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A TAXONOMIC REVISION OF INOPERCULATE DISCOMYCETES DESCRIBED BY J. VELENOVSKÝ IN THE GENUS *HELOTIUM*, PRESERVED IN NATIONAL MUSEUM, PRAGUE

The paper presents the results of the revision of all taxa described and published by J. VELENOVSKÝ (1922, 1934, 1940, 1947) in the genus *Helotium* Pers. ex St-Amans. Within the mentioned genus Velenovský described from the territory of Bohemia (exceptionally also from Slovakia) the total number of 195 taxa, 133 of which as new species and 18 as new varieties. The herbarium specimens almost of all these taxa are preserved in the mycological herbarium of the National Museum at Prague (PRM) and were examined. Five taxa only were not found in PRM so far, and specimens of seven taxa contain no apothecia. The species are alphabetically arranged and all important observations made on the material examined are recorded. Forty-four species were transferred to other genera of inoperculate Discomycetes in accordance with the contemporary state of their taxonomy, and for two species new names are proposed.

INTRODUCTION

In this paper I present a revision of all taxa of the genus *Helotium* Pers. ex St-Amans described and published by J. VELENOVSKÝ in his works (1922, 1934, 1940, 1947). In view of the contemporary taxonomy, this genus is now called *Hymenoscyphus* S. F. Gray 1821 including the great majority of species commonly referred to *Helotium* Pers. ex St-Amans or *Helotium* Fries 1849 (non 1832), but not all species described originally as *Helotium* belong to it. The name *Helotium* has been proposed by TODE in a different sense for a fungus now recognized to be a basidiomycete (DENNIS 1956, REDHEAD 1982) and this opinion is at present widely accepted. The old discomycete genus *Helotium* belongs to the greatest ones with more than 600 species world-wide distributed but many of which insufficiently known.

Also J. Velenovský described a great number of new taxa in this genus (133 species and 18 varieties) which are almost all preserved in the herbarium of the Mycological Department of the National Museum at Prague (PRM). The results of examination and critical evaluation not only of the type collections but also of all other species published in Velenovský's works are summarized in this revision.

As far as the informations concerning Velenovský's fungus collection and the technique employed by the examination of herbarium specimens I beg to refer to my taxonomic revision of operculate Discomycetes published in the same journal in 1979.

For valuable comments and true interest for my work I feel obliged to my friend Mr. Zdeněk Pouzar, CSc., with whom some problems were consulted.

Helotium acaciae Velen. 1934: 186

Holotypus PRM 147505: Bohemia centr., Menčice prope Mnichovice, in trunco putrido *Robiniae pseudacaciae* IX. 1933 leg. Velen.

A fragment probably of a spine of *Prunus spinosa* [certainly not *Robinia*] with a single apothecium 0.6 mm diam., very shortly stipitate, smooth, dully red-brownish, disc plane, marginate. Ectal excipulum of angulate-globose thin-walled cells up to $26 \times 17 \mu\text{m}$ diam., which are smaller towards the margin and arranged in rows, inamyloid. The marginal zone filamentous, medullary excipulum of thin-walled cylindrical, $5\text{--}3 \mu\text{m}$ thick, septate and hyaline hyphae frequently vesiculose-enlarged up to $12 \mu\text{m}$. Asci and ascospores not found, perhaps destroyed by insects. — The identity with *Hymenoscyphus imberbis* = *Phaeohelotium imberbe* (Bull. ex Fr.) Svr. cannot be excluded but the material is insufficient for an exact decision.

Helotium acerinum Velen. 1947: 120

Holotypus PRM 148029: Bohemia centr., Mnichovice, ad truncum *Aceris platanoidis* 3. XI. 1942 leg. Velen.

A small piece of wood with only one complete apothecium on bare cut-surface of a stump. Apothecium 0.8 mm diam., stipe 0.6 mm long, all pale yellow. Excipulum of thin-walled hyaline cells $5\text{--}10 \mu\text{m}$ wide and $10\text{--}35 \mu\text{m}$ long, pale yellow in Melzer's reagent. Asci destroyed by insects. Ascospores $18.5\text{--}23.5 \times 4 \mu\text{m}$, long fusiform with a short beak at the one end, finely granulate inside. — Velenovský's record about ascospores is wrong. The species seems to be not different from *Hymenoscyphus calyculus* Sow. ex Fr.) Phill. sensu Dennis but the colour of apothecia was originally by Velenovský described as „white“ and ascospores were indicated too large and acute.

Helotium acicularum (Rolland) Sacc.

Velen. 1934: 197, tab. 31, fig. 30 et 31

PRM 147230: Bohemia centr., Karlštejn, in acubus *Laricis deciduae* IX. 1922 leg. Fr. Fechtner, det. Velen.

The specimen contains not only apothecia on needles of *Larix* but also one apothecium on one spruce needle. They are up to 2.5 mm diam., deeply orange, thickly marginate and shortly stipitate, the exterior part is pale ochraceous and finely tomentose, the obconic stipe grows from white mycelium attached to the surface of larch-needles.

Cells of the excipulum are up to $35 \times 20 \mu\text{m}$ large, distinctly dextrinoid. Asci $110 \times 10 \mu\text{m}$, pore amyloid in Melzer's reagent, paraphyses $1.5\text{--}2 \mu\text{m}$ thick, not enlarged above, ascospores $15\text{--}17 \times 2.5\text{--}3 \mu\text{m}$, inequally narrowly fusiform, straight, minutely granulate inside.

This cannot be *Helotium acicularum* (Roll.) Sacc. which is different by amygdaliform ascospores $10\text{--}12 \times 5\text{--}8 \mu\text{m}$ large. The specimens described by Velenovský under this name belong probably to *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm. One apothecium present in the same specimen on a small frondose twig is a different *Hymenoscyphus* with ascospores $17\text{--}22 \times 5\text{--}6 \mu\text{m}$ large and asci $130\text{--}140 \times 12 \mu\text{m}$, pore inamyloid, paraphyses $2\text{--}3 \mu\text{m}$ thick. The record about the occurrence „in ramulis laricinis“ in Velenovský's description of *Helotium acicularum* refers to this apothecium.

Helotium acutisporum Velen. 1934: 198, tab. 19, fig. 19

Lectotypus PRM 147211: Bohemia centr., Mnichovice, in conis laricinis 18. IX. 1925 leg. Velen.

Three apothecia on scales of cones of *Larix decidua* now 0.5–1.5 mm diam., red-brown, stipitate, the stipe 0.5–0.8 mm long, 0.15 mm thick, minutely whitish-pubescent. Cells of the excipulum hyaline, thin-walled, up to $35 \times 10 \mu$ large. Asci 90–110 \times 9–12 μ m, 8-spored, porus distinctly amyloid, paraphyses 2–3.5 μ m thick, ramose, ascospores biserial, 16–21.5 \times 3.5–4 μ m, inequally fusiform, hooked above. The marginal excipular hyphae 30–35 μ m long and 2–4 μ m thick. — This species is morphologically not different from *Hymenoscyphus scutula* [Pers. ex Fr.] Phill. occasionally occurring on other substrata as stems of herbs, too. Two other specimens of *H. acutisporum*, viz. PRM 147568 [Mnichovice, in colle Kožený vrch, ad lignum *Abietis albae* X. 1931 leg. Velen.] and PRM 147570 [Mnichovice, ad lignum *Piceae abietis* 25. IX. 1925 leg. Velen.] do not differ from the lectotypus.

Helotium advenulum Phill.

Velen. 1934: 196, tab. 19, fig. 22

PRM 148937: Bohemia centr., Kostelec nad Černými lesy, Skalky, ad acus *Laricis deciduae* 3. V. 1927 leg. Velen. — Several needles of larch with a few apothecia reexamined by me. They represent typical *Helotium advenulum* Phill. = *Ciboriopsis advenula* [Phill.] Dennis [a good description of it is in DENNIS 1956: 100]. The excipulum consisting of globose or largely ellipsoidal cells 6–14 μ m diam. or up to $25 \times 15 \mu$ m large, thin-walled and hyaline, is very characteristic, and on base of this feature the species was transferred by Dennis to the genus *Ciboriopsis*. Asci in the material examined were 80–85 \times 8–10 μ m, with distinctly amyloid pore, ascospores 8–10 \times 2.5 μ m, narrowly cylindrical, biguttulate.

The second specimen, collected by Velenovský near Padrt in Central Bohemia on cone of *Larix decidua*, August 1924, and identified by him as *Helotium advenulum* [PRM 148720] contains only a typical *Hyaloscypha* sp.

Helotium aesculi Velen. 1947: 120

Holotypus PRM 148922: Moravia australis, Žarošice, ad petiolos foliorum deietorum *Aesculi hippocastani* IX. 1942 leg. V. Vacek, det. Velen. Further material from type locality 2. IX. 1949 leg. et det. V. Vacek [PRM 683591].

This characteristic and easily recognizable species will be discussed in a separate paper (SVRČEK 1986) and transferred to the genus *Lanzia* Sacc. I also have a very fine own material of it from two localities in Southern Bohemia.

= *Lanzia aesculi* (Velen.) Svrček, comb. nov.

Basionymum: *Helotium aesculi* Velenovský, Novit. mycol. novis. p. 120, 1947

Helotium agrostideum Velen. 1934: 198, tab. 19, fig. 26

Lectotypus PRM 148237: Bohemia centr., Mnichovice, lacus parvus apud Božkov, *Agrostis* sp. 20. X. 1928 leg. Velen.

Two apothecia only (one immature), dark red-brown, rather thick, disc plane, immarginate, 0.8 mm diam., shortly stipitate, growing from strongly rotten debris perhaps of grass-culm (not stromatized). Excipulum red-brownish, not dextrinoid, marginal hyphae up to 25 μ m long, cylindrical, 3–6 μ m thick, septate, sometimes slightly enlarged at their tips, thin-walled, enlarged towards the base of the excipulum into elliptical or subglobose cells (4–8 μ m diam.). Flesh of thin-walled, narrowly cylindrical septate hyaline hyphae 1–2 μ m thin. Asci 100–120 \times 7.5–10 μ m, shortly stipitate, 8-spored, pore amyloid. Paraphyses 2.5–3 μ m wide, distinctly septate, hyaline, not enlarged above. Ascospores 17–20 \times 3–3.5 μ m (observed in the asci only), narrowly fusiform, minutely granulate at each end.

There is also a specimen PRM 148208 originated from the same locality, 18. IX. 1928, collected by Velenovský on a fragment of grass-culm (not on rhizoids as recorded in protologue), on which I found one apothecium identical with lectotype. Its upper part of thecium is covered with extracellular red-brown pigment.

This species seems to be very close to *Hymenoscyphus pileatus* [Karst.] O. Kuntze and is perhaps identical with it. The figure in Velenovský 1934, tab. XIX, fig. 26, is not quite correct, the ascospores and one apothecium do not belong to *Helotium agrostideum*, but were taken by the author erroneously from another species, as it is evident from the original manuscript notes.

Helotium agrostideum var. **bipunctatum** Velen. 1934: 199 [ut „*bipunctata*“]

Lectotypus PRM 147512: Bohemia centr., Mnichovice, Hubáčkov, *Calamagrostis epigeios* 4. XI. 1933 leg. Velen.

One apothecium on grass leaf at base of a culm, 1 mm diam., dark orange, stipe 0.8 mm long, 0.5 mm thick, paler, smooth. Excipulum similar as in *H. agrostideum*, but the habit of apothecium as well as microfeatures are completely different. Asci 95—120×9—10 μm, paraphyses 1.5—2 μm wide, ascospores 13—16×3.5—4.5 μm, oblong-cylindrical, somewhat assymetrical, straight or curved, minutely guttulate at both ends, mostly attenuated towards the ends. Excipulum of isodiametrical thin-walled, hyaline cells up to 30×19 μm, distinctly dextrinoid, its outer side covered with loosely interwoven cylindrical hyphae 3—5 μm thick, densely granulate inside, marginal hyphae 3—5 μm thick. Asci with amyloid pores.

The second specimen of *H. agrostideum* var. *bipunctatum* PRM 147746 Bohemia centr., Mnichovice, Hubáčkov, *Calamagrostis epigeios* 15. XII. 1927, leg. Velen. [ut *Helotium vitreum* Velen., nom. nud.] represents another quite different discomycete [e. g. with obtusely cylindrical ascospores without guttules], and therefore I selected as lectotype PRM 147512 on which the original description of this variety was based, and which is most probably no more than *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm.

Helotium airae Velen. 1934: 186, tab. 20, fig. 52

Holotypus 147505: Bohemia centr., Ondřejov, in monte Pecný, in culmis *Airae caespitosae* [= *Deschampsia caespitosa*] in paludibus X. 1933 leg. Velenovský.

The Velenovský's species has excipulum of a typical „*textura oblita*“ and was transferred by me (1979) to the genus *Conchatium* [i. e. *Phialea* auct., not Gillet]. New collections from Bohemia on *Deschampsia caespitosa* confirm this opinion.

Helotium albidum (Rob. in Desm.) Pat.

Velen. 1934: 205, tab. 20, fig. 39

Under this name two different discomycetes were hidden: 1. The true *Hymenoscyphus albidus* (Rob. in Desm.) Phill. [Syn.: *Helotium robergei* Dennis 1956: 94 = *Helotium albidum* (Rob. in Desm.) Pat. 1885: 173; non *H. albidum* H. et P. Crouan 1867: 47]. — Specimens examined: Bohemia centr., Bilichov, in valle Bilichovské údolí, in nervis et petiolis foliorum delectorum *Fraxini excelsioris* copiose 23. VII. 1925 leg. Velen. [PRM 147373]. — Libochovičky prope Slaně, IX. 1928 leg. Fr. Fechtner, det. Velen. [PRM 148933]. — Zvánovice, in valle Zvánovické údolí 24. X. 1929 leg. Velen. [PRM 148804]. — Apothecia of this species restricted to *Fraxinus* have the disc in dried state dark orange coloured, the outer side is paler and finely downy, the stipe almost tomentose in the lower part. Fresh apothecia are 2—4 mm across, pure white but rust-coloured when bruised, crenulate at margin, the thick stipe mostly arising (but not always!) from the blackened epidermis of dead *Fraxinus* petioles lying on wet ground. The epidermal cells of the host are black coloured but it was impossible to find some fungal hyphae. Excipulum not dextrinoid, of oblong thin-walled cells 4—5 μm broad, marginal hyphae 2—3 μm thick. Asci 100—110×8—10 μm, 8-spored, the pore slightly amyloid, apex up to 3 μm thickened, paraphyses up to 3.5 μm wide, ascospores 16—20×3.5—4 μm, fusiform-cylindric, inaequilateral, rounded above, narrowed below and frequently distinctly hooked, guttulate or granulate inside.

2. The second species occurring on the same substratum (petioles of dead leaves of *Fraxinus*) has the excipulum composed of typical „*textura oblita*“ formed by parallel very thick-walled glassy-looking excipular hyphae, on outer surface covered with numerous crystals of calcium oxalate. Ascospores 15—18×2—2.5 μm, inaequally fusiform, very narrow, paraphyses sometimes slightly exceeding the asci, which have a distinctly amyloid pore. Dried apothecia are whitish, similar to *Conchatium cyathoideum* [= *Phialea cyathoidea*] arising from not blackened petioles. Specimen examined: Bohemia centr., Mnichovice, XI. 1933 leg. Velenovský (PRM 147478). The record of the shape and size of ascospores in the description of *Helotium albidum* in VELENOVSKÝ 1934 is evidently based on this collection. I consider this fungus a new species of *Conchatium* (*Phialea* auct.), *C. fraxinophilum* spec. nov. [Svrček, 1986]. It is known from some Bohemian localities at present.

Helotium albipes Velen. 1940: 183

Holotypus PRM 148895: SSSR, Carpatorossia, Trebušany, ad lignum *Alni* sp. putridum VIII. 1935 leg. Alb. Pilát, det. Velen. [ut *Helotium albistipes* Velen. in herb. et manuscr.].

A small piece of frondose twig with few apothecia 1–1.5 mm across, dark red-brown, stipitate, stipe 1–2 mm long, pale yellow-brown (melleous), smooth. The host plant may be *Fagus* or *Corylus*. Excipulum formed of „textura oblita“, hyaline, dextrinoid, without crystals, hyphae thick-walled, 4–7 μm wide and up to 16 μm long, some hyphae with densely granulate and strongly dextrinoid content. Asci 80–95 \times 8–10 μm , shortly stipitate, 8-spored, porus inamyloid. Paraphyses 1.5–2 μm thick, obtuse, not enlarged nor exceeding above, with granulate and dextrinoid content. Ascospores uniseriate, 12–15[–16] \times 5–6[–6.5] μm , broadly ovoid or fusiform, attenuated or somewhat pointed at each end, thin-walled, hyaline, often 1-septate with very thin septa.

This is probably a *Bisporella* sp., conspicuous by shape of ascospores, but the material is too scarce for a definitive evaluation.

Helotium alismaceum Velen. 1934 : 202, tab. 20, fig. 1

Lectotypus PRM 148258: Bohemia centr., Mnichovice, Hubáčkov, ad caules marcidos herbae *Alisma plantago* 30. VIII. 1926 leg. Velen.

Excipulum composed of long-celled colourless, thin-walled cells 15–35 μm long, 5–12 μm wide with numerous crystalline up to 12 μm across, marginal zone of slender hyphae (1.5–3 μm) distinctly pale violaceous (pigment vacuolar). The cells of excipulum are more violet-brownish, somewhat angular and broader towards the base of the receptacle. Asci 85–100 \times 10–12 μm , pore slightly amyloid, 8-spored. Ascospores narrowly elliptical, inequilateral, rounded at each end, densely granulate inside, rarely indistinctly 1-septate, 18–20.5 \times 3.5–4.5 μm . — The second specimen, PRM 148281: Mnichovice, *Alisma plantago* IX. 1926 leg. Velen., is the same species. Apothecia with long stalks, scattered on stem. The disc is pale violet, the excipular cells are distinctly brownish-violaceous coloured with many crystals. Paraphyses 2–3 μm thick, not enlarged above, ascospores mostly biseriata.

This seems to be a very distinct species close probably to *Hymenoscyphus vitellinus* (Rehm) O. Kuntze, but distinguished by the strange colour. According to VELENOVSKÝ (1934), the fresh apothecia had an angular, almost dentate margin, the disc was grey-lilac, the outer side of receptacle lilac, and the stipe white.

— **Hymenoscyphus alismaceus** (Velen.) Svr. comb. nov.

Basionymum: *Helotium alismaceum* Velenovský, Mon. Disc. Boh. p. 202, 1934

Helotium alnisedum Velen. 1934 : 185

Holotypus 148887: Bohemia centr., Stránčice, Sct. Anna, ad truncos sectos *Alni* 3. IX. 1928 leg. Velen.

Two fragments of frondose wood overgrown with pleurocarpic mosses, with numerous apothecia 0.5–1 mm diam., pale orange, thick, marginate, singly or 2–4 in clusters, disc plane. Excipulum composed of „textura anguloso-globulosa“, with cells 5–10 μm diam., marginal cells up to 16 \times 12 μm , somewhat thick-walled, flesh filamentous. Asci 65–80 \times 5–7 μm , narrowly clavate, with long stalks, 8-spored, pore amyloid. Paraphyses 2.5–3 μm wide, obtuse or lanceolate above, often encrusted. Ascospores 10–12 \times 2–2.5 μm , cylindrical-fusiform, 1[–3] septate. — The second specimen PRM 824895 from the same locality collected by Velenovský 14. IX. 1925 (ut *Helotium aestivum* Velen. in herb.) is the same discomycete. Marginal cells clavate, 12–18 \times 3.5–5 μm , asci 60–75 \times 5–8 μm , ascospores 12.5–15 \times 2–3 μm , stragulate at septa. — This species is identical with *Hymenoscyphus parilis* (Karst.) Dennis.

Helotium amenti (Batsch ex Fr.) Fuckel

Velen. 1934 : 203, tab. 19, fig. 10

The species described by Velenovský, l. c., corresponds with general concept of this common discomycete. Specimens collected by Velenovský and examined by me: Bohemia centr., Mnichovice, ad amenta feminea *Salicis auritae* V. 1924 (PRM 147769), *Salicis capreae* 28. IV. 1931, III. et IV. 1934 (PRM 147595, 147514, 147493); Kunice prope Mnichovice, ad amenta feminea *Salicis capreae* 13. V. 1929 (PRM 148040).

— *Hymenoscyphus amenti* (Batsch ex Fr.) Phillips [Syn.: *Peizizella amenti* (Batsch ex Fr.) Dennis]

Helotium ammonis Velen. 1934 : 200, tab. 20, fig. 36

Lectotypus PRM 148032: Bohemia centr., Mnichovice, in colle Plecháč, ad rhizomata marcida graminis in declivitate calido insolatoque 27. IV. 1927 leg. Velen.

Three apothecia with long stalks (up to 1 mm), dark red-brown, scattered on not stromatized rhizome of some grass (not *Agropyron repens* as indicated by the collec-

tor), 1 mm diam., stipe 300 μm thick. Excipulum of thin-walled colourless cylindrical flexuous hyphae 2—4 μm wide with obtuse or slightly clavate cells at their ends, often granulate inside. Asci 100—120 \times 8—9 μm , cylindric, shortly stipitate, obtuse above, pore distinctly amyloid, 8-spored. Paraphyses 2—2.5 μm wide, minutely granulose inside. Ascospores 12—16 \times 4—5 μm , biseriata, elliptical, inequilateral with obtuse ends or rarely pointed at one end, filled with minute or larger guttules.

Also the following two specimens collected by Velenovský are not different from lectotype: PRM 147576, the same locality as lectotype, 22. XI. 1930 and PRM 147516, Menčice prope Mnichovice, ad rhizomata culmosque graminum (*Agropyron repens*, *Poa* sp.) loco insolato ad marginem sylvae 30. III. 1934. In all cases, the fresh apothecia were dull yellow (yolk of egg) and white stalked. This species was described by DENNIS [1956:133] as *Rutstroemia calopus* [Fr.] Rehm, mainly according to Phillip's material of *Helotium graminium* Phill., considered synonymous by Dennis. Together with other features, the vernal fructification also agrees with records made in England. Nevertheless, the scarce diagnosis of *Peziza calopus* Fr. (1822:131) does not exclude the possibility of another interpretation of the fungus of Fries. Therefore I prefer the name *Hymenoscyphus graminium* (Phill.) Svr.

Helotium amoenum Velen. 1934:198

Lectotypus PRM 150140: Bohemia centr., Mirošovice, ad vaginas fibrosas *Caricis schreberi* (= *C. praecox*) in declivitate calido insolatoque 25. VIII. 1926 leg. Velen.

Two fragments of basal parts of *Carex* sp. with about ten apothecia on leaf sheaths. Apothecia 0.2—0.4 mm diam., shortly but distinctly stipitate, pale yellow, outer surface almost smooth or finely fibrillose, disc almost flat. Excipulum of cylindric parallel hyphae 2—3 μm wide, slightly thick-walled, colourless, forming outer surface, without crystals, and an internal layer composed of thin-walled oblong cells up to 10 \times 3—4 μm large. Basal part of the excipulum of isodiametric subglobose cells 5—10 μm across, thin-walled and hyaline. Asci 30—40 \times 5—5.5 μm , cylindrical, shortly attenuated, rounded above, pore slightly amyloid, 8-spored. Paraphyses scarce, 2—2.5 μm wide, not enlarged nor exceeding above. Ascospores (observed in asci only) 6—8 \times 2 μm , narrowly fusiform-elliptical, attenuated towards both ends. — The second specimen, PRM 147506, Mnichovice, ad vaginas fibrosas *Caricis praecocis* in colle arido IX. 1933 leg. Velen., represents the same discomycete.

Helotium amoenum Fautrey 1891 is a different species. Velenovský's fungus is somewhat similar to *Phialea straminea* [Berk. et Br.] Dennis [1956:32] occurring also on stems of grasses, but is certainly different by another texture of excipulum. Its taxonomic position remains uncertain.

Helotium arcuatum Velen. 1947:124

Holotypus PRM 148089: Bohemia centr., Hrusice prope Mnichovice, ad caules *Luzulae albidae* (= *L. luzuloides*) 2. X. 1941 leg. Velen. — The type specimen contains no apothecia. The identification of the host plant is most probably correct.

Helotium aureolum Sacc.

Velen. 1934:207, tab. 19, fig. 29

Two specimens of this discomycete are preserved in PRM: 1. PRM 148526: Bohemia, montes Krkonoše, Obří Důl [olim „Riesengrund“], ad nervos foliorum marcidorum *Aspidii spinulosi* (= *Dryopteris carthusiana*) IX. 1923 leg. Alb. Pilát, det. Velen. [ut *Helotium filicinum* Velen. in herb.]. — Several apothecia on rachis of a fern, very minute, whitish, stipitate. Apothecium examined (in NH_4OH) 170 μm across, 320 μm high, stipe 70 μm thick above, 90 μm in the lower part. Excipulum not dextrinoid, of thin-walled hyaline cells up to 16 \times 7 μm large, the basal ones subisodiametric, 3—6 μm across, slightly thick-walled, marginal hyphae 2—5 μm thick, cylindrical, rounded at their ends, with walls 0.5—0.8 μm thick. Hyphae of the stalk 3—7 μm wide, long cylindrical, thin-walled. Asci 60—70 \times 6—7 μm , closely glued together, pore amyloid, paraphyses not found. Ascospores 13—17 \times 3—3.5 μm , narrowly elliptical, sometimes inequilateral, attenuated towards their ends but not acute, 3-septate. — The second specimen PRM 147531: Bohemia centr., Ondřejov, *Aspidium filix-femina* (= *Athyrium filix-femina*) IX. 1933 leg. Velen., does not differ from the former. Apothecia are pale yellow, immarginate, glabrous, in NH_4OH up to 300 μm diam., asci with slightly amyloid pore, paraphyses 2—2.5 μm thick, obtuse, not enlarged above, slightly encrusted, ascospores 12—13 \times 2.5—3 μm (observed in asci only), fusiform, 1-(rarely 3)-septate.

I suppose the species may be identical with *Phialea campanuliformis* (Fuck.) Rehm (syn.: *Pezizella campanuliformis* (Fuck.) Dennis, *Helotium aureolum* Sacc., non Rabenh.) = *Hymenoscyphus campanuliformis* (Fuck.) Raschle et E. Müller

Helotium aviculare Velen. 1947 : 122

Holotypus PRM 148068: Bohemia centr., Mnichovice, apud molam Hubáčkov, ad caulem herbae (probabiliter *Polygonum aviculare*) 18. X. 1941 leg. Velen.

Two long stipitate apothecia 1—1.3 mm diam. Excipular cells 8—15 μm wide, slightly thick-walled, basal part of the excipulum strongly dextrinoid (bright wine-red in Melzer's reagent). Ascospores 20—24 \times 4—4.5 μm , beaked above, attenuated below, asci 80—120 \times 10 μm , pore inamyloid.

I cannot find any difference between this species and *Hymenoscyphus scutula* (Pers. ex Fr.) Phill.

Helotium berisii Velen. 1934 : 196

Lectotypus PRM 148242: Bohemia centr., Mnichovice, Hubáčkov, ad acus *Piceae abietis* 10. IV. 1929 leg. Velen.

Two needles of *Picea abies* with two cup-shaped stipitate apothecia 0.3—0.5 mm diam., whitish coloured. I consider it for only a white form of *Weinmannioscyphus messerschmidii* (Weinm.) Svr., from which it does not differ. Also the second specimen PRM 148012: Mnichovice, ad viam versus Ondřejov, ad acus *Piceae abietis* 9. IV. 1930 leg. Velen., containing only one apothecium having the yellow mycelium at its basis, it the same discomycete.

Helotium borraginaceum Velen. 1934 : 193

Holotypus PRM 148259: Bohemia centr., Mnichovice, in palude apud piscinam Hubáčkov, ad caules nigros marcidos *Myosotidis palustris* 30. VIII. 1926 leg. Velen.

One blackened herbaceous stem with two long stipitate apothecia 0.6—1 mm diam., disc concave, blackish-brown, stipe 1—1.5 mm long, glabrous, paler brown. Excipulum of collapsed cylindrical hyphae, violet-brown (vacuolar pigment) with very numerous violet-brown guttules. Hyphae on surface of receptacle more thick-walled, 3—6 μm wide. The remains of asci about 85—95 \times 6—8 μm , 8-spored, very thin-walled, pore inamyloid, paraphyses numerous, 2.5—4 μm thick, cylindrical, not enlarged above, obtuse, filled with violet-brown guttules or granules. Ascospores 13—17 \times 2.5—3.5 μm , fusiform, attenuated or subacute at their both ends, eguttulate, sometimes with one pseudoseptum.

Fresh apothecia were — according to Velenovský's manuscript notes — 2—3 mm diam., thick, fleshy, with thick yellow-brown stalk 2—3 mm long, disc and outer part of the receptacle dark violet.

This discomycete seems to be distinct from all known species of *Hymenoscyphus*. In colour, it is similar to *Hymenoscyphus ombrophilaeformis* Svr., differing in the shape of apothecia and essentially larger ascospores as well as in their shape.

= *Hymenoscyphus borraginaceus* (Velen.) Svr., comb. nov.

Basionymum: *Helotium borraginaceum* Velenovský, Mon. Disc. Boh. p. 193, 1934

Helotium brevisporum Velen. 1922 : 849, fig. 156, 11

The species was not recorded in 1934 by its author, and no type collection is present at PRM. In Velenovský's manuscript notes *Helotium brevisporum* is synonymized with *Ciboria amentacea* (Balb. ex Fr.) Fuckel, with a note about its identity with this discomycete. This well may be right if information in the protologue (1922 : 849) about its colour and substratum („apothecia ochre-coloured ... on dead rhizomes of herbs“) were erroneous.

Helotium calamerium Velen. 1934 : 207

Holotypus PRM 147229: Bohemia centr., Karlík, ad rhizomata *Equiseti arvensis* in agro udo 28. X.1924 leg. Velen.

One fragment of an *Equisetum* root with several apothecia seated on the cut-surface. Apothecia singly or confluent, 0.6—0.8 mm diam., shortly stipitate, dark orange, disc marginate, sometimes flexuous, thick, often whitish pruinose, almost flat. Excipular cells subisodiametric, subglobose or angular, up to 20 μm diam., thin-walled, hyaline, smaller at the margin (up to 4 μm only), the lower part of the excipulum distinctly amyloid (bluish in Melzer's reagent). Asci 100 \times 7—8 μm , pore inamyloid, paraphyses 2.5 μm thick. Ascospores 9.5—15 \times 4—5 μm , shape and size variable, mostly shortly ovoid up to oblong-fusiform, attenuated towards both ends, inequilateral, minutely gra-

nulose inside at the ends. — The features of this species are very similar to *Hymenoscyphus imberbis* (Bull. ex Fr.) Dennis and morphologically no difference exists. Also the colour of apothecia and its change recorded in protologue (apothecia turning brownish when bruised) does not differ from *H. imberbis*.

= *Phaeohelotium imberbe* (Bull. ex Fr.) Svr.

Helotium calopus (Fr.) Fr.

Velen. 1934 : 200, tab. 20, fig. 44

In PRM there are three specimens of this species collected by Velenovský:

1. PRM 149251: Bohemia centr., Radotín, ad folia emortua *Sesleriae caeruleae* VIII. 1924 [ut *Helotium sesleriae* Velen. in herb.] — Four apothecia on basal part of a grass leaf, 0.6—1 mm diam., stipitate (stipe 0.8—1.2 mm), almost totally black-brown. Excipulum dextrinoid, of cylindrical, 3—7 μm wide, thin-walled, relatively short-celled, colourless hyphae, covered on the outer side with narrower (2—4 μm) densely granulate, dull violet-brownish hyphae ending free and encrusted by membranous pigment. Asci 110—125 \times 6—7 μm , cylindrical, shortly stipitate, obtuse above (subtruncate), pore slightly amyloid, 8-spored. Paraphyses 1.5—2 μm , not enlarged. Ascospores 7.5—12 \times 3.5—4 μm , elliptical, inequilateral, with rounded ends, minutely guttulate or granulose at each end.
2. PRM 149396: Bohemia centr., Mnichovice, ad radiculum graminis (*Poa nemoralis*) 26. IX. 1925. — Is the same fungus as the former.
3. PRM 149821: Bohemia centr., Hrabanov propé Lysá n. Lab., ad culmos graminis 30. V. 1926. — It is also the same species.

The material examined agrees — with the exception of slightly smaller ascospores — with *Rutstroemia calopus* (Fr.) Rehm sensu auct. = *Helotium graminium* Phill. Further notes see under *Helotium ammonis* Velen. which is also a synonym. Substratum (leaves and culms of grasses) is not stromatized. According to Velenovský's manuscript, apothecia in 149251 and 149396 were „slightly pale rose, similar to *Belonioscypha vexata*“ [= *B. culmicola*], in 149821 the disc was „later faintly yellowish“, so that the colour seems to be rather variable.

Helotium capreae Velen. 1947 : 119

Lectotypus PRM 148201: Bohemia centr., Mnichovice, in trunco putrido *Salicis capreae*

1. X. 1940 leg. Velen.

Several apothecia on a small piece of wood of some frondose tree. Apothecia 0.6—1 mm diam., pale apricot-coloured, thick, fleshy, shortly stipitate or sessile on the white mycelium, marginate, flexuous. Excipulum of narrow (up to 5 μm) thin-walled colourless hyphae elongated towards the margin, marginal hyphae 1.5 μm wide only, obtuse. Asci 59—70 \times 4—4.5 μm , often very long stipitate, narrowly cylindrical-clavate, pore slightly amyloid. Paraphyses 1.5 μm thick, not enlarged above. Ascospores 6—8.5 \times 1.3—1.7 μm , narrowly cylindrical-fusiform or elliptic-cylindrical, straight or slightly curved with rounded ends, eguttulate.

The same fungus is PRM 148103: Bohemia centr., Mnichovice, infra Klokočná, ad ramulum atque lignum sectum *Salicis capreae* XI. 1940 leg. Velen. — Two further specimens represent another discomycete, *Bisporella subpallida* (Rehm) Dennis: PRM 148148 (Mnichovice, apud molam infra Božkov, ad truncum *Salicis fragilis* 1. X. 1940 leg. Velen., and PRM 148067 (Mnichovice, in dumeto ad marginem sylvae Stránčický les, ad truncum sectum *Salicis capreae* 6. XI. 1940 leg. Velen., ut *Helotium redivivum* Velen. in herb.)

Of two specimens of *Helotium capreae* (148201 and 148103) indicated by the author as „Orig.“ mainly the former was used for the original description, the later one is identical with *Bisporella subpallida*. Therefore I selected PRM 148201 as lectotype. *Helotium capreae* is probably very close to *Hymenoscyphus parilis* (Karst.) Dennis, but it differs in some details, viz. sessile apothecia, smaller nonseptate ascospores, somewhat different excipulum. Therefore I am inclined for the time being to regard it as an independent species:

Hymenoscyphus capreae (Velen.) Svr. comb. nov.

Basionymum: *Helotium capreae* Velenovský, Novit. mycol. noviss. p. 119, 1947

Helotium caraborum Velen. 1934 : 208

Holotypus PRM 148116: Bohemia centr., Mnichovice, in muscis VII. 1929 leg. Velen.

One stem of *Entodon schreberi* (= *Pleurozium schreberi*) without apothecia (the host

is not *Hylocomium splendens*, as indicated in the protologue]. The species is close and perhaps identical with *Helotium procerum* Karst. sensu Velen. (1934:209) = *Hymenoscyphus rhytidadelphi* Svr. (1978:17), but the shape of ascospores according to the original figures in Velenovský's manuscript notes seems to be rather different [curved and not fusiform nor acute].

***Helotium carpinicolum* Rehm**

Velen. 1934:204

Even though Velenovský recorded this *Helotium* as common on bracts of fruits of *Carpinus betulus* („in silvis autumnno ubique vulgaris“), I found only one specimen in his collection in PRM: Bohemia centr., Mnichovice, in alis trilobis fructuum *Carpini betuli* IX. 1922 (PRM 152671, ut *Pezizella carpini* Velen. in herb.).

This specimen was used for notes in his manuscript, too. Dried apothecia are 0.8–1 mm diam., dark orange, sessile, marginate, seated always on nerves on the under side of small bracts of fruits. Excipular cells at the margin angled, 3–4 μm diam., towards the base globose or subangled, up to 15 μm across, thin-walled, colourless. Asci 80–85 \times 10 μm , pore indistinctly amyloid, paraphyses 2 μm thick, ascospores 16–17 \times 4 μm , oblong fusoid, inequilateral, almost pointed towards both ends, eguttulate, nonseptate. — This specimen is a typical *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm.

***Helotium caudatum* (Karst.) Velen. 1934:206, tab. 20, fig. 35**

On the whole, 14 specimens of Velenovský's collection are preserved in PRM, all from Central Bohemia. The fungus was correctly identified and described. It is a common species on veins or petioles of fallen decaying leaves of deciduous trees, in Czechoslovakia most frequently on *Salix* spp. (*S. caprea*, *S. cinerea* et al.) and *Betula* spp.

= *Hymenoscyphus caudatus* (Karst.) Dennis

***Helotium cejpi* Velen. 1934:207, tab. 19, fig. 28, 32**

Lectotypus PRM 149139: Bohemia centr., montes Brdy, Padrt, ad petiolos *Aspidii spinulosi* (= *Dryopteris carthusiana*) VIII. 1924 leg. K. Cejp, det. Velen. (ut *Helotium pteridinum* Velen. in herb.).

The specimen contains not only nine fragments of a fern, but also three pieces of *Rumex*-stems, on which, according to Velenovský notes in the manuscript, this species also grew „very copiously“. Apothecia numerous, long stalked, disc pale or dark ochraceous up to reddish-yellow, stalk paler. Excipulum typical as in *Hymenoscyphus scutula*, asci 85–95 \times 7–9 μm , pore amyloid, paraphyses 2.5–3.5 μm thick above, ascospores 17–24 \times 3.5–4.5 μm , cylindrical-clavate, pointed below, distinctly hooked above, densely granulose inside. — I cannot find any difference between these pteridicolous apothecia and typical apothecia of *Hymenoscyphus scutula* growing on herbs. — There are three further specimens of *Helotium cejpi* in PRM: Bohemia centr., Jevany, *Aspidium spinulosum* (= *Dryopteris carthusiana*) XI. 1926 leg. Velen. (149275), Zvánovice, in convalle Zvánovické údolí, *Athyrium filix-femina* 22. X. 1929 leg. Velen. (148904), Mnichovice, infra Myšlín, ad rivulum, *Pteridium aquilinum* 8. IX. 1931 leg. Velen. (147572). All are also *Hymenoscyphus scutula* (Pers. ex Fr.) Phill.

***Helotium cejpi* var. *struthiopteridis* Velen. 1934:207**

Lectotypus PRM 147432: Bohemia centr., Mnichovice, in horto, *Struthiopteris germanica* (= *Matteuccia struthiopteris*) X. 1933 leg. Velen.

A few apothecia not differing from typical form of *Helotium cejpi* = *Hymenoscyphus scutula* (Pers. ex Fr.) Phill. Also PRM 148074 from the same locality, X. 1925, is the same fungus. Ascospores examined by me were not longer than 24 μm and mostly shorter (20 μm).

***Helotium cerastii* Velen. 1934:192, tab. 20, fig. 22**

Holotypus PRM 147750: Bohemia centr., Mnichovice, ad rhizoma *Cerastii arvensis* 15. VII. 1925 leg. Velen.

One fragment of a rhizome most probably of a grass (? *Elytrigia repens* = *Agropyron repens*) with one incomplete apothecium 0.8 mm diam., brownish, stalked (1 mm). Excipulum of the filamentous marginal zone dull violet-brownish (in NH_4OH) passing towards the base in thin-walled oblong cells 3–7 μm wide. In the marginal zone there are many granules of brown-coloured extracellular pigment blackening in Melzer's reagent, encrusting walls of the hyphae and forming coagulated masses. Flesh of thin-walled, 2.5–5 μm thick, cylindrical, interwoven colourless hyphae. Asci 100–120 \times

×7.5—8.5 μm , pore distinctly amyloid, the tip of asci up to 2 μm thickened. Paraphyses 2.5—3 μm thick above. Ascospores 11—15×4—5 μm , narrowly elliptical, cylindrical-elliptical or oblong-ovoid, biguttulate or granulose inside at both ends. The disc of fresh apothecia was of „beautiful yellow“ colour, the stalk white (according to the original description). — It is evident that *Helotium cerastii* is the same discomycete as *Rutstroemia calopus* (Fr.) Rehm sensu auct. (see also *Helotium ammonis* Velen. and *Helotium calopus* Fr. sensu Velen.) for which I prefer the name *Hymenoscyphus graminium* (Phil.) Svr.

Helotium citrinum (Hedw. ex Fr.) Fr.

Velen. 1934 : 187

The description of this *Helotium* was based on seven collections, four of which are preserved in PRM: 147209: Bohemia centr., Karlík, in convalle Karlické údolí, ad ramos *Salicis* sp. apud rivulúm 24. X. 1924 leg. K. Cejp [ut *Helotium superbum* Velen. in herb.]. — The description of macrofeatures is based on this specimen. — 148915: Bohemia centr., Všenory, in codice *Salicis* sp. ad ripam rivuli in copia magna 19. XI. 1926 leg. Velen. [ut *Helotium superbum* var. *minus* Velen. in herb.] — 147768: Bohemia centr., Mnichovice, ad ramum *Salicis* sp. ex aqua rivuli emergentem IX. 1923 leg. Velen. [ut *Helotium citrinum*]. — 147479: ibidem, apud molam Halašův mlýn, ad ramulos *Salicis* sp. 9. XII. 1931 leg. Velen. [ut *Helotium citrinum*]. — All these collections are certainly identical with *Hymenoscyphus conscriptus* (Karst.) Korf ap. Kobayasi et al. and not with *Helotium citrinum* (Hedw. ex Fr.) Fr. = *Bisporella citrina* (Hedw. ex Fr.) Korf et Carpenter. The only one correctly identified specimen is PRM 148944: Bohemia centr., Jevany, *Fagus* X. 1922 leg. Velen., what is really the typical *Bisporella citrina*. This find was left unpublished by Velenovský. In his work (1934) *Bisporella citrina* was described under the name *Pezizella nobilis* Velen.

Helotium confertum Velen. 1940 : 184

Holotypus PRM 147465: Bohemia centr., Mnichovice, ad caulem *Sedi telephii* IX. 1939 leg. Velen.

Three fragments of herbaceous stems (may be *Sedum telephium* agg.) with numerous apothecia 0.5—0.8 mm diam., distinctly stipitate, now dark orange-red. Excipulum of long-celled hyphae, marginal zone of cylindrical thin-walled, hyaline, obtusely terminated hyphae 1.5—4 μm thick, closely arranged, enlarged towards the base and slightly thick-walled. Hypothecium of somewhat thick-walled globose cells 3—5 μm across, colourless. Asci 45—50×4—4.5 μm , pore inamyloid, paraphyses scarce, 1.5 μm thick. Ascospores 5—7×1.3—1.5 μm , narrowly cylindrical, with rounded ends, straight or slightly curved, biguttulate.

Even though three hosts are recorded in the protologue, this is the single specimen of *H. confertum* preserved in PRM.

Hel. confertum var. *galii* Velen. 1940 : 184 is absent in PRM.

It seems probable that *Helotium confertum* belongs in the synonymy of *Hymenoscyphus euphorbiae* (Velen.) Svr.

Helotium confine (Karst.) Karst.

Velen. 1934 : 201, tab. 20, fig. 46

The description of this species in the quoted work was made according to three specimens preserved now at PRM. Unfortunately, none of them can give us the idea about the true systematic position of this fungus. PRM 148106 (Bohemia centr., Mnichovice, Myšlín, *Juncus communis* 11. IX. 1929) and 147504 (ibidem, Chlum, *Juncus communis* 22. X. 1931) contain young immature apothecia only. In PRM 148186 (Hrusice prope Mnichovice, *Juncus communis* 18. VIII. 1927) no apothecia were seen. It is evident that *Helotium confine* sensu Velen. represents a different discomycete not conspecific with Karsten's *Helotium confine*, type of which was studied by DENNIS (1956 : 26). The discomycete described by Velenovský as *Helotium confine* is not rare to us and was collected also by V. Vacek and myself not only on *Juncus* spp., but also on *Scirpus sylvaticus* and *Carex* spp. in swamps, and identified — at least for the greater part — with *Pezizella alba* Velen. [1934 : 171], too. It is a *Hymenoscyphus* sp., but its correct name remains unknown to me.

Helotium conformatum (Karst.) Karst.

Velen. 1934 : 204, tab. 20, fig. 43

At PRM, ten specimens from Velenovský's collection are deposited, all from Bohemia

but one from Moravia. The fungus identified and described by the cited author is surely *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffman [see DENNIS 1956:101], a common discomycete on fallen leaves of deciduous trees but not rare also on associated debris, needles, twigs and grass culms. *Peziza conformata* Karst. [1869:149] is a quite different fungus closely related to *Ciboria amantacea* (Balb. ex Fr.) Fuckel, and recently transferred to *Ciboria* [*C. conformata* (Karst.) Svrček 1982:152]. In literature it is recorded as *Rutstroemia conformata* (Karst.) Nannf., too.

***Helotium conincola* Velen. 1934:197, tab. 19, fig. 20**

Lectotypus PRM 149528: Bohemia centr., Stránčice, in conis *Piceae abietis* VII. 1923 leg. Velen. [ut *Helotium album* Velen. in herb. et manuscr.]

Apothecia scattered or fasciculate directly on wood of a spruce cone [free from scales] covered partly with a layer of dried loamy sediment, 0.3–0.4 mm diam., pale or dark orange, very shortly stalked, narrowly marginate, smooth, disc slightly concave or flat. Excipulum of subglobose or angled cells 7–10 μ m diam., colourless, thin-walled, hyaline hyphae 3–9 μ m wide with obtuse ends. Flesh of similar hyphae or cylindrical cells 10–15 \times 3–5 μ m, as terminal cells of short-celled hyphae up to 14 \times 5–7 μ m. On the outer side of the excipulum there are cylindrical, flexuous, thin-walled, hyaline hyphae 3–9 μ m wide with obtuse ends. Flesh of similar hyphae 3–5 μ m wide. Asci 85–90 \times 12–15 μ m, cylindrical, very shortly and thickly stipitate, the apex largely rounded, thickened, pore slightly amyloid, 8-spored. Paraphyses 2.5–3 μ m thick, obtuse, not enlarged above. Ascospores 15–19 \times 4–6.5 μ m, ovoid or oblong-ovoid, inequilateral, rounded at both ends, eguttulate, always 1-septate, with one thin septum distinctly visible in Melzer's reagent, colourless, smooth, biseriolate or partly biseriolate in the ascus. The amyloidity of the ascus-pore is perceptible as two very small bodies (0.3–0.7 μ m across) under the oil-immersion only.

Helotium eichleri Bres. (Dennis 1956:90, 1964:43) is somewhat similar but is said to have ascospores with a gelatinous coat, 12–15 \times 5–6 μ m. The structure of the excipulum in *Helotium conincola* as well as the shape and size of ascospores correspond fairly with the genus *Phaeohelotium* (in the sense of Dennis) to which the species could be transferred. The second specimen PRM 148802 (Rokycany, ad squamas conorum *Pini sylvestris* XI. 1923 leg. K. Cejp, named by Velenovský as *Helotium conincola*, is a typical *Helotium sazavae* Velen. [*H. lutescens* sensu Velen.].

= *Phaeohelotium conincola* (Velen.) Svr., comb. nov.

Basionymum: *Helotium conincola* Velenovský, Mon. Disc. Boh. p. 197, 1934.

