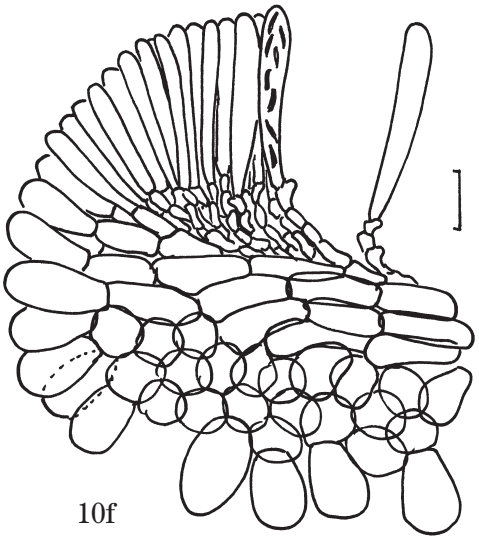

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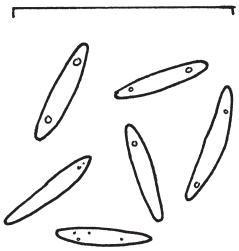

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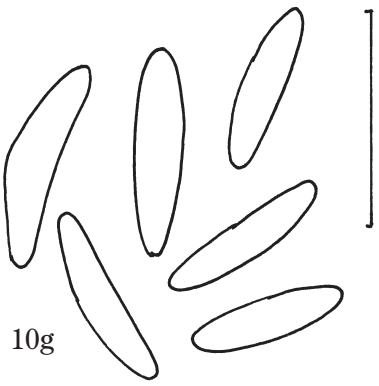

10g

thick. Paraphyses cylindrical, 2–2.5(3) µm broad, septate, several with orange-yellow staining content when KOH is added, but not exuding a yellow sap into the medium (probably due to the age of the material). This is nevertheless regarded as a positive reaction. Asci 30–43 × 3.5–4.5 µm, clavate, with croziers, reacting blue when adding Lugol either to a water– or a KOH-preparation. Ascospores very small, needle-shaped, usually with one drop, sometimes in each end one small droplet, but many ascospores without content, (4)4.5–5.3–6(7) × 0.8–1–1.2 µm (10/1/1 in KOH), Q: 4.2–5.5–6(7.5), vol.: 1.3–2.8–3.8(5.3) µm^3, non-septate.

Discussion. The species resembles in many features *Mollisia caricina* Fautr., but differs in having a different ascospore shape, paraphyses being not broader than the asci and the ± developed subicular hyphae. Furthermore, the fresh apothecia are said to be 3-8 mm in diam. (Velenovský 1934: 402), which is much larger than in *M. caricina*. But apothecia of this size have not been observed in the dried material left by Velenovský and it is hard to imagine that they would reach this size if rehydrated. In PRM 147782 both paraphyses and asci are of the same width (3 µm) and it therefore comes somewhat closer to *M. caricina*. Nevertheless, the differences seem to outweigh the similarities and *Tapesia phragmitis* is for the time being seen as a distinct species, which is combined into *Mollisia*.

Mollisia phragmitis (Velen. 1934) Gminder comb. nov.

Basionym: *Tapesia phragmitis* Velen., Monogr. Discom. Bohem., p. 141, 1934.

It is not possible to indicate a holotype for this species, as there is more than one collection made before 1934 and the protologue gives no hint on the collection to select. Collections PRM 147782 and PRM 153152 have also been studied. Whereas the first was found to be identical, the second (erroneously marked as holotype!) differs in having much larger ascospores and is clearly not conspecific. Svrček (in herb.) identified the second collection as *Mollisia hydrophila* (P. Karst.) Sacc., but I could not observe the occurrence of crystals in the medullary excipulum, a feature characteristic of this species.

Tapesia sesleriae Velen., Monogr. Discom. Bohem., p. 142, 1934 Fig. 11a-b

Collections examined: Czech Republic, Bohemia, Praha-Hlubočepy, Prokopské údolí, *Sesleria caerulea* [= *S. varia*], 9.IV.1927, leg./det. J. Velenovský (PRM 148511 = lectotype, designated here).

Fig. 10. *Mollisia phragmitis* (Velen.) Gminder (**a.-d.** PRM 147397 = lectotype, **e.-f.** PRM 147782, **g.** PRM 153152 = 'syntype' of *Tapesia phragmitis* Velen., but in fact contains material of *Mollisia* spec.). **a.** Ascospores. **b.** Marginal cells near the apothecium base. **c.** Marginal cells in upper part of the apothecium. **d.** Apothecia. **e.** Ascospores. **f.** Marginal cells in upper part of the apothecium. **g.** Ascospores. Del. A. Gminder (scale bars **a.-c.**, **e.-g.** = 10 µm; **d.** = 1 mm).

