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**The genus HYMENOSCYPHUS S.F.Gray sensu lato in Belgium.
Key to the species and varieties.**

by

Bernard Declercq (*)

PRELIMINARY REMARKS ABOUT THE KEY DATA

- All microscopical observations of the species known by the author have been made on fresh material in water.
 - Spore forms known within *Hymenoscyphus* :
 - scutuloid = the apical end rounded and more or less hooked (like in *H. scutula*), the basal end pointed
 - ciboroid = slightly inequilateral form somewhat between ellipsoid and ovoid,
 - cylindrical
 - ellipsoid
 - fusiform
 - Spores being scutuloid in fresh state can loose more or less this form once killed and appear than rather narrow ellipsoid to fusiform (e.g. *Hymenoscyphus calyculus*, *H. conscriptus*, *H. vitigenus*). Consider scutuloid spores if you try to determine species based on rehydrated exsiccata.
 - The species not known by the author and to be looked for in Belgium have been put between square brackets.
 - If not otherwise mentioned, the inner part of the ascus porus is blued in IKI (= *Hymenoscyphus* type porus).
 - Spore guttule size:
 - small = up to 1 µm diameter;
 - medium = between 1 and 3 µm diameter;
 - large = diameter (almost) equal to the spore width.
- Guttulation quantity and size should be observed of fresh (living) material. Spore guttulation is mostly disturbed by chemical agents. Spores of sensitive species die even in drinking water within a few seconds.
- The content of fresh spores has been characterised, according Baral, by an oil content index (OCI) as follows
 - 0 = no oil content (eguttulate)
 - 1 = about 3 % oil content
 - 2 = about 10 % oil content
 - 3 = about 25 % oil content
 - 4 = about 50 % oil content
 - 5 = about 80 % oil content

KEY TO THE SPECIES AND VARIETIES.

Parasitic or saprofitic	Spores	Paraphyses filled with strongly refractive guttules. Apothecia reddening.	Basal ectal excipulum texture	Reference
Hymenoscyphus, section Scutuloideae				
saprofitic	scutuloid	+	prismatical	Table 1
saprofitic	scutuloid	-	prismatical	Table 2
Hymenoscyphus, section Repandoideae				
saprofitic	non scutuloid	+	prismatical	Table 3
saprofitic	non scutuloid	-	prismatical	Table 4
Cudoniella				
saprofitic	non scutuloid	+(?)	prismatical (?)	Table 5
Phaeohelotium				
saprofitic	non scutuloid	+	angular	Table 6
saprofitic	non scutuloid	-	angular	Table 7
Bryoscyphus				
parasitic on mosses	non scutuloid	+	angular	Table 8

(*) Axelsvaardeken 28, B-9185 Wachtebeke
E-mail: bernard.declercq2@pandora.be

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Hymenoscyphus, section Scutuloideae.

Typus : *Hymenoscyphus scutula* (Pers.: Fr.) Phill.

Apothecia with short or long stalk. Excipulum of textura prismatica-porrecta. Spores predominantly scutuloid.

TABLE 1.

Apothecia reddening when hurted. Paraphyses with strongly refractive guttules.