***Helotium constantinii* Boud.**

Velen. 1934:202 [ut „*constantinii*“]

PRM 149681: Bohemia centr., Jevany, apud piscinam ad culmum *Junci communis* 15. IX. 1924 leg. Velen. [ut *Helotium juncinum* Velen. in herb. et manuscr.]. — Four apothecia on two fragments of *Juncus* culms. Apothecia 0.5–1.5 mm diam., short and thick stalked, growing on purple-brown coloured, shining mycelium, rather firm (also in NH₄OH), dark red-brown, disc slightly concave or plane, outer side rugose. Excipulum of long-celled, thin-walled, yellow-brown or reddish-brown coloured, hyphae 3–5 μ m wide, enlarged downwards into boader and irregularly angled-elliptical cells up to 18 \times 9 μ m, marginal zone of cylindrical, thin-walled, septate, hyaline and obtuse hyphae 25–35 \times 2.5–3.5 μ m. Excipulum not dextrinoid, but partly slightly amyloid. Asci 120–130 \times 8–12 μ m, clavate-cylindrical, 8-spored, apex rounded, pore distinctly amyloid. Paraphyses 2–2.5 μ m thick, not enlarged above. Ascospores only seen in asci, 18.5–20 \times 4–4.5 μ m, oblong-fusiform or cylindrical-clavate, inequilateral, attenuated below, shortly narrowed above, finely granulate inside at both ends.

The species is certainly not identical with *Helotium constantinii* Boud. 1888:81 and according to my opinion, it is a synonym of *Peziza vasaensis* Karst. Its drawing on plate 20, fig. 2 in Velenovský 1934 represents his var. *ochraceum* Velen. and not the typical form of *H. constantinii* Boud.

= *Phaeohelotium vasaense* (Karst.) Svr., comb. nov.

Basionymum: *Peziza vasaensis* Karsten, Not. Sällsk. Faun. Flor. Fenn, 10:150, 1869

***Helotium constantini* [sic!] var. *ochraceum* Velen. 1934:202, tab. 20, fig. 2**

Holotypus PRM 147224: Bohemia centr., Mnichovice, Myšlín, ad culmum *Junci lamprocarpi* (= *J. articulatus*) 28. VII. 1925 leg. Velen. [ut *Helotium rufescens* Velen., in herb.]

Several fragments of *Juncus* culms with 14 apothecia 0.7–1 mm diam., 1.2–2 mm

stalked, asci 125—130×8—9 μm, paraphyses 2—3 μm thick, ascospores 20—24×3.5—4 μm, hooked above, attenuated below, sometimes with a fine bristle 3—3.5 μm long. Excipulum as in the typical *Hymenoscyphus scutula* to which this fungus belongs.

Helotium crassum Velen. 1947 : 119

Holotypus PRM 147118: Bohemia centr., Mnichovice, loco „Brožek“, ad ramulos frondosus 11. VIII. 1940 leg. Velen.

Four twigs most probably of a willow (*Salix* sp.), with apothecia of the typical *Hymenoscyphus salicellus* (Fr.) Dennis, and young apothecia of a long stipitate immature another *Hymenoscyphus* sp. The original description refers to *Hymenoscyphus salicellus* (Fr.) Dennis of which *Helotium crassum* is a synonym.

Helotium crenulatum Velen. 1934 : 199, tab. 20, fig. 10

Holotypus PRM 147587: Bohemia centr., Mnichovice, ad piscinam Hubáčkov, ad vaginas foliorum *Caricis muricatae* in declivitate calido 9. VIII. 1926 leg. Velen.

Seven apothecia 0.3—0.5 mm diam., almost sessile, shortly attenuated below, pale honey-coloured, solitary on dead leaves attached to the plant. Excipulum of densely interwoven flexuous hyphae 1.5—4 μm wide, slightly thick-walled, colourless, in the basal part passing in indistinct ellipsoidal cells 3—7 μm broad, the outer side of the excipulum covered with cylindrical or fusiform hyphae 16—40×2.5—5 μm thick, obtusely terminated, marginal zone of similar but integrated, 1.5—4 μm wide cylindrical hyphae. Excipulum is not dextrinoid. Asci 60—75×6—7 μm, oblong-clavate, shortly stipitate, 8-spored, pore slightly amyloid. Paraphyses 1.5—2 μm thick, not enlarged above. Ascospores [12—]13—20.5×[2—]2.5—3.5 μm, fusiform, attenuated towards the ends, inequilateral, minutely granulate inside, mostly 1-septate and strangulate, septum thin (sometimes a little above the middle), straight or curved. Numerous ascospores observed germinating.

The second specimen, PRM 148193 Bohemia centr., Kunice prope Mnichovice, *Carex praecox* IX. 1938 leg. Velen., agrees with the holotype. Asci 85—90×6 μm, paraphyses up to 3 μm thick, ascospores 13—18.5×2.5—3.5 μm, 1-septate, marginal hyphae and hyphae on the outer side of the excipulum as well as cells more distinctly visible (cells up to 10 μm wide at base of the excipulum), numerous crystals present.

The species seems to be characteristic for *Carex*-species occurring on dry habitats.

= *Hymenoscyphus crenulatus* (Velen.) Svr., comb. nov.

Basionymum: *Helotium crenulatum* Velenovský, Mon. Disc. Boh. p. 199, 1934

Helotium culmigenum Velen. 1934 : 200

Lectotypus PRM 147546: Bohemia centr., Mnichovice, Božkov, ad culmum graminis 16. IX. 1930 leg. Velen.

One fragment of grass culm with a single apothecium 1 mm diam., shortly and thickly stipitate (obconical), dark brown-orange, smooth, thickly fleshy. Substratum not stromatized. Excipulum of rectangular cells 8—10×5—9 μm, thin-walled, colourless or yellowish, covered with a network of cylindrical hyphae granulate inside and strongly dextrinoid (dark reddish-brown) in Melzer's reagent, 3—4 μm thick, marginal zone entire of shortly cylindrical rounded hyphae 3—4 μm thick. Asci 90—100×7—10 μm, 8-spored, pore slightly amyloid, with conico-truncate apex. Paraphyses 1.5—2 μm thick. Ascospores 15—20×4—5 μm, fusiform, inequilateral, attenuated at both ends, minutely granulate inside. The majority of asci immature. Flesh of long cylindrical, hyaline, thin-walled, septate, 2—4 μm thick hyphae.

The species is also characteristic by solitary, rather firm, only very shortly and thickly attenuated apothecia below, when fresh waxy yellow, 1—2 mm across. With the lectotype are conspecific: PRM 147537 (Bohemia centr., Mnichovice, loco „Jídášky“, *Calamagrostis epigeios* IX. 1933), and 148076 (Mirošovice, *Calamagrostis epigeios* 3. IX. 1940), all collected by Velen., too. Three other specimens, PRM 148151 (Bohemia centr., Tehov, *Brachypodium pinnatum* 2. X. 1940), 148107 (Mnichovice, *Triticum repens* = *Elytrigia repens* IX. 1934, ut *Helotium culmigenum* var. *suspectum* Velen., in herb.), 148075 (ibidem, in colle Plecháč, ad caulem herbae, sine dato) are the typical *Hymenoscyphus scutula* (Pers. ex Fr.) Phill.

Helotium culmigenum Velen. is rather similar to *Hymenoscyphus epiphyllus* (also occurring on other hosts, not only on leaves of trees), and morphologically hardly discernible from it.

= *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm.

Helotium cupularum Velen. 1947 : 121

Holotypus PRM 148167: Bohemia centr., Mnichovice, in nemore apud Mirošovice ad cupulas quercinas in gramine udo 2. VIII. 1941 leg. L. Hostáňová, det. Velen.

One incomplete apothecium on the inner side of a *Quercus* cupule, 0.5 mm diam., almost sessile, dark orange. Excipulum of polygonal or subglobose, thin-walled cells up to 20–25 μm diam., with a tint of red-brownish (in NH_4OH), running out into 3–4-celled, strangulated, 4–5 μm thick, thin-walled and colourless hyphae up to 50 μm long. Asci 50–60 \times 6–7 μm , short stalked and with croziers, 8-spored, pore inamyloid. Paraphyses 1.5–2 μm thick. Ascospores (seen only in asci) 6–7 \times 2.5 μm , oblong-elliptical, eguttulate. Marginal cells shortly clavate, 3–4 μm thick. — This species seems to be very close to *Hymenoscyphus imberbis* (Bull. ex Fr.) Dennis, from which it cannot be most probably separated.

Helotium cyparissias Velen. 1934 : 194

Holotypus PRM 147563: Bohemia centr., Mnichovice, ad caules emortuos *Euphorbiae cyparissias* IX. 1931 leg. Velen.

Not all stems represent *Euphorbia cyparissias*, there are some of another herb. Apothecia are quite typical white form of *Helotium scutula* f. *album* (Le Gal) Dennis (1956 : 77) = *Helotium nubilipes* Boud., differing in white colour only.

Helotium daphninum Velen. 1934 : 186

Holotypus PRM 147977: Bohemia centr., Mnichovice, in horto, in caudice putrido *Daphne mezereum* 1. IX. 1929 leg. Velen.

One fragment of a trunk of *Daphne* on cut-surface on which are some tens of densely gregarious apothecia 0.2–0.4 mm diam., pale yellow on the outer side, white pruinose, and pale orange on the disc. The apothecia are immature (without asci), the excipulum composed of elliptical to rectangular cells up to 12 \times 7 μm , running out into clavate or irregularly cylindrical, often flexuous, thin-walled, unicellular, hyaline hyphae 8–25 \times 2.5–5 μm . The excipular cells are thin-walled or slightly thick-walled, not dextrinoid. — The material is insufficient for identification.

Helotium decolorans Velen. 1934 : 201, tab. 20, fig. 6, 7

Holotypus PRM 148920: Bohemia centr., Svojetice, in graminibus 18. VII. 1925 leg. Velen. — One apothecium growing on strongly rotten plant debris (? *Carex*), covered with a fine sediment of mud, 1.5 mm high, 1 mm across, dark brownish-orange, stalk 0.4 mm thick, darker at the base, the outer side somewhat wrinkled, disc narrowly marginate, partly destroyed by insects. Excipulum of subglobose thin-walled, hyaline cells up to 25 μm diam., on the outer side with cylindrical, septate, ramified, colourless hyphae 3–5 μm wide. Asci 85–90 \times 5–7 μm , cylindrical, apex subtruncate, pore inamyloid, 8-spored, perfectly mature. Paraphyses 2–2.5 μm , with densely granulate, distinctly dextrinoid content. Ascospores 7–11 \times 3.5–4 μm , very variable in shape, ovoid up to oblong fusiform, eguttulate, uniseriate.

The habitat of this discomycete was a wet place [*Juncus* sp., *Carex* sp.] and it seems probable that the fungus was not specialized on a specific plant. The identification with *Hymenoscyphus imberbis* (Bull. ex Fr.) Dennis = *Phaeohelotium imberbe* (Bull. ex Fr.) Svr. seems to be justified. The second specimen of *Helotium decolorans*, PRM 148010: Bohemia centr., Hrusice, ad spicam *Tritici sativi* 19. VIII. 1930 leg. Velen. (ut *Helotium spicisedum* Velen. in msrpt. et herb.) is the typical *Hymenoscyphus robustior* (Karst.) Dennis. The excipular cells are up to 18 \times 6 μm , thin-walled, colourless, the hyphae of the marginal zone 3–5 μm thick, with dextrinoid, granulose content. Asci 80–100 \times 5–6 μm , conico-truncate above, pore amyloid, 8-spored. Paraphyses 2 μm thick, ascospores 7.5–10 \times 3.5–4 μm , cylindrical, with rounded ends, minutely biguttulate, rarely eguttulate, uniseriate.

Helotium dentatum Velen. 1934 : 187, tab. 20, fig. 28

Lectotypus PRM 148842: Bohemia centr., Jevany, ad folia delecta in palude silvatico 16. X. 1925 leg. Velen.

The plant host is represented by rotten leaves of *Carpinus betulus* or *Acer* sp., not *Quercus*, as recorded in the protologue. Apothecia 1–1.5 mm diam., almost sessile, dark red-brown, thick-marginate, disc flat. Cells of the excipulum up to 35 \times 14 or 45 \times 10 μm , in the basal part subglobose and up to 25 μm diam., thin-walled, grey-brown or yellow-brown, sporadically hyaline, the marginal zone entire, of shortly cylindrical hyphae. The apothecia were immature.

Surely conspecific with this specimen is PRM 148496: Bohemia centr., Jirny, ad folia *Quercus* in palude silvatico X. 1926 leg. Fr. Fechtner, det. Velen. Apothecia have a quite similar excipulum, flesh is composed of densely interwoven, cylindrical, 2–4 μm wide hyphae, asci 140–150 \times 7–8 μm , very few mature with ascospores about 17 \times 3.5 μm , oblong-fusoid, with one end obtuse and the other one attenuated. I observed in some parts of the excipular tissue a slight blue-greyish tint in Melzer's reagent. The largely rounded apex of the asci has a distinctly amyloid pore.

This specimen is a typical *Hymenoscyphus epiphyllus*. The specific name „*denticatum*“ was derived from the shape of the margin of disc, distinctly visible in some apothecia growing also on adjacent oak twigs in the lectotype-specimen.

Helotium denticulatum Velen. 1934: 205, tab. 20, fig. 41

Lectotypus PRM 148120: Bohemia centr., Mirošovice, ad folia deiecta *Quercus* 16. IX. 1929 leg. Velen.

Apothecia 1 mm diam., stalked (1 mm long), pale yellow-brown, smooth, disc darker, margin crenulate. They grow on the main nerve of a fallen leaf of *Quercus*. Excipulum of long, rectangular, thin-walled and colourless cells up to 25 \times 10 μm large. Ascospores 22–26 \times 3–4 μm , narrowly fusiform, long pointed below, obtuse above, inequilateral, sometimes 1-septate in the middle and somewhat strangulate. Asci 90–110 \times 10–12 μm , apex conico-truncate, pore inamyloid. Paraphyses 2–2.5 μm thick, not enlarged above.

The second specimen PRM 148243, collected by Velenovský on the same locality and plant host 25. IX. 1929 (as *Helotium triglavi* Velen. in manuscr. et herb.) represents the same fungus, but the ascus pore is distinctly amyloid and ascospores are 17–22 \times 3.5–4 μm (observed in asci only). — Two further specimens, PRM 147574 (Hrusice, on rotten leaf which cannot be identified with certainty, IX. 1930 leg. Velen.) and 148336 (Zvánovice, on leaves of *Corylus avellana* 22. X. 1929 leg. Velen.) agree also with the lectotype.

This is most probably identical with the form (unnamed) of *Helotium caudatum* (Karst.) Velen., mentioned by DENNIS (1956: 82). It has slenderer ascospores than typical *H. caudatum*. For the time being I am inclined to regard *H. denticulatum* as an independent species.

= *Hymenoscyphus denticulatus* (Velen.) Svr., comb. nov.

Basionymum: *Helotium denticulatum* Velenovský, Mon. Disc. Boh. p. 205, 1934

Helotium desertorum Velen. 1934: 209

Holotypus PRM 147243: Bohemia centr., Radotín, *Rhytidium rugosum* (= *Hypnum rugosum*) in steppibus calcareis aridis insolatissugae 7. XI. 1924 leg. Velen.

I found three apothecia on the quoted moss, growing solitary on mainly terminal stems and leaves, 0.2–0.3 mm diam., long stalked (stalk 0.5–0.8 mm long, 80–100 μm thick), when rehydrated 0.4–0.5 mm across. Dried apothecia are pale orange, smooth. Excipulum of parallel, thin-walled, septate, colourless hyphae 3–6 μm wide, the cells sometimes inflated and up to 32 μm long, the marginal zone entire, of similar cylindrical hyphae covered with rich amorphous mass of extracellular pigment forming lumps up to 17 μm diam. and red-brown coloured in Melzer's reagent. The outer surface of the excipulum is covered by a scarce network of narrow, long, strongly encrusted hyphae running downwards on the stalk. On the outer side of the excipulum there are conspicuous lumps and granules of extracellular pigment, rust-coloured in Melzer's reagent. The stalk consists of strangulated hyphae 2.5–7 μm wide, hyaline, with slightly thickened walls. Flesh of very thin-walled, often indistinct, hyaline, interwoven, frequently septate, 1.5–3 μm thin, not dextrinoid hyphae. Asci 70–85 \times 6–7 μm , short or long stalked, 8-spored, apex largely rounded or truncate and slightly thickened, pore amyloid, visible as two very small bodies. Paraphyses 2–2.5 μm thin, hyaline, septate, not enlarged above, obtuse, with minutely granulate content. Ascospores 11.5–14.5(–16) \times 2.5–4 μm , 1–2-seriate, fusiform, inequilateral sometimes up to slightly S-curved, pointed or bluntly pointed at both ends where they are biguttulate or granulate.

This species is close to *Hymenoscyphus rhytidiadelphii* Svr. (1978: 17) from which it differs by narrower ascospores, dextrinoid extracellular pigment and encrusted hyphae in excipulum as well as long stipitate apothecia.

= *Hymenoscyphus desertorum* (Velen.) Svr. comb. nov.

Basionymum: *Helotium desertorum* Velenovský, Mon. Disc. Boh. p. 209, 1934

Helotium dianae Velen. 1947: 118

Holotypus PRM 148175: Bohemia centr., Mnichovice, Hubáčkov, ad ramulos frondosos in palude iacentes 27. VI. 1941 leg. Velen.

Three fragments of thin twigs of a frondose tree (? *Alnus* or *Salix*) on which one apothecium 1 mm diam. with a long stalk (5 mm), now all brown coloured, was found. The stalk is glabrous at the base, too. Excipulum of large, prismatic or subglobose, thin-walled cells up to $38 \times 27 \mu\text{m}$ across, pale brownish in mass. Asci $70-80 \times 7-8 \mu\text{m}$, 8-spored, apex largely rounded up to very slightly conico-obtuse, subtruncate, thin-walled, pore evidently inamyloid (oil-immersion). Paraphyses 2-3 μm thick. Ascospores $7-12 \times 2.5-3 \mu\text{m}$, narrowly cylindrical with rounded ends or slightly attenuated at one end, often slightly curved, eguttulate or with minute guttules and the ends.
= *Hymenoscyphus vernus* (Boud.) Dennis

Helotium dolosellum (Karst.) Boud.

Velen. 1934: 190, tab. 20, fig. 32

The species in the sense of Velenovský, l. c., is identical with *Hymenoscyphus herbarum* (Pers. ex Fr.) Dennis (1956: 105). It is a commonly occurring discomycete on herbaceous stems of various dicotyledoneous plants. Very numerous specimens are preserved in PRM, but only 17 of which belong to the original collection of Velenovský (some of them were also under the names *Helotium disseminatum* and *H. eupatorii* Velen. in herb. et manuscr.) chiefly from the vicinity of Mnichovice. The host plants on which this species was collected by Velenovský are: *Artemisia campestris*, *Astragalus glycyphyllos*, *Cirsium* sp., *Dianthus* sp. (cf. *caryophyllaceus*), *Eupatorium cannabinum*, *Galeopsis* sp., *Heracleum sphondylium*, *Hesperis* sp., *Hypericum perforatum*, *Lupinus polyphyllus*, *Melissa officinalis*, *Origanum vulgare*, *Rumex crispus*, *Sambucus ebulus*, *Urtica dioica*, and some few not identified herbs.

The Karsten's *Peziza dolosella* Karst. [1869: 137] is a quite different fungus, viz. *Cyathicula dolosella* (Karst.) Dennis (1956: 37).

Helotium dubium Velen. 1934: 208, tab. 30, fig. 27, 28

There are three specimens in PRM: 148165 Bohemia centr., infra Ondřejov, ad muscum *Rhytidiadelphus triquetrus* IX. 1927 leg. Velen. This specimen was selected by me for lectotype. — 148233 Bohemia centr., Mnichovice, loco Boukalova stráň, ad muscum *Hylacomium splendens* 14. VIII. 1929 leg. Velen. — 148249 Bohemia centr., Mírošovice, ad muscum *Pleurozium schreberi* (= *Hypnum schreberi*) 25. IX. 1929 leg. Velen.

All specimens mentioned are conspecific and represent a very distinct discomycete essentially different from other muscicolous *Helotiaceae*. The genus *Muscicola* Velen., proposed for this species in notes to the protologue of *Helotium dubium*, was accepted by me, and the fungus discussed separately (SVRČEK 1986).

= *Muscicola dubia* (Velen.) Svrček, comb. nov.

Basionymum: *Helotium dubium* Velenovský, Mon. Disc. Boh. p. 203, 1934

Helotium dumbirensis Velen. 1934: 188, tab. 20, fig. 18

Holotypus PRM 148876: Slovacia, montes Nízke Tatry, in monte Ďumbier, ad lignum frondosum in aqua immersum VIII. 1930 leg. K. Cejp, det. Velen.

Small fragments of wood with several apothecia now up to 4 mm diam., blackish coloured. The original description is partly incorrect, especially regarding the colour of apothecia and ascospores. I found ascospores $15-23 \times 6.5-7 [-9] \mu\text{m}$, oblong-elliptical to reniform, very inequilateral with densely nebulous content and variable in form. Asci strongly collapsed, 9-10 μm thick, but with conspicuous and strongly amyloid, large, sometimes irregularly toothed collar. Also the excipulum is collapsed (probably due to the wrong drying), consisting of angled-subglobose cells 6-18 μm diam. Small amyloid granules are also dispersed among the excipular cells.

The species is clearly synonymous with „*Rutstroemia*“ *macrospora* (Peck) Kanouse in Wehmeyer, and represents most probably the first record of this mountain discomycete in our country.

Helotium duriusculum Velen. 1934: 189, tab. 20, fig. 14

Lectotypus PRM 147214: Bohemia centr., Libochovičky prope Slané, ad lignum sectum codicis *Quercus* X. 1926 leg. Fr. Fechtner, det. Velen.

Apothecia 0.5-1 m diam., distinctly stalked, pale yellow-reddish or sordid brown-reddish, paler marginate, outer side paler and smooth, stalk cylindrical up to some-

what longer than disc, not darker below. Excipulum of long-celled, parallel, thin-walled, colourless hyphae, cells up to $25 \times 10 \mu\text{m}$, not dextrinoid and without a network of narrow, granulate, cylindrical hyphae. Asci $80-110 \times 8-10 \mu\text{m}$, cylindrical, 8-spored, apex rounded, with amyloid pore. Paraphyses $2-2.5 \mu\text{m}$ thick. Ascospores $18-20.5 \times 3.5-4.5 \mu\text{m}$, cylindrical-fusiform, inequilateral, straight, rounded up to hooked above, tapering and almost pointed below, with minutely granulate content.

The species belongs to the affinity of *Hymenoscyphus scutula*, and perhaps it is only a form of it occurring on oak twigs. In fresh state apothecia are white or whitish and becoming brownish with age. The stalk is usually as long as the diameter of the disc. Judging from the other specimens recorded below, the species was collected on hard wood of oak stumps or on thin, dead twigs growing out from the cut-surface of these stumps only, exclusively in late fall (October—December). The structure of the excipulum is no doubt similar to *Hymenoscyphus scutula*, but I did not observe cylindrical, narrow hyphae on its outer surface. Therefore, I consider it so far independent species. The further Velenovský's specimens examined, which are conspecific with the lectotype: PRM 147216: Bohemia centr., Mnichovice, in colle silvatico Kožený vrch, ad lignum durum *Quercus* 23. X. 1926 leg. Velen. — PRM 147474: Mnichovice, in colle Plecháč, ad ramulum tenuem *Quercus* e codice crescentem 22. XI. 1930 leg. Velen. — PRM 147475: Mnichovice, Hubáčkov, in ramulis tenuibus quercinis e codice crescentibus 5. XII. 1929 leg. Velen. — PRM 148207: Hrusice, ad lignum durum codicis *Quercus* 3. X. 1928 leg. Velen.

The specimen PRM 148530 [Bohemia centr., Libochovičky, *Quercus* 7. XI. 1926 leg. Fr. Fechtner, det. Velen.] cannot be *Helotium duriusculum*. Apothecia are 1—3 mm diam., dark orange, sessile on a frondose branch probably of *Populus tremula* or *Salix* sp., but certainly not *Quercus*. According to the microfeatures this may be *Hymenoscyphus conscriptus* [Karst.] Korf ap. Kobayasi et al.

Helotium duriusculum Velen. is transferred to the genus *Hymenoscyphus* herein:

Hymenoscyphus duriusculum (Velen.) Svr., comb. nov.

Basionymum: *Helotium duriusculum* Velenovský, Mon. Disc. Boh. p. 189, 1934

Helotium ebuli Velen. 1940 : 186

Holotypus PRM 148021: Bohemia centr., Myšlín prope Mnichovice, ad caules detectos *Sambuci ebuli* 6. X. 1940 leg. Velen.

Apothecia with plentifully mature ascospores $10-17(-19.5) \times 2 \mu\text{m}$, narrowly cylindrical, obtuse at both ends, slightly curved, often with a thin septum [or pseudo-septum] in the middle, distinctly visible in Melzer's reagent (and also in ascospores in the asci till now). Asci $90-95 \times 5-6 \mu\text{m}$, apex conic-attenuated and truncate, pore amyloid. Paraphyses $2-3 \mu\text{m}$ wide. Cells of the excipulum subglobose, colourless, thin-walled, $5-13 \mu\text{m}$ diam., not arranged in rows.

Other specimens, all on *Sambucus ebulus* collected by Velenovský and examined by me: PRM 147236: Bohemia centr., Mnichovice, X. 1922 [a few very old apothecia without asci]. — 149482: Bohemia centr., Mnichovice, X. 1925. — 148004: ibidem, ad pedem collis Kožený vrch VIII. 1931 (numerous, perfectly developed apothecia). — 148053: ibidem, loco Brožek VIII. 1939 [young immature apothecia only.] — 148094: Hrusice 5. X. 1941 [ut *Helotium dolosellum* var. *ebuli* Velen. in herb. et manuscr.].

The species cannot be separated morphologically from *Hymenoscyphus herbarum*.

= *Hymenoscyphus herbarum* (Pers. ex Fr.) Dennis

Helotium eichleri Bres.

Velen. 1934 : 197

Three specimens, preserved at PRM, viz. 148194 [Bohemia centr., Mnichovice, ad lignum codicis *Piceae abietis* 10. VII. 1925, ut *Helotium putridum* Velen. in herb. et manuscr.], 147554 [ibidem, in colle Kožený vrch, ad conum *Piceae abietis* 4. VI. 1933] and 148196 [ibidem, loco Brožek, and conum *Piceae abietis* in rivo frigido delectum VII. 1939] are not identical with *Helotium eichleri* Bres. 1903 : 120, type specimen of which was revised by Dennis [1964 : 43], but it is the same fungus that was described by Velenovský as *Helotium lutescens* [Hedw. ex Fr.] Fr. and *Helotium sazavae* Velen. In all specimens cited above I found ascospores $9-15 \times 2.5-3.5(-4) \mu\text{m}$, oblong, cylindrical-fusiform, inequilateral, obtuse at both ends, eguttulate or with minute granules, sometimes with one pseudoseptum, asci $75-95 \times 6-8 \mu\text{m}$, the pore very slightly amyloid or inamyloid, paraphyses $2-3 \mu\text{m}$ wide, filled with granular content, excipulum at the flanks of the receptaculum formed of oblong cells up to

30 μm long and 5–8(–16) μm wide, slightly thick-walled, the basal part of the excipulum composed of subsodiametric, angulate-globose cells 5–8 μm diam.

The species appears to be closely allied to *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm. which has much larger ascospores and asci. Also two additional collections represent the same discomycete: PRM 148893 [Moravia merid., Zarošice, ad squamas strobilorum *Pini sylvestris* 30. VIII. 1940 leg. V. Vacek] and PRM [without No., Bohemia centr., Radotín, ad strobilos *Pini sylvestris* 14. XII. 1944 leg. V. Vacek].

= *Hymenoscyphus sazavae* (Velen.) Svr.

Helotium epilobii Velen. 1934 : 194

Lectotypus PRM 150142: Bohemia centr., Kunice prope Mnichovice, ad caules deictos *Epilobii angustifolii* [= *Chamerion angustifolium*] X. 1928 leg. Velen.

Several fragments of *Chamerion* stems with numerous apothecia in good state. Excipular cells up to 25 \times 20 μm , thin-walled, hyaline, not dextrinoid, narrower and longer towards the margin. Asci 120–130 \times 7–10 μm , apex conico-truncate. pore-amyloid, 8-spored. Paraphyses 2–2.5 μm wide, Ascospores 20–25 \times 4–5 μm , cylindrical-fusoid, inequilateral, straight, rounded and beaked above, tapering and pointed below, with a thin bristle 2–4 μm long at both ends, minutely granulate inside.

The specimen PRM 147762 (Bohemia centr., Mnichovice, *Chamerion angustifolium* X. 1933 leg. Velen.) is the same fungus.

= *Hymenoscyphus scutula* (Pers. ex Fr.) Phill.

Helotium epiphyllum (Pers. ex Fr.) Fr.

Velen. 1934 : 205, tab. 20, fig. 38

The species as described by VELENOVSKÝ in his work [1934] is quite different from the common concept of *Peziza epiphylla* Pers. ex Fr. = *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm. (e. g. DENNIS 1956 : 101). There are only three specimens kept at PRM of Velenovský's original collection, two of which — according to their descriptions in his notes — strongly suggest *Ciboria conformata* (Karst.) Svr. (Syn.: *Sclerotinia nervisequia* Schroet. sensu Velen. 1934 : 226, not al.). Both specimens, PRM 150242 [Bohemia centr., Ondřejov, in palude silvatico 16. VII. 1924] and 149446 [Mnichovice, ad pedem collis Kožený vrch, ad folia deicta probabiliter *Alni glutinosae* VIII. 1924] represent the same discomycete. Apothecia are now 0.8–1.5 mm diam., long stalked, the outer side light brown or reddish-brown, pruinose, disc dark brown to blackish, stalk thin, 5 mm long, smooth, black below, wine-red brown in NH_4OH , growing out of the blackened (stromatized) surface of midribs or nerves of very rotten leaves. Excipulum of irregularly globose or angular, thin-walled, reddish-brown cells 6–8 μm diam., marginal hyphae almost hyaline, cylindrical or clavate, 40–50 \times 3–5 μm . Asci 110–120 \times 8–10 μm , cylindrical, 8-spored, pore 1.5 μm diam., in PRM 150242 very strongly amyloid and visible not only as two lines (in optical cross section) but also as blueing of the outer apical wall surrounding the central pore plug, in PRM 149446 only slightly amyloid. Ascospores 11–13.5(–15) \times 4–5(–6) μm , oblong, inequilateral, mostly attenuated towards one end, eguttulate or minutely guttulate near poles, rarely with a thin median septum (not constricted), hyaline. The colour of fresh apothecia was recorded by collector as „dully ochre-grey“. The third specimen, PRM 148025 [Bohemia centr., Věšimy, ad petiolum folii *Fagi sylvaticae* X. 1941, leg. Velen.] is a quite different discomycete (*Hymenoscyphus* sp., but not *H. epiphyllus*).

= *Ciboria conformata* (Karst.) Svr. (or a different, but closely related species probably not discernible hitherto). See also *Septatium alneum* Velen. 1947 (non 1934).

Helotium equiseti Velen. 1922 : 851; 1934 : 208

The species was described according to the material preserved in alcohol [Velen., notes in manuscr.] and absent in PRM. The almost black colour of disc, recorded in the protologue is unusual, but only the examination of the type could explain its taxonomic position. *Peziza palustris* Sauter 1878 : 107 (Syn.: *Phialea palustris* [Saut.] Sacc. 1889 : 270; Rehm 1893 : 739) described from rhizoms of *Equisetum palustre*, is according to the Sauter's brief original diagnosis very similar, but WINTER (1881 : 131) found no type-specimen in the Sauter's herbarium. Apothecia were described as „blackish-white, stipitate, dried almost black“ and no microfeatures were given.

Helotium equisetinum Quél.

Velen. 1934 : 207, tab. 21, fig. 28

PRM 148967: Bohemia centr., Vyžlovka prope Jevany, ad caules emortuos *Equiseti limosi* et *E. palustris* ad ripam piscinae 6. VI. 1925 leg. Velen. — Some tens of apothecia now pale yellowish-brown coloured, outer side white-pulverulent, with stalk 0.5—0.8 mm long, gregarious or 2—3 fasciculate, growing on not stromatized substratum. Apothecia after refreshing in KOIH 0.5 mm diam., the stalk 140 μ m thick, all yellow-brownish. Excipulum of cylindrical, thin-walled, up to 15 μ m long and 10 μ m wide, pale yellow-brown cells, the marginal hairs 30—35 \times 1.5—2.5 μ m, narrowly cylindrical, obtuse, thin-walled, smooth, 0—1-septate. Asci 45—50 \times 5—6 μ m, oblong-clavate, rather long-stalked, apex attenuated, pore distinctly amyloid, 8-spored. Paraphyses lanceolate, 2—2.5 μ m thick, slightly (3—10 μ m) longer than the asci, bluntly attenuated above. Ascospores 6—8 \times 1.5(—2) μ m, narrowly cuneate, inequilateral, straight, eguttulate.

When fresh, the apothecia were lemon-coloured. There is also another specimen in the Velenovský's collection, PRM 148883 of the same locality (on *Equisetum limosum* 12. VII. 1929) but now without apothecia.

The Velenovský's concept of this species does not differ from Quélet's original diagnosis of *Helotium equisetinum* Quél. 1879 : 38, described on *Equisetum limosum*, too. The fungus is closely related with *Psilachnum inquilinum* (Karst.) Dennis, from which it differs by lemon-coloured, distinctly stipitate apothecia and slightly smaller, narrower, eguttulate ascospores.

= *Psilachnum equisetinum* (Quél.) Svrček, comb. nov.

Basionymum: *Helotium equisetinum* Quélet, Grevillea 8 : 38, 1879

Synonyma: *Phialea equisetina* (Quél.) Rehm 1893 : 739

Pezizella equisetina (Quél.) W. Kirschstein 1935 : 228

Helotium erumpens Velen. 1934 : 184

Holotypus PRM 147227: Bohemia centr., Karlštejn, ad ramulum *Salicis* sp. (vel *Populus* sp.?) 10. IX. 1924 leg. Fr. Fechtner, det. J. Velen.

As the host plant was indicated in protologue oak, but this is not so. Some tens of apothecia gregarious or confluent, growing out of fissures of bark, stalked, now rather dark orange, pruinose on the outer side. Excipulum of oblong angular up to 25 \times 15 μ m large, thin-walled and colourless cells, flesh of conspicuously broad (4—7 μ m), long-celled hyaline and thin-walled hyphae very freely interwoven. Asci 40—50 \times 4—5 μ m, long stalked, 8-spored, pore amyloid. Paraphyses numerous, hyaline, 1.5—2 μ m thin, not emergent, obtuse. Ascospores 5—7 \times 1.3—1.7 μ m, mostly straight, rarely subcurved, obtuse and with one small guttule at each end, richly present. — The species seems to be similar to *Hymenoscyphus sordidus* (Fuckel) Phill. [= *H. vulgaris* (Fr.) Raschle et E. Müller, non *Peziza vulgaris* Fr.], but the excipulum is not composed of thick-walled hyphae and ascospores are somewhat shorter.

Helotium euphorbiae Velen. 1934 : 191, tab. 30, fig. 26

Lectotypus 147519: Bohemia centr., Mnichovice, Hubáček, ad caules *Hyperici perforati* XI. 1933 leg. Velen. (ut *Helotium hyperici* Velen. in herb. et manuscr.).

Many hundreds of apothecia densely gregarious on stems of *Hypericum*. Excipulum in the marginal zone and in the exterior part of densely interwoven, hyaline, somewhat thick-walled hyphae 2—3 μ m wide, in the base of the receptaculum large-celled only (cells up to 25 \times 15 μ m large). Hypothecium relatively thick, of similar, thin-walled hyphae 2—3 μ m thick. In Melzer's reagent the hypothecial hyphae remain colourless, other ones turn light yellow. Asci 40—45 \times 5 μ m, 8-spored, oblong-clavate, apex obtuse or slightly attenuated, pore indistinctly amyloid. Paraphyses septate, 1.5 μ m thin, obtuse, not enlarged above. Ascospores 5—8 \times 1.5—1.8 μ m, partly 2-seriate, narrowly cylindrical, mostly straight, rarely subcurved, eguttulate. Apothecia 0.2—0.8(—1) mm diam., distinctly stipitate (stipe usually so long as the diameter of the disc), yellowish on the outer side, and delicately fibrillose, at the margin sometimes whitish-floccose, disc light or deep orange up to orange-reddish, narrowly marginate only at first, flat. The plant tissue not stromatized. — Even if Velenovský stated in the protologue of this species that it is commonly occurring on *Euphorbia cyparissias*, the herbarium specimens preserved in his collection are in majority of cases on *Hypericum perforatum* [11 specimens] and only one is on *Euphorbia cyparissias*. The epitheton

„*euphorbiae*“ is consequently inappropriate for this taxon but was validly published and is legitimate.

This discomycete seems to be very close and perhaps identical with *Pezizella discreta* [Karst.] Dennis [1956:57] in original [Karsten's] concept [1871:116] but not in the sense of Dennis. It differs from Dennis's fungus by distinctly stipitate and different coloured apothecia as well as broader ascospores and another structure of the excipulum.

= *Hymenoscyphus euphorbiae* [Velen.] Svr., comb. nov.

Basionymum: *Helotium euphorbiae* Velenovský, Mon. Disc. Bohem. p. 191, tab. 30, fig. 26, 1934

Specimens examined. On *Hypericum perforatum*: Mnichovice X. 1928 [all specimens from Central Bohemia and collected by Velenovský] (PRM 148232), ibidem Halašův mlýn X: 1928 [148161], Kožený vrch 11. IX. 1924 [147223], in colle Plecháč IX. 1925 149383, ut *Helotium hyperici* Velen. in herb. et manuscr., Chlum X. 1931 [147569], Hubáček XI. 1933 [147519, lectotypus], Menčice prope Mnichovice, VIII. 1926 [824898] et X. 1933 [147445], Věstary, in colle Hůra 6. IX. 1925 [148298, ut *Helotium sterile* Velen. in herb. et manuscr.], Svojetice prope Říčany VII. 1925 (ut *Hel. sterile*, 149701), Tehov XI. 1940 [148134]. — On *Euphorbia cyparissias*: Mnichovice, supra molam Křečkův mlýn 9. IX. 1925 [148295]. — On *Helianthemum vulgare*: Mnichovice, 18. IX. 1925 et IX. 1933 [149459, 147530, ut *Hel. hyperici*]. — On *Lamium galeobdolon*: Mnichovice, in horto IX. 1924 [147226]. — On *Lythrum salicaria*: Kunice prope Mnichovice, ad piscinam 1. X. 1932 [147532, ut *Hel. hyperici*]. — On *Scrophularia alata*: Radotín, in valle Radotínského údolí IX. 1924 [148490, in societate *Mollisiellae chlorinae* (Ces.) Svr.].

Helotium fagineum [Pers. ex Fr.] Fr.

Velen. 1934: 203, tab. 18, fig. 46 et tab. 19, fig. 31

Among five specimens of this *Helotium* in Velenovský's collection three are identical with *Hymenoscyphus fagineus* [Pers. ex Fr.] Dennis, and two with *Hymenoscyphus rokebyensis* [Svr.] Math. Both species are distinguishable by quite different shape of apothecium, which is broadly sessile with flat disc in *H. fagineum* (similar to an *Ombrophila* sp.), but distinctly stalked and cup-shaped in *H. rokebyensis* (close to *Hymenoscyphus fructigenus* [Bull. ex Fr.] Fuckel). The specimens belonging to *H. fagineus*: Bohemia centr., Jevany, ad cupulas *Fagi sylvaticae* IX. 1924 leg. Velen. (PRM 148801, ut *Helotium cupularum* Velen. in herb. et manuscr.); ibidem 10. X. 1925 leg. Velen., ut *Ombrophila lactea* Velen. in herb. et manuscr.; ibidem 24. VII. 1931 leg. Velen. (PRM 148847 ut *Helotium cupularum* Velen. in herb. et manuscr.). — The specimens belonging to *H. rokebyensis*: Bohemia centr., Jevany IX. 1922 leg. Velen. (PRM 148831, ut *Helotium album* Velen. in herb. et manuscr.); Věsimy prope Mnichovice X. 1934 leg. Velen. (PRM 148108 ut *H. fagineum*).

Helotium firmum Velen. 1947: 124

Holotypus PRM 148197: Bohemia centr., Mirošovice, in prato ad radices capillares *Anthoxanthi odorati* 25. X. 1942 leg. Velen.

Several long-stalked apothecia growing in a small piece of dense mat of plant debris but really from rotten *Carpinus betulus* nuts hidden inside. Ascospores 14.5–17×3–3.5 μm, narrowly fusiform, inequilateral, with a short lateral point at the upper end.

= *Hymenoscyphus fructigenus* [Bull. ex Fr.] Phill.

Helotium foliicolum Schroet.

Velen. 1934: 206

After examining the specimens preserved under this name in Velenovský's collection, it is evident that *H. foliicolum* in this sense comprises three different species, viz. *Hymenoscyphus friesii*, *Hymenoscyphus* sp. (perhaps a new species with conspicuously minute ascospores) and *Conchatium* sp. Following three specimens belong to *Hymenoscyphus friesii* [Weinm.] Arendholz: Bohemia centr., Jevany, ad petiolos nervosque foliorum dejectorum *Betulae* sp. 14. X. 1922 [PRM 148577 (ut *Helotium betulae* Velen. in herb. et manuscr.)]. Apothecia (when fresh) 1–1.5 mm diam., pure white, unchanging, disc flat or convex, dried apothecia 1 mm diam., light yellow, stipe 0.8 mm long. No stromatized tissue. Excipulum strongly dextrinoid (wine-reddish), especially in the basal part of the stipe, composed of oblong 15–25×5–14 μm large cells, the outer part scarcely covered with slender, long hyphae 2–4 μm thick,

densely granulose and rust-brownish in Melzer's reagent, rather thick-walled in the base of the stipe. Hyphae of the flesh 3–5 μm thick, thin-walled, hyaline. Marginal zone of cylindrical hyphae 25–35 μm long. Asci 95 \times 8 μm , 8-spored, pore very slightly amyloid. Paraphyses scarce, 3–3.5 μm thick, slightly enlarged above, densely guttulate, granulose and rust-reddish in Melzer's reagent inside. Ascospores 13–16 \times 4–4.5 μm , oblong-cylindrical, inequilateral, obtusely attenuated towards the ends, eguttulate. — Bohemia centr., Mnichovice, Hubáčkov, ad folium *Quercus* sp. XI. 1927 [PRM 148231]. — *ibidem*, ad folium *Carpini betuli* XI. 1933 [PRM 147508].

Two specimens, PRM 148723 (Bohemia centr., Rokycany, ad folia *Quercus* sp. 12. X. 1924 leg. K. Cejp, det. Velen. ut *Helotium colorans* Velen. in herb. et manuscr.) and 148929 (Bohemia centr., Jevany, ad folia *Quercus* sp. 2. XI. 1926 leg. Velen. ut *H. colorans*) represent a *Hymenoscyphus* sp. with ascospores 6–7.5 \times 1.5–2 μm and the non-dextrinoid excipulum. The only one apothecium, PRM 147578 (Bohemia centr., Mnichovice, Božkov, ad folium *Coryli avellanae* 13. X. 1931 leg. Velen., ut *Helotium coryli* Velen. in herb. et manuscr.) has a totally different structure of the excipulum and may be taken for a *Conchatium* sp.

According to Arendholz's revision (1979:70–71) of the type collection of *Helotium foliocolum* Schroeter (1893:82), this discomycete has asci 80–100 \times 8–10 μm , and ascospores 17–20 \times 4–5 μm , two-celled. The host plant is *Populus tremula*. The possible identity of both species (*H. friesii* and *H. foliocolum*) cannot be excluded (an opinion expressed already by REHM 1896:1236), but DENNIS (1956) and ARENDHOLZ (1979) regard these species as distinct. Therefore, this problem needs to be studied in future.

Helotium fossarum Velen. 1934:201, tab. 20, fig. 3, 4

Holotypus PRM 147215: Bohemia centr., Všetaty, in fossis aquosis ad culmos *Junci obtusiflori* (= *J. subnodulosus*) 14. VIII. 1924 leg. Velen. (ut *Helotium juncorum* Velen. in herb. et manuscr.).

Three fragments of *Juncus* stems with about twenty apothecia 0.3–0.8 mm diam., light yellow, very shortly stipitate, disc slightly concave or flat, narrowly marginate, even or flexuous, the outer side smooth. Excipulum of parallel hyphae forming the marginal zone consisting of cylindrical, 1.5–2 μm wide, hyaline, slightly thick-walled, septate hyphae broadening towards the base in larger ones, and intergrading in oblong, thin-walled, colourless cells up to 20 μm long and 10 μm broad, often of irregular shape, the outer cells of the ectal excipulum giving rise to short, individual, non-septate, cylindrical hyphae up to 30 \times 2–3.5 μm , but also longer ones, branched, 4–5 μm wide, and locally developed. Asci 40–55 \times 4–5 μm , cylindrical or cylindrical-clavate, apex rounded, pore slightly amyloid, short or somewhat long stalked, the stipe at the base subglobose enlarged (up to 3 μm), 8-spored. Paraphyses 2–2.5 μm wide, obtuse, equalling the asci or shortly (–5 μm) exceeding them. Ascospores 7–8 \times 1.5–1.8 μm , fusiform, pointed at both ends, eguttulate.

This species has some resemblance to *Pezizella eburnea* (Rob. in Desm.) Dennis 1956:61, which differs in much smaller apothecia and asci, somewhat pointed, 1.5 μm wide paraphyses, and the ectal excipulum of a well-formed textura prismatica (CARPENTER 1981:210). Therefore, I consider this species for a distinct one, belonging to *Hymenoscyphus*.

= *Hymenoscyphus fossarum* (Velen.) Svr., comb. nov.

Basionymum: *Helotium fossarum* Velenovský, Mon. Disc. Boh. p. 201, 1934

Helotium franciscae Velen., 1934:190

Holotypus PRM 147526: Bohemia centr., Kunice, in limo ad piscinam Kunický rybník 1. X. 1932 leg. Velen.

Two small pieces of clay mixed with many thin roots and fragments of plant debris, on which I found two apothecia growing to the thin roots. Apothecia 1.8–2.2 mm diam., blackish-brown, substipitate, disc flat. Ectal excipulum of subglobose or broadly elliptical, thin-walled, hyaline cells up to 35 \times 15 μm large, in the basal part up to 50 \times 38 μm diam., smaller towards the margin which is formed by cylindrical-clavate cells. Medullary excipulum consisting of densely interwoven, narrow (2.5–3.5 μm), hyaline, thin-walled, septate hyphae. Asci 70–75 \times 6–7 μm , cylindrical, shortly stipitate, 8-spored, apex rounded, pore distinctly amyloid. Ascospores 8–10.5 \times 3.5–4 μm , oblong, inequilateral, with minute polar granules.

= *Phaeohelotium imberbe* (Bull. ex Fr.) Svr.

Helotium fructigenum (Bull. ex Fr.) Fuckel

Velen. 1934:203, tab. 19, fig. 8, 9

This is a good description and illustrations of this common discomycete, represented in Velenovský's collection by rather numerous specimens from Bohemia: on *Quercus* cupules and acorns [11], on *Carpinus betulus* nuts [4], on *Corylus avellana* [3].

= *Hymenoscyphus fructigenus* (Bull. ex Fr.) Phill.

Helotium fulvum Boud.