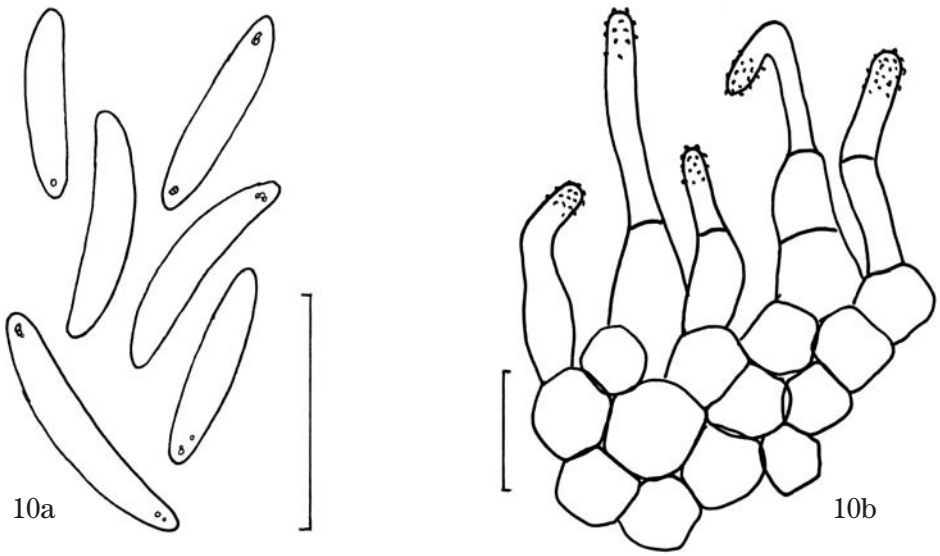

Fig. 11. *Tapesia sesleriae* Velen. (PRM 148511 = lectotype, the illustrated material belongs to the genus *Cistella*.).
a. Ascospores. **b.** Marginal cells. Del. A. Gminder (scale bars = 10 µm).

The packet contains a basal part of *Sesleria varia* and a few additional little fragments obviously of the same plant, with a few mollisioid, brownish-orange coloured apothecia.

Description. Apothecia very small, 0.2–0.4 mm diam., flat, not seated on a subiculum, roundish but not regular, margin whitish, disc and external surface brownish-orange to orange.

Ectal excipulum consisting of a textura angularis, subhyaline to light orange-yellowish, subicular hyphae quite abundant, thick-walled, light coloured, 4–5 µm broad. Marginal cells as conspicuous hairs, apical part with irregular warts, coloured as the excipulum. Medullary excipulum hyaline, without crystals. Subhymenium a hyaline textura intricata, together with the hymenium approximatively 60 µm thick. Paraphyses cylindrical, 2–2.5 µm broad, septate, not reacting yellow when KOH is added. Asci 33–36 × 4–4.5 µm, with croziers, reacting dark blue when adding Lugol either to a water- or a KOH-preparation. Ascospores narrowly elliptical, slightly bent to nearly saucer-shaped, both ends quite blunt, mostly with one or very few tiny drops in one or both ends, 8–12 × (1.5)1.8–2 µm (10/1/1 in KOH).

Discussion. The apothecium examined is not a member of the genus *Mollisia*, but is a *Cistella* species, most probably *Cistella grevillei* (Berk.) Raitv. This evolves the question, whether the type material ever contained a *Mollisia* species additional to this *Cistella*.

Several characters of Velenovský's original description fit *C. grevillei* very well, e.g. the apothecia being „alba, pellucida, sicca interdum lutescentia" and the margin „vetusta crenulata". Furthermore, Velenovský states „facie *Pezizellam* revocat", which also points to *Cistella*. The dried apothecia are quite similar to mollisioid species. The given ascospore (12–18 µm) and ascus size (50–100 µm) in the protologue do not fit in the concept of *Cistella grevillei* (neither in that of *T. sesleriae*!), but wrong measurements are not unusual in Velenovský's works and the big range of ascus length also supports this. It may also be the case that these measurements are compiled from different collections in which different species were involved [e. g. *Cistella albidolutea* (Feltgen) Baral], as Velenovský had found it several times and on different hosts. This point of view is supported by the remark „*T. evilescenti* multo major", because when comparing the descriptions of *Tapesia sesleriae* and *T. evilescens* in Velenovský (1934), there is not much agreement in characters.