1	Asci arising from simple septa	2
1'	Asci arising from croziers (<i>H. ombrophilaeformis</i> to be checked)	31
2	Spores 10-22 µm long	6
2'	Spores longer	16
6	Apothecia scutellate, 0,5-3 mm diameter, pale ivory to cream, reddening, short stalk with blackish base. Asci 80-100x9-11 µm. Spores 13-20x(3)4-5 µm, with 1-3 medium and many small guttules per side, OCI = 5, without cilia. On blackened petioles of <i>Fraxinus</i> . Phen.: (VII)VIII-X.....	
	Hymenoscyphus albidus (Rob. ex Desm.) Phill.	
6'	Spores with large and minute guttules	7
7	Apothecia up to 1 mm diameter., ochraceous yellow, reddening, sessile or with a very short stalk. Asci 65-90x 10-12 µm. Spores 0(1)-septate, (15)18-22x3,5-4,5(6) µm, with 2-3 up to 2,5 µm diameter guttules and many small ones per side, OCI = 5, sometimes with 1µm long cilia at both ends. On <i>Humulus lupulus</i> . Phen.: (VIII)X-XI.....	
	Hymenoscyphus humuli (Lasch) Dennis	
7'	Apothecia larger and stalked	8
8	Apothecia 0,5-3 mm diameter, white, reddening, stalked. Asci (90)100-110x7,5-8,5 µm. Spores slightly scutuloid, 13-20x(3)3,5-4 µm, with many small guttules at both sides, OCI=4, without cilia. On grass culms. Phen.: X.....	
	Hymenoscyphus phalaridis Baral sp. nov. ined.	
8'	Spores mostly with cilia	10
10	Spores 3-4 µm wide	11
10'	Spores 3,5-4,5 µm wide	12
11	Spores 0(1)-septate, 10-18(20)x3-4 µm, OCI =5, without cilia. On nuts of <i>Corylus</i> . Phen.: VIII-IX.	
	Hymenoscyphus fructigenus (Bull.) Gray var. coryli Feuill.	
11'	Spores 0(1)-septate, 12-21(23)x3-4 µm, OCI = 4-4,5, with an up to 1 µm long cilium at one or both ends. On old fruits of <i>Carpinus</i> . Phen.: IX-X.	
	Hymenoscyphus fructigenus (Bull.) Gray var. carpini Batsch ex Rob.	
12	Apothecia 1-4(5) mm diameter, pale ivory, pale to ochraceous yellow, reddening, with long stalk. Asci 110-140x8-10 µm. Spores (0)1(3)-septate, 14-24x3,5-5 µm, slightly constricted at the septum, with many up to 2 µm diam. guttules, OCI = 4-5, with 1-4 about 1 µm long cilia at both ends. On fallen cupules and fruits of <i>Acer pseudoplatanus</i> , <i>Aesculus hippocastanum</i> , <i>Fagus sylvatica</i> , <i>Juglans</i> , <i>Quercus robur</i> , <i>Tilia</i> , cones of <i>Alnus glutinosa</i> , twigs of <i>Quercus robur</i> . Phen.: VIII-X(I).	
	Hymenoscyphus fructigenus (Bull.) Gray var. fructigenus	
12'	Apothecia scutellate, 0,5-1,5(2,5) mm diameter, pale ivory to pale yellowish, stalked. Asci 95-115x8,5-11 µm. Spores scutuloid, without hooked apical end, 17-24x4-4,5(5) µm, without cilia or only a few spores with up to 3 µm long cilia at both ends, (1)2-3 up to 3 µm diameter guttules and several minute ones per side, OCI = 5. On herbaceous stems of <i>Polygonum cuspidatum</i> , <i>Thalictrum flavum</i> , <i>Rubus fruticosus</i> , petioles of <i>Filipendula</i> and <i>Fraxinus</i> . Phen.: (VII)IX-X(XII)..	
	Hymenoscyphus vitellinus (Rehm) O. Kuntze	
	(One collection, exs. 98086, on old stems of <i>Polygonum mite</i> , differs by spores with only minute guttules)	
16	Asci 90-145 µm long	17
16'	Asci 120-185 µm long	22
17	Spores 4-5 µm wide	19
17'	Spores wider	20
19	Apothecia. scutellate, up to 3 mm diameter, whitish to ochraceous yellow, reddening, stalked. Asci 110-155x9,5-12 µm. Spores 0(1)-septate, 19-27(32)x4-5(5,5) µm, with 1(2) up to 6 µm long cili(um)(a) at both ends, with 2-4 up to 3 µm diameter guttules and many small ones per side OCI = 5. Paraphyses filled with refractive guttules. On herbaceous stems such as <i>Artemisia vulgaris</i> , <i>Aster</i> sp., <i>Eupatorium cannabinum</i> , <i>Lycopus europaeus</i> , <i>Solidago canadensis</i> , <i>Tanacetum vulgare</i> , <i>Urtica dioica</i> , twig of <i>Alnus</i> . Phen.: VIII-XI.....	
	Hymenoscyphus scutula (Pers.: Fr.) Phill. var. scutula	