Velen. 1934:209

Two specimens preserved at PRM, only one of which is cited in the Velenovský's description: Bohemia occident., montes Brdy, Strašice, ad muscos XI. 1922 leg. K. Cejp, det. Velen. [PRM 148481]. The packet contains two small stems of the moss *Hylocomium splendens*, altogether with eight apothecia growing on dead leaves at the basal part of moss stems covered with a thin layer of algae. Apothecia 1—1.5 mm diam., solitary or gregarious, blackish-brown, broadly sessile or short and thick stipitate, disc concave or flat, marginate, the margin inrolled and often flexuous, the outer side smooth, glabrous, slightly polished. When rehydrated, apothecia are up to 2 mm diam., fleshy, thick, with whitish medullar excipulum and chest-nut brown disc. The excipular structure indistinct, collapsed, perhaps consisting of long hyphae, but on surface numerous, strongly dextrinoid, irregularly flexuous, 3—7 μ m wide hyphae filled with granular strongly dextrinoid content are distinguishable. The basal part of the excipulum contains many unicellular, ovoid or oblong algae 6—9 \times 4—5 μ m diam., with pale-green chromatophore, inamyloid. Asci 90—100 \times 6—10 μ m, cylindrical, long-stalked, enlarged at their bases, apex truncate and strongly thickened [3—3.5 μ m], pore inamyloid, mostly immature. Hymenium consisting mainly of paraphyses, closely packed, 2.5—4 μ m enlarged above, dark reddish-brown, not branched. Ascospores very rare, 17—19 \times 4—4.5 μ m, oblong, inequilateral, hyaline, with two large guttules and densely granulate.

The material is insufficient for the taxonomic evaluation, but this fungus certainly cannot be identical with Boudier's *Helotium fulvum*. The second specimen PRM 149533 (Bohemia occident., Rokycany, ad *Hylocomium squarrosum* [= *Rhytidiadelphus squarrosus*] VII. 1924 leg. K. Cejp, det. Velen. ut *Helotium muscorum* Velen. in herb. et manuscr.) contains two apothecia 0.2—0.3 mm diam., reddish-brown, distinctly stipitate (0.3—0.5 mm), disc almost flat, narrowly marginate. This is a typical *Hymenoscyphus rhytidiadelphi* Svr. (Syn.: *Helotium procerum* Karst. sensu Velen.) with ascospores 10—14 \times 4—5 μ m, fusiform and somewhat variable in shape.

Helotium furinum Velen. 1940:184

Holotypus PRM 148112: Bohemia centr., Všesimy, ad folia marcida *Crataegi* sp. in junceto iacentes VIII. 1934 leg. Velen.

No apothecia were found by me in this specimen annotated as „Original“ [i.e. holotype] by Velenovský. Among additional three specimens labelled by him also as *Helotium furinum*, only the PRM 148168 (Bohemia centr., Mirošovice, 2. VIII. 1941 leg. Velen.) contains several apothecia on veins of two leaves probably of *Alnus glutinosa*, but certainly not *Crataegus* sp. These apothecia belonging to some *Hymenoscyphus* are immature and different from the original description of *Helotium furinum*. The other two specimens, viz. PRM 148084 (Bohemia centr., Kunice, ad folium *Crataegi* sp. 7. IX. 1941 leg. Velen.) and 148130 (Mnichovice, Božkov, loco Bílá skála, ad folia *Crataegi* sp. VII. 1942 leg. L. Hostáňová, det. Velen.) are without apothecia.

In 1980, I found in Prague a discomycete on fallen leaves of *Crataegus*, very well agreeing with the original description of *Helotium furinum*. Therefore I designated my material as neotype of this species which will be discussed in a separate paper (SVRČEK 1986).

= *Hymenoscyphus furinus* (Velen.) Svr., comb. nov.

Basionymum: *Helotium furinum* Velenovský, Novit. mycol. p. 184, 1940

Helotium fusisporum Schroeter

Velen. 1934:188, tab. 20, fig. 30

There are six specimens in the Velenovský's collection under this name, four of which, viz. PRM 148229 (Bohemia centr., Kunice, ad truncum sectum *Betulae* IX. 1928), 148256 (Mnichovice, in codice *Betulae* 29. VIII. 1925), 148176 (ibidem, Jidášky, ad ramulum *Betulae* VIII. 1938) and 150082 (Kunice, ad lignum *Betulae* X. 1928) are a typi-

cal *Hymenoscyphus calyculus* [sensu auct., q. e. *H. virgultorum* (Vahl ex Fr.) Phill.], two are a typical *Hymenoscyphus serotinus* (Pers. ex Fr.) Phill. (PRM 148923 Carpatorossia, Trebušany, *Fagus sylvatica* 4.—11. VIII. 1935 and 23202, ibidem, in valle Bílý potok, leg. A. Pilát) with strongly curved ascospores 12—24×3.5—4 μ m large.

Helotium fusisporum* var. *spinosa Velen. 1934 : 188

Only one specimen is preserved in PRM 147765: Bohemia centr., Stránčice, ad ramulos tenues *Pruni spinosae* in colle arido iacentes 30. X. 1933 leg. Velen., but this material differs essentially from the Velenovský's original description. Apothecia are long stalked, similar to the typical form of *Hymenoscyphus calyculus* (*H. virgultorum*) but ascospores are 12—15×4—5 μ m, oblong, inequilateral, rounded at both ends, with several minute guttules. Asci 100—120×8—10 μ m, 8-spored, pore amyloid. Paraphyses 1.4—2.5 μ m, not enlarged. Excipulum of compact, cylindrical, thick-walled 3—6 μ m wide hyphae as it is in the genus *Bisporella* Sacc. The position of this fungus remains uncertain.

Helotium geophilum Velen. 1934 : 193

Lectotypus PRM 147239: Slovacia, montes Vysoké Tatry, supra Tatranská Lomnica, ca 1800 m s. m., ad rhizomata *Gei rivalis* VII. 1924 leg. Alb. Pilát, det. Velen.

Three fragments of rhizomes of a herb with several few apothecia 0.8—1.5 mm diam., long and slender stipitate (up to 2.5 mm), dark brownish-orange, disc concave. Excipulum of thin-walled, hyaline, rectangular cells up to 12×8 μ m, enlarged towards the base of the receptaculum up to 25×14 μ m, the marginal hyphae 50—60×3—4 μ m, cylindrical, obtuse, dextrinoid. The outer side covered with similar, flexuous, shorter hyphae. Asci 95—110×6—7 μ m, 8-spored, cylindrical, gradually tapering and long stipitate below, apex attenuated and slightly thickened, pore amyloid. Paraphyses 1.5—3 μ m wide, Nith reddish-brownish content in Melzer's reagent. Ascospores 15—19×3.5—4 μ m, fusiform, straight, rounded at both ends, or very slightly attenuated towards the base (never hooked as in *Hymenoscyphus scutula*), eguttulate, sometimes with a thin central septum and distinctly greyish-coloured in Melzer's reagent.

The species appears to be closely related to *Hymenoscyphus vitelinus* (Rehm) O. Kuntze by shape of its ascospores. A difference exists in colour of apothecia described in the protologue as „fleshcoloured“. The possibility of secondary changes cannot be excluded as it is unknown if the material was described according to fresh or dried apothecia. The second specimen PRM 812391 [Bohemia centr., Cernínosk (= Cernínovsko) prope Neratovice, ad caulem herbae 30. VIII. 1933 leg. Velen.] contains one fragment of a thin herb stem with no apothecia.

Helotium gemmarum Boud.

Velen. 1934 : 203, tab. 19, fig. 12

The interpretation of this species is correct. There are three specimens in Velenovský's collection, all examined by me: PRM 149170 (Bohemia centr., Líbochovičky, ad gemmas delectas *Populi* sp. 12. IV. 1925 leg. Fr. Fechtner et domina Fechtnerová, det. Velen.), 149397 [Mnichovice, in horto, *Populus* sp. 6 VII. 1925 leg. Velen.] and 149676 [Bohemia centr., in valle Karlické údolí, *Populus* sp. 7 V. 1927 leg. Velen.] All three specimens were designated as *Helotium populinum* Velen. in herb. et manuscr.

= *Hymenoscyphus gemmarum* (Boud.) O. Kuntze

Helotium geranii Velen. 1947 : 122

Holotypus PRM 148100: Bohemia centr., Mnichovice, infra Myšlín, ad caules *Geranii palustris* 9. IX. 1941 leg. Velen.

Nine herb stems with numerous stipitate apothecia agreeing totally with *Hymenoscyphus scutula*. There are many crystals in excipulum ectale, hyphae of flesh 2.5—3.5 μ m wide, hyaline, thin-walled. Asci 85—95×8—10 μ m, 8-spored, mostly immature, apex 1.5—2 μ m thick, pore amyloid. Paraphyses 2—2.5 μ m wide. Ascospores (in the asci) 18—20×4—4.5 μ m.

= *Hymenoscyphus scutula* (Pers. ex Fr.) Phill.

Helotium glochidiatum Velen. 1934 : 185, tab. 20, fig. 26

Holotypus PRM 148230: Bohemia centr., Mnichovice, Hubáček, ad ramulum *Crataegi* sp. inter folia uda ad rivulum apud piscinam Křečkův rybník 4. IV. 1928 leg. Velen.

Several fragments of bare wood on which only one apothecium was found by me. Apothecium 1 mm diam., sessile, shortly and thickly attenuated below, pale yellowish-brown, pale honey when moist, disc almost flat, immarginate. Excipulum of

cylindrical, thin-walled hyaline hyphae terminated by clavate cells up to 18×3.5 – $5 \mu\text{m}$ large, the outer site covered with numerous conidiophores of *Chalara* sp. („glochidia“ in Velenovský's protologue) having lageniform shape, pale brown coloured, 25 – 35×5 – $7 \mu\text{m}$ large, 2.5 – $3.5 \mu\text{m}$ thick above, producing cylindrical, hyaline conidia 3.5 – 10×1.5 – $2.5 \mu\text{m}$, truncate at both ends. Asci 70 – 80×3.5 – $5 \mu\text{m}$, gradually tapering below, conspicuously long stalked, 8-spored, pore anamyloid. Paraphyses 2 – $2.5 \mu\text{m}$ thick. Ascospores 10 – 15×1.5 – $2.5 \mu\text{m}$, narrowly oblong, 1-septate, constricted in the middle.

= *Hymenoscyphus parilis* (Karst.) Dennis (DENNIS 1956 also observed a *Chalara* sp. on Karsten's type specimen).

Helotium graminium Phillips

Velen. 1934: 201, tab. 20, fig. 5 (ut „gramineum“)

Two specimens preserved at PRM, viz. 614741 (Bohemia centr., Mnichovice, in graminibus putridis sub dumetis in colle insolato supra Kunice VI. 1923 leg. Velen. ut *Helotium ochraceum* Velen. in herb. et manuscr.) and 147259 (Bohemia centr., Jirny, ad culmos *Agropyri repentis* ad viam ferream 25. VI. 1924 leg. Velen. ut *H. ochraceum*) represent a discomycete usually identified — also by modern authors — as *Rutstroemia calopus* (Fr.) Rehm, a not uncommon species on dead leaves, culms and rhizomes of grasses. *Helotium graminium* Phillips (1887) is synonymized with this species (DENNIS 1956:133) or considered a probably synonym of it (DENNIS 1978: 113). As I am not sure that the fungus described by VELENOVSKÝ (1934), and collected also by me in Bohemia, is the true *Peziza calopus* Fr. ex Pers. [1822], I prefer the name *Helotium graminium* Phillips. This problem will be discussed in a separate paper.

= *Hymenoscyphus graminium* (Phillips) Svr., comb. nov.

Basionymum: *Helotium graminium* Phillips, Brit. Disc. p. 155, 1887.

Helotium graminum Velen. 1922: 850

At PRM there are preserved two specimens, viz. 148255: Bohemia centr., Mnichovice, in caespitibus *Nardi strictae* et *Festucae ovinae* VIII. 1909 leg. Velen., and 683740: ibidem, loco V potočinách, IX. 1913 leg. Velen., both now without apothecia, the first of which I selected as lectotype. This species was identified by Velenovský in his monograph [1934] — surely correctly — with *Lachnum rhizophilum* Fuckel = *Lachnum pygmaeum* (Fr.) Bres.

Helotium granulatum Velen. 1934: 193

The protologue is based on the specimen PRM 147255 (lectotypus): Bohemia centr., Karlštejn, ad caules herbarum VIII. 1927 leg. Fr. Fechtner. It contains eight fragments of herb-stems with several tens of apothecia. It is a typical *Hymenoscyphus scutula* (Pers. ex Fr.) Phill., I found ascospores 15 – 20.5×3.5 – $4 \mu\text{m}$, attenuated or almost pointed at both ends, densely nebulous inside. The same species represent PRM 147504 (Bohemia centr., Mnichovice, *Lysimachia vulgaris* XI. 1933, leg. Velen.) and 147975 (ibidem, collis Plecháč, *Sedum telephium* X. 1929 leg. Velen.). No apothecia were found in PRM 148930 (Bohemia meridionalis, Blatná, *Galium mollugo* VIII. 1927 leg. K. Cejp).

= *Hymenoscyphus scutula* (Pers. ex Fr.) Phill.

Helotium humuli (Lasch in Rabenh.) de Not.

Velen. 1934: 195, tab. 20, fig. 23

The concept of this discomycete agrees with the species commonly recorded under this name, a fungus rather similar to *Hymenoscyphus herbarum* but totally different by another shape of ascospores and asci. Ascospores of *H. humuli* remind *H. scutula*, but apothecia are sessile or subsessile, when fresh 0.5 – 1.5 mm diam., white or whitish, rigid, firmly fleshy, with flat or convex disc and often densely gregarious, when dried dark yellow. I examined the specimen PRM 147406 (Bohemia centr., Mnichovice, ad caules emortuos *Humuli lupuli* X. 1933 leg. Velen.), which had a colourless excipium with a marginal zone of thin-walled, obtuse or clavate cylindrical hyphae which are 16 – 35×2 – $3 \mu\text{m}$, richly septate and constricted towards the base consisting of large ellipsoid cells up to $18 \times 12 \mu\text{m}$. Asci 85 – 100×9 – $12 \mu\text{m}$, 8-spored, cylindrical, shortly stipitate, apex largely rounded, pore distinctly amyloid. Paraphyses cylindrical, conspicuously thick (2.5 – $3 \mu\text{m}$ below, up to $4 \mu\text{m}$ above). Ascospores 20 – 22×3.5 – $4.5 \mu\text{m}$, biseriate, subfusiform, straight, shortly attenuated towards the base, guttulate, without setules. — Another specimens examined from Velenovský's collection in PRM

(all on *Humulus lupulus*): 149109 (Bohemia centr., Radotín 14. X. 1924 leg. Velen.), 148522 (Bohemia centr., Libochovičky X. 1926 leg. Fr. Fechner), 147364 (Bohemia centr., Mnichovice VII. 1927 leg. Velen.). I did not find the specimen on *Spiraea ulmaria* [= *Filipendula ulmaria*] cited by Velenovský (1934: 195). The species seems to be occur on *Humulus lupulus* only (in Britain it was recorded on *Centaurea* stems only — see CLARK 1980b: 38).

= *Hymenoscyphus humuli* (Lasch) Dennis

Helotium hylacomii Velen. 1934: 208, tab. 19, fig. 36

Lectotypus PRM 149350: Bohemia centr., Hrusice, ad caules musci *Hylacomium splendens* 18. VIII. 1924 leg. Velen.

Apothecia scattered on dead leaves, 0.1–0.4 mm diam., shortly stipitate (up to 0.3 mm), bright orange, the outer side pulverulent or granulose, mycelium at the base of the stipe whitish or yellowish, disc slightly concave, margin inrolled. Excipulum of oblong or rectangular hyaline thin-walled cells parallel arranged, 6–10 μm wide, elongated towards the base, protruding on the apothecial surface in numerous, strongly curved, golden-yellow hyphae (in NH_4OH) 30–40 μm long and 2–3.5 μm wide, filled with granular dextrinoid content (dark brownish-red colouring in Melzers' reagent). Asci 35–40 \times 4–5 μm , clavate, 8-spored, apex broadly rounded, thin-walled, pore strongly amyloid. Paraphyses 2–2.5 μm wide, slightly enlarged above and sparsely encrusted, equalling the asci. Ascospores 4–5.5 \times 1.8–2.2 μm , ovoid, elliptical to broadly fusiform, inequilateral, ends obtuse, eguttulate or with two minute polar guttules, smooth, uniseriate in the asci.

The second specimen PRM 148110 (Bohemia centr., Mirošovice, in *Mnio undulato* in palude silvatico 24. VII. 1929, ut *Helotium najadum* Velen. in herb. et manuscr.) contains only a fragment of a slide. The third specimen PRM 148877 (Bohemia centr., Všetaty, ad caules *Equiseti variegati* et *Hypni* sp. in paludibus 23. V. 1925 leg. Velen. ut *Helotium paludosum* Velen. in herb. et manuscr.) is without apothecia.

The protologue of *H. hylacomii* was based on apothecia of two different discomycetes, viz. *Helotium dubium* Velen. and *H. polytrichi* (Velen). Velen. (regarded at first as variety of *H. hylacomii*). The selected lectotype represents the first species, *H. dubium* Velen. = *Muscicola dubia* (Velen.) Svr. The curved hyphae („hairs“) filled with conspicuously dextrinoid content are very characteristic for this muscicolous discomycete.

Helotium hylacomii* var. *polytrichi Velen. 1934: 209

= *Helotium polytrichi* (Velen.) Velen. 1934: 406 (see this species)

Helotium imberbe (Bull. ex Fr.) Fr.

Velen. 1934: 1984, tab. 20, fig. 19

I accept the concept of this species as interpreted by Rehm, Velenovský, and Dennis. It seems to be a variable fungus representing probably a complex of various forms (infraspecific taxa or microspecies). It differs by its excipular structure from typical species of *Hymenoscyphus*, and is rather close to *Phaeohelotium*, a genus to which *Helotium imberbe* should be consequently transferred. In the Velenovský's collection several specimens are also preserved under the name *Helotium ioannis* Velen. (in herb. et manuscr.), and it is evident that this author has sometimes mistaken *Helotium imberbe* and his *Helotium pruni* [= *Hymenoscyphus vernus* (Boud.) Dennis], two morphologically as well as ecologically similar species. At PRM are kept very numerous specimens of this commonly occurring discomycete, characterized by its preference for wet habitats where can be met mainly on bare, moist wood (branches, twigs) lying on banks of brooks, rivulets, and in swamps, but occasionally also on drier biotopes. Fresh apothecia are whitish or waxy-yellowish, and turn very quickly and conspicuously reddish when bruised. The length of the stipe is variable, most commonly apothecia are sessile. Ectal excipulum is composed of large, (up to 35 μm diam.), globose or subangular, thin-walled, colourless but with age brownish to rust-coloured cells (textura subglobosa). Excipulum internum of loosely interwoven, long cylindrical, thin-walled, 2–7 μm thick, branched and septate hyphae. I observed dextrinoid and in some parts also distinctly amyloid excipulum ectale. The ascus-pore is inamyloid or amyloid, ascospores (the shape of which is considerably variable) are mostly 6.5–12 \times 2.5–4 μm .

= *Phaeohelotium imberbe* (Bull. ex Fr.) Svr., comb. nov.

Basionymum: *Peziza imberbis* Bull. ex Fr., Syst. Mycol. 2: 136, 1822

Helotium infundibulum Velen. 1934 : 185, tab. 20, fig. 27

Lectotypus PRM 149330: Bohemia centr., Mnichovice, in alneto infra Zbuzany, ad ramulum deiectum *Alni glutinosae* 7. V. 1928 leg. Velen.

Several apothecia on one twig of *Alnus glutinosa*. Apothecia 12–18 mm high, long stipitate, stipe almost entirely blackish especially in its basal part. Excipulum of rectangular parallel cells 10–20 μm wide and up to 38 μm long, hyaline, thin-walled. The surface cells of the stipe thin-walled, blackish-brown. Flesh of 3–6 μm thick, partly inflated, septate, loosely interwoven, pale blackish-brown hyphae. Asci 85 \times 7–8 μm , pore inamyloid. Paraphyses 2–3 μm thin. Ascospores 10–14 \times 3–4 μm , narrowly cylindrical, straight or slightly curved, inequilateral, with minute guttulae at both ends.

The second specimen PRM 147444 (Bohemia centr., Trěmblaty, in palude silvatico V. 1934 leg. Velen.) is the same species as the lectotype.

= *Hymenoscyphus vernus* (Boud.) Dennis

Helotium julianum Velen. 1940 : 185

Holotypus PRM 148152: Bohemia centr., Tehov, ad gramina inter *Sarothamnus* 11. VII. 1938 leg. Velen.

One fragment of a grass culm with four apothecia. Apothecia long stalked, light orange, shortly stipitate, disc slightly concave, marginate. Excipulum of angular or cylindrical, long-celled [10–28 \times 3–10 μm] thin-walled hyaline hyphae often turning in short lateral obtuse cells 3–12 \times 3–4 μm . Excipulum of similar, short-celled [10–18 \times 4–10 μm] hyphae, not dextrinoid, marginal zone of narrow, 2–3.5 μm thick, slightly encrusted hyphae. Asci 70–100 \times 7–10 μm , cylindrical, 8-spored, pore amyloid. Paraphyses 1.5–2 μm thin, not enlarged above. Ascospores 17–20.5 \times 3–3.5 μm , narrowly oblong, slightly inequilateral, attenuated towards their ends but not pointed, eguttulate.

= *Hymenoscyphus vitellinus* (Rehm) O. Kuntze

Helotium juncisedum Velen. 1934 : 201, tab. 20, fig. 45

Holotypus PRM 824891: Bohemia centr., Habr prope Struhařov, *Juncus communis* 12. VII. 1924 leg. Velen.

One apothecium only, freely lying in the envelope, 0.5 mm diam., rather thick, dark orange, shortly stipitate, disc slightly concave, marginate. Excipulum of angular or subglobose, very thin-walled colourless cells up to 25 \times 18 μm or 30 \times 22 μm large, elongated towards the margin [cells up to 8–10 μm wide and 20 μm long], flesh of thin-walled hyaline septate hyphae 2–4 μm thin. Excipulum not dextrinoid. Asci 80–85 \times 6–8 μm , 8-spored, cylindrical, gradually stipitate below, apex rounded with only slightly thickened wall [cca 1 μm], inamyloid. Paraphyses 2–2.5 μm thin, not enlarged above, hyaline. Ascospores 8–12 \times 3–4 μm , partly biseriolate, shape rather variable, mostly oblong or oblong-ovoid, inequilateral, attenuated more towards one end, obtuse, eguttulate.

The species was several times found in Britain on *Juncus effusus* and transferred by DENNIS (1968 : 133) to the genus *Cudoniella*, but according to my opinion, the holotype of *H. juncisedum* represents an *Hymenoscyphus*.

= *Hymenoscyphus juncisedus* (Velen.) Dennis

Helotium juniperi Velen. 1934 : 195, tab. 19, fig. 3

Lectotypus PRM 148038: Mnichovice, Hubáčekov, ad lignum *Juniperi communis* XI. 1927 leg. Velen.

Small fragments of bare wood with several apothecia 0.3–0.4 mm diam., whitish, shortly and thinly stipitate. This specimen was revised by L. Holm, Uppsala. According to the Holm's revision [K. et L. HOLM 1977 : 8–9, fig. 1 f] this is a good species, characterized „by the flat or even convex disc and the distinct, wellmarked stipe — in side-view an apothecium looks like a T.“ According to my opinion, the species must be transferred in the genus *Peizizella* [in the new emendation; see SVRČEK 1983 : 68–69, with the genotype *Peizizella pulchella* Fuckel]. The second specimen, PRM 147222 (Bohemia centr., Roblín, and ramum *Juniperi communis* 28. X. 1924 leg. Velen.) contains now no apothecia, but doubtless it was the same fungus as the lectotype.

= *Peizizella junipericola* Svr. nom. nov.

Syn.: *Helotium juniperi* Velenovský, Mon. Disc. Boh. p. 195, 1934 (non *Peizizella juniperi* Velen. 1934 : 164)

Helotium kermesinum Fr.

Velen. 1934: 204

The only specimen, PRM 148917: Bohemia centr., Kosoř, in folio *Aceris* sp. 29. IV. 1927 leg. Velen. [ut *Helotium rosellum* Velen. in herb. et manusc.] contains only one very small fragment of a rotten leaf densely covered with yellowish mycelial hyphae amongst which a cup-shaped, shortly stipitate apothecium 0.8 mm diam., dirty brownish coloured is present. Excipulum is formed by a typical *textura oblita*, of parallel hyaline glassy-refractile hyphae 2.5–4 μm wide, thick-walled (1.5–2 μm), slightly dextrinoid, at the margin only up to 1.3 μm wide with walls 0.5–1 μm thick, the margin even, entire. Asci 50–70 \times 5–6 μm , 8-spored, oblong clavate, cylindrical-clavate, apex attenuated, thin-walled, pore very slightly amyloid. Paraphyses 1.5–2 μm wide, equalling the asci, obtuse, hyaline. Ascospores 6–8(–9) \times (2–)2.5–3 μm , somewhat, variable in shape, cuneate, oblong, obtusely fusiform, inequilateral, eguttulate, hyaline.

Velenovský's fungus is microscopically rather similar to *Peziza geminella* Nyl. (1869: 46), a species treated by KARSTEN [1869] as a synonym of *Helotium kermesinum* Fr., type of which does not exist. The type of *Peziza geminella* was examined by DENNIS [1956: 192, fig. 161]. ARENDHOLZ [1979: 89] accepting the Dennis's opinion, considers *Peziza geminella* Nyl. as synonym of *Hymenoscyphus kermesinus* {Fr.} Arendholz, too. The species is characterized by red-coloured apothecia and 2-spored asci containing elliptical ascospores 11–13 \times 4–5 μm large. It is known only from the authentic Nylander's material collected in Finland on *Betula* leaves. *Helotium kermesinum* Fr. sensu Velen. 1934 is a different discomycete belonging to *Conchatium* (perhaps a new species). It cannot be identified according to CARPENTER'S monograph [1981]. *Conchatium subhyalinum* (Rehm) Svr., also on leaves of *Acer* spp., differs by large asci and large, fusiform, sublunate ascospores as well as by thick paraphyses.

Helotynum knautiae Velen. 1934: 194

Holotypus PRM 148013: Bohemia centr., Mnichovice, Hubáčkov, ad basim caulis *Knautiae arvensis* in declivitate calido occidentali 12. V. 1930 leg. Velen.

A fragment of a herb stem with four apothecia 0.1–0.2 mm diam., whitish, stalked attenuated, the outer side white-pulverulent; when rehydrated, apothecia are up to 400 μm diam. Excipulum of cylindrical long-celled hyphae 12–18 \times 2–4 μm , thin-walled, colourless, at base only with subsodiametrical up to 12 μm large cells often slightly encrusted and undulate, many hyphae running as free cylindrical or obtusely lageniform cells, as well as marginal hyphae 2–3 μm thick. Asci 35–40 \times 4–6 μm , 8-spored, cylindrical or oblong-clavate, shortly stipitate, apex rounded, pore amyloid. Paraphyses 2–2.5 μm thick, slightly lanceolate but obtuse above, often 2–5 μm [rarely up to 12 μm] longer than the asci, colourless, smooth, eguttulate, copious. Ascospores 8–10 \times 1.2–1.5 μm , narrowly fusiform, inequilateral, straight, eguttulate, biseriolate.

= *Cystopezizella knautiae* (Velen.) Svr., comb. nov.

Basionymum: *Helotium knautiae* Velen., Mon. Disc. Bohem. p. 194, 1934

Helotium knautiae Velen. 1947: 122

Holotypus PRM 148088: Bohemia centr., Mirošovice, ad caulem *Knautiae arvensis* in colle arido 14. X. 1941 leg. Velen.

One fragment of a herb stem with about twenty apothecia, now 0.5–0.8 mm diam., dark orange, subsessile or shortly stipitate, fleshy, white pubescent at the margin and on the outer side. Excipulum of cylindrical long-celled hyphae up to 6 μm wide, slightly thick-walled, colourless, in the basal part with ellipsoidal or oblong cells up to 20 \times 12 μm large, marginal zone 25–35 μm composed of slender hyphae 1.5–3 μm thin; excipulum not dextrinoid. Asci 38–50 \times 4.5–5 μm , 8-spored narrowly subcylindrical, shortly stipitate, pore amyloid. Paraphyses 1.5–2.5 μm thick, not enlarged above, hyaline. Ascospores 5–7 \times 1.5 μm , acicular, straight or slightly curved, often with one oil drop in each end, biseriolate.

= *Hymenoscyphus euphorbiae* (Velen.) Svr.

Helotium kunicense Velen. 1934: 184

Holotypus PRM 147544: Bohemia centr., Kunice, ad lignum *Salicis* sp. 22. X. 1931 leg. Velen.

A fragment of wood with two apothecia 1–1.5 mm diam., very shortly and thickly stipitate, light waxy-yellow, crenulate at the margin, disc flat, distinctly marginate

or immarginate. Excipulum of strongly thick-walled cells 3–5 μm wide, lying parallel and firmly connected together, dextrinoid, the basal part and partly excipulum internum (flesh) amyloid (grey-bluish in Melzer's reagent). Asci 50–60 \times 4.5–5 μm , 8-spored, conspicuously long stalked, pore slightly amyloid. Paraphyses 1–1.2 μm thin, copious. Ascospores 5–7 \times 2–2.5 μm , ovoid, eguttulate, not fully mature hitherto.

= *Bisporella subpallida* (Rehm) Dennis

Helotium lechnoides Velen. 1940: 183

Holotypus 148202: Bohemia centr., Mnichovice, Hubačov, ad ramulum frondosum [*Alnus glutinosa*] X. 1938 leg. Velen.

A fragment of a thin twig (probably *Alnus*) with two apothecia short and thick stipitate, subsessile, pale yellowish, rather badly preserved. Excipulum of colourless, slightly thick-walled long-celled hyphae, the basal part with larger thick-walled cells. Asci 40–45 \times 4–5 μm , 8-spored, cylindrical-clavate, rounded above, gradually stipitate below, pore inamyloid (or very slightly amyloid). Paraphyses scarce, 2 μm thick. Ascospores 5–7 \times 2–2.5 μm , ovoid, eguttulate, not fully mature hitherto.

ends, straight or slightly curved, always filled with minutes guttules (mainly at the ends), mostly biseriate. The marginal „hairs“ described by the author, are only free ends of marginal excipular hyphae.

= *Hymenoscyphus sordidus* (Fuckel) Phillips

Helotium loniceræ Velen. 1934: 206

Holotypus PRM 150114: Bohemia centr., Mnichovice, in horto, in foliis deiectis *Lonicerae tataricae* 24. VIII. 1924 leg. Velen.

I found two apothecia only (one incomplete), 1.2–1.5 mm diam., with a stalk up to almost 3 mm long, rather thick, growing from an indeterminable fragment of a leaf to which it is attached with a part of its length so that the true host-plant remains uncertain. The disc is flat, dark red-brown, the outer part of the receptaculum and stipe is purplish-brown, smooth. The marginal zone of the excipulum is composed of parallel thick-walled (–1 μm) hyphae 1.5–5 μm broad, colourless, towards the base of the excipulum enlarged, forming cells up to 18 μm long. Asci badly distinguishable, about 100–110 \times 6–8 μm , long stipitate, pore inamyloid. Paraphyses 1.5–2 μm , not enlarged above, hyaline. Ascospores richly present, 7.5–12 \times 3.5–4 μm , oblong elliptical or subfusiform, slightly inequilateral, rounded at their ends, filled with minutes guttules or eguttulate, often with a distinct thin septum in the middle. On the outer side of the excipulum (which is not dextrinoid) I found conidiophores similar to those of *Chalara*, the shape of which is lageniform, with a rather long neck; they are 12–22 \times 3.5–5 μm large, light brown, but no conidia were seen.

The original description of *Helotium loniceræ* differs in some respects from the insufficient type material examined by me, so that the species cannot be explained with certainty. Perhaps, it is close to *Hymenoscyphus phyllophilus* (Desm.) O. Kuntze.

Helotium loti Velen. 1934: 191, tab. 20, fig. 31

Lectotypus PRM 147241: Bohemia centr., Mnichovice, in colle Kožený vrch, ad caules *Loti corniculati* 11. IX. 1924 leg. Velen.

This is the only one specimen on *Lotus corniculatus*, with several apothecia on herb stems. Apothecia 0.5–1.2 mm diam., broadly sessile, white, whitish or pale yellowish (cream-coloured), disc slightly concave or flat, narrowly marginate, the outer side finely white-pruinose. Excipulum of isodiametrical angular-subglobose cells 3–6 μm diam., thin-walled, colourless, larger towards the base (up to 15 μm diam.) and largely ellipsoid, the marginal zone of cylindrical hyphae 20–60 μm long, 1.5–3 μm broad, septate, firmly connected. Asci 40–50 \times 4–5 μm , cylindrical-clavate, gradually attenuated below, rounded above, 8-spored, pore distinctly amyloid (visible as a ring). Paraphyses 2 μm thick, obtuse, not enlarged above, hyaline. Ascospores 5–7 \times 1.5–2 μm , narrowly subcylindrical with attenuated but rounded ends, inequilateral, straight or very slightly curved, sometimes with several small guttules at both ends. Hypothecium rather thick, passing into excipulum internum composed of long cylindrical hyphae 1.5–4 μm broad, rather densely interwoven, thin-walled, septate, hyaline.

There are eight other specimens named *Helotium loti* in the Velenovský's collection differing by distinctly stipitate, bright orange-coloured (when dried) apothecia which cannot be this taxon but represent the very close *Helotium euphorbiae* Velen. There are additional specimens (all collected by Velenovský): PRM 148885 [Bohemia centr.,

Radotín, *Calamintha clinopodium* [= *Clinopodium vulgare*] XI. 1926], 150248 [Mnichovice, in horto, *Fragaria* sp. 30. IX. 1913, ut *Helotium densum* Velen. in herb. et manusc.], 148047 [ibidem, Kožený vrch, *Verbascum* sp. 19. X. 1929, ut *H. densum*], 148136 [ibidem, *Helianthemum vulgare* XII. 1929, ut *Hel. serpylli* Velen. in herb. et manusc.], 147498 [ibidem, *Galium verum* X. 1933], 147466 [Myšlín, *Helianthemum vulgare* X. 1933, 147761 [Klokočná, *Helianthemum vulgare* X. 1933], 148102 Božkov, *Helianthemum vulgare* IX. 1938].

It seems to be very probable that *Pezizella discreta* [Karst.] Dennis sensu Dennis (1956: 57) is the same fungus as *Helotium loti* Velen. (lectotypus PRM 147241). The problem of correct naming of this species as well as its taxonomic classification remains for a future investigation.

= *Hymenoscyphus discretus* [Karst.] Svr. comb. nov.

Basionymum: *Peziza discreta* Karsten, Not. Sallsk. Faun. Flor. Fenn. 10: 146, 1869

Helotium loti var. *coronillae* Velen. 1934: 191

Holotypus PRM 148924: Bohemia centr., Všenory, ad caulem *Coronillae variae* XI. 1926 leg. Velen. — One fragment of a herb stem with eight apothecia 0.8–1 mm diam., very shortly stipitate or almost sessile, disc flat, pale yellow. — This variety does not differ from the typical form of *H. loti*.

Helotium loti var. *roseipes* Velen. 1934: 191

Holotypus PRM 147590: Bohemia centr., Myšlín prope Mnichovice, ad caulem *Centaureae iaceae* VIII. 1931 leg. Velen. — Two fragments of herb stems with about ten apothecia, 0.5–1 mm diam., almost sessile, shortly and thickly attenuated below, disc flat, pale cream-coloured, stipe — when developed — with a very slight pinkish tinge. — Also this variety agrees microscopically with the typical form of *H. loti*.

Helotium lounense Velen. 1934: 407

Holotypus PRM 614743: Bohemia septentr., Louny, in monte Oblík VIII. 1926 leg. Martinovský, det. Velen.

One decorticated twig with several tens of mostly young apothecia 0.2–0.4 mm diam., subsessile with short and thick attenuated base immersed in small fissures of wood, light yellow or (when pressed) reddish-yellow, rather thick fleshy, solitary or up to three fasciculate, disc slightly concave, whitish marginate, the outer surface concolorous, smooth, very slightly pruinose. Excipulum of thick-walled subsodiametrical hyaline cells 4–7 μm diam., yellowish in the cortical layer, the marginal zone composed of 5–15 μm long and 2–2.5 μm thin hyphae freely running out and obtusely terminated. Asci 40–50 \times 4–4.5 μm , 8-spored, cylindrical, gradually long stipitate, pore very slightly amyloid. Paraphyses 1–2 μm thin, not enlarged above, hyaline. Ascospores 6–7 \times 0.5–0.8 μm , biseriata, very narrowly cylindrical, straight or slightly curved, eguttulate, seen in asci only.

The type collection agrees with *Pezizella discreta* [Karst.] Dennis and the substratum is very probably not oak twig as stated in the protologue but a stem of a herb! Even if there are no doubts about the authenticity of the material examined, the record of size of the ascospores in the original description („15–18 \times 2 μm “) remains mysterious.

Helotium ludmilae Velen. 1940: 185

Holotypus PRM 148049: Bohemia centr., Hrusice, ad petiolum *Campanulae* sp. VI. 1939 leg. Velen.

One apothecium only, 1.2 mm diam., stipe 1.5 mm long, growing probably from the stromatized substratum, perhaps a petiole of a [oak?] leaf, but scarcely a herb [a very small fragment]. Whole apothecium is dark purpureous-reddish-brown, disc flat, narrowly dark marginate, the outer surface smooth, wrinkled, stipe cylindrical, smooth. The marginal zone of the excipulum consisting of clavate, slightly encrusted hyphae 10–25 \times 3–6 μm large, freely terminating and pale violaceous-reddish-brown coloured, the cells of the excipulum isodiametrical, subglobose or angular, colourless, 5–16 μm diam., thick-walled [up to 2 μm], larger and more oblong [rectangular] towards the base up to 19 \times 12 μm , with walls up to 3 μm thick. The surface of excipulum is covered by fascicles of thin-walled, long, purpureous-brown coloured hyphae. Asci 55–60 \times 5–7 μm , cylindrical, gradually stipitate, apex rounded, pore strongly amyloid [channel 1–1.5 μm long], 8-spored. Paraphyses 2–2.5 μm thin, obtuse, hyaline. Ascospores 7–9 \times 2–2.5 μm , biseriata, narrowly ovoid to fusiform with rounded ends, eguttulate, or filled with minute guttules at the ends, colourless.

The second specimen, PRM 148172 (Bohemia centr., Mnichovice, Jidášky, *Fragaria* sp. 30. VI. 1940 leg. Velen.) is the same discomycete.
= *Ciboriopsis tenuistipes* (Schroet.) J. T. Palmer

Helotium lunatum Velen. 1922 : 851; 1934 : 189

Holotypus PRM 824902: Bohemia centr., Běchovice, sylva Vidrholec (= Jirny), ad lignum codicis *Quercus* 7. X. 1919 leg. Velen. (ut *Helotium quercinum* Velen. in herb. et manuscr.)

Eight apothecia up to 2 mm diam., dark orange, quite resembling *Hymenoscyphus epiphyllus*. Excipulum dextrinoid, the marginal zone of cylindrical hyphae 4–5 μ m broad, covered with numerous hyaline crystals, basal cells up to 12 μ m diam. or 16 μ m long, rectangular, the surface with a network of long hyphae 2–5 μ m wide. Asci 110–120 \times 8–12 μ m, 8-spored, pore slightly amyloid. Paraphyses 2–3 μ m, not enlarged above, hyaline. Ascospores 14–21 \times 3.5–4.5 μ m, oblong or narrowly fusiform, attenuated towards the ends or — frequently — pointed at one end only (but not beaked), straight or slightly subcurved, minutely guttulate. Hyphae of the flesh 2–4 μ m thick, septate, hyaline, not dextrinoid.

= *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm.

The following specimens in PRM also represent *H. epiphyllus*: 150012: Bohemia centr., Mirošovice, ad ramulum frondosum VIII. 1922 (ut *Helotium quercinum* Velen. in herb. et manuscr.) — 148438: Bohemia centr., Jevany, ad sarmenta *Rubi fruticosi* atque ad folium *Fagi sylvaticae* IX. 1922 (ut *Hel. quercinum*) — 148582: Bohemia centr., montes Brdy, ad folia delecta (probabiliter *Quercus*) atque ligna putrida *Betulae* VII. 1927 leg. K. Cejp, det. Velen. (ut *Hel. lunatum*). — 148881: Slovacia, montes Carpati, ad ligna frondosa muscosa VIII. 1929 leg. Alb. Pilát, det. Velen. (ut *Hel. lunatum*).

The following specimens belong to the other species of *Hymenoscyphus*:

149263: Bohemia centr., Praha, Sct. Prokop (= Prokopské údolí), ad ramulum *Cotoneastris integerrimae* 24. X. 1925 leg. Velen. (ut *Hel. lobatum* Velen. in herb. et manuscr.). Apothecia long and slender stipitate, asci 110 \times 10–12 μ m, pore distinctly amyloid, ascospores 18–24 \times 4–4.5 μ m, minutely guttulate, tapering to each end, with a lateral point above. This is typical *Hymenoscyphus calyculus* (Sow. ex Fr.) Phill. = *H. virgultorum* (Vahl ex Pers.) Phill.

147260: Bohemia centr., Mnichovice, Potočiny, ad ramulos *Carpini betuli* 27. XII. 1928 leg. Velen. (ut *Hel. lunatum*). Asci 130–160 \times 12–14 μ m, apex attenuated and thick-walled, pore amyloid. Ascospores 28–39 \times 6–6.5(–8) μ m, fusiform, gradually tapering and pointed below, rounded above, granulose inside, mature sometimes 3-septate. — The host plant is uncertain and seems not to be *Carpinus* but rather *Salix*. I consider this collection to be *Hymenoscyphus salicellus* (Fr.) Dennis.

148584: Bohemia occident., Rokycany, ad ramulos *Quercus*, *Betulae*, *Populi tremulae*, locis humidis silvaticis IX. 1923 leg. K. Cejp, det. Velen. (ut *Hel. lunatum*). — Two species are present, *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm., and *H. vasaensis* (Karst.) Dennis. Excipulum of the later species is predominantly distinctly amyloid, consisting of angular-subglobose, up to 24 μ m diam., thin-walled and colourless cells, flesh of interwoven cylindrical hyphae, thecium dextrinoid, purplish red-brown in Melzer's reagent, asci 110 \times 8 μ m, clavate-cylindrical, pore amyloid, ascospores 15–16 \times 3–4 μ m, mostly immature. It is probably the first find of this fungus in Bohemia.

148875: Bohemia centr., Jevany, ad folia delecta et ramulos *Quercus*, *Fagi*, *Carpini betuli* („in fagetis Jevanensibus copiose, apotheciis nonnumquam solum ceraceo-luteis“ — secundum Velen. in litt.) 15. IX. 1924, leg. Velen. (ut *Hel. lunatum*). I found two apothecia only, now almost blackish, sessile on a small piece of wood as well as on a petiole of beech leaf. It is also a typical *Hymenoscyphus vasaensis* (Karst.) Dennis, with distinctly amyloid excipulum and strongly dextrinoid hymenium.

148751: Bohemia centr., Bilichov, ad ramulos *Quercus* (atque *Fraxini*?) in paludibus silvaticis copiose 23. VII. 1925 leg. Velen. (ut *Hel. lunatum*). — Asci 150 \times 10–12 μ m, paraphyses 2–2.5 μ m, ascospores 13–19 \times 5–6.5(–8) μ m, largely elliptic-fusiform or fusiform, inequilateral, eguttulate. — The material agrees with the Boudiers description and illustrations of *Helotium laetum* (Boud.) Sacc. (= *Pachydisca laeta* Boud., Icon. mycol. tab. 440, 1910) as well as of DENNIS (1956 : 91). The Velenovský's collection is the first one of this discomycete in Bohemia.

Helotium lutescens (Hedw. ex Fr.) Fr.

Velen. 1934 : 196, tab. 19, fig. 21

Under this name perhaps a complex of species occurring not only on conifers but also on frondose debris is hidden, the taxonomic status of which is hitherto not sufficiently solved. *Peziza lutescens* (Hedw.) Fr. 1:120, 1822 = *Octospora lutescens* Hedwig 1789:31 is a dubious species explained variously by different authors. Hedwig described and illustrated a cupulate, relatively long-stipitate fungus growing on rotten wood, with largely elliptical, 1-septate, biguttulate ascospores. In the same interpretation it was taken by FRIES (1822) as a species with „sporididymis optime diversa, ad ramos delectos abiegnis.“ REHM (1896:713) considers it also as a dubious species [under the name *Phialea lutescens* (Hedw.) Gill.] growing on dead *Abies* twigs, with references to Phillips and Quélet, which recorded it from Britain and Vogesen. DENNIS (1956:90) described *Helotium lutescens* in the sense of BRESADOLA (1903:119) on scales of fallen pine cones, and put to it *Helotium conigenum* (Pers.) Fr. sensu Schroeter as well as Sydow, and *Helotium virgultorum* f. *conigenum* Rehm (not *Peziza conigena* Pers. 1801:634, which is surely a *Mollisia* sp.). *Helotium eichleri* Bres., described on pine cones too, is an other species morphologically different from *Helotium lutescens* sensu Bres., Dennis.

The specimens named as *Helotium lutescens* in Velenovský's collections comprise perhaps two, ecologically different taxa:

1. on dead wood, twigs and cones of *Pinus* and *Picea*, with waxy-yellow or bright yellow, obconical apothecia, asci 75—100×6—8 μm with inamyloid or very slightly amyloid pore and usually oblong-elliptical, obtusely inequilateral, (9—)10—15×3—3.5 μm large ascospores which are eguttulate or with granulate content near both ends. The same taxon was described also as *Helotium sazavae* Velen. 1934:197 (holotypus 147365, Bohemia centr., Senohraby, in cono *Pini sylvestris* 31. VIII. 1926 leg. Velen.) and therefore I prefer to use this name for the discomycete discussed herein. With this fungus is also identical *Helotium eichleri* Bres. sensu Velen. 1934:197 (but not *Helotium eichleri* Bres. sensu Bres.)

Some other specimens examined: PRM 148802, 149519, 149217 (Bohemia occident., Rokycany, ad ramulos et conos *Piceae abietis* et *Pini sylvestris* XI. 1923, VIII. 1924 leg. K. Cejp, det. Velen., ut *H. lutescens*). — 148754 (Bohemia occident., Strašice, ad ramulos *Piceae abietis* X. 1924 leg. K. Cejp, det. Velen., ut *H. lutescens*).

2. The second taxon is growing on dead needles of *Pinus* and *Picea*, and is distinguished by whitish or very pale waxy-yellow, distinctly stipitate apothecia, asci 120—140×6—10 μm with slightly amyloid pore and 14—18(—20)×3—4.5 μm large ascospores containing 2—4 rather large guttules; ascospores are cylindric-fusiform, more pointed towards the one or both ends. Velenovský's illustration (1934, tab. 19, fig. 21) represents this taxon. I have no name for it, perhaps further investigation will show its real taxonomic status, it may be an infraspecific taxon only. Both taxa (especially the second one) seem to be closely related to *Hymenoscyphus epiphyllus*.

Some specimens examined: 148487 (Bohemia centr., montes Brdy, Padrť, ad acus *Piceae abietis* VIII. 1924 leg. K. Cejp, det. Velen., ut *H. discinum*); 147979 (Bohemia centr., Mnichovice, ad acus *Pini sylvestris* 25. VIII. 1925 leg. Velen., ut *Helotium pini* var. *minus* Velen. in herb. et manusc.); 148002 (ibidem, loco Jidášky, ad acus *Pini sylvestris* 14. VI. 1930 leg. Velen., ut *Hel. discinum* Velen. in herb. et manusc.); 147566 (ibidem, Božkov, ad acus *Pini nigrae* X. 1930 leg. Velen., ut *H. discinum*).