To my knowledge this species was not mentioned by other mycologists before Nograsek and Matzer (1994). These authors also re-examined the lectotype specimen to verify their alpine collections made on *Sesleria varia*. Unfortunately they do not give a description of their findings and the only data available are ascospore and ascus dimensions. These were found to be slightly smaller than those of the type collection, but still within the range of variation. Also they found the apothecial colour to be orange, whereas it was yellowish in their own collections. Although Nograsek and Matzer (1994) did not mention cistelloid hairs, I think that they also examined the *Cistella* of the lectotype and not a *Mollisia*, especially as they mentioned the orange colour of the apothecia (not only the hymenium!) of the type specimen. To clarify this, their material deposited in GZU was borrowed. The collection from Stempeljoch consisted of two fragments of *Sesleria varia* (acc. to the label), the collection from Hafelekarspitze contained only one piece of approximatively 12 mm length. All portions were so tiny, that it was hard to imagine that a discomycete with apothecia of 1-2 mm could find a place on them. Examination revealed only several small, blackish, very immature ascomycetes which could not be identified. But slides of the microscopical investigation of the type study were added, and although after 23 years they could not be of too much help, at least it can be said that no trace of a brownish, thick-walled textura globulosa typical of *Dermateaceae* was seen, but only a yellowish coloured textura angularis typical on e. g. *Cistella grevillei*. In my opinion it is hardly possible to decide whether the fungus Nograsek and Matzer (1994) had collected was *Tapesia sesleriae* or even a species of *Mollisia*. The material deposited gives no further information and their brief description could well fit *Cistella grevillei* or a similar species.

In 1996 and 1997 L. Krieglsteiner identified three collections on *Sesleria varia* as *T. sesleriae* and gave a good description (Krieglsteiner 1999). I examined one of

these collections. As a peculiar macroscopical feature the apothecia showed a yellowish to orange colour when drying, but are greyish to creme-whitish when fresh. The ascal porus was found to react red in higher concentrations of IKI added to a water preparation, a very rare and important character in *Mollisia*. Neither Velenovský (1934) nor Nograsek et Matzer (1994) mentioned the porus reaction. L. Krieglsteiner and I believed that this red reaction is an important additional feature of *M. sesleriae*, but now the re-examination of the lectotype showed that this can not be proven.

Concerning the identity of *T. sesleriae* Velen. there are three possibilities.

1. The species could be seen as a synonym of *Cistella grevillei* as the type examination showed warty hairs and microscopical details that do not contradict this suggestion.
   I do not want to choose this solution, because it is not unmistakably clear that the lectotype never contained another species in addition to *Cistella grevillei*.
2. The species can be identified in the sense of Krieglsteiner (1999), the only modern description under this name.
   In fact there are some arguments to do so, especially the similar colouration of the apothecia (though not identical!) and a comparable description of the ectal excipulum. But there are also arguments against this identity:

a the subicular hyphae are hyaline and approximatively 2 µm broad in Krieglsteiner (op. cit.), but „fuscae (3-4)“ in Velenovský (op. cit.).

b Velenovský indicates that the margin is „vetusta crenulata“, whereas the marginal cells in the Krieglsteiner-collections are clavate to pyriform and hardly protruding.

c Krieglsteiner's species seems to have strict ecological needs (basal parts of *Sesleria varia*, all collections from *Teucrio-Seslerietum*), whereas Velenovský's species was found on various substrates including *Phragmites* and *Eriophorum*, suggesting either an ubiquitous species or a mixture of species.

It seems not very convincing to me that an obviously widespread species as *T. sesleriae* (at least 6 different hosts and 5 different locations mentioned by Velenovský) was not found again for 65 years and should then be identified with such a peculiar species as that found by Krieglsteiner.

3. The species may be seen as a nomen dubium.

I prefer this possibility for two reasons:

The information from the protologue does not allow a certain identification of the species and moreover the description is probably compiled from different collections in which different species could have been involved.

The only available material is either exhausted and now only contains *Cistella grevillei* or never contained a *Mollisia*.

The only modern description under this name shows in my opinion too many differences to the protologue to serve for neotypification.