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- 19' Apothecia scutellate, up to 2 mm diameter, whitish to ochraceous yellow, reddening, stalked. Asci 90-145x9-12 µm. Spores 0(1)-septate, 19-28(30)x(3)4-5 µm, with 2-3 up to 2,5 µm diameter guttules and many small ones per side, OCl = 5, with a thin coating. On decaying leaves of *Alnus* and *Salix*, petioles of *Castanea* and *Fraxinus*, twigs of *Alnus*, trunks of *Fagus*, stems of *Athyrium*, *Hypericum perforatum*, *Pteridium aquila*, *Rubus fruticosus*, *Rubus idaeus*, *Teucrium scorodonia*. Phen.: IX-XI.
Hymenoscyphus scutula (Pers.: Fr.) Phill. var. **pteridis** (Feltgen) Declercq stat. nov. ined.
 ?= *Hymenoscyphus nubilipes* (Boud.) Gamundi (1979) = *Helotium nubilipes* Boud. (1907)
 ?= *Hymenoscyphus cejpi* (Velen.) Dennis (1964) = *Helotium cejpi* Velen. (1934)
 Basionym: *Hymenoscyphus scutula* (Pers.: Fr.) Phill. f. *pteridis* Feltgen,
- 20 Apothecia up to 1 mm diameter, whitish to ochraceous yellow, reddening, with up to 1(2) mm long stalk. Asci 90-120(140)x13-15 µm. Spores 20-24x(4,5)5-6(6,5) µm, mostly slightly constricted at the middle, with (1)2(3) medium guttules and many minute ones per side, OCl = 5. On leaves of *Iris pseudacorus* in humid places. Phen.: VIII-IX.....**Hymenoscyphus nanus** Declercq sp. nov. ined.
 ?= *Helotium iridis* Cr., Fl. finist.: 48
- 20' Apothecia purplish 21
- 21 Apothecia scutellate, 0,5-1,5 mm diameter, pale purplish, stalked. Asci 90-135x10-12 µm. Spores slightly scutuloid to subcylindrical, (0)1-septate, 18-28(30)x(4)5-6(7)µm, with an up to 1,5 µm diameter guttule at each pole and several minute ones, OCl = 3-4. On leaves of *Fagus* in humid places. Phen.: X-XI.
Hymenoscyphus syringaeicolor Svrcek
- 21' Apothecia 0,7-2,5 mm diameter, pale bluish when fresh, shortly stipitate. Asci 120-140 µm long, arising from ?. Spores 0(1)-septate, 20-25x6-7 µm, without cilia. On trunks, twigs and branches of *Acer* and *Fagus*. Phen.: IX-X.[**Hymenoscyphus ombrophilaeformis** Svrcek]
- 22 On woody substrates 23
- 22' Not on woody substrates 24
- 23 Apothecia scutellate, 0,5-3,5 mm diameter, whitish to yellowish, reddening, shortly stipitate. Asci 120-170x13-17 µm. Spores slightly scutuloid or inequilateral-fusiform, 0(1,3)-septate, finally becoming pale brown, (20)25-30(32)x5-7(8,5) µm, with 2(3) up to 4,5 µm diameter guttules per side and many minute ones when fresh, OCl = 5, mostly with 1-2(5) up to 1 µm long cilia at both ends. On twigs and branches of *Salix* mostly still attached to the tree, sometimes on *Alnus* and *Populus*. Phen.: (V)VIII-X.
Hymenoscyphus salicellus (Fr.) Dennis
- 23' Apothecia scutellate, 1-4 mm diameter, yellow to ochraceous yellow, reddening, stalked. Asci 140-200x13-15 µm. Spores scutuloid, 29-35(40)x(4,5)6-7(7,5) µm, filled with medium and small guttules, OCl=5, with 2-3 up to 2(4) µm long cilia at both ends. On wood of *Carpinus*. Phen.: XII-I.
Hymenoscyphus" thollianus" Baral nom. prov.
 proposed to Baral a new epithet: *lepismoides*. Etym.: ciliate spores cf. *Lepisma sacharina*.
- 24 Apothecia 0,7-1,5(2) mm diameter, disk pale to bright yellow, with long whitish stalk with brownish base. Asci 120-162x12-13,5 µm. Spores scutuloid, slightly curved, 30-36x3.5-5 µm, with one centered 4-7(9) long cilium at both ends, with several medium and small lipid guttules, OCl=5. Saprophytic on stems of *Reynouthria japonica*. Phen.: V-VII. [**Hymenoscyphus (cf.) dearnessii** (Ell. & Ev.) Kuntze]
 Etym.: derivation from J. Dearness, Canadian collector of the type species.
- 24' Spores wider 25
- 25 Apothecia up to 1 mm diameter, ochraceous yellow, substipitate. Asci 120-160x13-15 µm. Spores slightly scutuloid, 21-25(31)x5-6(7,5) µm, with (1)2(3) medium guttules and many minute ones per side, OCl = 5, becoming 1(2)-septate and brownish when overmature. Paraphyses with large chloraceous yellow to reddish brown guttules. On petioles of *Dryopteris felix-mas*. Phen.: X.
Hymenoscyphus chloroscyphus Baral sp. nov. ined. (= *Lambertella tengii* Zhuang)
- 25' Apothecia scutellate, 0,5-3(4) mm diameter, whitish to ochraceous yellow, reddening, with long stalk. Asci 125-185x12-13 µm. Spores with or without cilium at both ends, (15)18-28(39)x(4)5-6(7) µm, 0(1,3)-septate, with (2)3(4) up to 4,5 µm diameter guttules and many small ones per side, OCl = 5. On *Gramineae*, *Cyperaceae* and herbaceous stems. Phen.: X-XI (XII).
Hymenoscyphus suspectus (Nyl.) Hengstm.
- 31 Spores with only minute guttules 32
- 31' Spores with medium and small guttules 33
- 32 Apothecia up to 10 mm diameter, shortly stipitate. Asci 110-160(170)x8,5-11µm, arising from croziers. Spores slightly scutuloid to fusiform, 12-16(17)x3,5-4,5(5) µm, with a cluster of small guttules at each pole, OCl = 2-3. On dead branches and wood of *Populus* and *Salix*. Phen.: IX-XII(I).
Hymenoscyphus conscriptus (P. Karst.) Korf
 =?H. **salicinus**