Finally, one specimen named as *Helotium lutescens*, PRM 147752 (Bohemia centr., Struhařov prope Mnichovice, ad verrimenta [acus, ramulosque *Piceae abietis* et *Pini sylvestris*, sed etiam ad folia putrida in fossa paludosa et turfosis sphagnetosis 6. IX. 1927 leg. Velen., ut *Helotium stagnale* Velen. in herb. et manusc.) represents a typical *Hymenoscyphus vasaensis* (Karst.) Dennis with strongly amyloid excipulum. I found also old, pale blackish-brown coloured, 19—21×4 μm large ascospores.

Helotium luzularum Velen. 1934 : 202

Holotypus PRM 147503: Bohemia centr., Mirošovice, ad culmos *Luzulae albidae* (= *L. luzuloides* XI. 1933 leg. Velen.

The fragments of culms with several tens of apothecia 0.5—0.8 diam., yellowish with a brownish tint, disc concolorous, rarely light orange, flat, marginate, stipe up to 1 mm long, smooth, growing on the non stromatized substrate. Excipulum externum of parallel, long-celled, rectangular, thin-walled, hyaline cells up to 45 μm long and 18 μm broad,

not dextrinoid. Excipulum internum similar but composed of parallel, septate hyphae 2.5–5 μm wide. Asci 120 \times 10 μm , 8-spored, gradually tapering towards the apex, pore amyloid. Paraphyses 2–2.5 μm wide, not enlarged above, hyaline. Ascospores 19–25 \times 5–5.5 μm , fusiform, usually 1-septate (rarely 3-septate), slightly constricted at the septum, often greyish or light brown coloured when mature, unchanging in Melzer's reagent.

This seems to be a well-characterized species perhaps confined to *Luzula* and distinguished by large, fusiform, septate ascospores coloured in the maturity.

= *Hymenoscyphus luzularum* (Ve en.) Svr. comb. nov.

Basionymum: *Helotium luzularum* Velenovský, Monogr. Discom. Bohem., p. 202, 1934

Helotium macrosporum Velen. 1934: 194

(non *Helotium macrosporum* Peck 1874)

The protologue is based on the specimen named as *Helotium superbum* Velen. (in herb. et manuscr.), PRM 824911 (Bohemia septentr., montes Krkonoše, in convalle Labský důl, ad caulem *Mulgedii alpini* [= *Cicerbita alpina*] IX. 1923 leg. Alb. Pilát, det. Velen.), which was selected by me as the lectotype of *Helotium macrosporum* Velen. Incomprehensibly, this locality was omitted in the protologue, and specimens from three other localities cited represent — according to my examination — a typical *Hymenoscyphus scutula*.

The lectotypus of *Helotium macrosporum* is identical with *Hymenoscyphus scutula* var. *fuscatus* Phillips, agreeing with the description in DENNIS (1956: 79). There are six apothecia on one fragment of a herb stem. Excipulum of rectangular, parallel, thin-walled, hyaline cells up to 27 \times 9–10 μm large, slightly dextrinoid. Asci 130–150 \times 12–14 μm , 8-spored, pore amyloid (often slightly). Paraphyses 3–3.5 μm , hyaline. Ascospores 29–34 \times 5–6 μm , largely fusiform, inequilateral, long tapered and pointed towards the base, with a lateral point above, straight, sometimes distinctly brownish, aseptate.

Following specimens of *H. macrosporum* are typical *Hymenoscyphus scutula*: PRM 147242 (Bohemia centr., Radotín, ad caules *Scrophulariae alatae* IX. 1924 leg. Fr. Fechter, det. Velen.; in societate *Cyathiculae coronatae*); 148828 (Bohemia centr., Libochovičky, ad caules *Arctii* sp., 19. X. 1924); 147585 (Bohemia centr., Mnichovice, in colle Plecháč, ad caules *Filipendulae ulmariae* VIII. 1930 leg. Velen.); 148187 (Bohemia centr., Mírošovice, ad caules *Cirsii palustris* 23. IX. 1940 leg. Velen.).

The specimens PRM 150115 (Bohemia centr., Struhařov prope Mnichovice, ad caulem herbae VIII. 1922), 148061 and 824899 (Mnichovice, ad caulem *Trifolii* sp. 26. VIII. 1924), all collected by Velenovský, represent a *Hymenoscyphus* sp., morphologically hardly different from *Hymenoscyphus epiphyllus*, with apothecia shortly and thickly stipitate, and ascospores 15–20.5 \times 4–4.5 μm , obtusely fusiform. In 824899 there are numerous croziers on hyphae of the hypothecium and in the basal part of asci.

Helotium magnificum Velen. 1934: 193, tab. 21, fig. 32

Lectotypus PRM 148497: Bohemia septentr., montes Krkonoše, Labská louka, ad folium *Eriophori vaginati* atque ad vaginas foliorum *Caricis* sp. VIII. 1927 leg. K. Cejp, det. Velen.

Apothecia 1–1.5 mm diam., stipitate, now yellowish or brown-yellowish, smooth, singular on the non stromatized substrate. Excipulum externum is a typical textura oblita composed of parallel, 5–10 μm wide hyphae with very thick hyaline glassy refractive walls, firmly connected, marginal zone reddish-brown, entire. Excipulum medullare of thin-walled, long-celled, often vesiculose, hyaline hyphae 5–12 μm wide. Ascospores 24–30 \times 4.5–5 μm , fusiform, inequilateral, tapered towards both ends and pointed, eguttulate, aseptate.

= *Conchatium megalosporum* (Rea) Svr., comb. nov.

Basionymum: *Ombrophila megalospora* Rea, Trans. Brit. Mycol. Soc. 5: 256, 1916

This distinctive and probably rare species was described also under the names *Phialea megalospora* (Rea) Dennis 1972: 472, *Cyathicula megalospora* (Rea) Dennis 1978: 144 and *Crocicreas megalosporum* (Rea) S. E. Carpenter 1981: 131. It is occurring on dead leaves of *Cyperaceae* in swamps and bogs and is only known from Britain till now.

The second specimen, PRM 149828: Bohemia septentr., montes Krkonoše, Obří důl („Riesengrund“), ad folia putrida graminum IX. 1923 leg. Alb. Pilát, det. Velen., contains one incomplete apothecium only, but perfectly agreeing in all respects with

Helotium luzularum Velen. [1934] = *Hymenoscyphus luzularum* (Velen.) Svr. I found asci 120—140 × 10 μm, pore amyloid, ascospores 30—35 × 5.5—7 μm, 1-septate, exceptionally 3-septate, very often distinctly light or rather dark brown coloured. Excipulum of parallel, thin-walled, rectangular cells.

Helotium magnificum Velen. sensu Dennis 1956 : 72, fig. 65, is a quite different discomycete in its rather dark reddish-brown apothecia with a stalk arising from a stromatic base penetrating across the mesophyll.

Helotium mali Velen. 1934 : 187

Holotypus 147427: Bohemia centr., Mnichovice, in horto ad ramulum *Pyri mali* (= *Mali communis*) X. 1933 leg. Velen.

Four stipitate apothecia similar to *Hymenoscyphus calyculus* (= *H. virgultorum*). Excipulum externum of parallel thin-walled hyaline cells up to 30 × 20 μm large, the marginal zone of usually clavate, often encrusted hyphae 4—7 μm wide. Asci 110—120 × 6—10 μm, 8-spored, pore only very slightly amyloid or very often inamyloid, the pore channel 1.5—2 μm long. Paraphyses 3—4 μm thick, obtuse, hyaline. Ascospores 15—17 × 3.5—4.5 μm, biserial, oblong or subcylindrical, rounded at both ends or slightly and obtusely hooked above and gradually tapered below (but never pointed), eguttulate or minutely granulose, sometimes with a thin central septum, hyaline.

I synonymize this species with *Hymenoscyphus conscriptus*, a species closely related to *H. calyculus*, from which it differs by smaller ascospores, more rounded at the ends and without large guttules.

= *Hymenoscyphus conscriptus* (Karst.) Korf ap. Kobayashi et al.

PRM 147439 (Bohemia centr., Mnichovice, ad lignum *Carpini betuli* V. 1934 leg. Velen.) is the same fungus.

Helotium microsporium Velen. 1934 : 192, tab. 30, fig. 25, tab. 19, fig. 16, 17

In PRM there are preserved eight specimens named as *H. microsporium* by Velenovský:

149606: Bohemia centr., Lysá n. L., ad caules *Lysimachiae vulgaris* in palude 24. V. 1924 leg. Velen. — Seven fragments of herb stems with six apothecia singulary or fasciculate, 1 mm diam., stipe 2—3 mm long, disc now light orange, the outer surface of the receptacle white-tomentose, the base of the stalk short hairy. Excipulum textura prismatica, colourless. Hairs thin-walled, encrusted throughout with minute granules, hyaline, septate, usually slightly clavate above, 35—50 × 2.5—3.5 μm (in the lower part), 3.5—6 μm (at the apex). Asci 45—50 × 3.5—4 μm, gradually tapering below. Paraphyses narrowly lanceolate, 2.5—3.5 μm wide, 7—9 μm longer than the asci. Ascospores 5—8.5 × 1.3—1.5 μm, narrowly subfusiform, obtuse at both ends, usually straight, filled with minute guttules. — I selected this specimen as the lectotype, because it corresponds for the greater part with the protologue and the illustration in the plate 30, fig. 15 (ascospores). The specimen is quite typical *Lachnum salicariae* (Rehm) Velen.

149734: Bohemia centr., Lysá n. L., ad ramulos *Salicis auritae* in palude 11. VI. 1927 leg. Velen. (ut *Helotium tritonum* Velen. in herb. et manuscr.). — It is the same fungus as lectotype 149606.

147551: Bohemia centr.: Mnichovice, Jidášky, ad acus *Pini sylvestris* X. 1931 leg. Velen. — This is *Weinmannioscyphus messerschmidii* (Weinm.) Svr., and figures 16 and 17 on the plate 19 refer to it.

147233: Bohemia centr., Senohraby, ad caules *Galeopsis versicoloris* 30. VIII. 1926 leg. Velen. (ut *Helotium tenuisporum* Velen. in herb. et manuscr.). — This specimen contains two discomycetes, viz. *Cyathicula coronata* (Bull. ex Mérat) de Not. in Karst. and *Conchaticum cyathoideum* (Bull. ex Mérat) Svr.; ascospores of the last species were considered by Velen. for ascospores of *Hel. microsporium*.

824908: Bohemia centr., Mnichovice, ad caules herbae VII. 1925 leg. Velen. (ut *Hel. aureolum* Velen. in herb. et manuscr.). — Only three bright orange apothecia, long-stalked, with asci 75—85 × 8.5—9 μm, pore amyloid, ascospores 15—17 × 3 μm, obtusely and inequilaterally fusiform, eguttulate, excipulum of rectangular, thin-walled cells. — It is *Hymenoscyphus vitellinus* (Rehm) O. Kuntze.

824910: Bohemia centr., Čelákovice, ad caules *Lysimachiae vulgaris* VII. 1923 leg. Velen. (ut *Hel. aureolum* Velen. in herb. et manuscr.). — It is *Hymenoscyphus vitellinus* (Rehm) O. Kuntze. On another herb stem in the same specimen there are apothecia of *Hymenoscyphus scutula* (Pers. ex Fr.) Phill.

In 148020 (Bohemia centr., Myšlín, *Salicaria vulgaris* (= *Lythrum salicaria*) VIII. 1933) and 148114 (ibidem, Božkov, ad caulem herbae 9. X. 1941) no apothecia were found.

Also the collection on *Verbascum lychnitis* and *Scutellaria* sp., cited in the protologue are missing in PRM.

Helotium milliare Velen. 1934 : 185, tab. 20, fig. 8

Holotypus PRM 147502: Bohemia centr., Mnichovice, in colle prope Stránčice, ad ramos *Pruni spinosae* 30. X. 1933 leg. Velen.

Several apothecia on the branch of *Prunus spinosa*. Excipulum in the basal part of subglobose to largely ellipsoidal cells 3–14 μm diam., elongated towards the sides of the receptaculum, hyaline, thin-walled, not dextrinoid, the outer part as well as the margin covered with elongated cells, often flexuous, rounded or obtusely attenuated at the apex, 20–28 \times 3–4 μm large. Excipulum medullare of interwoven long hyphae 1.5–2.5 μm thin. Asci 80–100 \times 6 μm , cylindric, gradually tapered below, 8-spored, pore distinctly amyloid. Paraphyses 1.5–2 μm , hyaline, not enlarged above. Ascospores 6–13.5 \times 1.5–2(–2.5) μm , somewhat variable in size and shape, narrowly cylindrical-fusiform, rounded at each end, eguttulate or minutely biguttulate, straight or curved.

I consider this species to be *Hymenoscyphus parilis* (Karst.) Dennis [Syn.: *Pezizella parilis* (Karst.) Dennis 1956 : 49]. The following three specimens, named by Velenovský as *Helotium milliare*, also do not differ from *Hymenoscyphus parilis*:

PRM 147251: Bohemia centr., Mnichovice, ad ramulos *Pruni spinosae* X. 1922 leg. Velen. — Apothecia distinctly stipitate, exterior minutely downy. Excipulum of long-celled thin-walled hyaline hyphae 2–3.5 μm wide, covered with vesiculose cells up to 16 \times 7 μm [also at the margin]. Asci 100–130 \times 4–6 μm , slender, conspicuously long-stalked, pore inamyloid. Paraphyses 1.5–2 μm wide. Ascospores 9–13 \times 1.8–2(–2.5) μm , sometimes with a pseudoseptum. — PRM 148253: Bohemia centr., Mnichovice, ad ramulum *Pruni spinosae* X. 1922 leg. Velen. [probabiliter duplicatum 147251] — Similarly as in the previous specimen, I found on the surface of the excipulum conidiophores of a *Chalara* sp. mentioned by DENNIS (1956 : 50), too — PRM 147361: Bohemia centr., Mnichovice, Hubáček, and ramos *Crataegi* sp. 23. IX. 1929 leg. Velen. — The pore of asci both distinctly amyloid, or almost inamyloid, ascospores 8–12 \times 1.5–2 μm , sometimes with a pseudoseptum. Conidiophores of *Chalara* sp. are present.

Helotium mirabile Velen. 1934 : 195, tab. 19, fig. 2

Holotypus PRM 148244: Bohemia centr., Mnichovice, Hubáček, in cavitate codicis *Pini* sp. 7. XI. 1928 leg. Velen.

About twenty apothecia 0.5–1 mm diam., gregarious on very rotten wood, disc flat, narrowly marginate, with a special greyish or brownish-ochraceous tint (or ochraceous-dirty-yellow), shortly-stalked, the stipe, the margin and the outer part concolorous, finely yellowish powdery. Excipulum not dextrinoid, consisting of long-celled subparallel hyphae 3–8 μm wide, partly vesiculose-inflated and constricted at the septa, relatively loosely interwoven, slightly thick-walled (–0.8 μm), the marginal hyphae 30–40 \times 2–3 μm , cylindrical, smooth, colourless, but in NH_4OH reddish-brown with granulose content. In the upper part of the hymenium there are irregular, small (2–6 μm) lumps of a colourless substance. Asci 27–30 \times 3–4 μm , 8-spored, clavate, short and thick stalked, pore strongly amyloid, the pore channel up to 1 μm long. No paraphyses seen. Ascospores 4–5.5 \times 1–1.5 μm , biseriate, fusiform, more pointed at one end, biguttulate [the ascospores size is larger than is given in the protologue].

This discomycete has some resemblance with *Cystopezizella sanguinea* (Velen.) Svr. which, however, has different structure of the excipulum.

= *Hymenoscyphus mirabilis* (Velen.) Svr., comb. nov.

Basionymum: *Helotium mirabile* Velen., Monogr. Discom. Boh. p. 195, 1934

Helotium monachorum Velen. 1934 : 197, tab. 19, fig. 15

Holotypus PRM 147542: Bohemia centr., Mnichovice, ad acus deictos *Laricis deciduae* IX. 1925 leg. Velen.

The species will be discussed in a separate paper [Svrček 1986].

= *Ombrophila morthieriana* Rehm

Helotium muricatum Velen. 1947 : 123

Holotypus PRM 148198: Bohemia centr., Mirošovice, ad folia *Caricis muricatae* 12. X. 1940 leg. Velen.

About ten fragments of a monocotyledoneous plant [perhaps *Carex* sp.] with several apothecia up to 0.8 mm diam., solitary or fasciculate (of 2), light yellow, almost sessile on the surface of substrate, disc flat or convex, the margin often flexuous, the outer side finely powdery. Excipulum of compact parallel and connected hyaline hyphae

1.5–4 μm wide, distinctly thick-walled (0.5–1 μm), with outermost long-celled (–14 μm) thin-walled hyphae 2–4 μm wide, freely protruding from the surface and terminated by cylindrical or subclavate cells. Asci 30–35 \times 4–4.5 μm , oblong-clavate, rather short- or long-stalked, pore very slightly amyloid. Paraphyses 2–2.5 μm thin, hyaline, slightly enlarged above. Ascospores 5–7 \times 1–1.2 μm , narrowly cylindrical, usually sub-curved, rounded at both ends, sometimes minutely biguttulate. The margin entire, composed of marginal hyphae 30–50 \times 2–4 μm , hyaline, cylindrical or subclavate, 1–2-septate, thin-walled, smooth.

The additional specimen PRM 148131 on *Carex hirta* and *Juncus communis*, collected at the same locality as the lectotype 23. XI. 1940 contains no apothecia.

Apothecia of *Helotium muricatum* are reminiscent of *Pezizella discreta* [Karst.] Dennis which has a different structure of the excipulum. The excipulum of this *Helotium* has a typical *textura oblita*, and therefore must be transferred to *Conchatium*. I was not able to find this discomycete in the CARPENTER'S monograph (1981).

= *Conchatium muricatum* (Velen.) Svr. comb. nov.

Basionymum: *Helotium muricatum* Velen., Novit. mycol. novis. p. 123, 1947

Helotium myrtilli Velen. 1934 : 191, tab. 20, fig. 33

Holotypus PRM 148914: Bohemia centr., Stránčice, Sct. Anna, ad radiculos *Vaccinii myrtilli* 21. VII. 1927 leg. Velen.

One long-stalked apothecium, now dark brown-coloured, smooth, stipe lighter, growing on thin branched small roots. Apothecium rehydrated (in NH_4OH) 280 μm diam., pale brownish, disc shallow cupulate, stipe 0.5 mm long, 70 μm thick. Excipulum externum of subparallel, rectangular, thin-walled cells up to 9 μm wide, hyaline, dextrinoid (distinctly reddish in Melzer's reagent after 24 hours), covered with appressed, long, 2–4 μm wide, septate, granulose and encrusted hyphae along the surface of the receptacle. Hypothecium and excipulum internum of small, 2–4 μm diam., subglobose or angular cells, colourless, with walls up to 1 μ thick. Stipe composed of long-celled cylindrical, thick-walled hyphae, covered with long, thin-walled, 3–5 μm wide hyphae filled with granulose content similar as in the paraphyses. The basal part of the stipe consisting of isodiametric, 4–14 μm diam. cells and cylindrical, 4–7 μm wide, septate, hyaline, thin- or slightly thick-walled hyphae. Asci 35–45 \times 5–7 μm , 8-spored, apex broadly rounded, pore inamyloid (also after 24 hours in Melzer's reagent) or very slightly amyloid. Paraphyses 2.5–3 μm thick, cylindrical, in upper part obtusely lanceolate, with densely granulose content, granula of various size, up to 1 μm diam., black-coloured in Melzer's reagent. Paraphyses exceeding the asci 4–10 μm . Ascospores 7–8 \times 2–2.5 μm , uniseriate or regularly biseriate in the ascus, oblong or subfusiform, attenuated towards both ends but not pointed, hyaline, eguttulate (seen in the asci only).

The additional collections of this remarkable discomycete, confined on small roots of *Vaccinium myrtillus* or rarely *Oxycoccus palustris*, were published by me recently (Svrček, 1983).

= *Hymenoscyphus myrtilli* (Velen.) Svr., comb. nov.

Basionymum: *Helotium myrtilli* Velenovský, Mon. Disc. Boh. p. 191, 1934

Helotium nardi Velen. 1934 : 199

Holotypus PRM 147515: Bohemia centr., Mnichovice, in colle apud Myšlín, ad folia *Nardi strictae* X. 1933 leg. Velen.

Several apothecia 0.4–0.5 mm diam., yellowish, very long stipitate, on thin leaves of a grass (probably *Nardus stricta*). Apothecia do not differ from typical *Hymenoscyphus scutula*. I found asci 110 \times 8–9 μm large, and ascospores 18–20 \times 4–4.5 μm .

= *Hymenoscyphus scutula* (Pers. ex Fr.) Phill.

Helotium neptuni Velen. 1934 : 195, tab. 19, fig. 23, 24

Holotypus 148212: Bohemia centr., Mnichovice, Hubáčkov, ad acus *Piceae abietis* 15. IV. 1927 leg. Velen.

Two spruce needles with twenty apothecia growing on not stromatized substrate, 0.5–0.8 mm diam., cupulate, deeply concave, substipitate, light wine-yellow, smooth, relatively thin, margin crenulate. When rehydrated in NH_4OH , apothecium 900 μm diam., translucent yellowish, stipe 150 μm , thick, 150–200 μm long, at base red-brown. Excipulum consisting of a typical *textura oblita* of thick-walled (1–2 μm) hyphae 2–3.5 μm wide, septate, colourless, especially in the basal part dextrinoid, the marginal zone

entire, formed of cylindrical, 8–16 μm long and 2–3 μm wide, hyaline, smooth, thick-walled hyphae (sometimes thin-walled at the apex). Asci 30–35 \times 4.5–6 μm , clavate, shortly stipitate, the apex conical attenuated and subtruncate, pore amyloid (not strongly). Paraphyses 1–1.8 μm , hyaline, not enlarged above. Ascospores 5.5–7 \times 1.5–1.8 μm , narrowly oblong or subfusiform, inequilateral, eguttulate. No crystals seen in the receptaculum.

Our examination agrees with the protologue of this interesting discomycete belonging to *Conchatium*. No similar species is described in the CARPENTER'S monograph (1981).

= *Conchatium neptuni* (Velen.) Svr. comb. nov.

Basionymum: *Helotium neptuni* Velenovský, Mon. Disc. Boh. p. 195, 1934

Helotium nervicolum Velen. 1934 : 206

Holotypus PRM 147550: Bohemia centr., Kunice, sylva Kunický les, in palude pratensi ad nervos foliorum *Quercus* (?) 23. X. 1923 leg. Velen.

The substrate is somewhat uncertain, it is a small piece of veins of very rotten leaves, possibly *Alnus* sp., with ca. eight apothecia sessile on the main nerve. Apothecia 0.2–0.3 mm diam., when rehydrated (in NH_4OH) 0.4–0.5 mm diam., pale yellowish, disc flat, narrowly marginate, below shortly attenuated, sessile. Excipulum textura prismatica, cells thin-walled, 7–12 μm diam. Asci 50–60 \times 6–7 μm , pore amyloid. Paraphyses up to 3.5 μm enlarged above. Ascospores 10–14 \times 1.5–2 μm , eguttulate. Marginal hairs 14–15 \times 1–1.5 μm , minutely granulate, flexuous. — These apothecia do not belong to *H. nervicolum*, but represent a *Hyaloscypha* sp.

Only one apothecium found in this specimen belongs to Velenovský's species. It has an obconical shape, 0.2 mm diam., pale yellowish. Excipulum is a typical textura oblita, consisting of glassy-refractive, thick-walled (–1.5 μm) hyphae 3–5 μm wide with entire margin. Asci 80–85 \times 8–10 μm , apex rounded, pore slightly amyloid. Paraphyses 1–1.5 μm thin, copious. Ascospores 12–15 \times 3.5–4.5 μm , oblong, rounded at both ends, inequilateral, eguttulate (or very finely granulate), without septum.

This species is a typical member of *Conchatium*. It is not described in the monograph of CARPENTER (1981).

= *Conchatium nervicolum* (Velen.) Svr. comb. nov.

Basionymum: *Helotium nervicolum* Velenovský, Mon. Disc. Boh. p. 206, 1934

Helotium niveum Velen. 1947 : 119 (non *Helotium niveum* Kirschst.)

Holotypus 148082: Bohemia centr., Mnichovice, Božkov, loco Bílá skála, ad ramulum *Quercus* 28. IX. 1941 leg. L. Hostáňová, det. Velen.

One apothecium only, freely kept in the envelope, in not good condition (mouldy). The examination of it showed the identity of this species with *Hymenoscyphus vernus* (Boud.) Dennis.

Excipulum externum of thin-walled subglobose hyaline cells 18–30 μm diam., excipulum internum of 3–10 μm wide, septate hyphae, asci 85–90 \times 7–8 μm , pore very slightly amyloid, ascospores 10–11 \times 3–3.5 μm , mostly minutely biguttulate, smooth (in any case not „pointed“ as recorded in the protologue).

Helotium novembris Velen. 1934 : 195

Holotypus PRM 147435: Bohemia centr., Kunice, sylva Kunický les, ad lignum *Juniperi communis* 9. XI. 1933 leg. Velen.

One small piece of bare, grey-coloured wood with four apothecia 0.2–0.5 mm diam., shortly-stalked, dirty yellowish, smooth, disc almost flat, marginate. These apothecia represent two different species, one with asci 80–100 \times 10–11 μm and ascospores 20.5–22 \times 4–5 μm , sickle-formed, often 1-septate, the other one with much smaller asci as well as ascospores, identical with the features in the protologue of *Helotium novembris*. Excipulum of this species is formed of parallel, rectangular, hyaline cells 5–7 μm wide, thin-walled, but partly (towards the base) with walls up to 1.5 μm thick, not dextrinoid. Asci 40 \times 4 μm , oblong-clavate, very thin-walled, 8-spored, apex obtuse, pore distinctly amyloid. Paraphyses not seen. Ascospores 5–7 \times 1.3–1.5 μm , narrowly cylindrical, sometimes slightly inequilateral, eguttulate.

The apothecium examined was in rather bad condition, so that some details could not be ascertained. I have also seen many budding ascospores. The taxonomic status of this species remains unknown, and the identity with *Helotium juniperi* Velen. = *Pezi-zella junipericola* Svr. cannot be excluded. The second species present in close asso-

clation with this one and mentioned above, is a very distinctive fungus, but the material is too scarce.

Helotium novum Velen. 1934 : 204, tab. 20, fig. 37

Lectotypus 149549: Bohemia centr., Svojetice, ad folia deiecta *Vaccinii myrtilli* VIII. 1923 leg. Velen. [ut *Helotium myrtilli* Velen. in herb. et manuscr.].

Several leaves of *Vaccinium myrtillus* with three apothecia quite resembling *Hymenoscyphus epiphyllus*, up to 1 mm diam., thick and short stalked-subsessile, fleshy, dark brown-orange or reddish-orange, smooth. Excipulum externum of parallel, rectangular, thin-walled, colourless cells up to 14 μm wide and 30 μm long, not dextrinoid, excipulum internum of cylindrical, septate, hyaline hyphae 3–8 μm wide. Asci 85–100 \times 9–12 μm , 8-spored, apex subtruncate, pore distinctly amyloid. Paraphyses 2.5–3 μm thick, hyaline. Ascospores 15–19 \times 4–4.5 μm biseriata, oblong-subfusiform, inequilateral, attenuated towards both ends, obtuse or almost pointed, minutely granulose at the ends. — The additional specimen, PRM 148046 (Bohemia centr., Kunice, od folia *Vaccinii myrtilli* 17. X. 1929, leg. Velen.) is the same species.

The information about the substrate [*Vaccinium myrtillus* only!] was missing in the protologue of *Helotium novum*. The species can hardly be separated from *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm., and I consider it for a synonym of this species.

Helotium nubilipes Boud.

Velen. 1934 : 194, tab. 20, fig. 34

Specimens examined PRM [all collected by Velen.]: Bohemia centr., Mnichovice, Zbuzany. *Achillea millefolium* X. 1927 [ut *Helotium achilleae* Velen. in herb. et manuscr.] [147235], ibidem, Hubáček, *Artemisia vulgaris*, X. 1927 [147234], ibidem, *Gentaura iacea* IX. 1928 [150153], ibidem *Achillea millefolium*, *Arctium* sp., etc. X. 1928 [147998], ibidem, *Arctium* sp. X. 1930 [147557], are not different from *Hymenoscyphus scutula* (Pers. ex Fr.) Phill., a white form of which represent. It was described also as *Helotium scutula* f. *album* (Le Gal) Dennis [Syn.: *Hel. ciliatosporum* (Fuckel) Boud. f. *album* Le Gal 1938] and Boudier's *Helotium nubilipes* does not differ, too.

Helotium nudum Velen. 1947 : 118

Holotypus PRM 148195: Bohemia centr., Mirošovice, ad radicem *Carpini betuli* 30. VI. 1941 leg. Velen.

One fragment of a thin root (of a frondose tree) with seven apothecia, pale yellowish, 0.2–0.5 mm diam., long stipitate, very thin, disc cupulate, the stipe usually longer than the diameter of the disc, the margin inrolled, the outer side smooth. Excipulum of rectangular, parallel hyaline, thin-walled cells up to 12 μm wide and 16 μm long, not dextrinoid, the marginal zone of cylindrical hyphae 3–4 μm wide, obtuse, not encrusted, hyaline. The stipe consisting of cylindrical hyphae 2.5–3.5 μm wide, strongly dextrinoid. Asci 45–50 \times 5–6 μm , cylindrical-clavate, short stipitate, apex rounded, not thickened, pore amyloid, 8-spored. Paraphyses 1–1.5 μm wide, equalling the asci, obtuse, minutely granulose, hyaline. Ascospores 7–8(–10) \times 3(–4) μm , cuneate, fusiform, inequilateral, usually more attenuated towards the base, eguttulate, smooth, uniseriate in the ascus.

This discomycete is closely related to *Helotium radicolium* Velen. and the only difference exists in the size of asci and ascospores as well as in the absence of dextrinoid hyphae on the outer side of the receptaculum (but the stipe is formed of such hyphae). Therefore I consider both species identical, and because *Helotium radicolium* Velen. is a younger homonym of *Helotium radicola* P. Henn., the name *Helotium nudum* Velen. should have the priority. Another very similar species described by Le Gal under the name *Cyathicula translucens* Le Gal [1938 : 145–147, fig. 8–9] seems to differ only by the presence of marginal teeth and somewhat larger ascospores, but the identity with it cannot be excluded. Carpenter (1981 : 263) found the holotype specimen of *Cyathicula translucens* „in a poor state of preservation“ and according to his opinion, it is either a *Hymenoscyphus* or a *Lanzia*, and until material of *C. translucens* is recollected, its taxonomic status will remain unknown.

= **Hymenoscyphus nudus** (Velen.) Svr. comb. nov.

Basionymum: *Helotium nudum* Velenovský, Novit. mycol. novis. p. 118, 1947

Helotium obliquum Velen. 1934 : 407

Holotypus PRM 147492: Bohemia centr., Mnichovice, Hubáček, ad rhizomata putrida *Lycopi europaei* in palude IV. 1934 leg. Velen.

Four fragments of a herb rhizome, with several few apothecia 0.3—1.4 mm diam., now dark red, shortly or longer stipitate, when rehydrated (in NH_4OH) bright red, disc flat, narrowly marginate, the outer side of the receptaculum glabrous or whitish downy. Excipulum pale pinkish, of globose, subglobose or broadly elliptical, hyaline, thin-walled cells 10—25 μm diam., here and there distinctly amyloid, (pale bluish in Melzer's reagent). Asci 75—80 \times 8—8.5 μm . Pore only very slightly amyloid, 8-spored. Paraphyses 2—2.5 μm wide. Ascospores 10—13 \times 3.5—4.5 μm , oblong ovoid, inequilateral with two polar guttules or minutely granulate at both ends, uniseriate in the ascus.

= *Phaeohelotium imberbe* (Bull. ex Fr.) Svr.

Helotium obtusum Velen. 1934 : 192, tab. 30, fig. 24

There are thirteen specimens at PRM of *H. obtusum* identified by Velenovský, and microscopically examined by me, with this result: 1. Three specimens, viz. 150249 (Bohemia centr., Mnichovice, ad caules *Centaureae scabiosae* et *Sanguisorbae minoris* [= *Poterii minoris*] in declivitate calido 23. IX. 1925 leg. Velen., ut *Helotium venceslat* Velen. in herb. et manuscr.), 147491 (ibidem, Stránčice, ad caulem *Verbasci lychnitis* in colle arido X. 1933 leg. Velen.) and 147758 (ibidem, Sct. Anna, ad caules *Lupini polyphylli* 10. XII. 1927 leg. Velen., ut *Helotium lupini* Velen. in herb. et manuscr.) are identical with *Allophylaria sublicoides* (Karst.) Nannf.

2. Two specimens, viz. 147252 (Bohemia centr., Jíloviště, ad ramum *Populi* sp. XI. 1926, leg. Velen., ut *Helotium angustatum* Velen. in herb. et manuscr.) and 148210 (ibidem, Mnichovice, ad ramum *Salicis capreae* in horto XI. 1926 leg. Velen., ut *H. angustatum*) represent *Hymenoscyphus parvius* (Karst.) Dennis.

3. The specimen 148906 (Bohemia centr., Radotín, in valle Radotínském údolí, ad rhizoma graminis (non *Galium mollugo* ut in scheda false designatum) 7. IX. 1924 leg. Velen., ut *Helotium aurantium* Velen. in herb. et manuscr.) is identical with *Hymenoscyphus graminium* (Phill.) Svr. = *Rutstroemia calopus* (Fr.) Rehm sensu auct.

4. The specimen 148219 (Bohemia centr., infra Ondřejov in palude silvatico ad rhizoma *Stellariae uliginosae* 20. VI. 1929 leg. Velen. ut *Helotium stellariae* Velen. in herb. et manuscr.) is *Lanzia stellariae* (Velen.) M. B. Spooner.

5. The specimen 148808 (Bohemia centr., Stránčice, ad ramulos *Ligustri vulgaris* et *Pruni spinosae* in colle calido 6. XI. 1931 leg. Velen.) is a *Hymenoscyphus* sp. The same fungus was described also as *H. obtusum* var. *genistae* Velen.

6. The specimen 149732 (Bohemia centr., Praha-Butovice, ad samaras *Acerum* sp. 24. X. 1925 leg. Velen., ut *Helotium samararum* Velen. in herb. et manuscr.) contains two different species: one on a fruit of *Acer* sp. represents a *Hymenoscyphus* sp., the second one on petioles of *Acer* sp. is *Hymenoscyphus friesii* (Weinm.) Sacc. (sensu Dennis).

7. The specimen 147231 (Bohemia centr., Solopisky, ad caules herbarum inter verri-menta sub dumetis in declivitate calido meridionali supra molam Solopiský mlyn 30. X. 1925 leg. Velen.) was selected by me as the lectotype of *Helotium obtusum* Velen.

8. Two specimens, viz. 148036 and 148132 contain no apothecia.

The lectotype PRM 147231 was the first collection labelled by Velenovský as *Helotium obtusum*, the essential features of which were also incorporated in the description and ecology of this species. According to Velenovský's original notes (in Czech), the apothecia of this gathering were 1 mm diam., regularly disciform, thick, but tender fleshy, pure white, unchangeable (in colour), not translucent. Asci 120—140 \times 10—12 μm , largely and obtusely clavate, paraphyses conspicuously thick (4—5 μm), septate, ascospores 12—16 μm long, irregularly cylindrical, thick and obtuse, some later distinctly 2-cellular. The fungus was collected on herb stems under shrubs of warm south slopes in the valley near Solopisky (Central Bohemia) 30. X. 1925. Now the apothecia are 0.4—0.8 mm diam., yellowish, long stipitate, on the outer side fibrillose. I found excipulum formed of thin-walled, hyaline cells up to 28 μm long and 15—18 μm wide, not dextrinoid, asci 100 \times 10—11 μm , 8-spored, short and thick stipitate, apex obtuse, thick-walled, pore slightly amyloid, paraphyses 2.5—3.5 μm wide, septate, ascospores 15—17 \times 4.5—5.5 μm , cylindrical, rounded at both ends or sometimes obtusely attenuated or rarely with a very small lateral point or subconstricted in the middle, often with a thin central septum, eguttulate or filled with minute granules, hyaline, partly 2-seriate in the ascus.

The species appears to be close to *Hymenoscyphus scutula* (Pers. ex Fr.) Phill., but having a different shape of the ascospores. At present, I consider it a distinct taxon.

= *Hymenoscyphus obtusus* [Velen.] Svr. comb. nov.

Basionymum: *Helotium obtusum* Velenovský, Mon. Disc. Boh. p. 192, 1934

***Helotium obtusum* var. *genistae* Velen. 1934 : 192**

Holotypus PRM 147561: Bohemia centr., Mnichovice, Hubáčkov, ad ramulos *Genistae germanicae* 5. X. 1931 leg. Velen. — Several apothecia 1–2 mm diam., stipitate, deep orange, similar to *Hymenoscyphus calyculus* but differing in ascospores 15–18 × 5–6 μm large, elliptical or elliptic-ovoid, rounded at both ends (not hooked), filled with minute guttules or granules. Asci 100–150 × 8–10 μm, cylindrical, shortly stipitate, 8-spored, apex largely rounded, thick-walled, pore strongly amyloid. Paraphyses 1.5–2 μm wide. Excipulum ectale formed of relatively narrow, cylindrical, thin-walled hyphae, the outer part covered with very abundant, irregularly flexuous and conspicuously curved to curly, shorter hyphae 1.5–3 μm wide, not dextrinoid. — The same fungus is preserved as PRM 148808 (as *H. obtusum* — see above). It is specifically different from the typical variety, but its taxonomic position remains uncertain.

***Helotium obtusum* var. *polypori* Velen. 1934 : 192**

Holotypus PRM 150245: Bohemia centr., Menčice, ad *Polyporum* sp. putridum in codice *Populi* sp. 19. X. 1928 leg. Velen. — Several stipitate apothecia on a small fragment of wood (certainly not on a polypore!). Microscopically, it does not differ from *Hymenoscyphus calyculus* [Sow. ex Fr.] Phill. [sensu Dennis 1956]: ascospores 18–20.5 × 4–4.5 μm, rounded and obtusely hooked above, tapering below, filled with small polar guttules, excipular cells thin-walled, hyaline, rectangular.

***Helotium octobrinum* Velen. 1947 : 122**

Holotypus PRM 148026: Bohemia centr., Mnichovice, ad caules *Helianthemum vulgare* in colle arido occidentali 13. X. 1940 leg. Velen. — Three thin herb stems with about ten apothecia, scattered, short and thin stipitate up to almost sessile, dark orange or brownish-orange, disc flat, narrowly marginate, often flexuous. Excipulum at the flanks and margin of the receptaculum formed of narrow, long hyphae, the basal cells subisodiametric, up to 15 μm diam., thin-walled, hyaline. Asci 50 × 4–5 μm, pore amyloid. Paraphyses not seen. Ascospores 5–7 (–10) × 1–1.5 μm, straight or slightly curved.

= *Hymenoscyphus euphorbiae* [Velen.] Svr.

***Helotium paludosum* Velen. 1934 : 193**

The original description is based on two collections both preserved at PRM:

PRM 148752: Bohemia septentr., montes Krkonoše, Labský důl, in cavitate caulis *Mulgedii alpini* (= *Cicerbitae alpinae*) IX. 1923 leg. Alb. Pilát, det. Velen. (ut *Helotium parvulum* Velen. in herb. et manuscr.).

About twenty apothecia 0.1–0.2 mm diam., cyathiform, pale honey-yellow, smooth, rather cartilaginous, disc narrowly marginate, partly inrolled, or immarginate and flat, gregarious. When fresh, apothecia were 0.2–0.4 mm diam., white, disciform, almost pellucide, stipe equalling the diameter of the disc. Excipulum of a typical texture oblita composed of parallel, hyaline, thick-walled (up to 2.5 μm) hyphae 2.5–5 μm wide, individual cells long, shorter towards the base of the receptaculum, with relatively tura oblita composed of parallel, hyaline, thick-walled (up to 2.5 μm) hyphae 2.5–5 μm-walled, pore inamyloid, 8-spored. Paraphyses 1.5–2 μm wide, equalling the asci, hyaline. Ascospores 18–20 × 3.5–4 μm narrowly cylindrical, attenuated towards both ends, inequilateral, subcurved, eguttulate, hyaline. Margin of the excipulum entire. — I have selected this collection as the lectotype specimen of *Helotium paludosum* because its protologue is for the major part in agreement with it.

The second collection PRM 149654: Bohemia centr., Černínovsko („Černínosk“) prope Neratovice, ad caules herbarum atque radices in paludibus 4. VIII. 1924 leg. Velen., contains five very long stipitate apothecia 0.2–0.5 mm diam., pale orange yellow, stipe 2–3 mm long, concolorous, thin, growing from two fragments of a herb stem. When fresh, apothecia were (according to the Velenovský's notes in Czech) 0.4–0.8 mm diam., white, almost glassy, smooth, disc shallowly concave, stipe 2–3 x longer than the diameter of the disc. I have found the excipulum formed of long-celled, thin-walled, hyaline hyphae 4–7 μm wide (in the basal part up to 14 μm wide) and the cells up to 30 μm long, with many crystals, asci 100 × 8–9 μm, 8-spored, pore very slightly amyloid, paraphyses 2 μm, filled with granulose content, ascospores

17—19×2—3 μm , narrowly fusiform, inequilateral, eguttulate, sometimes subcurved, some with a central pseudoseptum. — Microscopically, this fungus does not differ from *Hymenoscyphus vitellinus* (Rehm) O. Kuntze, and represents most probably a white form of it.

I consider the lectotype specimen of *Helotium paludosum* for an *Allophylaria*, somewhat similar to *Conchaticum airae* (Velen.) Svr., differing mainly by size of ascospores, occurrence on grasses, as well as the morphology of the apothecia. The species is also not described in the CARPENTER'S monograph (1981).

= *Allophylaria paludosa* (Velen.) Svr., comb. nov.

Basionymum: *Helotium paludosum* Velenovský, Mon. Disc. Boh. p. 193, 1934

Helotium pani Velen. 1934: 186

Lectotypus PRM 150154: Bohemia centr., Mnichovice, in horto ad ramum defectum *Populi* sp. X. 1928 leg. Velen.

One fragment of *Populus* sp. twig with about ten apothecia growing on wood, under the loose bark, 1.5—6 mm diam., shortly stipitate, rather thick, disc slightly concave or flat, dark reddish-brown, the outer surface wrinkled, greyish-yellow, smooth, stipe 0.5—0.8 mm thick, dark below, the margin flexuous. Excipulum of angular-subglobose, thin-walled, hyaline cells 7—16 μm diam. or 23×16 μm , only in the basal part of the receptaculum slightly thick-walled (up to 1.5 μm), slightly dextrinoid. Excipulum internum of cylindrical, long, hyaline, thin-walled, septate hyphae 3—5 μm wide. Asci 95—100×6—7 μm , subcylindrical, gradually attenuated below, apex rounded, thin-walled, pore inamyloid, 8-spored. Paraphyses not abundant, 2 μm wide, above up to 4 μm enlarged, obtuse, hyaline. Ascospores 8—12×3—3.5 μm , cylindrical or more attenuated towards one end, rounded or obtuse at both ends, filled with minute polar granules, sometimes with a central pseudoseptum.

These additional specimens represent also the same discomycete: PRM 824901 (Bohemia centr., Solopisky, ad ramulos *Aceris* sp. and *Corni maris* 1. XII. 1926 leg. Velen.), 824909 [Praha-Chuchle, sylvia Chuchelský háj, in codice *Quercus* XI. 1924 leg. B. Klika, det. Velen., ut *Chrophila conglobata* Velen. in herb. et manuscr.], 147404 [Mnichovice, in horto ad lignum frondosum IX. 1924 leg. Velen., ut *Helotium hortulanum* Velen. in herb. et manuscr.].

Some other specimens preserved at PRM under this name do not belong to this species, viz. 150236 [Mnichovice, in palude infra Zítův mlýn ad ramulum frondosum IX. 1939, leg. et det. Velen. [= *Hymenoscyphus calyculus* (Sow. ex Fr.) Phill.] sensu Dennis 1956], 147480 [Hrusice, *Carpinus betulus* 20. X. 1941 leg. Velen.] and 148806 [Moravia australis, Žarošice, VIII. 1940 leg. V. Vacek, det. Velen.] are identical with *Bisporrella citrina* (Hedw. ex Fr.) Korf et Carpenter.

The excipular structure of *Helotium pani* does not differ from that of *Phaeohelotium* to which genus this species should be transferred. The predominantly subglobose or irregularly angular, isodiametric cells mostly 8—15 μm diam., but also up to 25 μm across form a superficial layer of the excipulum, and are elongated only towards the margin where are 6—15 μm long and 3—7 μm wide. In the specimens 824909 and 147404 I found asci 75—95×6—7 μm , the pore always inamyloid, and ascospores 8—11×3—4(—4.5) μm , often with a thin central septum, colourless.

= *Phaeohelotium pani* (Velen.) Svr. comb. nov.

Basionymum: *Helotium pani* Velenovský, Mon. Disc. Boh. p. 186, 1934

Helotium pani var. **rosarum** Velen. 1934: 186

No authentic material found at PRM.

Helotium peruni Velen. 1934: 407

Holotypus PRM 147443: Bohemia centr., Mnichovice, collis Kožený vrch prope Třemblaty, ad ramulum *Quercus* in palude silvatico 28. V. 1934 leg. Velen.

One decorticated frondose twig with five [break off] apothecia, stipitate, disc orange-yellow. Excipulum of parallel, long-celled, hyaline, thin-walled hyphae (walls up to 1.5 μm thick), cells up to 20 μm long and 14 μm large, elongated, angular. Asci 85×6—7 μm . Paraphyses 1.5—2 μm thin, not enlarged above. Ascospores 8—12×3—3.5 μm , narrowly ovoid-fusiform, more attenuated towards one end, minutely biguttulate or with several granules.

This species has some resemblance to *Hymenoscyphus repandus* (Phill.) Dennis, from which differs by larger asci and another shape of ascospores. For the time being the taxonomic status of *H. peruni* will remain uncertain.

Helotium pezizoides Velen. 1934 : 198

Holotypus PRM 147447: Bohemia centr., Myšlín prope Mnichovice, in colle arido ad folia sicca *Nardi strictae* X. 1933 leg. Velen.

Four apothecia 0.4–0.7 mm diam., broadly sessile or short stipitate, pale orange, disc flat, immarginate, the outer surface smooth. Excipulum of parallel, hyaline, slightly thick-walled [1–1.5 μm] cylindrical septate hyphae 2.5–4 μm , enlarged towards the base (up to 7 μm), not dextrinoid, the marginal zone of narrowly cylindrical hyphae 1.5–2 μm wide, the margin entire. Asci 45–50 \times 4–5 μm , pore distinctly amyloid, 8-spored. Paraphyses abundant, 2–2.5 μm , obtuse, hyaline. Ascospores 6–7 \times 1–1.5 μm , narrowly subcylindrical, usually subcurved, eguttulate.

I am inclined to consider this species identical with *Hymenoscyphus eburneus* (Rob. in Desm.) Phill., the only difference lies in the larger apothecia and asci in *H. pezizoides*.

Helotium phiala (Vahl ex Pers.) Fr.

Velen. 1922 : 850; 1934 : 187, tab. 19, fig. 18

The only specimen assigned to *Helotium phiala* in Velenovský's collection, PRM 824890 (Bohemia centr., Mnichovice, in valle infra collem Kožený vrch, ad ramulum *Alni glutinosae* IX. 1921), consisting of three long-stipitate, cupulate apothecia, is, according to my examination, typical *Hymenoscyphus calyculus* (Sow. ex Fr.) Phill. = *H. virgultorum* (Vahl ex Pers.) Phill.