Considering *T. sesleriae* Velenovský as a nomen dubium makes it necessary to find a name for the collections of Krieglsteiner (1999). As I have not succeeded in finding a species either in the literature or herbaria combining the main characters – red porus reaction, negative KOH-reaction, yellowish to orange coloration on drying, brownish colour of ectal excipulum restricted to the apothecium base and occurrence possibly exclusively on *Sesleria*, it is herewith proposed as new to science.

Mollisia lothariana Gminder spec. nov.

Mollisia sesleriae (Velen.) Krieglst. ss. Krieglsteiner 1999

Holotypus: Deutschland, Bayern, Mainfranken, Karlstadt, NSG „Kalbenstein", 8.VII.1996, leg. L. Krieglsteiner, sub numero 137/1997 in herbario Krieglsteiner et filii (in STU) conservatur est.

Diagnosis latina: Apothecium 0.5–1 mm in diametro, pallide griseum vel incanum, exsiccato pallide cremeo, saepe tinctu aurantiaco, cum solutione 3–10 % KOH sine reactione. Excipulum textura globulosa e cellulis globosis vel late ellipsoideis, pallide vel obscure (basalibus) cinereis. Hypothalli hyphae strictae, plus minusve 2 µm in diametro, subhyalinae. Excipuli marginales cellulae paulum claviformes vel piriformes, quasi decoloratae. Asci in statu vivo 50–70 × 4.5–5 µm, cylindrico-clavati, apice obtuso-angustato, poro valde hemiamyloideo, octospori, cum uncis. Paraphyses filiformes, 3-4.5 µm crassae, apice non dilatato, obtusae, ascis aequipares, plasmate oleaceonitido impletae. Ascosporae in statu vivo 8–13.5(16) × 1.8–2.5 µm, rectae vel paulisper curvatae etiamque subflexuosae, guttulis minutis in quoque polo, aseptatae, decoloratae.

Habitat: ad partes basales *Sesleriae variae*.

Collectio considerata: Germania, Bayern, Mainfranken, Karlstadt, NSG „Kalbenstein", 8.VII.1996, leg. L. Krieglsteiner (= holotypus).

For an exhaustive description of this species see Krieglsteiner (1999: 264), which needs not be repeated here as no new information can be added.

This species has also been found in identical biotopes by Krieglsteiner (2004). Another collection which is identical in all respects except a different ecology was made at the border of a peat bog on leave bases of cf. *Juncus effusus* or a *Poaceae* (Germany, Baden-Württemberg, Schwarzwald, MTB 7217/4, Oberreichenbach, „Siebenbrunnenmisse", 675 m NN, 3.VI.1993, leg./det. A. Gminder, teste H.-O. Baral (93/107 in herb. Gminder).

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REFERENCES

BARAL H.-O. (1992): Vital versus herbarium taxonomy: Morphological differences between living and dead cells of ascomycetes, and their taxonomic implications. – Mycotaxon 46(2): 333–390.

BARAL H.-O. (1999): A monograph of *Helicogonium* (= *Myriogonium*, *Leotiales*), a group of non-ascocarpous intrahymenial mycoparasites. – Nova Hedwigia 69(1–2): 1–71.

BARAL H.-O., BARAL O. and MARSON G. (2003): In vivo veritas. Over 5800 scans of fungi and plants (microscopical drawings, water colour plates, slides), with materials on vital taxonomy. 2nd edition. – 2 CD-ROMs.

GMINDER A. (1996): Studien in der Gattung *Mollisia* s.l. I. – Z. Mykol. 62(2): 181–194.

KRIEGLSTEINER L. (1999): Pilze im Naturraum Mainfränkische Platten und ihre Einbindung in die Vegetation. – Regensburger Mykologische Schriften, Band 9, Teil 1: 1–905.

KRIEGLSTEINER L. (2004): Pilze im Biosphären Reservat Rhön und ihre Einbindung in die Vegetation. – Regensburger Mykologische Schriften 14: 1–770.

NOGRASEK A. and MATZER M. (1994): Nicht-pyrenocarpe Ascomyceten auf Gefäßpflanzen der Polsterseggenrasen II. Arten auf *Cyperaceae* und *Poaceae*. – Nova Hedwigia 58(1–2): 1–48.

VELENOVSKÝ J. (1922): České houby. Vol. 4–5. – p. 633–949, Praha.

VELENOVSKÝ J. (1934): Monographia discomycetum Bohemiae. – 436 p., 31 tab. Praha.

VELENOVSKÝ J. (1940): Novitates mycologicae. – 211 p. Praha („1939“).

VELENOVSKÝ J. (1947): Novitates mycologicae novissimae. – 167 p. Praha.