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- 32' Apothecia scutellate, 1-2 mm diameter, pale yellowish, stalked. Asci 95-115x9-12 μm , arising from croziers. Spores slightly constricted, 0(1,3)-septate, 16-21(37)x3-6 μm , with a cluster of minute guttules at both sides, OCI = 4. Paraphyses with refractive guttules which tend to become cylindrical. Marginal ectal excipulum of guttulate textura porrecta. On petioles and decaying leaves of *Populusxcanadensis*. Phen.: X-XI..... **Hymenoscyphus caudatoides** Declercq spec. nov. ined.
- 33 Excipulum of textura prismatica-porrecta. Apothecia 1-3 mm diameter, creamy white, with short to long stalk. Asci90-110x10-10,5 μm , arising from croziers. Spores subclavate, 10-16x4-5 μm , with many large and small guttules, OCI = 4-5. On cupules of *Fagus*. Phen.: VIII-X.
Hymenoscyphus rokebyensis (Svrcek) Matheis
- 33' Spores in average longer than 15 μm 34
- 34 Spores in average up to 20 μm long 35
- 34' Spores longer 39
- 35 Spores ciliate 36
- 35' Spores not ciliate 37
- 36 Apothecia up to 2 mm diameter, whitish to ivory, with up to 10 mm long stalk. Asci 120-135x9-10,5 μm . Spores scutuloid, 0(1)-septate, mostly with a 3-4 μm long cilium at both ends, 16-20,5x4-4,5 μm , with several medium and small guttules, OCI = 4. On seeds of *Alnus glutinosa* in wet places. Phen.: IX.
Hymenoscyphus seminis-alni Baral, Grauwinkel & Eckel
- 36' Apothecia up to 7(10) mm diameter, orange yellow hymenium, stalked. Asci 150-185x11-13 μm . Spores subscutuloid to fusiform, 0(1)-septate, 18-22x4,5-5,5 μm , with many medium to small guttules, OCI = 5. On dead branches of *Alnus viridis*. Phen.: VIII-IX.....**[Hymenoscyphus trichosporus** Dougloud]
- 37 Apothecia up to 7 mm diameter, bright ochraceous yellow, stalked. Asci 150-160x10,5-11 μm , arising from croziers. Spores subscutuloid to fusiform, 14-18x5-6 μm , with many small guttules, OCI=5. On trunks of *Fagus sylvatica* and other substrates. Phen.: X-XI.
[Hymenoscyphus subferugineus (Nyl.) Dennis]
- 37' Asci shorter, spores narrower 38
- 38 Apothecia up to 2 mm diameter, yellow, stalked. Asci length very variable, arising from croziers. Spores subscutuloid to fusiform, 0(1)-septate, 15-18x(3)4-5 μm , mostly with 4 up to 3 μm diameter guttules and many minute ones, OCI = 5. On twigs of *Alnus*, *Fagus* and *Rubus*. Phen.: IX-X.
Hymenoscyphus calyculus (Sow.) Phill.
- 38' Apothecia scutellate, 0.6-1.2 mm diameter, pale ochraceous yellow, stalk up to 1 mm long. Asci 90-110x9-10 μm , arising from croziers. Spores strongly scutuloid to scutuloid, 14-18(21)x3,5-4 μm , with up to 4 medium and many small guttules per side, OCI = 5. Paraphyses with medium refractive guttules. On veins of decaying leaves of *Myrica gale*, *Quercus rubra*. Phen.: VII.
Hymenoscyphus calyculoides Declercq sp. nov. Ined.
- 39 Spores average up to 25 μm long 40
- 39' Spores longer 42
- 40 Apothecia scutellate, 0,5-1,5 mm diameter, pale yellowish, reddening, stalked. Asci 95-115x9-11 μm , arising from croziers. Spores 21-26x4-4,5 μm , sometimes slightly constricted at the middle, mostly with 1-3 up to 3 μm long cilia at both ends and sometimes a few lateral cilia, with 2-3 up to 3 μm diameter guttules and several minute ones per side, OCI = 5. On herbaceous stems such as *Filipendula ulmaria*, (*Lysimachia vulgaris*, *Rubus fruticosus*, *Scrophularia nodosa*), petioles of *Filipendula ulmaria*. Phen.: VIII-IX..... **Hymenoscyphus scutuloides** Hengstm.
- 40' Follicolous species 41
- 41 Apothecia up to 2,5 mm diameter, ochraceous yellow, stalked. Asci 100-115x8-10 μm . Spores slightly scutuloid, 0(1)-septate, 18-23x(3)5-6 μm , OCI = On petioles of *Polypodium*. Phen.: X-XI.
Hymenoscyphus polypodii Declercq sp. prov.
- 41' Apothecia up to 1 mm diameter, white, stalked. Asci (75)85-105x9-10 μm . Spores scutuloid, 0(1)-septate, 17-23x(3,5)4-5 μm , with 2(3) large and several small guttules per side, OCI = 4-4,5, sometimes with 1-3 about 1 μm long cilia at both ends.. Paraphyses with refractive guttules which tend to form a cylindrical vacuole. On petioles and decaying leaves of *Populusxcanadensis*, *Populus tremula*, *Quercus robur*, *Quercus rubra*. Phen.: VIII-IX.
Hymenoscyphus "Sophienphlege" Baral sp. prov.
- 42 Lignicolous species..... 43
- 42' On other substrates 44