Helotium phyllophilum (Desm.) Fr.

Velen. 1934 : 205

There are six specimens in collection of Velenovský preserved at PRM no one of which agreeing with the concept of Desmazière's species as newly redescribed by DENNIS (1956 : 95) and ARENDHOLZ (1979 : 75–78, as *Hymenoscyphus phyllophilum* (Desm.) O. Kuntze). The species was erroneously interpreted in past by Karsten and Rehm, and thus wrongly identified. For instance Rehm's (1896) description of *H. phyllophilum* is a mixture of *Helotium phyllogenon* Rehm and *H. caudatum* (Karst.) Karst. Specimens identified by Karsten as *H. phyllophilum* are, according to Arendholz (1979), altogether *Hymenoscyphus caudatus* (Karst.) Dennis. Of six Velenovský's collections, only three are on leaves of *Populus tremula*, one on *Populus* sp., one on *Juglans regia* and one on *Alnus* sp. (but this identification is somewhat uncertain, perhaps it is *Acer* sp.). Of the collections on *Populus tremula* only one, PRM 147583 (Bohemia centr., Mnichovice IX. 1925 leg. Velen.) contains few pale yellow or dark orange coloured, stipitate apothecia. Ascospores 20–22 \times 4–4.5 μm do not differ in shape and size from those of *Hymenoscyphus caudatus* (Karst.) Dennis. Of the other collections only PRM 148991 (Bohemia centr., Slivenec, ad nervos foliorum ? *Alni* sp. X. 1922 leg. Velen.) contains very small, stipitate, yellow apothecia with the excipulum of typical textura oblita. Asci 65–85 \times 8–9 μm , ascospores 12–15 \times 4–4.5 μm , sublunate, eguttulate. It is an *Allophylaria* sp.

Helotium pileatum Velen. 1922 : 850

[non *Helotium pileatum* (Karst.) Karst. 1871, *Peziza pileata* Karst. 1869, nec *Hel. pileatum* Peck 1876]

Holotypus PRM 824894: Bohemia centr., Hrusice, ad lignum putridum IX. 1921 leg. Velen.

One long-stipitate apothecium, disc 4 mm diam., convex, stipe slender, 9 mm long, all dark blackish-brown. Excipulum of large-celled thin-walled textura subglobulosa, asci 90 \times 7–8 μm , pore very slightly amyloid, ascospores 7–11 \times 2.5–4 μm , oblong-subcylindrical, somewhat inequilateral, rather variable, eguttulate or minutely granulate at both ends.

= *Hymenoscyphus vernus* (Boud.) Dennis

The second specimen PRM 147999 (Bohemia centr., Struhařov prope Mnichovice, ad ramulos *Carpini betuli* VII.–VIII. 1922 leg. Velen., containing several long-stipitate apothecia with disc 1.2–3 mm diam., flat, brown or yellowish-brown, the outer side pale yellowish, minutely whitish-downy or very shortly hairy, is typical *Dasyscyphus pygmaeus* (Fr.) Sacc. — In 1934, Velenovský synonymized *Helotium pileatum* with *Lachnum grande* Velen. (which is also identical with *Dasyscyphus pygmaeus*) what is not correct, as the holotype specimen PRM 824894 on which the protologue is undoubtedly based, represents another fungus, viz. *Hymenoscyphus vernus* (Boud.) Dennis.

Helotium pileatum (Karst.) Karst.

Velen. 1934 : 200

Both specimens, PRM 150036 (Bohemia centr., Stránčice, Sct. Anna, ad folia putrida *Deschampsiae cespitosae* in graminosis udis silvaticis 14. VII. 1924 leg. Velen. ut *Helotium pellucidum* Velen. in herb. et manuscr.) and 147757 (ibidem, Ondřejov, ad culmos *Deschampsiae cespitosae* in palude IX. 1927 leg. Velen., ut *H. pellucidum*) represent typical *Conchatium airae* (Velen.) Svr. (1979), with the excipulum of textura oblita and ascospores 17–20×4–4.5 μm, fusiform, straight or subulate, filled with granulose content. The third specimen, PRM 148059 (Bohemia centr., Mnichovice, Hubáček, ad gramina XI. 1927, leg. Velen.) contains no apothecia.

The Karsten's species is a different one, considered either a *Hymenoscyphus* [*H. pileatus* (Karst.) O. Kuntze] or an *Ombrophila* [*O. pileata* (Karst.) Karst.].

Helotium piscinum Velen. 1934 : 203

Holotypus PRM 812393: Bohemia centr., Jevany, ad piscinam, *Typha angustifolia* IX. 1933 leg. Velen.

Several fragments of *Typha* stems without apothecia. The original description suggests *Hymenoscyphus robustior* (Karst.) Dennis, but the possible identity with *Hymenoscyphus scutula* (Pers. ex Fr.) Phill. cannot be excluded. The taxonomic status of this species remains unknown.

Helotium politum Phill.

Velen. 1934 : 189, tab. 31, fig. 32

The Velenovský's description of this discomycete is based on three specimens: PRM 147218 (Bohemia centr., Mnichovice, ad caulem *Verbasci phlomidis* 24. X. 1927 leg. Velen., ut *Helotium verbasci* Velen. in herb. et manuscr.). This collection contains immature apothecia of some *Hymenoscyphus*, and scattered apothecia of *Mollisiella chlorinella* (Ces.) Svr. — PRM 148178 (ibidem, *Verbascum lychnitis*, 13. X. 1928 leg. Velen. ut *H. verbasci*), contains also immature apothecia. — PRM 148137 (ibidem, Menčice, ad sarmenta *Rubi fruticosi* X. 1928 leg. Velen. ut *Helotium rubicolum* Velen. in herb. et manuscr.) contains some immature apothecia of a *Hymenoscyphus*.

Three additional specimens are quite different: PRM 148247 (ibidem, loco Potočiny, ad caules *Galii molluginis* XI. 1929 ut *Helotium durum* Velen. in herb. et manuscr.). This is *Hymenoscyphus euphorbiae* (Velen.) Svr. — PRM 614740 (ibidem, *Galium mollugo* VIII. 1926 leg. Velen. ut *H. durum*). Several mature, but unidentified apothecia. — PRM 148931 (Bohemia septentr., montes Krkonoše, Labská louka, ad folium *Rumicis* sp. VIII. 1927 leg. K. Cejp, det. Velen. ut *Helotium corconticum* Velen. in herb. et manuscr.) with a few immature apothecia probably of a *Hymenoscyphus*.

Helotium politum Phillips (1887:155) is a dubious species collected only once in Britain (on plant roots) and recorded neither by DENNIS (1956) nor in M. C. CLARK's works (1980a, b).

Helotium polytrichi (Velen.) Velen. 1934 : 406

Syn.: *Helotium hylacomii* var. *polytrichi* Velen. 1934 : 209

Lectotypus PRM 149502: Bohemia centr., Jirny, sylva Vidrholec, ad folia *Polytrichi communis* 30. V. 1925 leg. Velen.

Apothecia [when rehydrated] 150 μm diam., dried white or yellowish, short stipitate, smooth. Excipulum of oblong, subparallel cells 3–10 μm long and 1.5–4 μm wide, elongated towards the base (up to 15×4 μm), very thin-walled, hyaline, not dextrinoid. Asci 28–35×4–5 μm, clavate, the stipe enlarged below, apex rounded, thin-walled, pore strongly amyloid, 8-spored. Paraphyses not seen. Ascospores 5–6×1.5–2 μm, oblong, inequilateral, eguttulate.

The additional specimens agreeing with the lectotype [all collected by Velen.]; PRM 149172 (Bohemia centr., Všetaty, *Fontinalis* sp. 8 VII. 1925), 148891 (ibidem, Louňovice, *Polytrichum commune* 11. VII. 1927), 148844 (ibidem, Jevany, *Polytrichum commune* V. 1934), 147499 (ibidem, Mnichovice V. 1934).

= *Hymenoscyphus polytrichi* (Velen.) Svr., comb. nov.

Basionym: *Helotium polytrichi* Velenovský, Mon. Disc. Boh. p. 406, 1934

Helotium populneum Velen. 1947 : 121

Holotypus PRM 148083: Bohemia centr., Mnichovice, loco Jidášky, ad folia *Populi laurifoliae* 4. X. 1941 leg. Velen.

Several scattered apothecia on veins of strongly rotten leaves, 0.2–0.3 mm diam.,

light yellow, short stipitate. Excipulum of parallel, long-celled thin-walled hyaline hyphae, individual cells 8–20 μm long and 6–10 μm wide, not dextrinoid. Asci 50–60 \times 5–7 μm , clavate, shortly attenuated below, apex rounded, pore distinctly amyloid, 8-spored. Paraphyses 1.5–2 μm wide, septate, hyaline, obtuse. Ascospores 7–9.5 \times 2–2.5 μm , oblong, inequilateral, obtuse at both ends, eguttulate, partly 2-seriate in the ascus.

The holotype specimen agrees well with protologue. This foliicolous discomycete is conspicuous by its small ascospores and appears to be closely related to *Hymenoscyphus phyllogenus* [Rehm] O. Kuntze occurring also on poplar leaves, distinguished by larger ascospores (11–15 \times 3.5–4.5 μm) and asci (60–85 \times 8–10 μm).

At present, I consider *H. populneum* a distinct species.

= *Hymenoscyphus populneus* [Velen.] Svr., comb. nov.

Basionymum: *Helotium populneum* Velenovský, Novit. mycol. novis. p. 121, 1947

Helotium praecox Velen. 1934 : 187

Holotypus PRM 147575: Bohemia centr., Mnichovice, collis Kožený vrch, ad ramulum *Carpini betuli* in palude silvatico V. 1931 leg. Velen.

The unique apothecium free lying in the packet, without the stipe, 1.5 mm diam., blackish-brown, disc flat. Excipulum and hymenium strongly destroyed, in NH_4OH brownish, slightly dextrinoid. Ascospores 8.5–11.5 \times 3–3.5 μm , cylindrical or oblong, eguttulate, hyaline.

The second specimen PRM 147591: Bohemia centr., Mnichovice, loco Chlum, in fossa ad terram 17. VII. 1931 leg. Velen. (ut *Helotium praecox* var. *jossarum* Velen. in herb.) is the same fungus with asci 75 \times 7–8 μm , and inamyloid pore. Apothecium 1.5 mm diam., stipe 7 mm long, blackish-brown.

= *Hymenoscyphus vernus* [Boud.] Dennis

Helotium procerum Karst.

Velen. 1934 : 209, tab. 19, 34, 35

The discomycete described by Velenovský under the name *Helotium procerum* is quite different from the Karsten's species [Dennis 1956 : 112–113, fig. 108] and was named by me *Hymenoscyphus rhytidialphi* Svr. [1978].

All other specimens at PRM collected by Velenovský and examined by me, agree also with it. These are [all records from Central Bohemia]: PRM 149715: Praha-Butovice, *Hypnum* sp., in colle arido diabasco 24. X. 1925 (ut *Helotium bryogenum* Velen. in herb. et manuscr.). — 150132: Mirošovice, *Hypnum cupressiforme* 28. VI. 1925 (ut *Hel. bryophilum* Velen. in herb. et manuscr.). — 148015: Mnichovice, Hubáčkov et Hrusice, *Entodon schreberi*, *Hypnum cuspidatum* VIII. 1930 (ut *H. bryophilum*). — 147564: ibidem, in colle Plecháč, *Hylocomium splendens*, *Entodon schreberi* 29. VIII. 1930 (ut *H. bryophilum*). — 148145: ibidem, loco Brožek, *Entodon schreberi* VIII. 1934. — 148042: Hrusice, *Entodon schreberi* VIII. 1927 (ut *Helotium excavatum* Velen. in herb. et manuscr.). — 148050: Kunice, *Entodon schreberi* VIII. 1933. — 149831: Stránčice, Sct. Anna, *Hylocomium squarrosum* 18. V. 1926 (ut *H. excavatum*). — 148216: Hůra prope Tehov, *Hylocomium squarrosum* 13. V. 1927 (ut *H. excavatum*). — 148170: Tehov, 3. VII. 1940. — 148215: Ondřejov, *Hylocomium squarrosum* 19. V. 1927 (ut *H. excavatum*). — 148888: Stará Lysá, *Entodon schreberi*, in pinetis 2. VI. 1927 (ut *H. bryophilum*).

Helotium pruni Velen. 1922 : 851; 1934 : 185, tab. 20, fig. 13

At PRM, there are preserved numerous specimens, the majority of which is identical with *Hymenoscyphus vernus* [Boud.] Dennis (1964 : 78; 1978 : 135; 1956 : 73 — as *Helotium vernale* Dennis). In our country, it is a common discomycete occurring on rotten wood and branches lying on wet places and appearing most frequently in spring. A part of collections labelled by Velenovský as *H. pruni* is *Helotium imberbe* [Bull. ex Fr.] Fr. = *Phaeohelotium imberbe* [Bull. ex Fr.] Svr., a somewhat similar species for which this fungus may often be mistaken. Also *Cudoniella clavus* [Alb. et Schw. ex Fr.] Dennis, not dissimilar discomycete occurring also in swamps during spring, must be accurately separated. *Helotium pruni* will be fully discussed in a separate paper.

Helotium pruni var. *roburis* Velen. 1934 : 185

This variety does not differ from the typical form of *Helotium pruni* and is also identical with *Hymenoscyphus vernus* [Boud.] Dennis.

Helotium putaminum Velen. 1934 : 204

Holotypus PRM 147232: Bohemia centr., Myšlín prope Mnichovice, in putaminibus *Crataegi* sp. IX. 1924 leg. Velen.

One half of a fruit (? *Crataegus*) with about ten apothecia 0.5–0.7 mm diam., stipitate, the stipe somewhat shorter than the diameter of the disc, which is now deep orange, the margin entire, partly inrolled, the outer surface smooth, pale orange or yellowish, the stipe concolorous, at the base white tomentose. The substratum is not stromatized. Excipulum of cylindrical parallel somewhat thick-walled (1–1.5 μm) septate hyphae 3–5 μm wide, hyaline, reaching up to the base of the receptaculum (no isodiametric cells are present). Asci 40–50 \times 3.5–4 μm , 8-spored, shortly stipitate, subcylindrical, apex rounded, pore strongly amyloid. Paraphyses 1.5 μm wide, obtuse, hyaline. Ascospores 4–6(–7) \times (0.5)–0.8–1 μm , very narrowly cylindrical, straight or subcurved, eguttulate.

The species is rather similar to *Hymenoscyphus euphorbiae* (Velen.) Svr. which has different structure of excipulum and broader ascospores. At this time I consider *Helotium putaminum* a distinct species.

= *Hymenoscyphus putaminum* (Velen.) Svr., comb. nov.

Basionymum: *Helotium putaminum* Velenovský, Mon. Disc. Boh. p. 204, 1934

Helotium quercinum Velen. 1922 : 848

Holotypus PRM (sine No.): Bohemia centr., Běchovice (= Jirny), sylva Vidrholec, ad ramulos *Quercus* X. 1919 leg. Velen.

Two oak twigs with three apothecia. Asci 140 \times 10–12 μm , 8-spored, pore strongly amyloid, the apex thick-walled. Ascospores 13–14 \times 4.5–5 μm , 1–2-seriate, narrowly elliptical, bearing at both ends minute globose secondary spores (2.5–3 μm diam., sometimes on thin stalk).

In 1934, Velenovský synonymized its species with *Rutstroemia firma*, and this opinion I confirm as correct. The record, considering the date in the protologue, is not „July“ but October, as was labelled in the type specimen.

= *Rutstroemia firma* (Pers. ex Fr.) Karst.

Helotium radicum Velen. 1934 : 186, tab. 28, fig. 17–19

Lectotypus PRM 148223: Kunice, Bohemia centr., in radicibus tenuibus emortuis *Populi tremulae* [musco alto *Hylocomium splendens* tectis] 30. V. 1929 leg. Velen.

About ten apothecia 0.2–0.5 mm diam., thin and long-stipitate, sometimes flexuous or arcuate, up to 1.5 mm long, all pale yellowish, disc concave, the margin inrolled. Apothecia are very thin and smooth, stipe when rehydrated 80–100 μm thick. Excipulum of parallel, thin-walled, hyaline, long-celled (2–7 μm wide and up to 12 μm long) hyphae, scarcely covered with outermost hyphae 2–3 μm wide, long cylindrical, septate, with densely granular, strongly dextrinoid (reddish-yellow in Melzer's reagent) contents. The marginal zone consisting of cylindrical or slightly clavate, septate thin-walled hyaline hyphae 2–3 μm wide. Asci 25–30 \times 3–4 μm , 8-spored, pore distinctly amyloid. Paraphyses 1–1.5(–2) μm , narrowly cylindrical, obtuse, sometimes slightly enlarged above, without granular content, equalling the asci or exceeding them by as 2–4 μm only. Ascospores 5–7 \times 1.8–2.5 μm , ovoid, elliptical or subfusiform, eguttulate, smooth, 1-seriate or irregularly 2-seriate in the ascus.

Additional specimens examined (all collected by Velen.): PRM 149829 (Bohemia centr., Bilichov, in ramulis tenuibus arborum frondosarum in palude, 23. VII. 1925); 147593 (ibidem, Menčice, in ramulis tenuibus arborum in fauce sylvatica VI. 1931); 147517 (ibidem, Mnichovice, Božkov, ad ramulum tenuem 5. III. 1934).

The specimen 149492 (Mnichovice VII. 1923, ut *Helotium radicola* Velen.) is a quite different fungus, probably *Dasyscyphus pygmaeus* (Fr.) Sacc.

This is a very characteristic species, both morphologically as well as ecologically. It is also sufficiently different from the somewhat similar *Hymenoscyphus myrtilli* (Velen.) Svr., occurring on small roots of *Vaccinium*.

The correct name for it is, however, *Helotium nudum* Velen., because *H. radicum* Velen. 1934 is a younger homonym of *Helotium radicola* P. Henn. 1902.

= *Hymenoscyphus nudus* (Velen.) Svr. (see also notes under this species)

Helotium ranarum Velen. 1934 : 199

Holotypus PRM 149329: Bohemia centr., Mnichovice, ad basim culmi *Phragmitis communis* VI. 1928 leg. Velen.

Ten apothecia in good condition and richly mature. Apothecia 1–1.5 mm diam., cupulate, shortly stipitate, pale rose-coloured, disc concave, stipe white-tomentose below. Excipulum of isodiametric cells, mostly angular or angular-globose, 8–22 μm diam., hya-

line, thin-walled, elongated and rectangular towards the margin, the marginal zone of cylindrical hyphae $10-30 \times 2-5 \mu\text{m}$, smooth. Some cells of the excipulum externum freely protruding in the short, hair-like obtuse hyphae up to $25 \times 2-4 \mu\text{m}$ large. Excipulum internum of long, septate, interwoven hyphae $3-5 \mu\text{m}$ wide. Hymenium light reddish-brown (in NH_4OH). Asci $75-95 \times 9-12 \mu\text{m}$, cylindrical, shortly stipitate, apex largely rounded, thick-walled ($-2 \mu\text{m}$), not amyloid, 8-spored. Paraphyses not branched, $2.5-3 \mu\text{m}$ thick, hyaline. Ascospores $10-16 \times 4-5.5 \mu\text{m}$, very variable in shape and size, ovoid, oblong, elliptical-fusiform or fusiform, more attenuated towards one end, very thin-walled, usually filled with minutes granules or guttules near both ends, hyaline, partly 2-seriate in the ascus. Subhymenium of thin, distinctly branched, septate, hyaline hyphae $1.5-2.5 \mu\text{m}$ wide.

I am not able to identify this distinctive species with some known discomycete.

= *Hymenoscyphus ranarum* (Velen.) Svr., comb. nov.

Basionymum: *Helotium ranarum* Velenovský, Mon. Discom. Boh. p. 199, 1934

Helotium rehbergense Velen. 1934: 188

Lectotypus PRM 148896: Bohemia occident., montes Šumava, Srní (= Rehberg olim), ad rivum Vydra, in ligno betulino VIII. 1928 leg. K. Cejp, det. Velen.

Three fragments of bare wood with ca twenty apothecia $0.5-1 \text{ mm}$ diam., brownish-coloured, shortly stalked, disc flat, marginate. The wood is very probably willow (*Salix* sp.) ! Asci $100-110 \times 9-13 \mu\text{m}$, 8-spored, pore distinctly amyloid, paraphyses $1.5-2 \mu\text{m}$ thin, ascospores $22-26 \times 5-6.5 \mu\text{m}$, largely fusiform, with 4 large guttules or filled with densely granular contents, 2-seriate.

This is typical *Hymenoscyphus salicellus* [Fr.] Dennis. Also two additional specimens. PRM 148886 (Bohemia centr., Vyžlovka prope Jevany, in caudice frondoso 12. VII. 1929 leg. Velen., ut *Helotium piscinum* Velen in herb. et manuscr.; the substrate is very probably *Salix* sp.), and 148901 (ibidem, ad ramulos *Betulae* 8. VIII. 1941, leg. Velen.; the substrate is *Salix* sp., too) belong to the same species, *H. salicellus*.

Helotium rehbergense var. *pulchellum* Velen. 1934: 188

I have found no authentic material at PRM. The identity of this variety with *H. salicellus* seems to be probable.

Helotium repandum Phill.

Velen. 1934: 191 et 407, tab. 20, fig. 47 et 48

At PRM, there are preserved altogether 17 specimens labelled as *H. repandum* by Velenovský, the majority of them agreeing with the common interpretation of this herbicolous discomycete (e. g. DENNIS 1956: 98, 1978: 136). I recognize it by the bright yellow disc, narrowly subcylindrical ascospores $7.5-12 \times 2-2.5 (-3) \mu\text{m}$, asci $60-70 \times 5-6 \mu\text{m}$, gradually attenuated below, with pore very slightly amyloid, and excipulum consisting of thin-walled, not dextrinoid, angular hyaline cells arranged in rows and more elongated towards the margin. For example: PRM 148492 (Bohemia centr., Praha, Šárka, *Geranium robertianum* 11. VI. 1925 leg. Velen., ut *Helotium robertianum* Velen. in herb. et manuscr.), and 149484 (ibidem, Stránčice, Sct. Anna, ad caulem herbae, for-tasse *Chaerophyllum* sp. 21. VII. 1923 leg. Velen.).

Helotium repandum var. *rumicis* Velen. 1934: 191

Lectotypus PRM 148523: Bohemia centr., Stránčice, ad caules *Rumicis crispis* X. 1927 leg. Velen.

Several tens of apothecia, $1-1.5 \text{ mm}$ diam., long-stipitate, disc flat, yellow, the outer side yellow, stipe white (in NH_4OH hyaline), $1.5-2 \text{ mm}$ long, smooth. Excipulum similar to the typical variety of *H. repandum*, the cells up to $9 \mu\text{m}$ large, the marginal zone of narrowly cylindrical, up to $50 \times 1.5-4 \mu\text{m}$ hyphae filled with granular contents, rust-brownish in Melzer's reagent. The stipe composed of long-celled parallel thin-walled colourless hyphae, $3-7 \mu\text{m}$ wide, not dextrinoid. Asci $80-95 \times 7-8 \mu\text{m}$, 8-spored, apex thick-walled, pore very slightly amyloid. Paraphyses $1.5-2 \mu\text{m}$, not enlarged above, hyaline. Ascospores $14-21.5 \times 3-4 \mu\text{m}$, narrowly fusiform or oblong-fusiform, rounded at both ends, inequilateral, usually straight, filled with minutely granular content, eguttulate in Melzer's reagent and sometimes with a thin pseudoseptum, mostly 2-seriate in the ascus. There are numerous irregular lumps or crystals in the excipulum (when observed in NH_4OH).

At PRM, there are preserved additional 29 specimens of this variety, collected and determined by Velenovský, on stems of various herbs. Some problems remain in the

naming of this commonly occurring herbicolous discomycete, distinguished from the typical variety of *H. repandum* mainly by the conspicuously longer ascospores. I am inclined to consider it a synonym of *Hymenoscyphus vitellinus* (Rehm) O. Kuntze, a species compared by DENNIS [1956, 1978] with *Hymenoscyphus scutula* [Pers. ex. Fr.] Phill., a quite different fungus. *Helotium repandum* var. *rumicis* Velen. [or *Hymenoscyphus vitellinus* in my sense] cannot be in any case included in the synonymy of *H. scutula*. It can be easily recognized in the field due to its bright [yolk] yellow disc contrasting with the pure white stipe. It is growing on dead stems of various herbs, usually in damp places [along rivulets, brooks, in swamps], and its apothecia appear already in May, contrary to *H. scutula* which is fructifying mostly in autumn.

Helotium rhizomorphae Velen. 1934 : 209, tab. 19, fig. 4 et 5

Holotypus PRM 149595: Bohemia centr., Slivenec, ad fila rhizomorphae *Armillariae melleae* in truncis putridis VI. 1925 leg. Velen.

Five apothecia only, 0.2 mm diam., long-stipitate (0.2–0.8 mm), pure white, disc flat. Excipulum of textura angularis, consisting of isodiametric, angular, thin-walled, hyaline cells 4–6 μm diam., arranged in rows, not dextrinoid, the margin entire, formed of similar or shortly clavate cells 8–18 \times 3–5 μm . The stipe of long-celled (8–12 \times 3–6 μm) hyaline, thin-walled parallel hyphae. The outer surface of the receptaculum and the stipe covered with numerous sharply angular crystals up to 15 μm large. Asci 18–22 \times 3–3.5 μm , firmly connected, oblong-clavate, shortly and thickly attenuated below, the base truncate or emarginate, apex rounded, pore distinctly amyloid, thin-walled, 8-spored. No paraphyses found. Ascospores 4–4.5(–6) \times 1.3–1.5(–2) μm , oblong-ovoid, inequilateral, more attenuated towards one end, eguttulate, smooth.

This species seems to be closely related with *Helotium radicolium* Velen. = *Hymenoscyphus nudus* (Velen.) Svr., which differs in somewhat larger asci and ascospores as well as structure of excipulum.

= **Hymenoscyphus rhizomorphae** (Velen.) Svr., comb. nov.

Basionymum: *Helotium rhizomorphae* Velenovský, Mon. Disc. Boh. p. 209, 1934

Helotium rhodoleucum (Fr. ex Pers.) Fr.

Velen. 1934 : 208, tab. 21, fig. 31

The specimen PRM 148941 containing the material to the only locality cited by Velenovský (Bohemia centr., Slivenec, ad *Equisetum* sp. in fauce silvatica V. 1923) provides now no apothecia, which were destroyed by insects. However, there is no doubt about the rightness of identification of this characteristic species confined to dead stems of *Equisetum* sp. in swampy places. In the time being, *Hymenoscyphus rhodoleucus* is known from much more localities in Bohemia.

= *Hymenoscyphus rhodoleucus* (Fr. ex Pers.) Phill.

Helotium robiniae Velen. 1934 : 188, tab. 20, fig. 29

Lectotypus PRM 147256: Bohemia centr., Praha-Modřany, in fauce sylvatica Modřanská rokla, in codice *Robiniae pseudacaciae* 8. XI. 1925 leg. Velen.

Several fragments of frondose wood with some tens of apothecia, 1–3 mm diam., shortly stipitate, dark red-brown, disc flat, marginate. Excipulum externum of rectangular short cells 5–10 μm large, thin-walled, hyaline, at the base only subglobose and up to 12 μm diam., the marginal zone of shortly clavate cells, entire. Asci 80 \times 8 μm , rather long-stalked, apex rounded, pore not amyloid, 8-spored. Paraphyses 2–2.5 μm thin. Ascospores 7.5–8–12 \times 3–3.5 μm , narrowly ovoid or ovoid-subfusiform, with one pseudoseptum. Excipulum internum of slender (1.5–2 μm) interwoven hyaline long hyphae, strongly developed. In the excipulum numerous lumps of crystals present, many ascospores budding.

Most morphological features indicate affinities with *Helotium imberbe* = *Phaeohelotium imberbe* (Bull. ex Fr.) Svr., or a very closely related species. Until the *Ph. imberbe*-complex is studied thoroughly, it will be better to include *H. robiniae* in the synonymy of this species.

The second specimen PRM 148248 (Bohemia centr., Menčice, *Robinia pseudacacia* III. 1929 leg. Velen.) contains a small fragment of wood without apothecia.

Helotium roburneum Velen. 1934 : 184, tab. 19, fig. 6, tab. 20, fig. 20

Lectotypus PRM 147755: Bohemia centr., Radotín, ad lignum putridum *Rosae* sp. 15. XI. 1922 leg. Velen. [ut *Helotium trigonosporum* Velen. in herb. et manusc.].

Several apothecia 0.8–1.5 mm diam., shortly stipitate, dark orange-brown. Excipulum

of globose or angular-globose, thin-walled, hyaline cells up to 27 μm diam., smaller towards the margin, which is formed by shortly clavate cells. Asci 65—75 \times 8—10 μm , 8-spored, pore distinctly amyloid. Ascospores 8—10 \times 5—6 μm , largely reniform or irregularly and obtusely triangular, or 8—11 \times 4—4.5 μm , oblong-ovoid or oblong fusiform (the majority of ascospores has this shape), eguttulate. — This is most probably only a form of *Phaeohelotium imberbe* (Bull. ex Fr.) Svr.

The second specimen, PRM 147599 (Bohemia centr., Mnichovice, Hubáčkov, ad lignum *Quercus* Vi. 1931 leg. Velen.) is the same fungus with only one form of ascospores, viz. 7—8.5 \times 3—3.5 μm , narrowly ovoid. To the same species belongs also PRM 148224 (Mnichovice, in horto ad ramum *Populi* sp. XII. 1927), no apothecia were found in PRM 147521 (Mnichovice, *Salix* sp. 30. VI. 1931) and 148037 (ibidem, 23. IX. 1929). Another species represent PRM 148081 (Mnichovice, ad ramum *Quercus* in palude 29. IX. 1941 leg. Velen.) containing apothecia with asci 85—100 \times 6—7 μm , ascospores 11—12 \times 4—4.5 μm , mostly cylindrical, and the cells of the excipulum in the basal part pale blackish-brown, up to 24 μm diam. This is *Hymenoscyphus vernus* (Boud.) Dennis.

Helotium roburatum is closely related to *Phaeohelotium imberbe* (Bull. ex Fr.) Svr., a very variable complex of perhaps more (infraspecific ?) taxa, the study of which needs further observation, mainly on fresh material.

Helotium roseipes Velen. 1934 : 192 tab. 20, fig. 21

Lectotypus PRM 147552: Bohemia centr., Mnichovice, ad caules *Solidaginis virgaureae* 26. IX. 1931 leg. Velen.

Apothecia up to 2 mm diam., long-stalked, disc slightly concave, pale yellow, stipe pale or with a pinkish tint. Excipulum of parallel, firmy connected septate hyaline hyphae with distinctly gelatinized walls, 3—6 μm wide, with freely protruding numerous cylindrical, or obtusely lageniform cells 15—50 μm long and 3—6 μm broad, filled with granular contents reddish-yellow or reddish-brown in Melzer's reagent. There are numerous rhomboid crystalline of various size in the excipulum. Hyphae of the excipulum internum long, interwoven, thin-walled (not gelatinized), hyaline, 1.5—2 μm thin, not dextrinoid. Asci 85—110 \times 7—8 μm , 8-spored, cylindrical, apex rounded or subtruncate, pore very slightly amyloid or inamyloid (visible only as two minute points). Paraphyses 2 μm thin, not enlarged above, hyaline. Ascospores 14—17.5 \times 3—3.5—4 μm , oblong subcylindrical, sometimes narrowly fusiform, slightly inequilateral, straight, with minutely granulose content (distinct also in Melzer's reagent) and often with a thin pseudoseptum.

The additional specimens examined represent also the same species: PRM 148105 (Bohemia centr., Hubáčkov, ad caules *Galeopsisidis versicoloris* 23. IX. 1929 leg. Velen.) contains five apothecia, mostly immature, but with distinctly developed excipulum internum, 250—400 μm high. Hymenium in Melzer's reagent strongly dextrinoid, paraphyses 1.5—2 μm thick, filled with granular content, the upper part of the hymenium encrusted with many granules. PRM 812397 (Bohemia centr., Všešimý, ad caulem *Urticae dioicae* VIII. 1933 leg. Velen.). The hyphae of the excipulum externum have distinctly gelatinized walls, forming a typical *textura oblita* (similar as in the lectotype).

Helotium roseipes belongs doubtless in *Conchatium* Velen. [*Phialea* (Fr. ex Pers.) Gill. s. auct.] and is distinguished from other species, but I cannot find any difference between this and *Cyathicula coronata* (Bull. ex MÉRAT) de Not. in Karst. var. *nuda* Velen. (1940 : 188). Therefore, I am inclined to regard *H. roseipes* for only an „aciliate“ form of *C. coronata* [= *Crocicreas coronatum* (Bull. ex MÉRAT) S. E. Carpenter], having edentate apothecia without marginal teeth. Also CARPENTER (1981 : 57) has seen material of *Cyathicula coronata* in the field in which both dentate and edentate apothecia were present on the same herbaceous stem.

Helotium rubescens Velen. 1947 : 121

non *Helotium rubescens* (H. et P. Crouan) Sacc. 1889, nec *Helotium rubescens* (Sauter) Rehm 1893

Holotypus PRM 148127: Bohemia centr., Mnichovice, Božkov, loco Bílá skála, ad acus *Pini sylvestris* 25. IX. 1941 leg. Velen. Four apothecia on a pine needle, when rehydrated up to 0.6 mm diam., golden-yellow, shortly stipitate, disc flat, at the base of the stipe white mycelial hyphae. Excipulum in NH_4OH bright golden-yellow, composed of parallel, septate, slightly thick-walled (0.5—0.8 μm) hyphae, the margin entire, the stipe of dextrinoid, firmly connected hyphae 2—3 μm thick. Asci 25—35 \times 3—4 μm , thick stalked, pore strongly amyloid (as two lines), 8-spored. Paraphyses 1.5—2 μm

thick, equalling the asci or very slightly exceeding them. Ascospores $5-6 \times 1-1.2 \mu\text{m}$ (only seen in asci), narrowly fusiform, eguttulate, irregularly 2-seriate in the asci.

= *Weinmannioscyphus messerschmidii* (Weinm.) Svr.

Helotium rubicolum (Fr.) Fuckel

Velen. 1934: 194 (ut „*rubicola*“)

Both specimens, PRM 148529 (Bohemia centr., Jevany, ad sarmenta *Rubi fruticosi* IX. 1922 leg. Velen., ut *Helotium niveum* Velen. in herb. et manuscr.), and 149597 (ibidem, ad cauiem herbae X. 1922, leg. Velen.) represent a typical *Hymenoscyphus scutula* (Pers. ex Fr.) Phill., with ascospores $20-25 \times 4-4.5 \mu\text{m}$ large, sharply pointed below and obtusely hooked above. Additional specimens contain the same species: PRM 147995 (Mnichovice, Hubáčekov, *Rubus fruticosus* (? — fortasse caulis herbae) 6. XII. 1927, ut *Hel. pallidum* Velen. in herb. et manuscr.) and 148129 (Kunice, *Rubus caesius* X. 1941). In PRM 148173 (Klokočná, *Rubus fruticosus* XI. 1938) no apothecia were found.

Helotium rubicolum Velen. 1934: 190

non *Helotium rubicolum* (Fr.) Fuckel 1870

Holotypus PRM 147538: Bohemia centr., Mnichovice, ad sarmenta *Rubi fruticosi* IX. 1933 leg. Velen.

Seven mature apothecia on one rotten cane of *Rubus*, quite similar to *Hymenoscyphus epiphyllus*, short-stalked, dark orange, margin crenulate. The structure of the excipulum is also the same as in the mentioned species, only asci and ascospores are smaller than in the typical form of *H. epiphyllus* occurring on leaves. The cells of the excipulum up to $20 \times 10 \mu\text{m}$, on the outer surface covered with flexuous cylindrical hyphae $3-6 \mu\text{m}$ wide, filled with granular content, the basal cells largely ellipsoid, up to $12 \mu\text{m}$ diam., the marginal hyphae freely protruding, $4-7 \mu\text{m}$ thick. Asci $50-75 \times 7-10 \mu\text{m}$, pore very slightly amyloid or inamyloid, paraphyses $2-2.5 \mu\text{m}$ thin, ascospores $12-14 \times 3-3.5 \mu\text{m}$, usually subcylindrical or slightly beaked above, inequilateral, sometimes with a thin septum. Excipulum distinctly dextrinoid.

= *Hymenoscyphus epiphyllus* (Pers. ex Fr.) Rehm ap. Kauffm.

Helotium salicellum (Fr.) Fr.

Velen. 1934: 189, tab. 20, fig. 15

The Velenovský's description as well as exsiccata of this *Helotium* agree with the common concept of *H. salicellum* of European authors (e. g. REHM 1896, DENNIS 1956: 89). The species is characterized by brownish colour of apothecia in dried state, short stalk erumpent from the fissures of the bark and by large, fusiform ascospores (up to $30 \times 7 \mu\text{m}$) and asci ($-150 \times 14 \mu\text{m}$). Ecologically, it is confined to dead twigs of willow, often attached to trunks.

Specimens examined (all from the vicinity of Mnichovice and collected by Velenovský): PRM 148147, 148192, 148753, 147495, 149435, 150088, 150155.

= *Hymenoscyphus salicellus* (Fr.) Dennis

Helotium sanguineum Velen. 1934: 195, tab. 19, fig. 25

Holotypus: PRM 148485: Bohemia centr., Jevany, ad lignum *Abietis albae* VIII. 1923 leg. Velen.

Several fragments of wood with numerous apothecia up to 0.5 mm diam., short stipitate, disc whitish to pale orange, flat. Excipulum of long-celled hyphae $2.5-3.5 \mu\text{m}$ wide, intergrading towards the base in larger angular cells up to $7 \mu\text{m}$ diam., thin-walled, hyaline, not dextrinoid, the marginal zone of clavate, ca $20 \times 3.5-4 \mu\text{m}$ large smooth or slightly encrusted cells; similar bladder-like or clavate cells $8-14 \times 3-4 \mu\text{m}$ large present also on the outer side of the receptacle. Asci $45-60 \times 6-7 \mu\text{m}$, clavate, shortly stalked, pore strongly amyloid, $1.5 \mu\text{m}$ diam., 8-spored. Paraphyses numerous, $2-2.5 \mu\text{m}$ thick, hyaline. Ascospores $6.5-10 \times 2.5 (-3) \mu\text{m}$, fusiform, biguttulate or with granular content, 2-seriate in the ascus.

It is evident that *Helotium sanguineum* and *Cystopezizella venceslai* (Velen.) Svr. (1983: 70) represent the same species, and the priority belongs to the former one, assigned originally to the rank of species:

= *Cystopezizella sanguinea* (Velen.) Svr., comb. nov.

Basionymum: *Helotium sanguineum* Velenovský, Mon. Disc. Boh. p. 195, 1934

Helotium sazavae Velen. 1934: 197, tab. 21, fig. 33

Holotypus PRM 147365: Bohemia centr., Senohraby, in cono *Pini sylvestris* 31. VIII. 1926 leg. Velen.

Only one apothecium 1.3 mm diam., shortly stipitate, reddish-yellow. Excipulum of subglobose, largely ellipsoidal or angular cells $18-36 \times 11-25 \mu\text{m}$ large, very thin-walled, hyaline, elongated towards the margin, covered with singular long cylindrical flexuous, strongly dextrinoid [wine-red in Melzer's reagent] hyphae. The hyphae covering the outer side of the excipulum dark blue in Cotton-blue. Asci $100 \times 7-8 \mu\text{m}$, cylindrical, shortly stalked, apex subtruncate, pore inamyloid, 8-spored. Paraphyses $2 \mu\text{m}$ thick, hyaline. Ascospores $12-14.5 \times 3-3.5 \mu\text{m}$, oblong elliptical, inequilateral, sometimes more attenuated towards one end, but obtuse, eguttulate or minutely guttulate near both ends.

Helotium sazavae is an acceptable name for *Helotium lutescens* (Hedw. ex Fr.) Fr. sensu Velen. Further discussion see under this species.

= *Hymenoscyphus sazavae* (Velen.) Svr., comb. nov.

Basionymum: *Helotium sazavae* Velenovský, Mon. Disc. Boh. p. 197, 1934

Helotium scutula (Pers. ex Fr.) Karst.

Velen. 1934: 193, tab. 20, fig. 24, 25; 1940: 184

The Velenovský's description and his numerous collections of this species correspond to the common concept of *H. scutula* (e. g. Rehm 1896, Dennis 1956, etc.). The species is one of the most common discomycetes occurring on dead stems of various plants [most frequently on dicotyledoneous herbs] in late summer and autumn. I agree with DENNIS'S opinion (1963: 64-65) that *H. scutula* is a very variable fungus, probably a collective species including several races. Its ascospores may be narrower or broader, ciliate or non-ciliate, but always are asymmetrical, more or less hooked above and pointed below, $15-27 \times 3-5 \mu\text{m}$ large in the majority.

Helotium scutula* var. *cirsii Velen. 1947: 121

Holotypus PFM 148086: Bohemia centr., Mnichovice, *Cirsium palustre* 5. X. 1941 leg. Velen. — Two herb stems with several apothecia. I have found no difference between this variety and the typical one.

Helotium scutula* var. *genistae Velen. 1947: 121

Holotypus PRM 148087: Bohemia centr., Mnichovice, *Genista tinctoria* X. 1941 leg. Velen. — One fragment of a twig with only one long stipitate apothecium. — It does not differ from the typical *H. scutula*.

Helotium scutula* var. *lysimachiae Velen. 1940: 184

Holotypus PRM 148064: Bohemia centr., Vsesimy, *Lysimachia vulgaris* X. 1938 leg. Velen. — Two fragments of herb stem with two long stipitate apothecia. Also the second specimen, PRM 148158 [Bohemia centr., Mnichovice, Hubáček, *Lysimachia vulgaris* X. 1938] containing three herb stems with two apothecia, is the same fungus as the holotype, and both do not differ from the typical *H. scutula*.

Helotium septatum Velen. 1947: 120

Holotypus PRM 148123: Bohemia centr., Mnichovice, in colle Plecháč, ad ramulos *Betulae* sp. 23. IX. 1941 leg. Velen.

Four fragments of *Betula* twigs with several apothecia 3-4 mm diam., dark orange, stipe $2-4 \times 0.5-0.8$ mm, white-tomentose below. Excipulum of long-celled [up to $30 \times 10 \mu\text{m}$] hyaline, thin-walled, parallel, not dextrinoid hyphae. Asci $120 \times 10 \mu\text{m}$, 8-spored, pore inamyloid. Paraphyses $2-3 \mu\text{m}$ thick. Ascospores $14.5-18 \times 4-4.5 \mu\text{m}$, oblong fusiform, laterally pointed above, rounded below, straight, filled with granular content usually at the ends only, no septum seen [nor in Melzer's reagent].

= *Hymenoscyphus conscriptus* (Karst.) Korf ap. Kobayasi et al.

Helotium septembrinum Velen. 1934: 202

Holotypus PRM 147258: Bohemia centr., Mnichovice, ad caules herbae *Alisma plantago* in palude, VIII. 1926 leg. Velen.

Several apothecia 0.3-0.5 mm diam., shortly stipitate, pale yellow or almost pale orange-yellow. Excipulum of textura oblita consisting of strongly thick-walled hyaline hyphae $2.5-3.5 \mu\text{m}$ wide, the marginal zone entire of cylindrical hyphae $2 \mu\text{m}$ thin, crystals scarce, no brown-pigmented hyphae on the outer side. Asci $40-45 \times 5 \mu\text{m}$, 8-spored, pore very slightly amyloid. No paraphyses found. Ascospores $7-8.5 \times 1.5-1.8 \mu\text{m}$, narrowly cylindrical, straight or subcurved, with minute polar guttules, partly 2-seriate in the ascus.

= *Conchatium cyathoides* (Bull. ex Mérat) Svr.

Helotium serotinum (Pers. ex Fr.) Fr.

Velen. 1934 : 189, tab. 20, fig. 16

The Velenovský's description and exsiccata of this species agree with the common concept of *H. serotinum* (e. g. REHM 1896). This is an independent species, certainly distinct from other similar discomycetes (e. g. *Hymenoscyphus calyculus*) and not more than a form of the mentioned one, as suggested DENNIS [1956 : 81]. It is confined to twigs of *Fagus* and is widely distributed in our country in beech virgin forest (most commonly in the Carpathians). The large, usually strongly curved ascospores are very characteristic for it.

In the Velenovský's collection there are three specimens, all collected by him in Central Bohemia: PRM 148179 [Mnichovice, „*Juglans regia*“ XI. 1926; but the substrate is surely *Fagus*. Asci 95—100×6.5—7.5 μm , pore amyloid, ascospores 20—29×3—4 μm , filled with minute polar guttules]. — Two collections are from Jevany [ad ramulos *Fagi sylvaticae* in fagetis copiose, 14. X. 1922 et 16. XI. 1923].

= *Hymenoscyphus serotinus* (Pers. ex Fr.) Phill.

Helotium smardae Velen. 1940 : 186

Holotypus PRM 148840: Moravia, Žďár n. Sáz., ad ripam arenosam piscinae Dáfsko, prope Škrdlovice 20. VII. 1939 leg. Fr. Smarda, det. Velen.

Two apothecia 2—2.5 mm diam., long-stalked (1—2×0.3—0.4 mm), disc yellow, margin flexuous, the outer side white and shortly hairy. Hairs cylindrical, minutely encrusted, hyaline, septate, 50—70×2.5—4.5 μm , slightly clavate above. Paraphyses lanceolate, shortly (—10 μm) exceeding the asci, 2.5—3.5 μm wide, numerous. Asci 75—85×4 μm , narrowly cylindrical, pore very slightly amyloid, 8-spored. Ascospores 6—8.5×1.5—1.8 μm cuneate, narrowly fusiform, inequilateral, eguttulate, uniseriate. The structure of the excipulum agrees with *Dasyscyphus pygmaeus* (Fr.) Sacc. Apothecia are growing from small roots or rhizoms of a grass.

= *Lachnum pygmaeum* (Fr.) Bres.

Helotium smilacinæ Velen. 1934 : 202, tab. 23, fig. 43, 44

No authentic material found at PRM. Until type specimen is found and studied, the taxonomic status of this species will remain unknown.

Helotium solitarium Velen. 1934 : 196

No authentic material found at PRM. Until type specimen is found and studied, the taxonomic status of this species will remain unknown.

Helotium spinosae Velen. 1947 : 119

Holotypus PRM 148093: Bohemia centr., Mnichovice, apud lateritiam Hrusická cihelna, ad truncum *Pruni spinosae* 6. X. 1941 leg. Velen.

Some tens of apothecia on hard frondose wood. Apothecia 1.5—4 mm diam., pale dull orange, stipe up to 4 mm long, often fasciculate. The cells of the excipulum up to 30×10 μm large, thin-walled, hyaline, not dextrinoid. Asci 120—130×9—10 μm , gradually long-stalked, 8-spored, pore slightly amyloid. Paraphyses 2—2.5 μm thin. Ascospores 15—17×4—5 μm , oblong-subcylindrical, obtusely hooked above, rounded below, with sparse minute guttules (eguttulate in Melzer's reagent), no septum found.

= *Hymenoscyphus conscriptus* (Karst.) Korf ap. Kobayasi et al.

Helotium stammarioides (Rehm) Velen.

Velen. 1934 : 190

The collection cited in Velen., l. c. [PRM 148927: Slovakia, montes Vysoké Tatry, ad caulem *Aconiti* sp. VIII. 1926 leg. Alb. Pilát, det. Velen. ut *Helotium tatrense* Velen. in herb et manuscr.] contains four fragments of a herbaceous stem without a fungus corresponding with the description of this *Helotium*. Only several long stipitate brownish apothecia are present on one stem; their excipular structure and other features show the affinity with the genus *Conchatium*. *H. stammarioides* sensu Velenovský is — according to its description — quite different from the original Rehm's species *Phialea stammarioides* [1907]. In CARPENTER'S monograph [1981] no mention is made on it.

Helotium stellariae Velen. 1947 : 123

Holotypus PRM: Bohemia centr., Habr, ad caules *Stellariae uliginosae* in palude sphagnetoso silvatico VII. 1941 leg. L. Hostáňová, det. Velen. — The same species was

collected already by Velenovský near Ondřejov, Central Bohemia, on rhizoms of *Stellaria uliginosa* in a swamp, 20. VI. 1929, and labelled *Helotium stellariae* Velen. in herb. et manuscr., and later included to *Helotium obtusum* Velen. [1934: 192]. I found this specimen, PRM 148219, during the examination of the later mentioned fungus. The species is discussed in another paper [SVRČEK, 1986]. Recently, it was found in Great Britain on *Stellaria alsine* (= *S. uliginosa*) [Clark 1960a: 66].

= *Lanzia stellariae* [Velen.] M. B. Spooner

Helotium stramineum Velen. 1940: 185

Holotypus PRM 148072: Bohemia centr., Hrusice, ad culmos *Triticum sativi* VI. 1939 leg. Velen.

Five fragments of grass culms with twenty apothecia, 0.6–0.8 mm diam., long-stipitate (1–3 mm), stipe slender, shortly white hairy from the base up to $1/2$ – $2/3$, ca 200–300 μm thick, disc and the outer surface dark orange, smooth. Excipulum of parallel, long-celled, thin-walled, hyaline hyphae, individual cells up to 25×3 – $9 \mu\text{m}$, not dextrinoid. The stipe composed of similar hyphae, slightly thick-walled in the basal part (– $0.5 \mu\text{m}$), covered with hair-like, 1–3-septate hyphae or unicellular cells, rounded or obtusely narrowed, up to 35×3 – $5 \mu\text{m}$, hyaline, thin-walled, smooth, appressed or erect. The hyphae of the inner part of the stipe as well as of excipulum internum very thin (0.8 – $1.5 \mu\text{m}$), compact, thin-walled, hyaline. Asci 85 – 90×8 – $9.5 \mu\text{m}$, cylindrical, shortly stalked, apex largely rounded and subtruncate, somewhat thick-walled, pore amyloid (but often also inamyloid), 8-spored. Paraphyses 2 – $2.5 \mu\text{m}$, hyaline, not enlarged above, filled with granular contents. Ascospores 16 – 17.5×3 – $3.5 \mu\text{m}$, narrowly fusiform, rounded at both ends, inequilateral, straight, eguttulate, hyaline. The substrate is not stromatized.

I consider this species as hardly distinctive from *Helotium repandum* var. *rumleis* Velen. = *Hymenoscyphus vitellinus* (Rehm) O. Kuntze (in my sense), a species occurring both on dicotyledoneous as (seldom) monocotyledoneous herbs.

Helotium strangulatum Velen. 1934: 205, tab. 20, fig. 40

Lectotypus PRM 148239: Bohemia centr., Mnichovice, ad pedem collis Kožený vrch 8. XII. 1927 leg. Velen. (ut *Helotium bicellulatum* Velen. in herb. et manuscr.)

Two apothecia on a petiole of a leaf very probably of *Acer* sp. (but surely not *Carpinus betulus*). Excipulum of parallel, short-celled (up to $15 \times 9 \mu\text{m}$), thin-walled, hyaline hyphae with extruding, ca. 15 – 20×5 – $6 \mu\text{m}$, cylindrical or lageniform cells at the margin, not dextrinoid. Asci 95 – 100×8 – $10 \mu\text{m}$, cylindrical-clavate, very short stalked, apex narrowed and rounded or subtruncate, slightly thick-walled, pore very slightly amyloid or inamyloid, 6–8-spored. Paraphyses 3 – $4 \mu\text{m}$ wide, relatively thick, septate, hyaline. Ascospores 18 – $22 \times (4$ – $)4.5$ – 5.5 (– 6) μm , rather variable, narrowly or largely fusiform, attenuated towards both ends, pointed or rounded, usually 1-septate (seldom unicellular or 3-septate), eguttulate, hyaline.

Additional specimens examined. PRM 148884: Bohemia centr., Zvánovice, in valle Zvánovické údolí, ad folia delecta *Aceris platanoidis* et *A. pseudoplatani* 22. X. 1929 leg. Velen. (ut *Helotium vitreum* var. *acerinum* Velen. in herb. et manuscr.). This is typical *Hymenoscyphus caudatus* [Karst.] Dennis, apothecia 0.2 – 0.3 mm diam., pale yellowish, long-stipitate, excipular cells angular, up to $24 \times 14 \mu\text{m}$, asci 85×10 – $11 \mu\text{m}$, pore slightly amyloid, ascospores 18 – 20×3.5 – $4.5 \mu\text{m}$, non-septate. — PRM 147261: Bohemia centr., Karlík prope Dobřichovice, ad petiolas foliorum *Aceris* sp. X. 1924 leg. Fr. Fechtner, det. Velen. (ut *Hel. vitreum* Velen. in herb. et manuscr.) This is a typical *Conchatum subhyalinum* [Rehm] Svr., agreeing with the description of *Phialea subhyalina* Rehm [Dennis 1956: 33]. The richly mature apothecia are composed of textura oblita with thick-walled, hyaline hyphae, asci 70 – 100×8 – $10 \mu\text{m}$, apex truncate, pore inamyloid, ascospores 12 – 16×3.5 – $4 \mu\text{m}$, often sublunate, oblong-fusiform, usually rounded at both ends, eguttulate or filled with minute polar granules, non-septate.

These additional specimens contain no apothecia: PRM 148085, 148185, 148236, 148935.

Helotium strangulatum is closely related to *Hymenoscyphus caudatus* [Karst.] Dennis, which has non-septate ascospores of somewhat different shape.

= **Hymenoscyphus strangulatus** (Velen.) Svr., comb. nov.

Basionymum: *Helotium strangulatum* Velenovský, Mon. Disc. Boh. p. 205, 1934

Helotium subcitrinum Velen. 1947: 120

Holotypus PRM 148023: Bohemia centr., Mnichovice, in nemore ad molam Zítův mlýn, ad folia delecta *Populi tremulae* 12. X. 1940 leg. Velen.

Three leaves of *Populus tremula* with very numerous apothecia gregarious on veins. Apothecia when dried bright orange-yellow, at the margin and on the outer surface short whitish-hairy, short-stipitate, when rehydrated 0.4–0.6 mm diam. Excipulum of textura prismatica, cells rectangular, up to $14 \times 7 \mu\text{m}$, more elongated towards the base, thin-walled, hyaline, the marginal hairs up to $50 \times 2\text{--}3 \mu\text{m}$, cylindrical, hyaline, thin-walled, smooth, not coloured in Melzer's reagent, excipulum not dextrinoid. Asci $50\text{--}60 \times 6 \mu\text{m}$, clavate, pore distinctly amyloid. Paraphyses $2\text{--}2.5 \mu\text{m}$, hyaline, equaling the asci, obtuse. Ascospores $8\text{--}10 \times 2.5\text{--}3.5 \mu\text{m}$, fusiform or cuneate, eguttulate, aseptate.

This is a *Hyaloscypha* sp.

Helotium subcorticale Velen. 1934: 187, tab. 20, fig. 17

Lectotypus PRM 147257: Bohemia centr., Stránčice, Sct. Anna, ad ramulum *Alni glutinosae* 15. IX. 1925 leg. Velen.

Some tens of apothecia erumpent in clusters from bark of twigs, 1–2 mm diam., short-stalked, dark orange-yellow, stipe and the outer side finely fibrillose. The basal excipular cells largely ellipsoidal or subglobose, $6\text{--}16 \mu\text{m}$ diam., intergrading in the flanks and the margin into cylindrical, densely interwoven hyphae. Asci $100 \times 8\text{--}10 \mu\text{m}$, pore very slightly amyloid. Paraphyses $2\text{--}2.5 \mu\text{m}$ thick. Ascospores $14.5\text{--}19 \times 4\text{--}4.5 \mu\text{m}$, beaked above, obtuse to pointed below, filled with granular content.

= *Hymenoscyphus calyculus* (Sow. ex Fr.) Fr.

Two additional specimens, PRM 148843 (Bohemia centr., Roblín, ad truncum *Betulae* sp. 30. X. 1925 leg. Velen., ut *Helotium betulaeophilum* Velen. in herb. et manuscr.) and 148166 (Mirošovice, ad truncum *Carpini betuli* X. 1928) represent a quite different fungus.

Helotium subcorticale var. **ligustri** Velen. 1940: 183

Holotypus PRM 148048: Bohemia centr., Mnichovice, ad truncum *Ligustri* sp. 31. V. 1939 leg. Velen. (ut *Helotium ligustri* Velen. in herb. et manuscr.)

About twenty, mostly young apothecia 1–2 mm diam., rather long-stalked, yellowish, stipe pale yellow, below tomentose. Excipulum of parallel, rectangular, thin which is formed by obtuse hyphae $1.5\text{--}3 \mu\text{m}$ wide. Excipulum internum of cylindrical, hyaline hyphae $2\text{--}3.5 \mu\text{m}$ wide. Asci $80\text{--}85 \times 5\text{--}7 \mu\text{m}$, slender, cylindrical, gradually narrowed below and long-stalked, apex rounded, pore inamyloid, 8-spored, Paraphyses-walled hyaline cells up to $24 \times 5\text{--}10 \mu\text{m}$, narrowed and elongated towards the margin $1\text{--}1.5 \mu\text{m}$ thin, not enlarged above. hyaline. Ascospores $8.5\text{--}14(-15) \times (2.5\text{--})3\text{--}3.5 \mu\text{m}$, oblong, narrowly fusiform, inequilateral, rounded at both ends or more attenuated towards one end, biguttulate or filled with scarce minute granules, seldom 1-septate, hyaline, uniseriate in the ascus.

This variety cannot belong to *Hymenoscyphus calyculus*, and represents probably an independent taxon which I am unable to synonymize with some already described species. However, the second specimen labelled *Hel. subcorticale* var. *ligustri* Velen., PRM 148079 (Bohemia centr., Mnichovice, ad ramulum *Ligustri* sp. 18. VII. 1941 leg. Velen.) is a quite typical *H. calyculus* with large, beaked ascospores.

= *Hymenoscyphus ligustri* (Velen.) Svr., comb. nov.

Basionymum: *Helotium subcorticale* var. *ligustri* Velen., Novit. mycol. p. 183, 1940

Helotium subhyalinum (Rehm) Boud.

Velen. 1934: 206, tab. 20, fig. 9.

The Velenovský's concept of this species is in agreement with this fungus as described by REHM as *Phialea subhyalina* (1896:1233) and redescribed by DENNIS (1956: 33, fig. 27) and CARPENTER (1981: 178, as *Crocioreas subhyalinum*), and transferred to *Conchatium* by SVRČEK (1979: 97). There are two specimens in Velenovský's collection at PRM, examined by me: 147534 (Bohemia centr., Mnichovice, Hubáček 29. IX. 1931, ut *Helotium vitreum* Velen. in herb. et manuscr.), and 147518 (ibidem X. 1933), both on petioles of *Acer pseudoplatanus*.

= *Conchatium subhyalinum* (Rehm) Svr. (1979)

Helotium subpallidum (Rehm) Velen.

Velen. 1934: 183, tab. 31, fig. 33

There are numerous specimens collected by Velenovský and preserved at PRM, all correctly identified (SVRČEK 1979: 195).

= *Bisporella subpallida* (Rehm) Dennis

Helotium subtile Fr. ex Pers.

Velen. 1934: 196, tab. 19, fig. 7, tab. 21, fig. 34

PRM 148939: Bohemia centr., Mníšek, ad acus *Pini sylvestris* XI. 1926 leg. K. Cejp. —

Several apothecia rather thick fleshy, disc 0.3–0.4 mm diam., flat, immarginate, pale yellow, stipe somewhat longer, smooth, yellow, thick, the substrate not stromatized. Excipulum of long celled (–20 μm) parallel thin-walled hyaline hyphae 5–7 μm wide, enlarged towards the base and intergrading in large cells 15–20 \times 5–8 μm diam., thin-walled and hyaline, not dextrinoid. The stipe consisting of cylindrical septate hyphae 2–3 μm wide. Asci 40–45 \times 4–5 μm , slender, long-stalked, apex slightly attenuated, pore distinctly amyloid, pore channel 0.8–1 μm high, 8-spored. Paraphyses infrequent, 1.5–2 μm , hyaline, obtuse. Ascospores 6–6.5 \times 1.3–1.5 μm , narrowly fusiform, eguttulate, 1- or irregularly 2-seriate in the ascus.

The second specimen, PRM 149556 [Bohemia centr., Praha, Chuchle, ad acus *Piceae abietis* 11. XI. 1922 leg. Alb. Pilát, det. Velen.] does not differ from the previous one. Hyphae of the excipulum are 3–4 μm wide, asci 45–65 \times 4–4.5 μm , rather long-stalked, pore strongly amyloid, ascospores 6–7 \times 1.3–1.5 μm . The stipe is longer than disc, which reaches up to 1 mm diam.

The determination of both collections is correct, and the species agrees with the description of DENNIS (1956: 58) of *Pezizella subtilis* [Fr. ex Pers.] Dennis = *Hymenoscyphus subtilis* [Fr. ex Pers.] Phill.

Helotium succineum Velen. 1934: 200 et 407, tab. 28, fig. 20 et 21

Holotypus PRM 147464: Bohemia centr., Mnichovice, Božkov, lacus „Božkovské jezérko“, in palude ad culmos *Phragmitis communis* (= *Ph. australis*) et *Caricis strictae* VI. 1934 leg. Velen. (designated „original“).

Two apothecia on a fragment of a leaf (*Phragmites* or *Carex*), now dark flesh-brown, stalked, in a not too good condition, but with many ascospores. Excipulum of large, thin-walled, colourless cells up to 19 \times 12 μm or 22 \times 10 μm , angular-oblong or angular-ellipsoidal, in the stipe up to 38 \times 17 μm . Asci 75–85 \times 9–10 μm , cylindrical-clavate, gradually stalked, largely rounded above, apex somewhat thick-walled, pore distinctly amyloid, 8-spored. Paraphyses 2 μm thick, hyaline. Ascospores 15–16 \times 3.5–4 μm , fusiform or subulate, obtuse or rounded at both ends, eguttulate or with polar granulation, aseptate, hyaline, partly 2-seriate in the ascus. — The second specimen PRM 148017 collected by Velenovský at the same locality 5. VIII. 1930, contains two fragments of plant stems, *Phragmites* and [probably] *Carex* sp., without apothecia, but I found only one apothecium freely lying in the packet. This apothecium is long-stalked, dark flesh-brown, when rehydrated (in NH_4OH) the reddish-flesh to purplish red-brown colour is evident. Also the microfeatures are the same as in the holotype. Excipulum rather destroyed, composed of large cells now reddish-brown, asci 75–85 \times 8–9 μm , 8-spored, pore strongly amyloid, ascospores 10–16 \times 3–4 μm , several (several) with a pseudoseptum. No gelatinized hyphae in the excipulum found.

It seems to be a good taxon which I was not able to synonymize.

= *Hymenoscyphus succineus* (Velen.) Svr., comb. nov.

Basionym: *Helotium succineum* Velenovský, Mon. Disc. Boh. p. 200, 1934

Helotium tehovense Velen. 1934: 201

Holotypus PRM 148164: Bohemia centr., in monte Hůra prope Tehov, in graminibus 13. V. 1927 leg. Velen. (ut *Helotium agrostideum* Velen. in herb. et manusc.).

One fragment of a rhizome with single apothecium 0.5 mm diam., reddish-brown, stipitate, the stipe somewhat shorter as the diameter of the disc, relatively thick. Excipulum of parallel, narrow, hyaline, thin-walled hyphae 1.5–2.5 μm wide, with walls 0.5 μm thick (only slightly thickened), enlarged towards the base of the receptaculum (up to 4 μm) and distinctly thick-walled (–2 μm), forming oblong colls, not dextrinoid. Asci 35–50 \times 5–6 μm , clavate, relatively long stipitate, 8-spored (the majority of the asci immature !), apex obtuse, thin-walled, pore slightly amyloid or inamyloid. No paraphyses seen. Ascospores (only in asci) 11–12 \times 2 μm , narrowly sub-cylindrical, inequilateral, eguttulate, sometimes with a thin central septum. Some superficial hyphae of the excipulum running out into short, obtusely lageniform cells 15–20 \times 3.5–4 μm large.

At this time I consider this species for a distinct species, characterized by the excipular structure [which is probably not *textura oblita*], small asci and ascospores as well as ecologically.

= *Hymenoscyphus tehovensis* (Velen.) Svr., comb. nov.

Basionymum: *Helotium tehovense* Velenovský, Mon. Disc. Boh. p. 201, 1934

Helotium tehovense Velen. 1947 : 122 (non *H. tehovense* Velen. 1934)

Holotypus PRM 148028: Bohemia centr., Tehov, ad caulem *Epilobii angustifolii* [= *Chamerion angustifolium*] X. 1940 leg. Velen.

Some tens of apothecia on two fragments of herb stems. Apothecia densely gregarious, 0.5–1 mm diam., distinctly stipitate, the stipe up to 0.8 mm long, pale yellow, finely fibrillose, often white downy below, disc slightly concave or flat, dark red-orange. The substrate is not stromatized. Excipulum of parallel, septate, slightly thick-walled hyphae, individual cells up to 20 μm long and 5–10 μm wide, hyaline, covered with appressed cylindrical hyphae 2–3 μm wide, flexuous, obtuse at their ends. The marginal zone of similar hyphae 35–40 μm long. Asci 40–50 \times 4–5 μm , sub-cylindrical, short stalked, apex rounded, pore distinctly amyloid. Paraphyses 1.5–2 μm thick, hyaline. Ascospores 6–8(–9.5) \times 1.5 μm , narrowly cylindrical or subfusiform, straight or subcurvate, minutely biguttulate, in part 2-seriate in the ascus.

= *Hymenoscyphus euphorbiae* (Velen.) Svr.

Helotium telmateiae Velen. 1934 : 207

Holotypus PRM 148938: Slovacia, montes Vysoké Tatry, ad caules *Equiseti telmateiae* VIII. 1929 leg. Alb. Pilát, det. Velen.

Three apothecia, when rehydrated 0.6–0.8 mm diam., pale honey-yellow, shallowly concave, narrowly marginate, broadly sessile, the margin finely fimbriate. Excipulum of textura prismatica composed of colourless, thin-walled, not dextrinoid cells 3–8 μm large. The marginal hairs 50–70 \times 2–3 μm , cylindrical, usually obtusely narrowed above, hyaline, 1–3-septate, thin-walled, smooth. Asci 40–45 \times 5 μm , pore strongly amyloid. Paraphyses lanceolate, 2–3.5 μm wide, shortly exceeding the asci by as much as 10 μm , pointed above, hyaline. Ascospores 6–8 \times 1.5–2 μm , cuneate, biguttulate or eguttulate.

= *Psilachnum inquilinum* (Karst.) Dennis

Helotium thymicolum Velen. 1947 : 122

Holotypus PRM 148070: Bohemia centr., Mirošovice, ad caulem *Thymi* sp. in colle arido 31. X. 1941 leg. Velen.

Several apothecia quite resembling *Helotium euphorbiae* Velen., having the same excipular structure, asci 38–45 \times 4–5 μm and ascospores 6–7 \times 1.5 μm .

= *Hymenoscyphus euphorbiae* (Velen.) Svr.

Helotium trapezoideum Velen. 1934 : 207, tab. 20, fig. 42

Lectotypus PRM 147469: Bohemia centr.: Mirošovice, ad folia deiecta *Populi tremulae* in palude silvatico 25. IX. 1929 leg. Velen.

Apothecia numerous on veins of leaves, 1–1.5 mm diam., the stipe 0.8–1.3 mm long, disc now dark reddish-brown or orange, marginate. Excipulum of thin-walled, hyaline, rectangular cells up to 20 \times 12 μm , narrowed towards the margin, the marginal hyphae cylindrical or clavate, 5–7 μ broad. Asci 85–90 \times 7–8 μm , cylindrical, short stalked, pore inamyloid, 8-spored. Paraphyses 2 μm thin, hyaline. Ascospores 11–13 \times 3.5–4 μm , ovoid or fusiform-ovoid, more tapered towards the base, eguttulate, 1-seriate or in part 2-seriate in the ascus.

Additional specimens examined. PRM 147467: Bohemia centr., Mnichovice, ad folia *Populi tremulae* IX. 1926, leg. Velen. — PRM 147468: ibidem, 28. IX. 1941, leg. Velen. — PRM 147477: ibidem, lacus apud Božkov, X. 1938 leg. Velen. — PRM 148031: Mirošovice, X. 1929 leg. Velen. — PRM 147470: Struhařov prope Mnichovice, in colle arido ad folium *Coryli avellanae* 10. X. 1941 leg. Velen.

All these collections are the same species and represent *Hymenoscyphus immutabilis* (Fuckel) Dennis

Helotium ulmariae Velen. 1947 : 121

Holotypus PRM 148113: Bohemia centr., Mnichovice, loco Hanzlovka, ad caules *Filipendulae ulmariae* 30. IX. 1941 leg. Velen.

Several fragments of herb stems [*Filipendula ulmariae*] without apothecia (only remains of some stipes were found). According to the original description the identity with *Phaeohelotium googenum* (Cooke) Svr. et Matheis seems to be highly probable, all features in the protologue are in agreement with the mentioned species.

Helotium urticae (Pers.) Karst. sensu Velen. 1934 : 190

Most collections labelled as *H. urticae* by Velenovský and preserved in PRM, belong to *Hymenoscyphus herbarum* (Pers. ex Fr.) Dennis, represented often by young, immature apothecia, what explains the collector's note: „hymenium non raro sterile ascis abortatis“.

Specimens examined. On *Urtica dioica*: PRM 147771 (Bohemia centr., Mnichovice, in horto 16. VIII. 1923), 812396 (VIII. 1933), 148204 [Klokočná XI. 1938], 148154 [Tehov XI. 1940], 148078 (sine dato, loco Hanzlovka). — On other plants: 149395 [Myšlín, *Coronilla varia*, *Lotus corniculatus* IX. 1925], 148019 [Hubáček, ad caulem *Umbelliferae* 3. IX. 1930], 147213 [Mnichovice, *Achillea millefolium* VIII. 1925]. — PRM 147982 [Hubáček, XI. 1925, contains only *Mollisiella chlorinella* (Ces.) Svr. and *Pezizella verbasci* Velen.].

Helotium urticae var. **eryngii** Velen. 1934 : 190

Holotypus PRM 147225: Bohemia centr., Mnichovice, loco Záduší, ad caulem *Eryngii campestris* 13. IX. 1942 leg. Velen. [ut *Helotium eryngii* Velen. in herb. et manuscr.].

About twenty apothecia on a fragment of a herb stem (? *Eryngium*). This discomycete is identical with *Helotium euphorbiae* Velen. = *Hymenoscyphus euphorbiae* [Velen.] Svr. Apothecia are now red-orange, distinctly short-stalked.

Helotium vacini Velen. 1940 : 185

Holotypus PRM 148882: Moravia meridionalis, Žarošice, ad nervos foliorum deietorum *Aceris platanoidis* 21. VIII. 1939 leg. V. Vacek, det. Velen. — The second specimen in PRM 683912 contain several tens apothecia of this interesting discomycete collected by V. Vacek [„Vacinus“, as latinized by Velenovský] at the type locality [Žarošice, loco Čtvrtý žlíbek, ad nervos foliorum *Aceris pseudoplatani* et *A. platanoidis* 27. VIII. 1946]. The species will be discussed by me in a separate paper [SVRČEK 1986].

= **Lanz'a vacini** (Velen.) Svr., comb. nov.

Basionymum: *Helotium vacini* Velenovský, Novit. mycol. p. 185, 1940

Helotium vaginale Velen. 1934 : 200, tab. 1, fig. 26

Lectotypus PRM 147548: Bohemia centr., Hrusice, ad culmos et rhizomata *Festucae giganteae* 29. V. 1933 leg. Velen.

About fifteen apothecia 1—2.5 mm diam., long-stalked, solitary but also fasciculate, disc now orange. Excipulum of richly septate, parallel, hyaline, thin-walled hyphae 5—10 μm wide. Asci 75 \times 6—7 μm , pore slightly amyloid or inamyloid. Paraphyses 1.5 μm thin, hyaline. Ascospores 8—10 \times 2.5—3 μm , oblong or oblong-fusiform, eguttulate or filled with granular content.

Two additional specimens contain the same fungus: PRM 148005 [Bohemia centr., Mnichovice, loco Zbuzany, ad culmum *Phragmitis* 31. V. 1933; the basal cells of the excipulum up to 27 \times 17 μm , asci 60—75 \times 5—6 μm , long-stalked, pore inamyloid or very slightly amyloid, ascospores 10—11.5 \times 3 μm , with minute polar granules]. — PRM 148006 [ibidem, ad pedem collis Kožený vrch, 5. VI. 1933; the substrate is not *Glyceria* but a stem of a dicotyledoneous herb].

= *Hymenoscyphus repandus* (Phill.) Dennis

Helotium variabile Velen. 1934 : 199, tab. 20, fig. 11; 1947 : 123

Holotypus PRM 824903: Bohemia centr., montes Brdy, ad picinam apud Padrč, in culmis *Scirpi lacustris* (= *Schoenoplectus lacustris*) IX. 1927 leg. K. Cejp, det. Velen.

About ten apothecia with asci 85—95 \times 8—10 μm , ascospores 18—20 \times 4—4.5 μm .

This is a typical form of *Hymenoscyphus scutula* (Pers. ex Fr.) Phill. Also the additional specimen PRM 148101: Bohemia centr., Mirošovice, 23. XI. 1940 leg. Velen., containing fragments of stems of a dicotyledoneous herb (not *Carex hirta*, as annotated on the label) is *Hymenoscyphus scutula* with the ascospores 20—22 \times 4—4.5 μm .

Helotium veledae Velen. 1947 : 124

Holotypus PRM 148149: Bohemia centr., Myšlín prope Mnichovice, loco Tři duby, ad culmum *Junci lamprocarpi* (= *J. articulati*) 1. VIII. 1942 leg. Velen.

Several long-stalked apothecia dark reddish-brown with asci 100—120 \times 10 μm , paraphyses 2.5—3 μm , ascospores 20—25 \times 4—5.5 μm , beaked above, gradually tapered below, with granular content.

= *Hymenoscyphus scutula* (Pers. ex Fr.) Phill.

Helotium vernum Velen. 1934 : 196, tab. 19, fig. 1

Lectotypus 147596. Bohemia centr., Všešimý, in codice *Piceae abietis* 20. X. 1930 leg. Velen. [ut *Helotium niveum* Velen. in herb. et manuscr.].

Two small fragments of a bare spruce wood with some tens of apothecia 0.2–0.3 mm [rehydrated], with the stalk up to 0.5 mm long, whitish, disc when dry with the margin inrolled over the hymenium, the outer side of the receptaculum and stipe smooth, very finely pulverulent. Excipulum of long, subparallel, thin-walled, hyaline, long-celled hyphae 2–4 μm wide, the basal cells subisodiametrical, slightly thick-walled, 5–8 μm diam., not dextrinoid. The marginal zone consisting of cylindrical or slightly clavate hair-like hyphae 2.5–3.5 μm wide, granular-encrusted in the terminal part, 15–20 μm long. Asci 20–24 \times 3–4 μm , subcylindrical, clavate, short stipitate, fibulate at the base, rounded above, thin-walled (0.5 μm), pore distinctly amyloid, 8-spored. Paraphyses scarce, 2 μm thick, cylindrical, equalling the asci, hyaline. Ascospores 3.5–5 \times 1.5–2 μm , cuneate, rounded at both ends, usually with minute polar guttules, 1-seriate or in part 2-seriate in the ascus.

The second specimen PRM 148246: Bohemia centr., Svojetice, ad corticem *Piceae abietis* 19. XI. 1928 leg. Velen., contains only several apothecia not differing from the lectotype (apothecia are longer stipitate), the stipe is composed of long, cylindrical hyphae 2–4 μm wide, slightly thick-walled, hyaline, ascus pore strongly amyloid. In the lectotype, apothecia are growing on the lateral side of a spruce stump.

This is a very characteristic discomycete by its small asci, ascospores, and excipular structure. Its taxonomic position remain somewhat obscure, and only with some hesitation I transfer it to *Hymenoscyphus*. Two additional specimens, PRM 148182 (Mnichovice, ad corticem *Pini sylvestris* II. 1928) and 148226 (ibidem, in detritu *Pini sylvestris* 16. IV. 1929) contain no apothecia.

Because *Hymenoscyphus vernus* (Boud.) Dennis precedes, a new name for *Helotium vernum* Velen. must be proposed:

Hymenoscyphus codicum Svrček, nom. nov. [syn.: *Helotium vernum* Velenovský, Mon. Disc. Boh. p. 196, 1934].

Helotium vitreum Velen. 1947 : 124

Holotypus PRM 148900: Bohemia centr., Vyžlovka prope Jevany, ad culmum *Glyceriae spectabilis* (= *G. maxima*) ad ripam piscinae 8. VIII. 1941 leg. L. Hostáňová, det. Velen.

One fragment of a stem (may be *Glyceria*) with five, long-stipitate, light yellowish apothecia, disc 0.3–0.5 mm diam., stipe 2 mm long, the outer side smooth. Excipulum of parallel, hyaline, thin-walled, long-celled hyphae, the individual cells up to 35 \times 3–7 μm , not dextrinoid. Excipulum internum of loosely interwoven, flexuous and branched hyaline thin-walled hyphae 1.5–2 μm thin, not embedded in the gel. Asci 40–50 \times 6 μm , cylindrical, somewhat long-stipitate, at the base fibulate, apex rounded, pore amyloid, 8-spored. Paraphyses 1.5 μm thin, hyaline. Ascospores 9–12 \times 2 μm , narrowly fusiform, straight or curved (sublunate), filled with minute guttules at both ends, 2-seriate in the ascus. In the excipulum there are numerous small crystals.

The species resembles *Phialea petasata* (Karst.) Sacc. sensu Dennis (1956 : 26), which, however, according to CARPENTER (1981 : 66 et 76) is a synonym of *Crocicreas cyathoides* = *Conchatum cyathoides*. But Velenovský's fungus has a quite different structure of the excipulum, and is very probably a true *Hymenoscyphus*, which cannot be synonymized with some other species.

= **Hymenoscyphus vitreus** (Velen.) Svr. comb. nov.

Basionymum: *Helotium vitreum* Velenovský, Novit. mycol. novis. p. 124, 1947

Helotium zenobiae Velen. 1947 : 120

Holotypus PRM 148080: Bohemia centr., Myšlín, loco Tří duby, ad folium *Coryli avellanae* 30. VII. 1940 leg. Velen.

One fragment of a leaf of *Corylus* with one apothecium, now 1 mm diam., dark reddish-brown, in part blackish, the stipe equalling the diameter of disc. Excipulum of a typical textura oblita composed of parallel glass-refracting hyphae 3–5 μm wide, with thick walls (1.5–3 μm), septate, hyaline. Asci 60–75 \times 8–10 μm , cylindrical, shortly and thickly stipitate, apex rounded, pore inamyloid, 8-spored. Paraphyses 1.5–2.5 μm , obtuse, filled with violet-coloured granules of pigment, disappearing in Melzer's reagent (in this solution the paraphyses have a homogeneous colourless con-

tent). Also the margin of the excipulum is violet-coloured. Ascospores 15—17×3.5—4 μm, oblong, inequilateral, tapered towards the base, obtuse or rounded at both ends, filled with granular content, hyaline.

It is a typical *Conchatium* (= *Phialea* auct.) which could not be determined with help of CARPENTER's monograph (1981). The most similar seems to be *Conchatium subhyalinum* (Rehm) Svr., which differs by its small, colourless apothecia as well as not pigmented paraphyses, and its occurrence on petioles of *Acer* spp.

= *Conchatium zenobiae* (Velen.) Svr. comb. nov.

Basionymum: *Helotium zenobiae* Velenovský, Novit. mycol. novis. p. 120, 1947

A LIST OF CORRECT NAMES OF HELOTIALES WITH VELENOVSKÝ'S TAXA TREATED IN THIS PAPER

Allophylaria Karst.

Allophylaria paludosa (Velen.) Svrček

Syn.: *Helotium paludosum* Velen. [= ? *Phialea macrospora* Kirschst. 1922, non Rostrup 1889]

Allophylaria sublicoides (Karst.) Nannf.

Syn.: *Helotium obtusum* Velen. p. p.

Bisporella Sacc.

Bisporella subpallida (Rehm) Dennis

Syn.: *Helotium capreae* Velen. p. p.

Helotium kunicense Velen.

Helotium subpallidum (Rehm) Velen.

Ciboria Fuckel

Ciboria conformata (Karst.) Svrček

Syn.: *Helotium epiphyllum* (Pers. ex Fr.) Rehm ap. Kauffm. sensu Velen.

Ciboriopsis Dennis

Ciboriopsis advenula (Phillips) Dennis

Syn.: *Helotium advenulum* Phillips

Ciboriopsis tenuistipes (Schroet.) J. T. Palmer

Syn.: *Helotium ludmilae* Velen.

Conchatium Velen.

Conchatium airae (Velen.) Svrček

Syn.: *Helotium airae* Velen.

Phialea airae (Velen.) Svrček

Helotium pileatum (Karst.) Karst. sensu Velen.

Crocicreas megalosporum (Rea) S. E. Carpenter var. *gramineum* (Rehm)

S. E. Carpenter

Conchatium cyathoideum (Bull. ex Mérat) Svrček

Syn.: *Helotium septembrinum* Velen.

Conchatium fraxinophilum Svrček

Syn.: *Helotium albidum* (Rob. in Desm.) Pat. sensu Velen. p. p.

Conchatium megalosporum (Rea) Svrček

Syn.: *Helotium magnificum* Velen. (non sensu Dennis 1956)

Conchatium neptuni (Velen.) Svrček

Syn.: *Helotium neptuni* Velen.

Conchatium subhyalinum (Rehm) Svrček

Syn.: *Helotium sybhyalinum* (Rehm) Boud.

Helotium nervicolum Velen.

Conchatium zenobiae (Velen.) Svrček

Syn.: *Helotium zenobiae* Velen.

Cyathicula de Not.

Cyathicula coronata (Bull. ex Mérat) de Not. in Karst. var. **nuda** Velen.

Syn.: *Helotium roseipes* Velen.

Cystopezizella Svrček

Cystopezizella knautiae (Velen.) Svrček

Syn.: *Helotium knautiae* Velen. 1934 [non 1947]

Cystopezizella sanguinea (Velen.) Svrček

Syn.: *Helotium sanguineum* Velen.

Pezizella conorum var. *venceslai* Velen.

Cystopezizella venceslai (Velen.) Svrček

Cystopezizella tehovens (Velen.) Svrček

Syn.: *Helotium tehovense* Velen. 1934 [non 1947]

Hymenoscyphus S. F. Gray

Hymenoscyphus albidus (Rob. in Desm.) Phillips

Syn.: *Helotium albidum* (Rob. in Desm.) Pat. sensu Velen. p. p.

Helotium robergei Dennis

Hymenoscyphus alismaceus (Velen.) Svrček

Syn.: *Helotium alismaceum* Velen.

Hymenoscyphus amenti (Batsch ex Fr.) Phillips

Syn.: *Helotium amenti* (Batsch ex Fr.) Fuckel

Hymenoscyphus borraginaceus (Velen.) Svrček

Syn.: *Helotium borraginaceum* Velen.

Hymenoscyphus calyculus (Sow. ex Fr.) Phillips sensu Dennis

Syn.: *Helotium acerinum* Velen. (?)

Helotium fusisporum Schroet. sensu Velen. p. p. maiore

Helotium obtusum var. *polypori* Velen.

Helotium phiala (Vahl ex Pers.) Fr. sensu Velen.

Helotium subcorticale Velen.

Hymenoscyphus campanuliformis (Fuckel) Raschle et E. Müller

Syn.: *Helotium aureolum* Sacc. sensu Velen.

Hymenoscyphus capreae (Velen.) Svrček

Syn.: *Helotium capreae* Velen.

Hymenoscyphus caudatus (Karst.) Dennis

Syn.: *Helotium caudatum* (Karst.) Velen.

Helotium phyllophilum (Desm.) Fr. sensu Velen. p. p. maiore

Hymenoscyphus codicum Svrček

Syn.: *Helotium vernum* Velen. [non *Ombrophila verna* Boud. = *Hymenoscyphus vernus* (Boud.) Dennis]

Hymenoscyphus conscriptus (Karst.) Korf ap. Kobayasi et al.

Syn.: *Helotium citrinum* (Hedw. ex Fr.) Fr. sensu Velen.

Helotium mali Velen.

Helotium septatum Velen.

Helotium spinosae Velen.

Hymenoscyphus crenulatus (Velen.) Svrček

Syn.: *Helotium crenulatum* Velen.

Hymenoscyphus denticulatus (Velen.) Svrček

Syn.: *Helotium denticulatum* Velen.

Hymenoscyphus desertorum (Velen.) Svrček

Syn.: *Helotium desertorum* Velen.

Hymenoscyphus discretus (Karst.) Svrček

Syn.: *Helotium loti* Velen.

Helotium loti var. *coronillae* Velen.

Helotium loti var. *roseipes* Velen.

Helotium lounense Velen.

- Hymenoscyphus duriusculus** [Velen.] Svrček
Syn.: *Helotium duriusculum* Velen.
- Hymenoscyphus eburneus** (Rob. in Desm.) Phillips
Syn.: *Helotium pezizoides* Velen.
- Hymenoscyphus epiphyllus** (Pers. ex Fr.) Rehm ap. Kauffm.
Syn.: *Helotium acicularum* (Rolland) Sacc. sensu Velen.
Helotium agrostideum var. *bipunctatum* Velen.
Helotium carpinicolum Rehm sensu Velen.
Helotium conformatum [Karst.] Karst. sensu Velen.
Helotium culmigenum Velen.
Helotium dentatum Velen.
Helotium lunatum Velen. p. p. maiore
Helotium novum Velen.
Helotium rubicolum Velen. [non *H. rubicolum* (Fr.) Fuckel]
- Hymenoscyphus euphorbiae** (Velen.) Svrček
Syn.: *Helotium confertum* Velen.
Helotium knautiae Velen. 1947 (non 1934)
Helotium octobrinum Velen.
Helotium tehovense Velen. 1947 (non 1934)
Helotium thymicolum Velen.
Helotium urticae var. *eryngii* Velen.
- Hymenoscyphus fagineus** (Pers. ex Fr.) Dennis
Syn.: *Helotium fagineum* (Pers. ex Fr.) Fr.
- Hymenoscyphus fossarum** (Velen.) Svrček
Syn.: *Helotium fossarum* Velen.
- Hymenoscyphus friesii** (Weinm.) Arendholz
Syn.: *Helotium foliicolum* Schroet. sensu Velen. p. p.
Helotium obtusum Velen. p. p.
- Hymenoscyphus fructigenus** (Bull. ex Fr.) Phillips
Syn.: *Helotium firmum* Velen.
- Hymenoscyphus furinus** [Velen.] Svr.
Syn.: *Helotium furinum* Velen.
- Hymenoscyphus gemmarum** (Boud.) O. Kuntze
Syn.: *Helotium gemmarum* Boud.
- Hymenoscyphus graminium** (Phillips) Svrček
Syn.: *Helotium ammonis* Velen.
Helotium calopus (Fr.) Fr. sensu Velen.
Helotium cerastii Velen.
Helotium gramineum (sic!) Phillips sensu Velen.
- Hymenoscyphus herbarum** (Pers. ex Fr.) Dennis
Syn.: *Helotium dolosellum* (Karst.) Boud. sensu Velen.
Helotium ebuli Velen.
Helotium urticae [Pers. ex Fr.] Karst. sensu Velen. p. p. maiore
- Hymenoscyphus humuli** [Lasch] Dennis
Syn.: *Helotium humuli* [Lasch] de Not.
- Hymenoscyphus immutabilis** (Fuck.) Dennis
Syn.: *Helotium trapezoideum* Velen.
- Hymenoscyphus juncisedus** (Velen.) Dennis
Syn.: *Helotium juncisedum* Velen.
Cudoniella junciseda (Velen.) Dennis
- Hymenoscyphus laetus** (Boud.) Dennis
Syn.: *Helotium laetum* [Boud.] Sacc.
Helotium lunatum Velen. p. p. minore
- Hymenoscyphus ligustri** (Velen.) Svrček
Syn.: *Helotium subcortiale* var. *ligustri* Velen.
- Hymenoscyphus luzularum** (Velen.) Svrček
Syn.: *Helotium luzularum* Velen.

- Hymenoscyphus mirabilis** (Velen.) Svrček
Syn.: *Helotium mirabile* Velen.
- Hymenoscyphus muricatus** (Velen.) Svrček
Syn.: *Helotium muricatum* Velen.
- Hymenoscyphus myrtilli** (Velen.) Svrček
Syn.: *Helotium myrtilli* Velen.
- Hymenoscyphus nudus** (Velen.) Svrček
Syn.: *Helotium nudum* Velen. 1947
Helotium radicololum Velen. 1934 (non *H. radicola* P. Henn. 1902)
- Hymenoscyphus obtusus** (Velen.) Svrček
Syn.: *Helotium obtusum* Velen. p. p.
- Hymenoscyphus parilis** (Karst.) Dennis
Syn.: *Helotium alnisedum* Velen.
Helotium glochidiatum Velen.
Helotium milliare Velen.
Helotium obtusum Velen. p. p. minore
- Hymenoscyphus polytrichi** (Velen.) Svrček
Syn.: *Helotium hylacomii* var. *polytrichi* Velen.
Helotium polytrichi Velen.
- Hymenoscyphus populneus** (Velen.) Svrček
Syn.: *Helotium populneum* Velen.
- Hymenoscyphus putaminum** (Velen.) Svrček
Syn.: *Helotium putaminum* Velen.
- Hymenoscyphus ranarum** (Velen.) Svrček
Syn.: *Helotium ranarum* Velen.
- Hymenoscyphus repandus** (Phillips) Dennis
Syn.: *Helotium repandum* Phillips
Helotium vaginale Velen.
- Hymenoscyphus rhizomorphae** (Velen.) Svrček
Syn.: *Helotium rhizomorphae* Velen.
- Hymenoscyphus rhodoleucus** (Fr. ex Pers.) Phillips
Syn.: *Helotium rhodoleucum* (Fr. ex Pers.) Fr.
- Hymenoscyphus rhytidiadelphi** Svrček
Syn.: *Helotium procerum* Karst. sensu Velen.
- Hymenoscyphus robustior** (Karst.) Dennis
Syn.: *Helotium suzai* Svrček
- Hymenoscyphus rokebyensis** (Svrček) Matheis
Syn.: *Helotium fagineum* (Pers. ex Fr.) Fr. sensu Velen., p. p. minore
- Hymenoscyphus salicellus** (Fr.) Dennis
Syn.: *Helotium crassum* Velen.
Helotium rehbergense Velen.
Helotium rehbergense var. *pulchellum* Velen. (?)
Helotium salicellum (Fr.) Fr.
- Hymenoscyphus sazavae** (Velen.) Svrček
Syn.: *Helotium lutescens* [(Hedw.) Fr.] Fr. sensu Velen. p. p. max.
Helotium sazavae Velen.
Helotium eichleri Bres. sensu Velen.
- Hymenoscyphus scutula** (Pers. ex Fr.) Phillips
Syn.: *Helotium acutisporum* Velen.
Helotium aviculare Velen.
Helotium cejpi Velen.
Helotium cejpi var. *struthiopteridis* Velen.
Helotium constantini var. *ochraceum* Velen.
Helotium cyparissias Velen.
Helotium epilobii Velen.
Helotium geranii Velen.

- Helotium granulosum* Velen.
Helotium nardi Velen.
Helotium rubilipes Boud. sensu Velen.
Helotium rubicolum [Fr.] Fuckel sensu Velen. (ut „*rubicola*“)
Helotium variabile Velen.
Helotium veledae Velen.
Helotium scutula var. *cirsii* Velen.
Helotium scutula var. *genistae* Velen.
Helotium scutula var. *lysimachiae* Velen.
- Hymenoscyphus scutula** var. **fucatus** Phillips
 Syn.: *Helotium macrosporum* Velen.
- Hymenoscyphus serotinus** (Pers. ex Fr.) Phillips
 Syn.: *Helotium serotinum* (Pers. ex Fr.) Fr.
- Hymenoscyphus sordidus** (Fuckel) Phillips
 Syn.: ? *Helotium erumpens* Velen.
Helotium lachnoides Velen.
- Hymenoscyphus strangulatus** (Velen.) Svrček
 Syn.: *Helotium strangulatum* Velen.
- Hymenoscyphus succineus** (Velen.) Svrček
 Syn.: *Helotium succineum* Velen.
- Hymenoscyphus vernus** (Boud.) Dennis
 Syn.: *Helotium diana* Velen.
Helotium infundibulum Velen.
Helotium niveum Velen.
Helotium pileatum Velen. 1922 (non Karsten 1871, nec Peck 1876)
Helotium praecox Velen.
Helotium pruni Velen. 1922 (1934 pro parte majore)
Helotium pruni var. *roburis* Velen.
- Hymenoscyphus vitellinus** (Rehm) O. Kuntze
 Syn.: *Helotium geophilum* Velen. (?)
Helotium julianum Velen.
Helotium repandum var. *rumicis* Velen.
Helotium stramineum Velen.
- Hymenoscyphus vitreus** (Velen.) Svrček
 Syn.: *Helotium vitreum* Velen.
- Lachnum** Retz. ex Fr.
- Lachnum pygmaeum** (Fr.) Bres.
 Syn.: *Helotium graminum* Velen.
Helotium smardae Velen.
- Lachnum salicariae** (Rehm) Velen.
 Syn.: *Helotium microsporum* Velen. p. p.
- Lanzia** Sacc.
- Lanzia aesculi** (Velen.) Svrček
 Syn.: *Helotium aesculi* Velen.
- Lanzia stellariae** (Velen.) M. B. Spooner
 Syn.: *Helotium stellariae* Velen.
Helotium obtusum Velen. p. p. minore
- Lanzia vacini** (Velen.) Svrček
 Syn.: *Helotium vacini* Velen.
- Muscicola** Velen.
- Muscicola dubia** (Velen.) Svrček
 Syn.: *Helotium dubium* Velen.
Helotium hylcomii Velen.
- Ombrophila** Fr.
- Ombrophila morthieriana** Rehm
 Syn.: *Helotium monachorum* Velen.

Ombrophila pileata (Karst.) Karst.

Syn.: *Helotium agrostideum* Velen.

Pezizella Fuckel emend. Svrček 1983

Pezizella junipericola Svrček

Syn.: *Helotium juniperi* Velen. (non *Pezizella juniperi* Velen.)

Pezizella subtilis (Fr. ex Pers.) Dennis

Syn.: *Helotium subtile* Fr. ex Pers.

Phaeohelotium Kanouse emend. Dennis

Phaeohelotium conincola (Velen.) Svrček

Syn.: *Helotium conincola* Velen.

Phaeohelotium geogenum (Cooke) Svrček et Matheis

Syn.: *Helotium ulmariae* Velen.

Phaeohelotium imberbe (Bull. ex Fr.) Svrček

Syn.: ? *Helotium acaciae* Velen.

Helotium calamarium Velen.