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- 43 Apothecia scutellate, 0,5-5 mm diameter, bright yellow with whitish margin, with up to 10 mm long stalk. Asci 110-135x8-10 μm . Spores strongly curved, 0(1)-septate, 18-30x3-4 μm , OCl = 4. On branches of *Fagus*. Phen.: IX-XI(XII)..... **Hymenoscyphus serotinus** (Pers.) Phill.
- 44 Apothecia up to 3 mm diameter, whitish to bright yellow, reddening when damaged, with long stalk. Asci 115-135 μm x14-15 μm . Spores 1(3)-septate when ripe, 22-36x4,5-6,5 μm , OCl = 5, with 2-3 up to 2 μm long cilia. On herbaceous stems. Phen.: VII-IX.
[**Hymenoscyphus fucatus** (W. Phill.) Baral & Hengstm. var. **fucatus**]
- 44' (Description of rehydrated exsiccatum according Hengst.) Apothecia up to 0,9 mm, light yellow, stalked. Asci 83-101x9-10 μm , arising from croziers, porus medium blue in IKI. Spores 25-31x4-5 μm , mostly with 1-3 tiny setulae at both ends, with 2-3 large guttules per side, OCl = 5. Paraphyses with refractive guttules. On dead leaf of ?*Carex*. Phen.: X.
Hymenoscyphus fucatus (W. Phill.) Baral & Hengstm. var. **badensis** Hengstm.

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TABLE 2.

Apothecia mostly not reddening. Paraphyses with low refractive guttules. Follicolous species.