Helotium cupularum Velen.

Helotium decolorans Velen. p. p.

Helotium franciscae Velen.

Helotium imberbe (Bull. ex Fr.) Fr.

Helotium obliquum Velen.

? *Helotium robiniae* Velen.

? *Helotium roburneum* Velen.

Phaeohelotium pani (Velen.) Svrček

Syn.: *Helotium pani* Velen.

Phaeohelotium vasaense (Karst.) Svrček

Syn.: *Helotium constantini* Boud. sensu Velen. (ut „constantini“)

Psilachnum Höhnelt

Psilachnum equisetinum (Quélet.) Svrček

Syn.: *Helotium equisetinum* Quélet (sensu Velen.)

Psilachnum inquinatum (Karst.) Dennis

Syn.: *Helotium telmateiae* Velen.

Psilocistella Svrček

Psilocistella subcitrina (Velen.) Svrček

Syn.: *Helotium subcitrinum* Velen.

Rutstroemia Karsten emend. White

Rutstroemia firma (Pers. ex Fr.) Karst.

Syn.: *Helotium quercinum* Velen.

Rutstroemia macrospora (Peck) Kanouse in Wehmeyer

Syn.: *Helotium dumbirensense* Velen.

Weinmannioscyphus Svrček

Weinmannioscyphus messerschmidii (Weinm.) Svrček

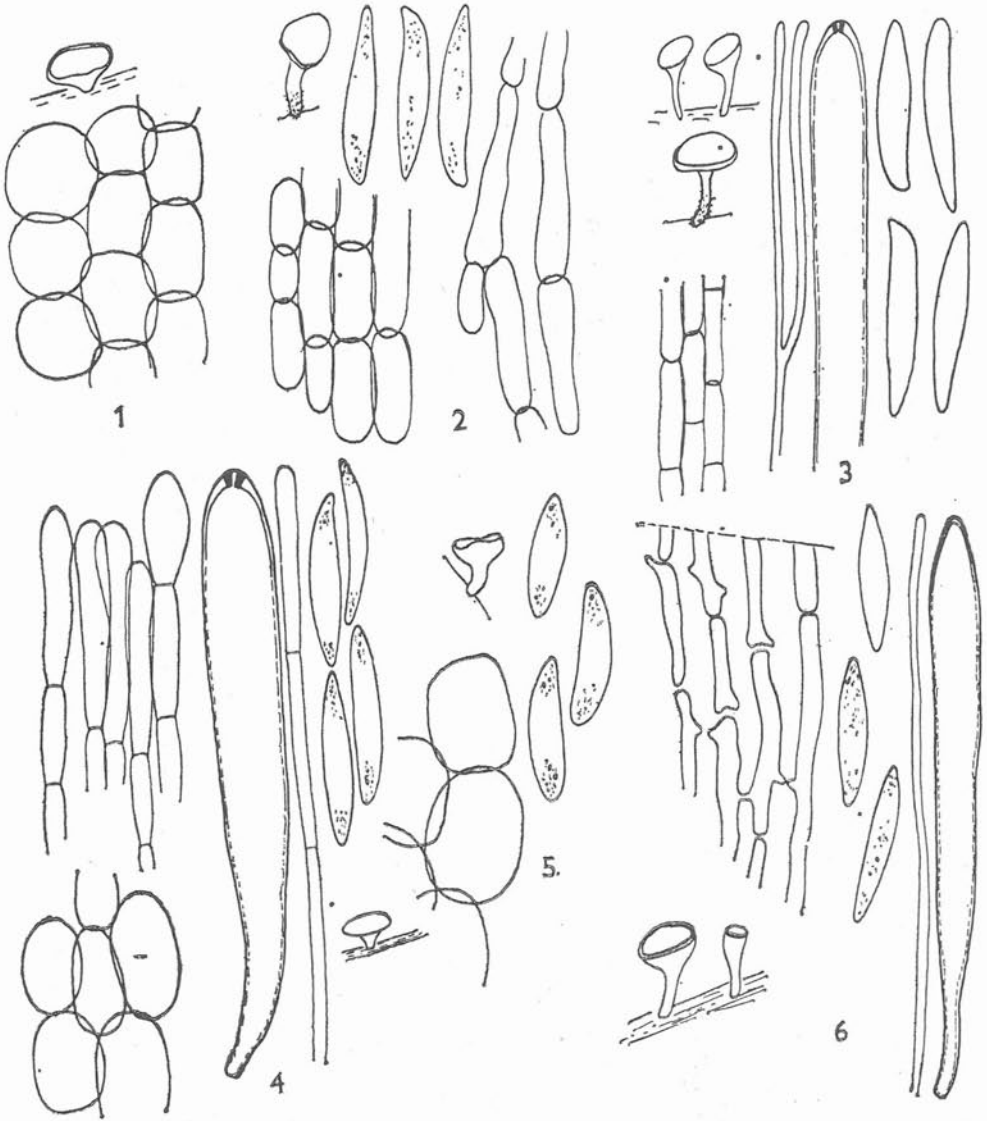
Syn.: *Helotium borisi* Velen.

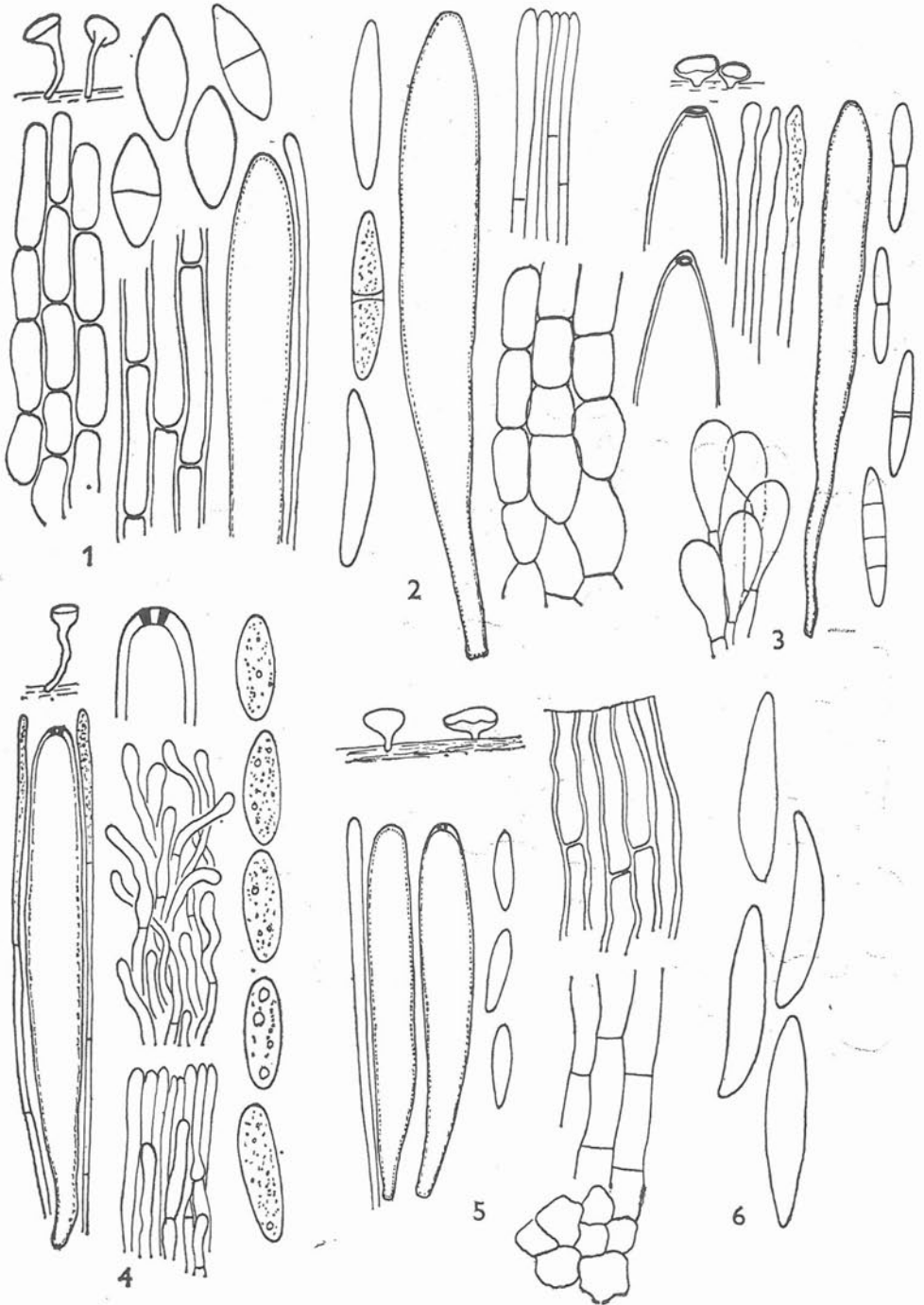
Helotium microsporium Velen. p. p.

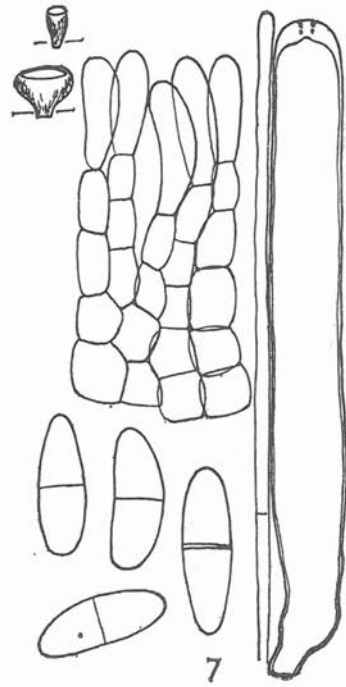
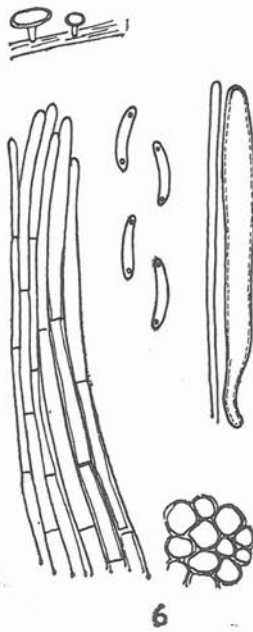
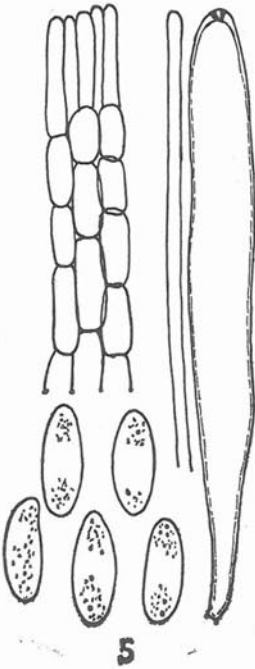
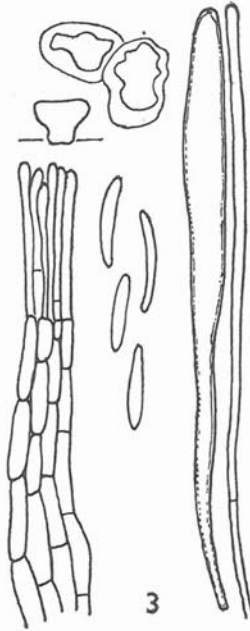
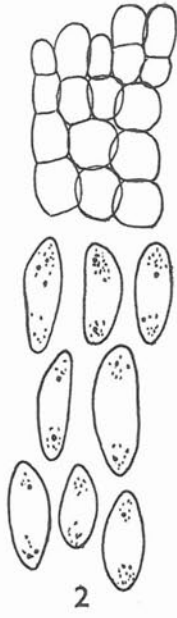
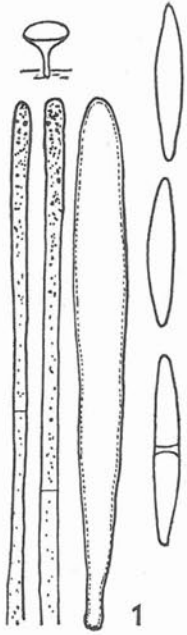
Helotium rubescens Velen. (non auct. al.)

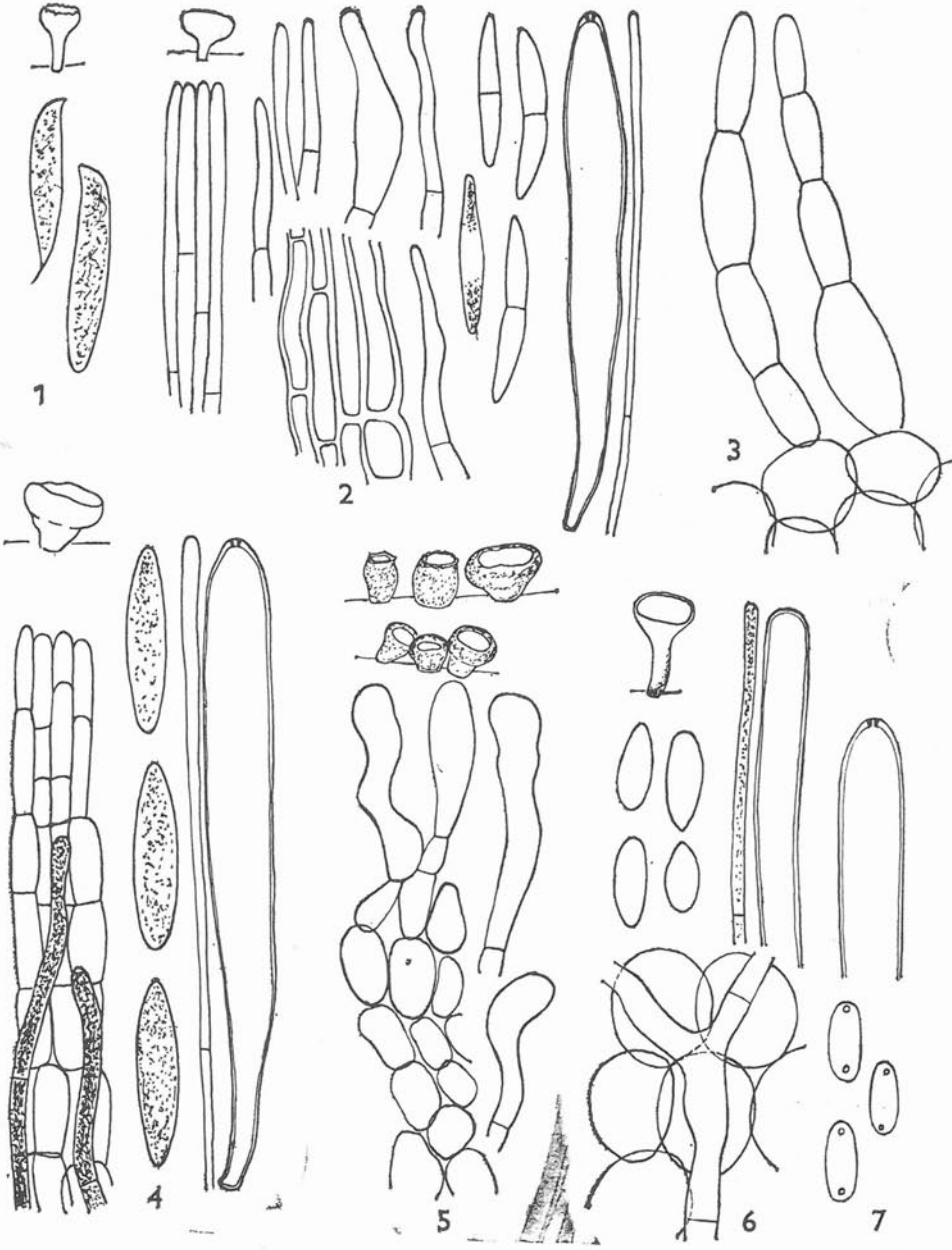
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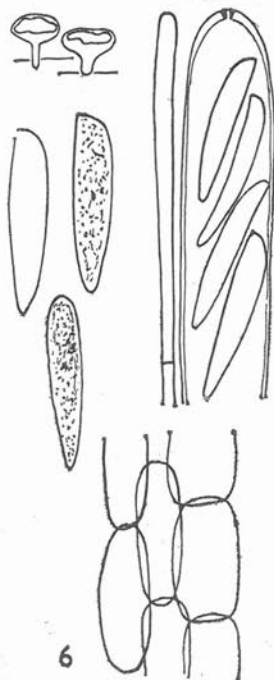
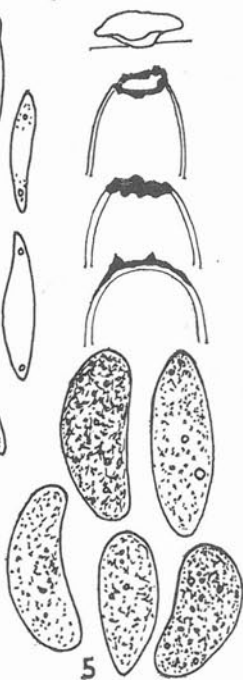
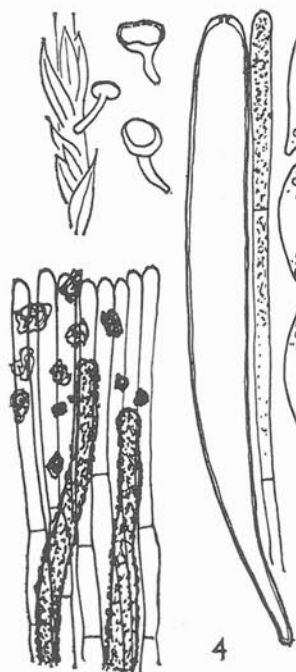
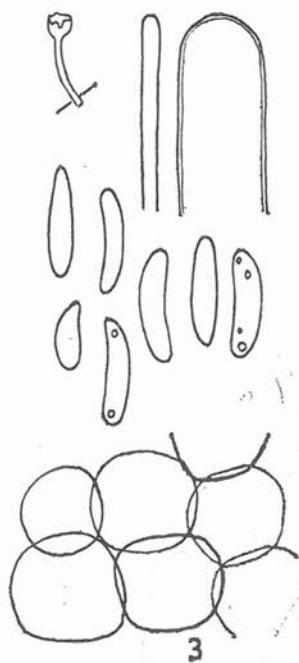
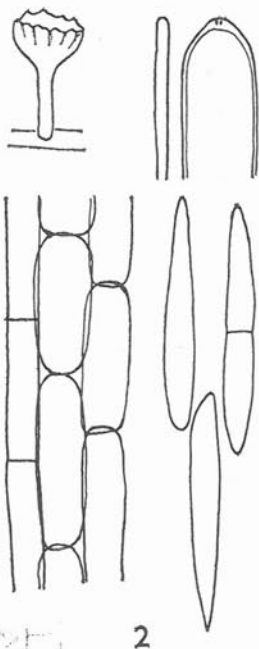
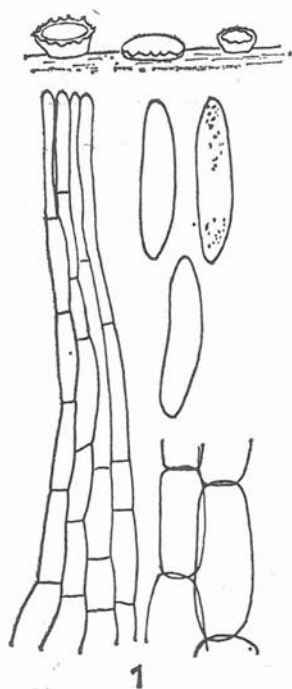
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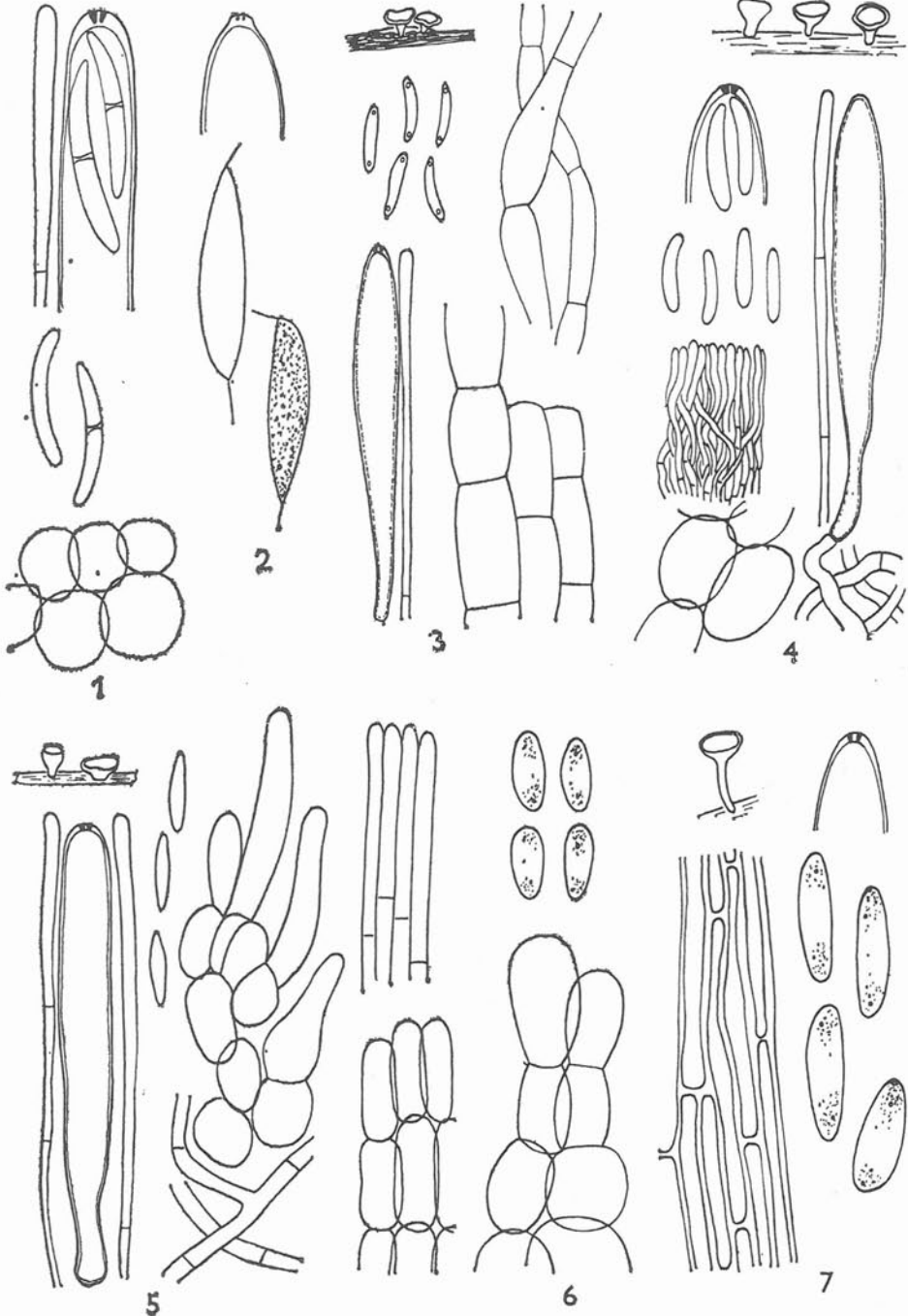


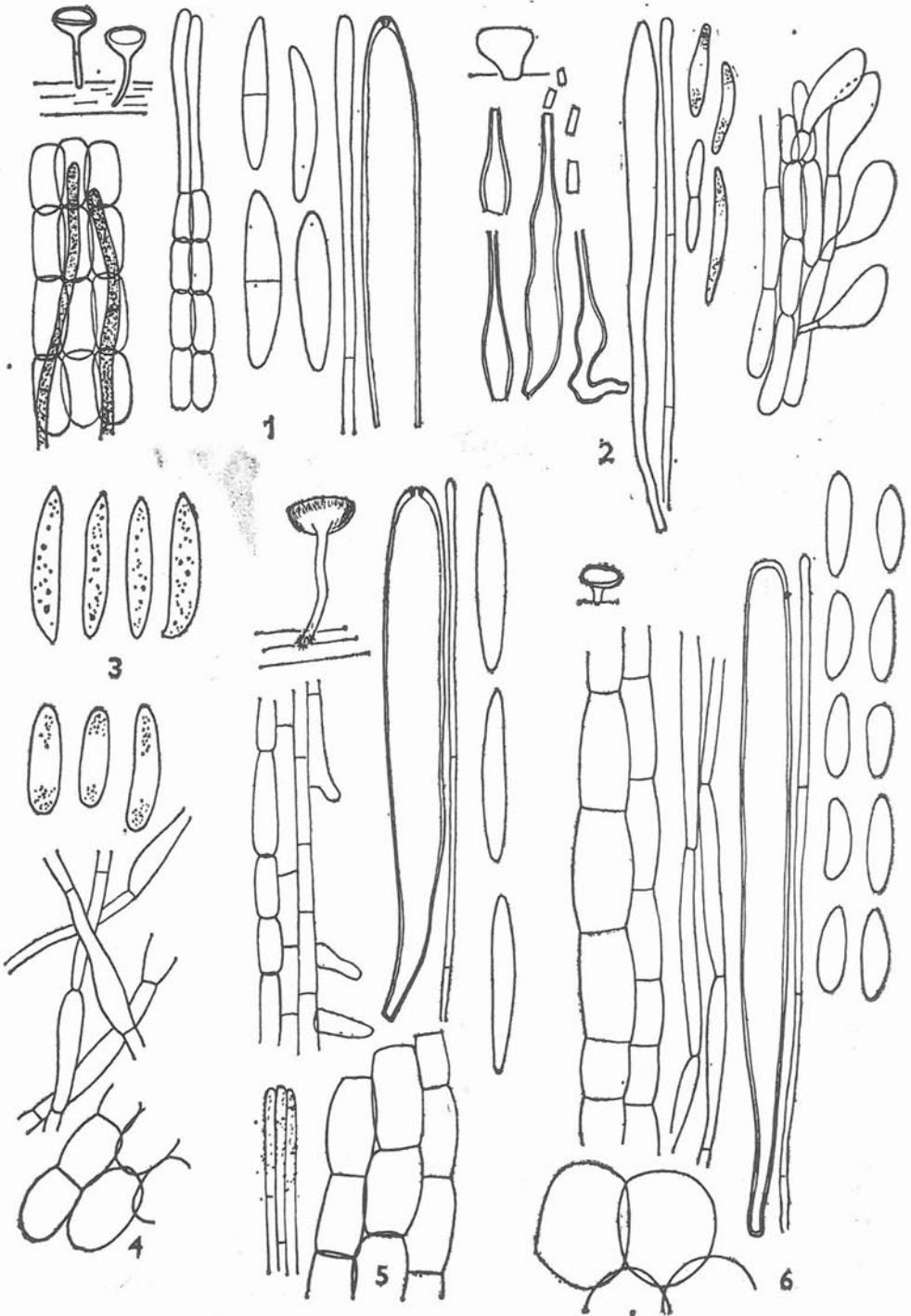






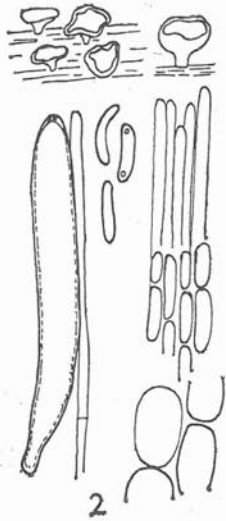




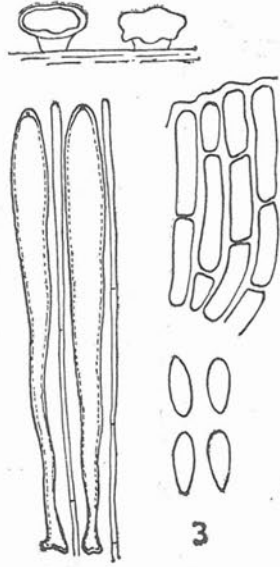




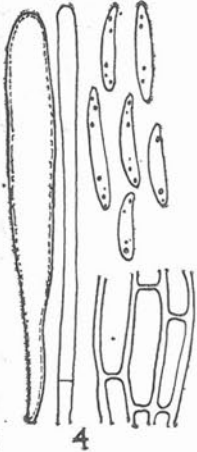
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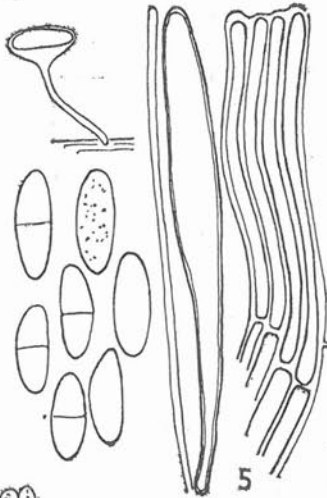
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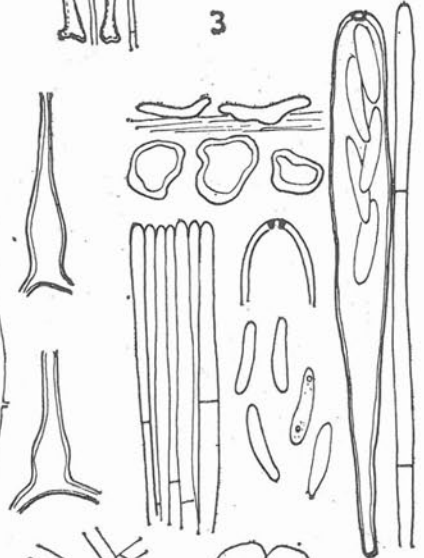
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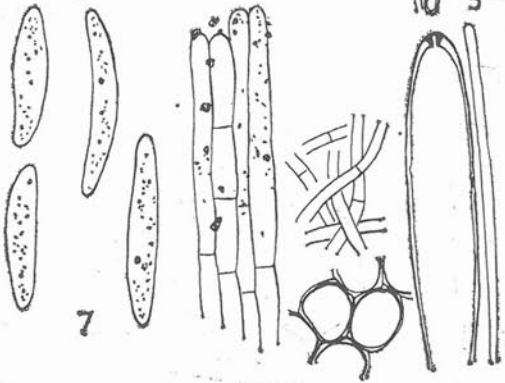
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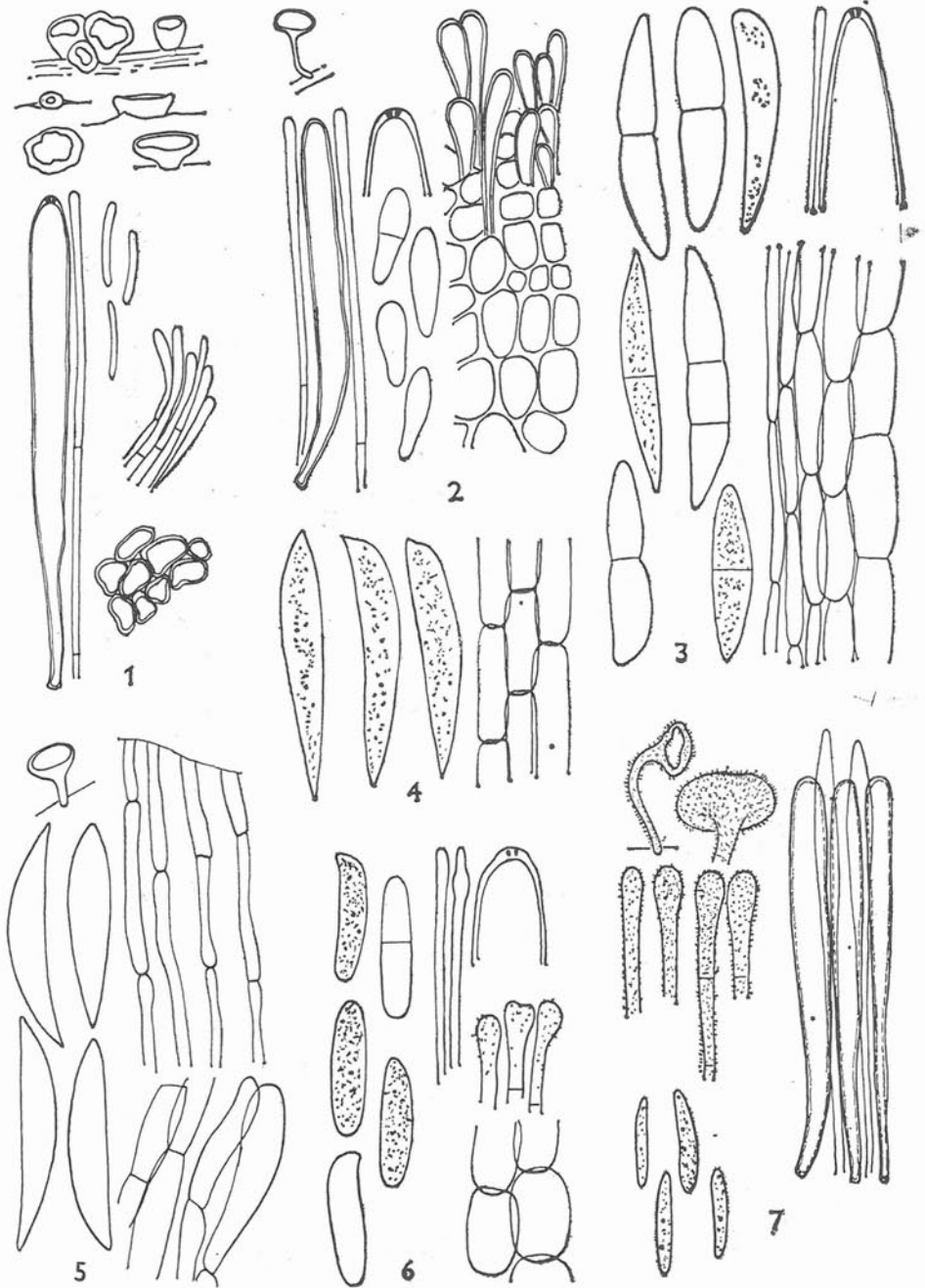
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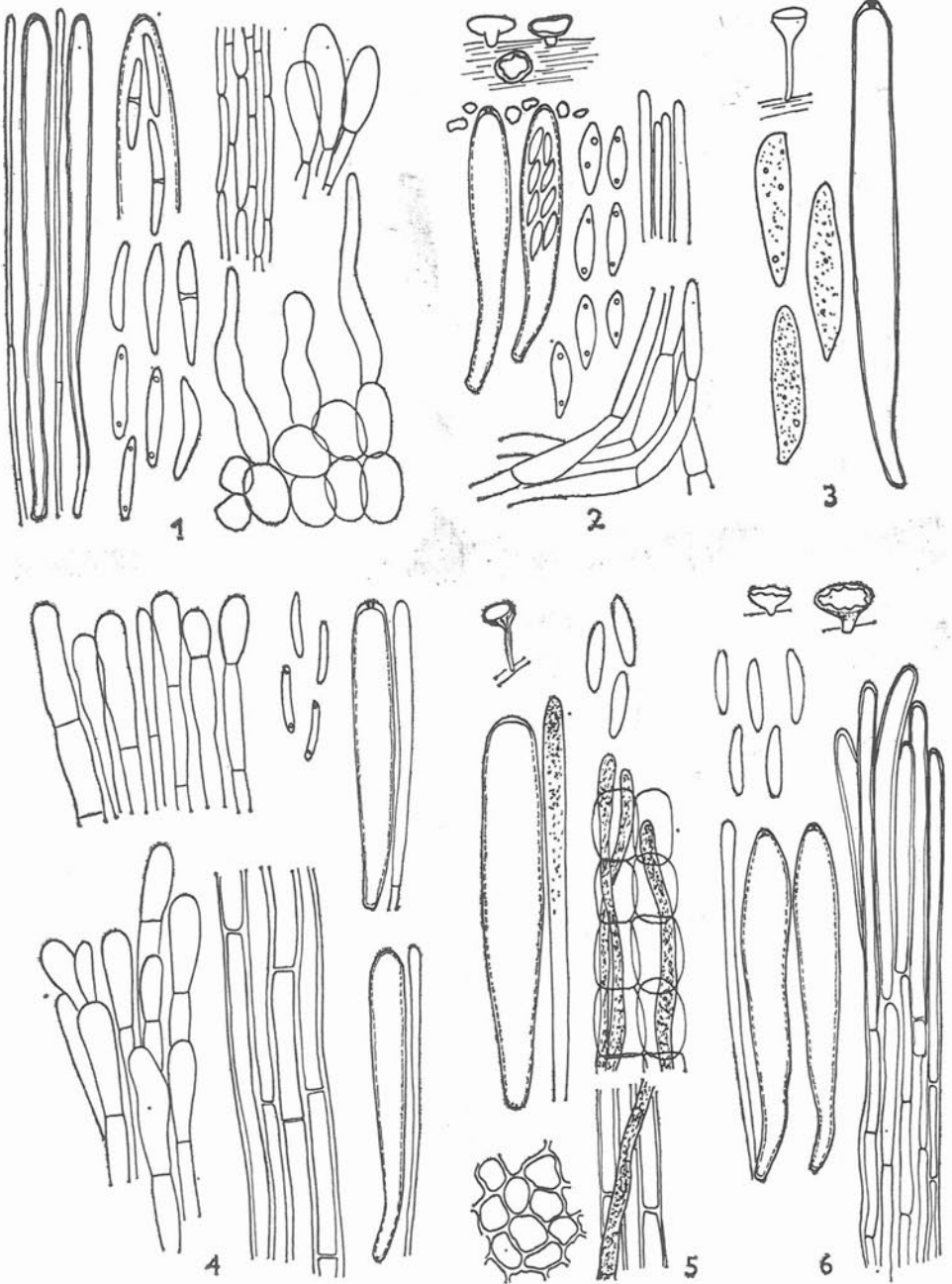


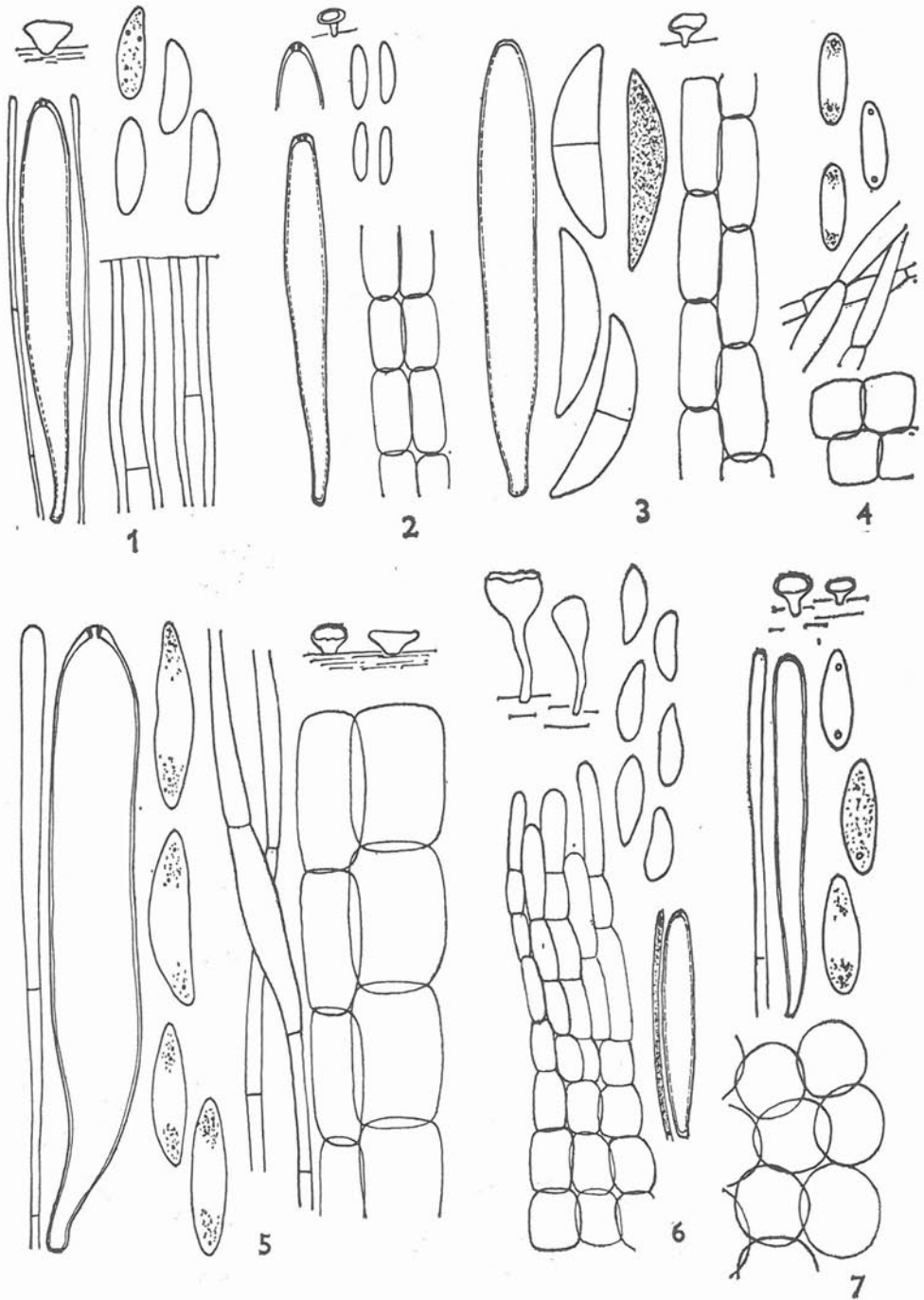
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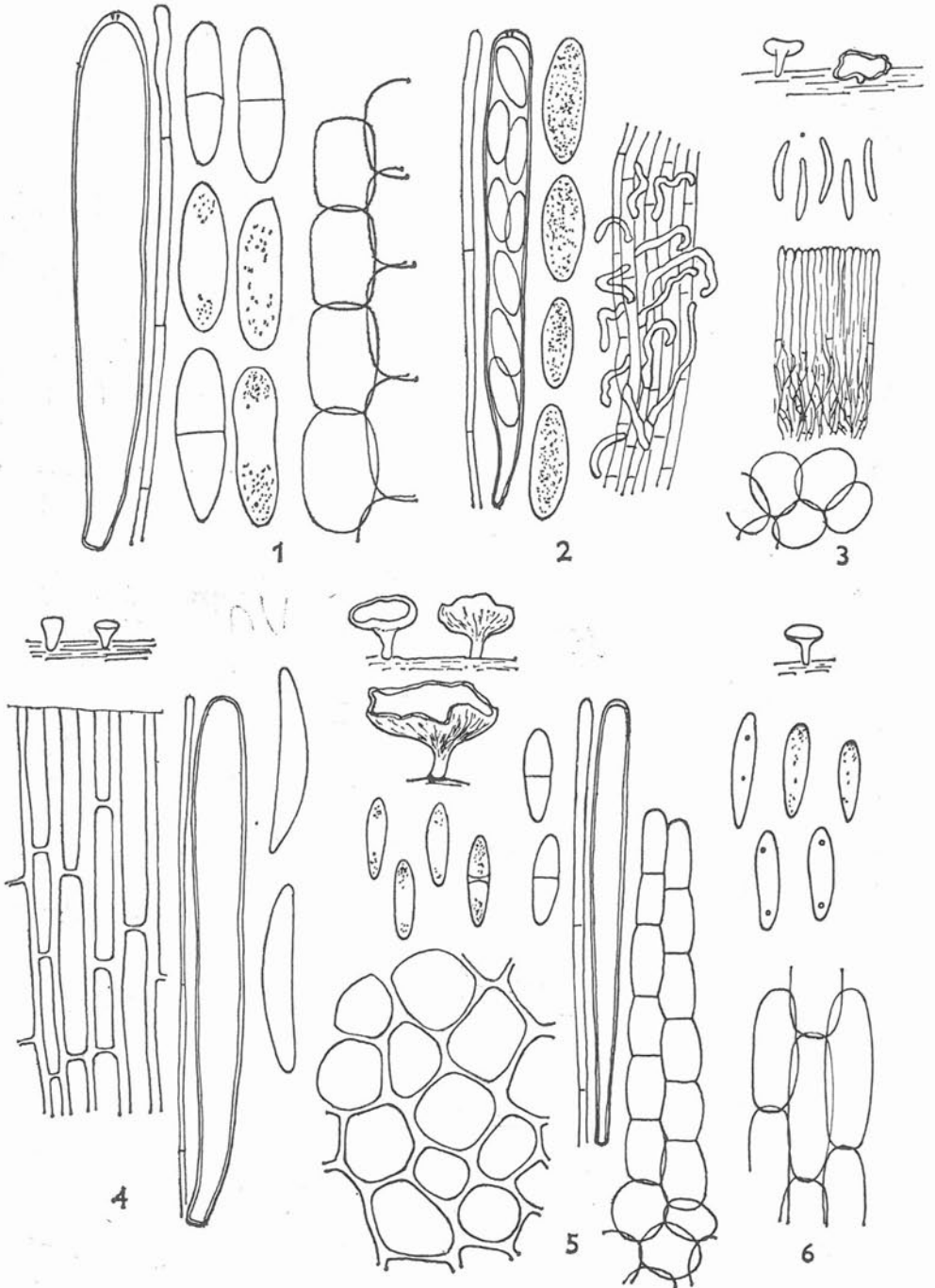


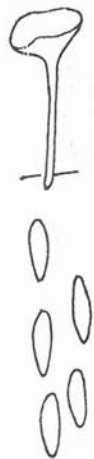
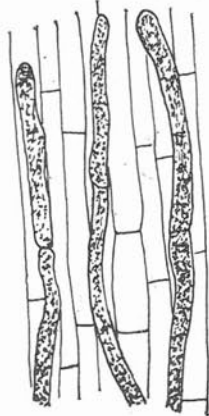
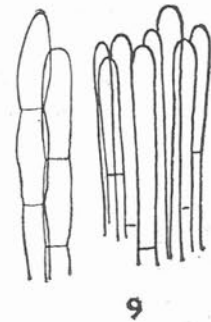
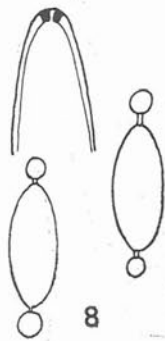
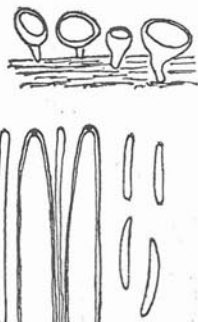
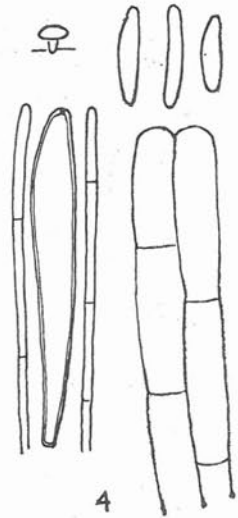
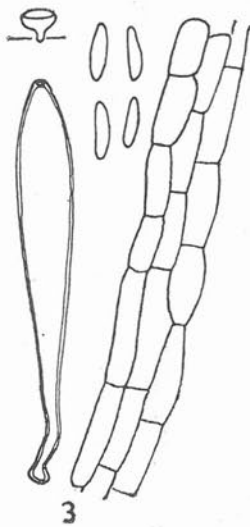
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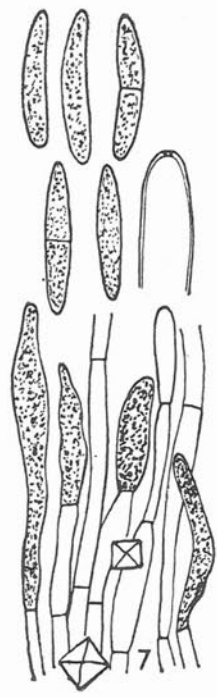
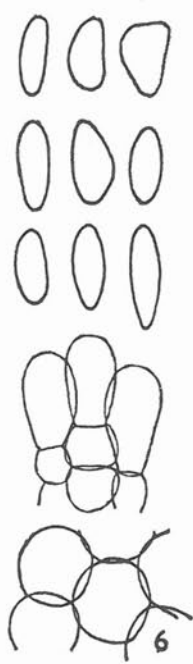
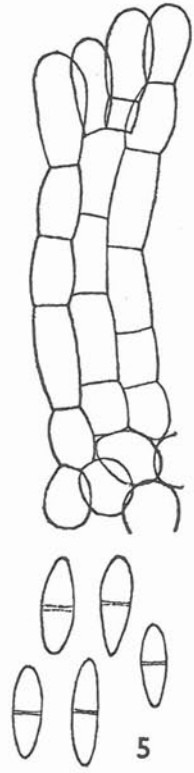
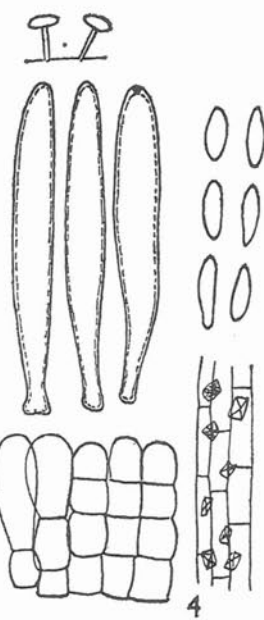
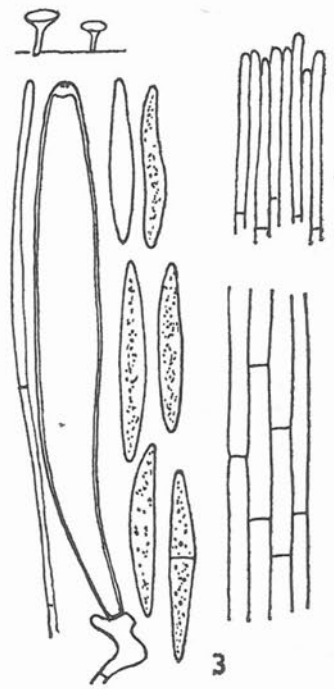
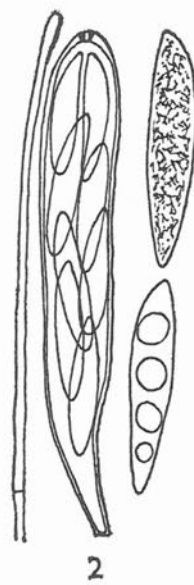
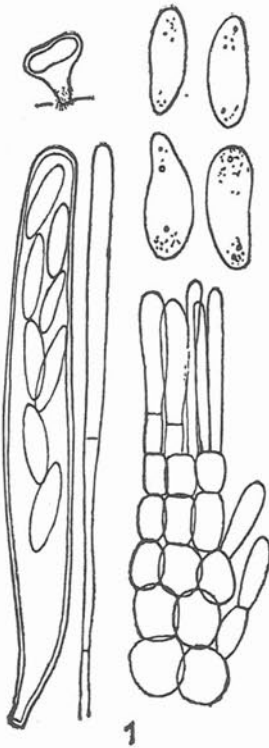


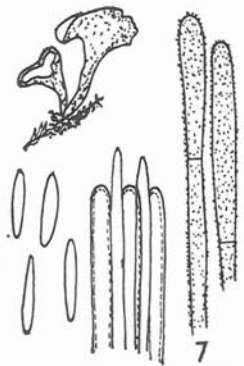
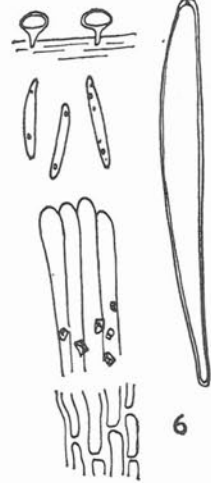
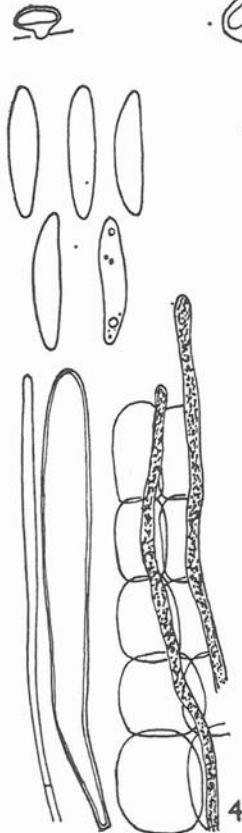
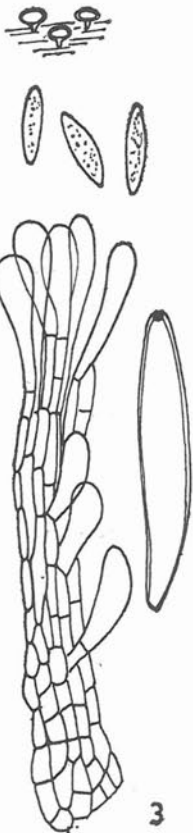
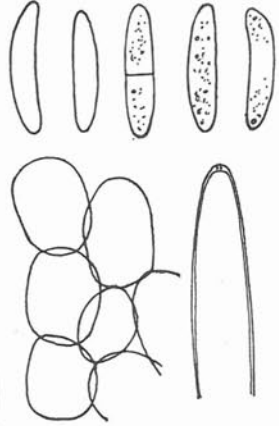
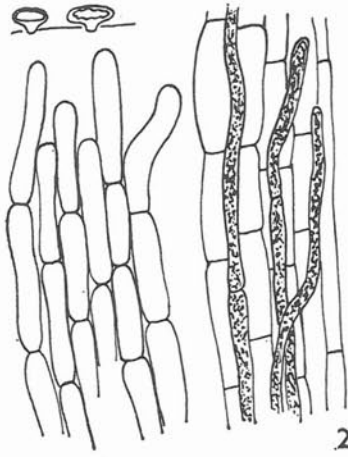
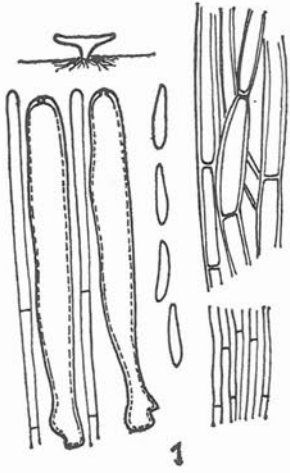


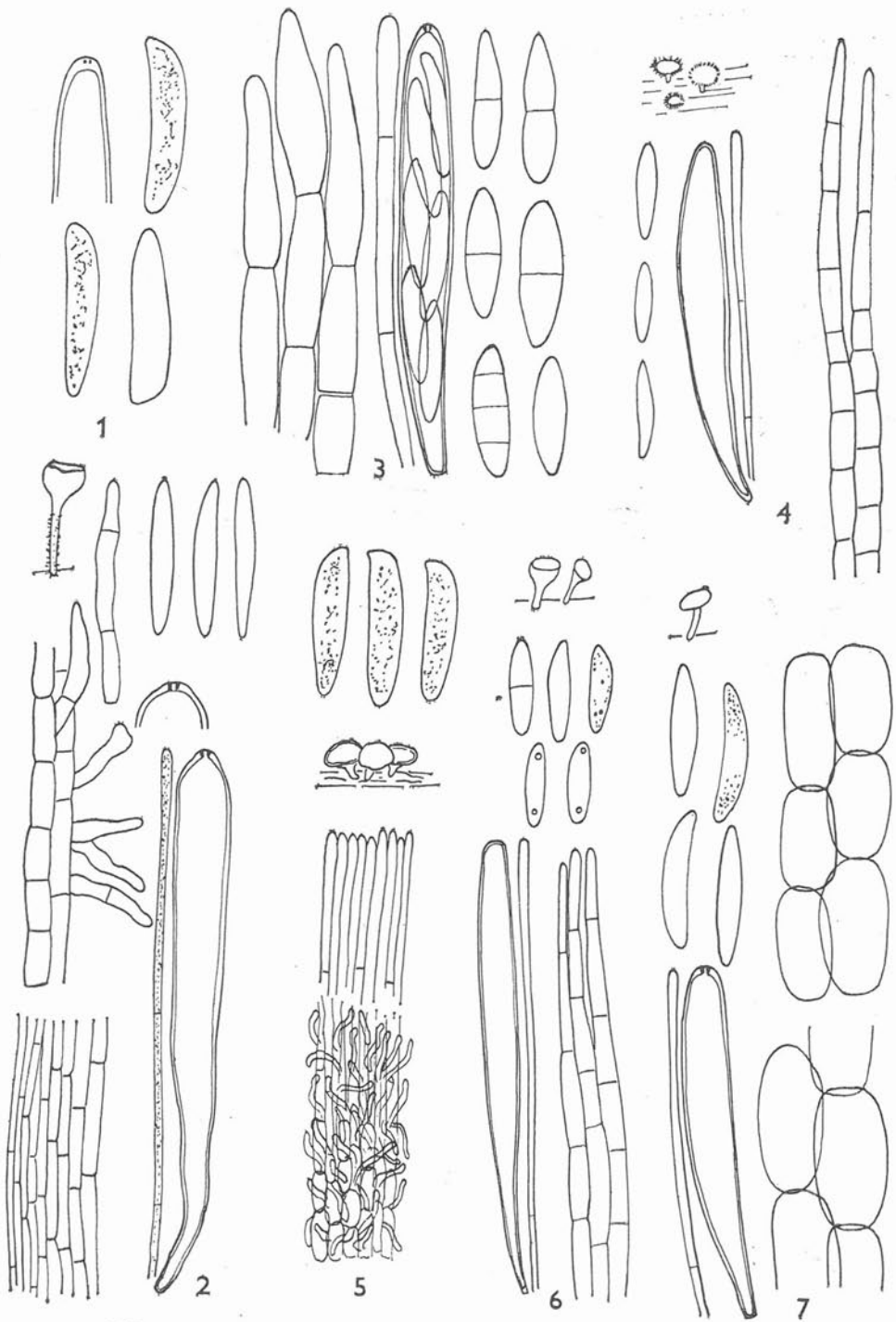


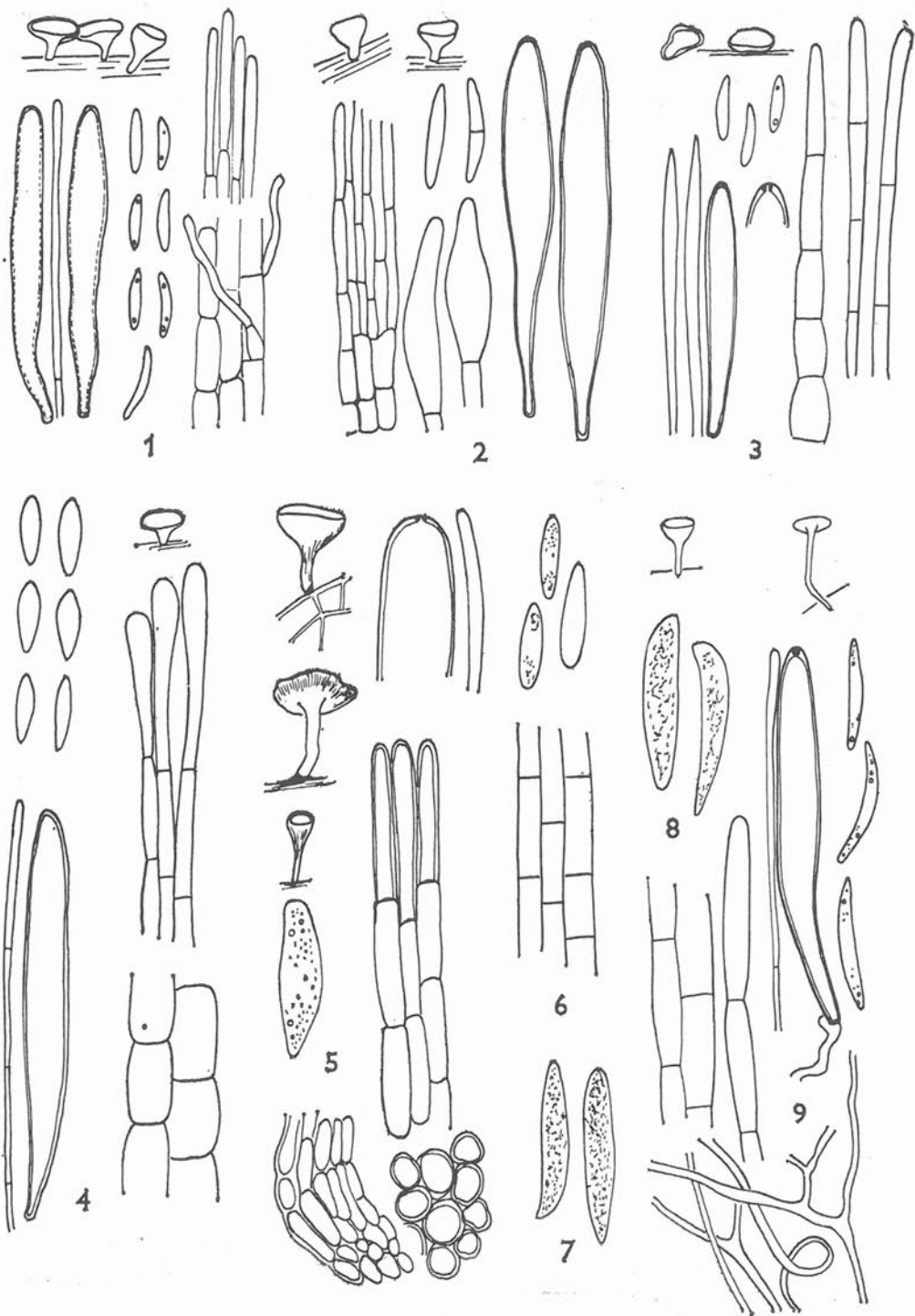


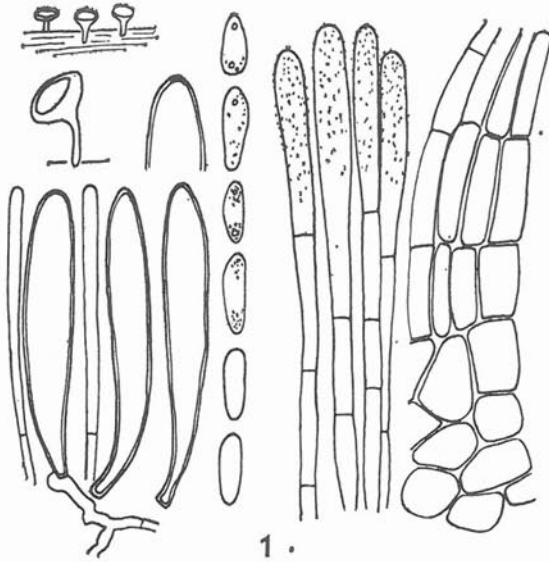




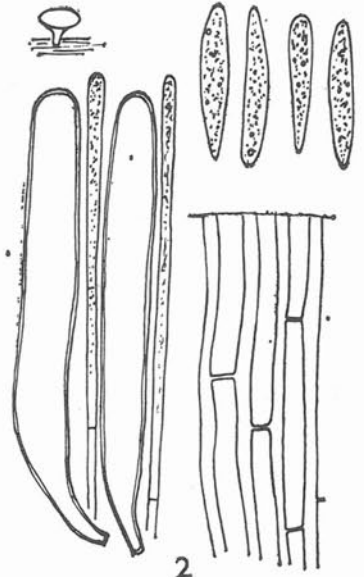




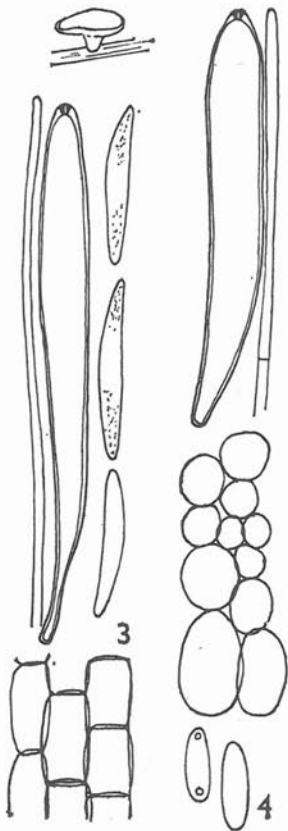




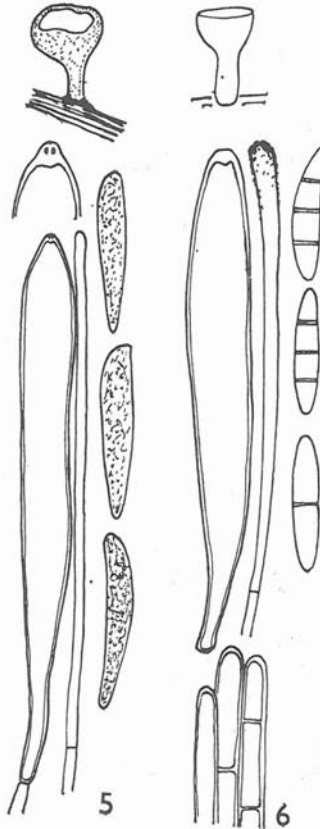
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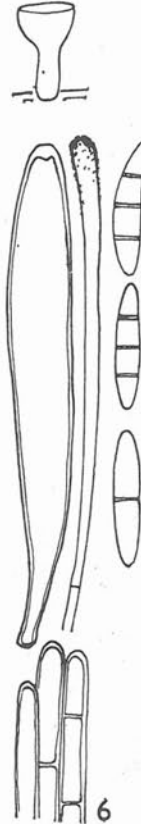
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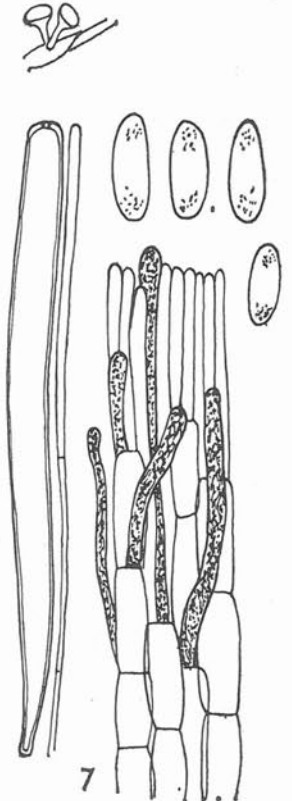
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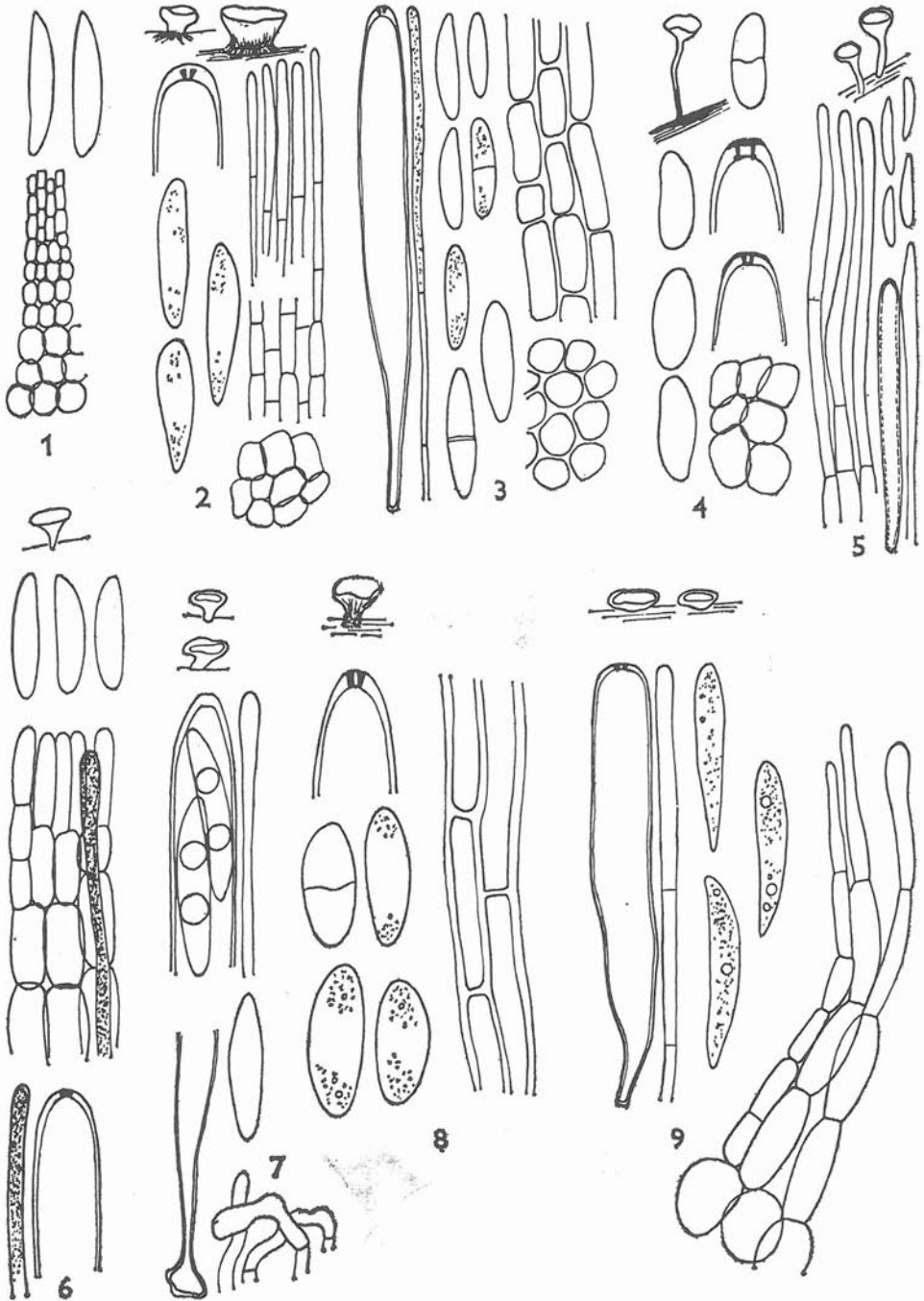
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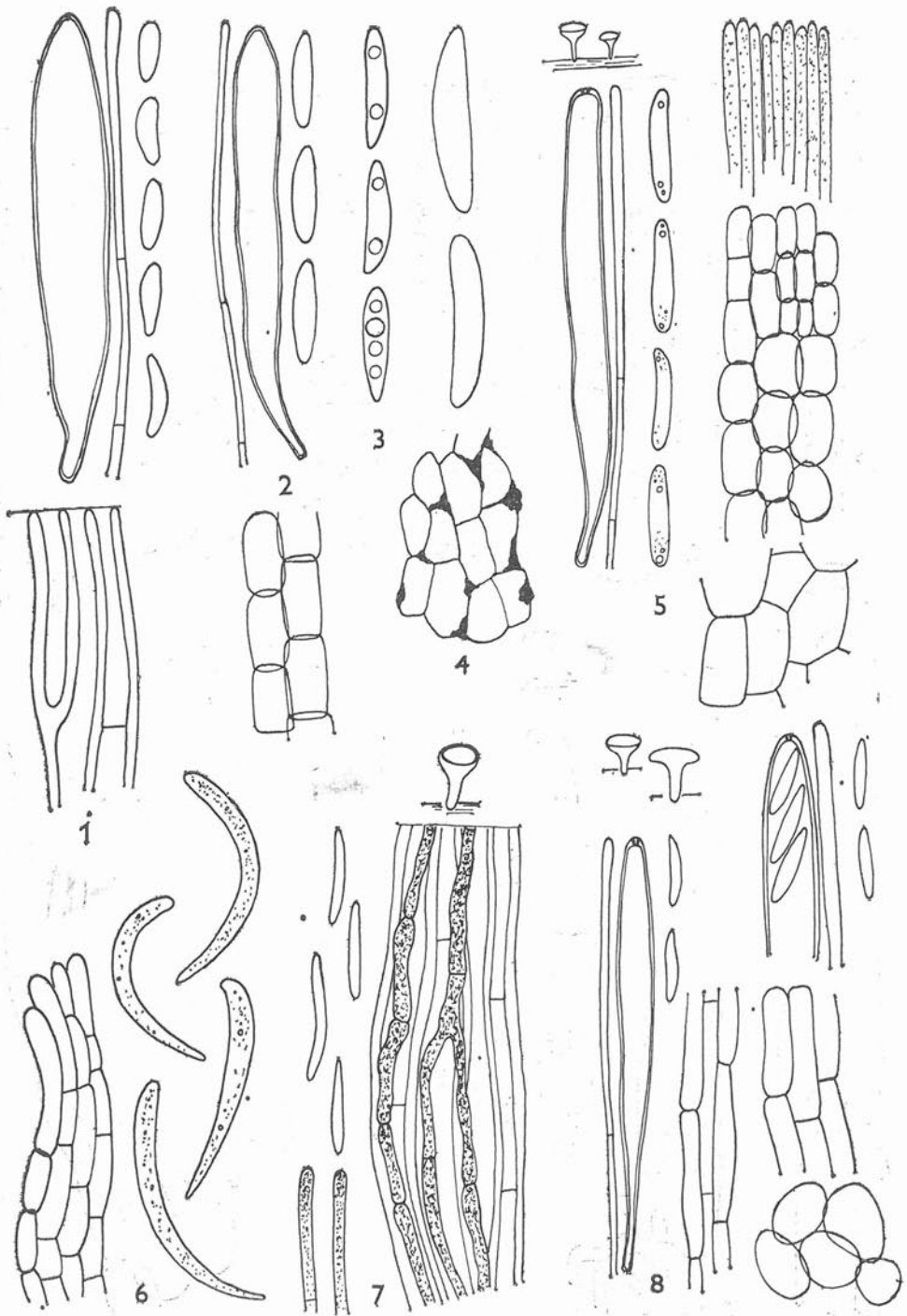


5.



6.





EXPLANATIONS OF PLATES

PLATE I.

1. *Helotium acaciae* (holotype). Habit sketch, excipular cells. — 2. *H. acerinum* (holotype). Habit sketch, ascospores, cells of ectal excipulum (on left) and hyphae of flesh (on right). — 3. *H. acutisporum* (lectotype). Habit sketch, detail of ectal excipulum, part of paraphysis and ascus, ascospores. — 4. *H. agrostideum* (lectotype). Marginal hyphae of ectal excipulum and excipular cells (below), ascus, paraphysis, ascospores, habit sketch. — 5. *H. agrostideum* var. *bipunctatum* (lectotype). Habit sketch, ascospores, excipular cells. — 6. *H. alrae* (holotype). Margin of ectal excipulum in surface view, ascospores, paraphysis, ascus, habit sketch.

PLATE II.

1. *Helotium albipes* (holotype). Habit sketch, ascospores, details of excipulum (on left from the under side of the receptacle, on right from near the margin), part of ascus, and paraphysis. — 2. *H. alismaceum* (lectotype). Ascospores, ascus, marginal hyphae of ectal excipulum, excipular cells. — 3. *H. alnisedum* (holotype). Habit sketch, upper part of asci and paraphyses, ascus, marginal cells of excipulum, ascospores. — 4. *H. ammonis* (lectotype). Habit sketch, apex of ascus, ascus, paraphyses, details of excipulum, ascospores. — 5. *H. amoenum* (lectotype). Habit sketch, paraphysis, asci, ascospores, details of excipulum. — 6. *H. aviculare* (holotype). Ascospores.

PLATE III.

1. *Helotium borraginaceum* (holotype). Habit sketch, paraphyses, ascus, ascospores. — 2. *H. calamarium* (holotype). Margin of excipulum, ascospores. — 3. *H. capreae* (lectotype). Habit sketch, details of ectal excipulum, ascospores, ascus, paraphysis. — 4. *H. cejpi* (lectotype). Ascospores. — 5. *H. cerastii* (holotype). Details of excipulum (marginal hyphae and excipular cells), ascospores, paraphysis, ascus. — 6. *H. confertum* (holotype). Habit sketch, section of margin, cells of hypothecium, ascospores, paraphysis, ascus. — 7. *H. conincola* (lectotype). Habit sketch, margin of excipulum, ascospores, paraphysis, ascus.

PLATE IV.

1. *Helotium constantinii* var. *ochraceum* (holotype). Habit sketch, ascospores. — 2. *H. crenulatum* (holotype). Habit sketch, details of excipulum, ascospores, ascus, paraphysis. — 3. *H. cupularum* (holotype). Hyphae running out at the surface of ectal excipulum. — 4. *H. culmigenum* (lectotype). Habit sketch, margin of excipulum in surface view, ascospores, paraphysis, ascus. — 5. *H. daphninum* (holotype). Habit sketches, details of ectal excipulum. — 6. *H. decolorans* (lectotype). Habit sketch, ascospores, part of paraphysis and ascus, details of ectal excipulum in surface view. — 7. *H. decolorans* (PRM 148010). Part of ascus, ascospores.

PLATE V.

1. *Helotium dentatum* (lectotype). Habit sketches, section of margin, ascospores, excipular cells. — 2. *H. denticulatum* (lectotype). Habit sketch, part of paraphysis and ascus, excipular cells, ascospores. — 3. *H. diana* (holotype). Habit sketch, part of paraphysis and ascus, ascospores, excipular cells. — 4. *H. desertorum* (holotype). Habit sketches, margin of excipulum in surface view, ascus, paraphysis, ascospores. — 5. *H. dumbirensis* (holotype). Habit sketch, apex of asci with strongly amyloid pore, ascospores. — 6. *H. duriusculum* (lectotype). Habit sketch, ascospores, part of paraphysis and ascus, excipular cells.

PLATE VI.

1. *Helotium ebuli* (holotype). Part of paraphysis and ascus, ascospores, excipular cells. — 2. *H. epilobii* (lectotype). Part of ascus, ascospores. — 3. *H. erumpens* (holotype). Habit sketch, ascospores, paraphysis, hyphae of flesh, cells of excipulum ectale. —

4. *H. euphorbiae* [lectotype]. Habit sketch, apex of ascus, ascospores, paraphysis, ascus with hyphae of hypothecium, marginal zone of excipulum in surface view, excipular cells from the under side of the receptacle. — 5. *H. fossarum* (holotype). Habit sketch, ascus, paraphyses, ascospores, cells and hyphae running out at the surface of ectal excipulum, marginal hyphae and excipular cells. — 6. *H. franciscae* (holotype). Ascospores, margin of excipulum. — 7. *H. fusisporum* var. *spinosae* (PRM 147765). Habit sketch, details of ectal excipulum, apex of ascus, ascospores.

PLATE VII.

1. *Helotium geiphilum* [lectotype]. Habit sketch, details of excipulum in surface view, ascospores, paraphysis, ascus. — 2. *H. glochidiatum* (holotype). Habit sketch, conidiophores of *Chalara* sp., ascus, paraphysis, ascospores, cells running out at the surface of ectal excipulum. — 3. *H. granulatum* [lectotype]. Ascospores. — 4. *H. infundibulum* [lectotype]. Ascospores, hyphae of flesh, excipular cells. — 5. *H. julianum* (holotype). Habit sketch, superficial hyphae of stipe in section, ascus, paraphysis, ascospores, marginal hyphae of excipulum, excipular cells. — 6. *H. juncisedum* (holotype). Habit sketch, excipular cells and hyphae, ascus, paraphysis, ascospores.

PLATE VIII.

1. *Helotium knautiae* (Velen. 1934, holotype). Habit sketch, ascus, paraphyses, ascospores, marginal hyphae and superficial cells of excipulum ectale. — 2. *H. knautiae* (Velen. 1947, holotype). Habit sketches, ascus, paraphysis, ascospores, details of ectal excipulum. — 3. *H. kunicense* (holotype). Habit sketch, asci, paraphyses, details of ectal excipulum at the margin of the receptacle in surface view, ascospores. — 4. *H. lachnoides* (holotype). Ascus, paraphysis, ascospores, details of ectal excipulum. — 5. *H. loniceriae* (holotype). Habit sketch, ascospores, paraphysis, ascus, ectal excipulum in surface view, *Chalara*-conidiophores. — 6. *H. loti* [lectotype]. Habit sketches, ascus, paraphysis, apex of ascus, ascospores, marginal hyphae, hyphae and excipular cells [below]. — 7. *H. lunatum* (holotype). Ascospores, details of ectal excipulum and flesh, excipular cells from the under side of the receptacle, ascus, paraphysis.

PLATE IX.

1. *Helotium lounense* (holotype). Habit sketches, asci, paraphysis, ascospores, section of margin, excipular cells. — 2. *H. ludmilae* (holotype). Habit sketch, ascus, paraphyses, apex of ascus, ascospores, ectal excipulum with marginal cells in surface view. — 3. *H. luzularum* (holotype). Ascospores, part of ascus and paraphysis, details of excipulum. — 4. *H. macrosporium* [lectotype]. Ascospores, excipular cells. — 5. *H. magnificum* [lectotype]. Habit sketch, ascospores, detail of excipulum ectale in surface view, hyphae of flesh. — 6. *H. mali* (holotype). Ascospores, paraphyses, apex of ascus, marginal hyphae and cells of excipulum ectale. — 7. *H. microsporium* [lectotype]. Habit sketch, hairs, ascospores, asci, and paraphyses.

PLATE X.

1. *Helotium milliare* (holotype). Asci, paraphyses, part of ascus, ascospores, details of ectal excipulum, cells and hyphae running out at the surface of excipular cells. — 2. *H. mirabile* (holotype). Habit sketch, asci with lumps of colourless substance at the upper part, ascospores, details of excipulum. — 3. *H. nardi* (holotype). Habit sketch, ascospores, ascus. — 4. *H. muricatum* (holotype). Details of ectal excipulum, ascospores, asci, paraphyses. — 5. *H. myrtilli* (holotype). Habit sketch, ascospores, ascus, paraphysis, details of excipulum in surface view, on left below excipular cells from the under side of the receptacle. — 6. *H. neptuni* (holotype). Habit sketch, ascospores, paraphysis, asci, section of margin of ectal excipulum.

PLATE XI.

1. *Helotium nervicolum* (holotype). Habit sketch, ascus, paraphyses, ascospores, detail of ectal excipulum in surface view. — 2. *H. novembris* (holotype, small apothecium). Habit sketch, apex of ascus, ascus, ascospores, excipular cells. — 3. *H. novembris* (holotype, large apothecium). Habit sketch, ascus, ascospores, excipular cells. — 4. *H. niveum* (holotype). Ascospores, hyphae of flesh, excipular cells. — 5. *H. novum* (lecto-

type). Habit sketch, paraphysis, ascus, ascospores, details of excipulum. — 6. *H. nudum* (holotype). Habit sketch, ascospores, details of ectal excipulum in surface view, paraphysis, ascus. — 7. *H. obliquum* (holotype). Habit sketch, paraphysis, ascus, ascospores, excipular cells.

PLATE XII.

1. *Helotium obtusum* (lectotype). Ascus, paraphysis, ascospores, excipular cells. — 2. *H. obtusum* var. *genistae* (holotype). Paraphysis, ascus, ascospores, detail of ectal excipulum in surface view. — 3. *H. octobrinum* (holotype). Habit sketch, ascospores, detail of marginal zone of ectal excipulum in surface view, below excipular cells. — 4. *H. paludosum* (lectotype). Habit sketch, details of ectal excipulum in surface view, paraphysis, ascus, ascospores. — 5. *H. pani* (lectotype). Habit sketches, ascospores, paraphysis, ascus, detail of ectal excipulum. — 6. *H. peruni* (holotype). Habit sketch, ascospores, excipular cells.

PLATE XIII.

1. *Helotium pezizoides* (holotype). Habit sketch, asci, paraphysis, ascospores, details of ectal excipulum. — 2. *H. pileatum* (holotype). Habit sketch, ascospores. — 3. *H. polytrichi* (lectotype). Habit sketch, ascus, ascospores, detail of ectal excipulum. — 4. *H. populneum* (holotype). Habit sketch, ascospores, paraphyses, ascus, excipular cells. — 5. *H. praecox* (holotype). Habit sketch, ascospores. — 6. *H. pruni* (lectotype). Habit sketch, ascospores, excipular cells. — 7. *H. putaminum* (holotype). Habit sketch, paraphyses, asci, ascospores, details of ectal excipulum. — 8. *H. quercinum* (holotype). Part of ascus, ascospores. — 9. *H. radicum* (lectotype). Habit sketch, ascospores, details of ectal excipulum in surface view (on left), marginal hyphae (above), paraphyses, asci.

PLATE XIV.

1. *Helotium ranarum* (holotype). Habit sketch, ascospores, ascus, paraphysis, detail of excipulum. — 2. *H. rehbergense* (lectotype). Paraphysis, ascus, ascospores. — 3. *H. repandum* var. *rumicis* (lectotype). Habit sketch, paraphysis, ascus, ascospores, marginal hyphae and excipular cells. — 4. *H. rhizomorphae* (holotype). Habit sketch, asci, ascospores, details of ectal excipulum (on left) and hyphae of stipe (on right). — 5. *H. robiniae* (lectotype). Detail of ectal excipulum with marginal cells, ascospores. — 6. *H. roburneum* (lectotype). Ascospores, marginal cells of ectal excipulum, excipular cells. — 7. *H. roseipes* (lectotype). Ascospores, part of ascus, detail of ectal excipulum in surface view.

PLATE XV.

1. *Helotium rubescens* (holotype). Habit sketch, paraphyses, asci, ascospores, hyphae of ectal excipulum, below hyphae of stipe. — 2. *H. rubicolum* (holotype). Habit sketch, marginal hyphae, detail of ectal excipulum in surface view, excipular cells from the under side of the receptacle, ascospores, part of ascus. — 3. *H. sanguineum* (holotype). Habit sketch, ascospores, ascus, section of excipulum. — 4. *H. sazavae* (holotype). Habit sketch, ascospores, paraphysis, ascus, details of ectal excipulum in surface view. — 5. *H. septatum* (holotype). Habit sketch, ascospores, excipular cells. — 6. *H. septembrinum* (holotype). Habit sketch, ascospores, ascus, details of ectal excipulum. — 7. *H. smardae* (holotype). Habit sketch, ascospores, part of asci and paraphyses, hairs.

PLATE XVI.

1. *Helotium spinosae* (holotype). Part of ascus, ascospores. — 2. *H. stramineum* (holotype). Habit sketch, ascospores, section of stipe, excipular hyphae, apex of ascus, paraphysis, ascus. — 3. *H. strangulatum* (lectotype). Marginal cells and hyphae of ectal excipulum, paraphysis, ascus, ascospores. — 4. *H. subcitrinum* (holotype). Habit sketch, ascospores, ascus, paraphysis, hairs. — 5. *H. subcorticale* (lectotype). Ascospores, habit sketch, details of ectal excipulum in surface view. — 6. *H. subcorticale* var. *ligustri* (holotype). Habit sketch, ascospores, ascus, paraphysis, detail of marginal part of ectal excipulum. — 7. *H. succineum* (holotype). Habit sketch, ascospores, excipular cells, paraphysis, ascus.

PLATE XVII.

1. *Helotium tehovense* (Velen. 1947, holotype). Habit sketch, asci, paraphysis, ascospores, details of ectal excipulum. — 2. *H. tehovense* (Velen. 1934, holotype). Habit sketches, details of ectal excipulum, asci. — 3. *H. telmateiae* (holotype). Habit sketch, ascospores, paraphyses, ascus, apex of ascus, hairs. — 4. *H. trapezoideum* (lectotype). Habit sketch, ascospores, marginal hyphae and excipular cells of ectal excipulum, paraphysis, ascus. — 5. *H. vacini* (holotype). Habit sketches, part of ascus and paraphysis, details of ectal excipulum. [= *Hymenoscyphus epiphyllus*]. — 2. *H. constantinii* Boud. ss. Velen. pulum. — 7. *H. variabile* (holotype). Ascospores. — 8. *H. veledae* (holotype). Habit sketch, ascospores. — 9. *H. vitreum* (holotype). Habit sketch, paraphysis, ascus, ascospores, hyphae of ectal excipulum (on left), hyphae of flesh (below).

PLATE XVIII.

1. *Helotium vernum* (lectotype). Habit sketches, apex of ascus, ascospores, asci, paraphyses, marginal hyphae and details of ectal excipulum. — 2. *H. zenobiae* (holotype). Habit sketch, ascospores, asci, paraphyses, details of ectal excipulum in surface view. — 3. *H. acicularum* (Roll.) Sacc. ss. Velen. [PRM 147230]. Habit sketch, paraphysis, ascus, ascospores, excipular cells. [= *Hymenoscyphus epiphyllus*]. — 4. *H. advenulum* Phill. [PRM 148937]. Ascus, paraphysis, excipular cells, ascospores. [= *Ciboriopsis advenula*]. — 5. *H. albidum* (Rob. in Desm.) Pat. [PRM 147373]. Habit sketch, apex of ascus, ascus, paraphysis, ascospores [= *Hymenoscyphus albidus*]. — 6. *H. aureolum* Sacc. ss. Velen. [PRM 148526 and 147531]. Habit sketch, ascus, paraphysis, ascospores, marginal hyphae of ectal excipulum. [= *Hymenoscyphus campanuliformis*]. 7. *H. calopus* (Fr.) Fr. ss. Velen. [PRM 149251]. Habit sketch, ascospores, ascus, paraphysis, details of excipulum in surface view. [= *Hymenoscyphus graminium*].

PLATE XIX.

1. *Helotium carpnicolum* Rehm ss. Velen. [PRM 152671]. Ascospores, details of ectal excipulum. [= *Hymenoscyphus epiphyllus*]. — 2. *H. costantinii* Boud. ss. Velen. [PRM 149681]. Habit sketches, apex of ascus, ascospores, details of ectal excipulum. [= *Phaeohelotium vasaense*]. 3. *H. eichleri* Bres. ss. Velen. [PRM 147554 and 148194]. Ascus, paraphysis, ascospores, details of ectal excipulum (below cells from the under side of the receptacle). [= *Hymenoscyphus sazavae*]. — 4. *H. epiphyllum* (Pers. ex Fr.) Fr. ss. Velen. [PRM 150242]. Habit sketch, ascospores, part of asci, excipular cells. (≠ ? *Ciboria conformata*). — 6. *H. foliicolum* Schroet. ss. Velen. [PRM 148577]. Habit sketch, ascospores, details of excipulum in surface view, part of paraphysis and ascus. [= *Hymenoscyphus friesii*]. — 7. *H. fulvum* Boud. ss. Velen. [PRM 148481]. Habit sketches, part of ascus and paraphysis, stipe of ascus, ascospore, superficial hyphae of ectal excipulum. [= ? *Hymenoscyphus* sp.]. — 8. *H. gramineum* Phill. ss. Velen. [PRM 147259 and 614741]. Habit sketch, part of ascus, ascospores, detail of ectal excipulum. [= *Hymenoscyphus graminium*]. — 9. *H. humuli* (Lasch) de Not. [PRM 147406]. Habit sketch, ascus, paraphysis, ascospores, section of margin. [= *Hymenoscyphus humuli*].

PLATE XX.

1. *Helotium kermesinum* Fr. ss. Velen. [PRM 148917]. Ascus, paraphysis, ascospores, marginal details of ectal excipulum. [= *Conchatium* sp.]. — 2. *H. lutescens* (Hedw. ex Fr.) Fr. ss. Velen. [PRM 148802, on cones of *Pinus sylvestris*]. Paraphysis, ascus, ascospores. [= *Hymenoscyphus sazavae*]. — 3. *H. lutescens* [PRM 148487, on needles of *Picea abies*]. Ascospores. [= *Hymenoscyphus* sp.]. — 4. *H. lutescens* [PRM 147752, on plant debris in swamp]. Ascospores and excipular cells, some of them covered with strongly amyloid substance. [= *Hymenoscyphus vasaensis*, *Phaeohelotium vasaense*]. — 5. *H. repandum* Phill. ss. Velen. [PRM 148492]. Habit sketch, ascus, paraphysis, ascospores, details of ectal excipulum. [= *Hymenoscyphus repandum*]. — 6. *H. serotinum* (Pers. ex Fr.) Fr. [PRM 148179]. Ascospores, details of margin. [= *Hymenoscyphus serotinus*]. — 7. *H. stannarioides* (Rehm) Velen. ss. Velen. [PRM 148927]. Habit sketch, ascospores, apices of paraphyses, detail of excipulum in surface view. [= *Conchatium* sp.]. — 8. *H. subtile* Fr. ss. Velen. [PRM 148939 and 149556]. Habit sketches, ascus, pa-

raphysis, ascospores and details of ectal excipulum [all from 149556], part of ascus and paraphysis, ascospores, below hyphae of ectal excipulum and cells of the under side of the receptacle [from PRM 148939]. [= *Pezizella subtilis*].

M. Svrček delineavit.

MIRKO SVRČEK

**TAXONOMICKÁ REVIZE INOPERKULÁTNÍCH DISKOMYCETŮ POPSANÝCH
J. VELENOVSKÝM V RODĚ HELOTIUM, ZE SBÍREK NÁRODNÍHO MUZEA V PRAZE**

V práci jsou publikovány výsledky vědecké revize všech taxonů rodu *Helotium* Pers. ex St-Amans popsaných J. VELENOVSKÝM (1922, 1934, 1940, 1947). Platným jménem pro tento rod je nyní považován rod *Hymenoscyphus* E. F. Gray 1821, který zahrnuje podstatnou část druhů rodů *Helotium* Pers. ex St-Amans a *Helotium* Fr. 1849 (non 1832). Tato změna, dnes všeobecně přijatá, vyplynula ze skutečnosti, že rod *Helotium*, jehož autorem je TODE (1790), je založen na druhu stopkovýtrose houby (basidiomycetu) a nikoliv diskomycetu, jak bylo později chybně interpretováno. V dřívějším běžném pojetí patřilo *Helotium* k největším rodům inoperkulátních diskomycetů s více než 600 druhy, z nichž mnohé jsou nedokonale známé nebo mají pochybnou hodnotu. Také J. Velenovský popsal v tomto bodě 151 nových taxonů (133 druhů a 18 odrůd). Typy téměř všech jsou uloženy v mykologickém herbáři Národního muzea a spolu s ostatními taxony uvedenými Velenovským z území Čech (výjimečně také ze Slovenska) byly revidovány a hodnoceny z hlediska současných taxonomických poznatků. Vlastní práci předcházela značně náročná identifikace typových položek neboť, jak známo, Velenovský typový materiál obvykle neoznačoval a navíc velmi často pro exsikáty používal provzorní jména, která na nich ponechal i po publikování jiných platných jmen.

Celkový počet Velenovským uvedených taxonů v rodě *Helotium* činí 177 druhů a 18 odrůd, z nichž pouze 5 (4 druhy a 1 odrůda) není doloženo materiálem. V herbářových položkách sedmi taxonů (6 druhů a 1 odrůdy) nebyla zjištěna apothecia.

V práci je provedeno 44 nových přeřazení a 2 druhy jsou nově pojmenovány. Několik taxonů se nepodařilo vyjasnit na podkladě materiálu, který byl k dispozici. Přesto celkový počet taxonů popsaných jako nové a které považují za samostatné, je poměrně vysoký — 43 druhů. Jejich předpokládaná rodová příslušnost vyplývá z přehledného, abecedně sestaveného seznamu rodů, druhů a synonym, uzavírající vlastní revizi druhů podobným způsobem seřazených, s poznámkami a rozborů vedenými snahou maximálního využití daného (a neřídka velmi skrovného) materiálu s cílem objasnit jejich skutečnou hodnotu. Některé další informace o Velenovského mykologické sbírce, jakož i o pracovní metodice použité při studiu exsikátů jsou zmíněny v předchozí, tematicky obdobné práci o operkulátních diskomycetech [SVRČEK 1979a], na kterou laskavého čtenáře odkazují.