1	<p>Apothecia scutellate, up to 2,5 mm diameter, whitish to ochraceous yellow, blackening when hurted (HB: really?!), stalked. Asci 70-100x8-9 µm, arising from simple septa. Spores with sharply pointed basal end, 0(1)-septate, (15)16-22(24)x3,5-4,5(5,5) µm, with 2-3 medium guttules and several small ones per side half, OCI = 4,5-5. On leaf veins and petioles of <i>Aesculus</i>, sometimes on <i>Fagus</i> and <i>Quercus</i>. Phen.: VIII-IX.</p> <p style="text-align: right;">"Lanzia" aesculi (Velen.) Svrcek</p>	
1'	<p>Apothecia not blackening.....</p>	2
2	<p>Apothecia up to 1 mm diameter, whitish to yellowish, reddening, stalked. Asci 50-70x7-8 µm, arising from simple septa. Spores 13-17x3-4,5 µm, OCI = 4-5. On leaf veins of <i>Fagus</i>, sometimes on <i>Quercus</i>. Phen.: VII-IX.</p> <p style="text-align: right;">Hymenoscyphus fageolus Baral sp. nov. ined. =? Hymenoscyphus albopunctus (Peck) O. Kuntze, Arendh. (1979: 71) (belonging here or in table ??)</p>	
2'	<p>Spores longer</p>	4
4	<p>Spores up to 20 (22) µm long</p>	5
4'	<p>Spores longer</p>	7
5	<p>Apothecia 0,5-2 mm diameter, white, stalked. Asci with long slender stalk, 120-156x11-12(13) µm, arising from simple septa. Spores with rounded apical and obtuse basal end, slightly constricted in the middle, 0(1)-septate, (14)15-20(21)x5-6,5 µm, with one medium guttule and several small ones at each pole, OCI = 4-4,5. On petioles of <i>Aesculus</i>, <i>Populus</i> and sometimes on twigs. Phen.: X-XI.</p> <p style="text-align: right;">Hymenoscyphus vitigenus (de Not.) Dennis</p>	
5'	<p>Asci up to 120 µm long, OCI = 4-5</p>	6
6	<p>Apothecia scutellate, 0,7-1,2 mm diameter, stipitate, white. Asci 85-120x10-12 µm, arising from simple septa. Spores slightly scutuloid, obtuse to rounded basal end when mature, with easily loosening hyaline epiporus (?epispore!), 0(1)-septate, slightly constricted at the middle, (13)14-20x(4)4,5-5,5(6) µm, with 1-3 about 1,5-2 µm diameter guttules and many small guttules per side, OCI = 4,5-5. Paraphyses with low refractive guttules. On decaying leaves of <i>Acer pseudoplatanus</i>, <i>Aesculus hippocastanum</i>, <i>Alnus glutinosa</i>, ?<i>Myrica gale</i>, <i>Polygonum cuspidatum</i>, <i>Populusxcanadensis</i>, <i>Salix alba</i>. Phen.: IX-XI.</p> <p style="text-align: right;">Hymenoscyphus caudatus var. constrictus Declercq var. nov. inedit.</p>	
6'	<p>Apothecia scutellate, 0,5-2 mm diameter, whitish, reddening, with 0,5-2(4) mm long stalk. Asci ?80-120x11-12,5 µm, arising from simple septa. Spores scutuloid, pointed basal end, 0(1)-septate, (14)16-22x3,5-4,5 µm, with 1-3 about 1,5-2 µm diameter guttules and many small guttules per side, OCI = 4-5, both ends mostly ornamented with the remainings of a thin hyaline sheath. Paraphyses with low refractive guttules. On decaying leaves of <i>Acer</i>, <i>Aesculus</i>, <i>Alnus</i>, <i>Betula</i>, <i>Castanea sativa</i>, <i>Carpinus betulus</i>, <i>Corylus avellana</i>, <i>Crataegus</i>, <i>Fagus sylvatica</i>, <i>Fraxinus excelsior</i>, <i>Pinus</i>, <i>Platanus</i>, <i>Populus</i>, <i>Prunus</i>, <i>Quercus</i>, <i>Robinia</i>, <i>Salix</i>, <i>Tilia</i>, <i>Ulmus</i>, sometimes on other substrates. Phen.: (VI)IX-XI.</p> <p style="text-align: right;">Hymenoscyphus caudatus (P. Karst.) Dennis var. caudatus</p>	
7	<p>Apothecia scutellate, 1-2,5 mm diameter, pale yellowish, stalked. Asci 130-160x13-14 µm, arising from simple septa. Spores 0(1,2)septate, first hyaline but finally becoming pale brown, 26-34(35)x4,5-6 µm, basal end strongly pointed, filled with medium and small guttules, OCI=4-4,5. Paraphyses with medium low refractive guttules. On petioles of <i>Fraxinus</i>. Phen.: XI.</p> <p style="text-align: right;">Hymenoscyphus fucatoides Baral spec. prov.</p>	
7'	<p>Asci up to 120 µm long</p>	8
8	<p>Apothecia scutellate, up to 1 mm diameter, whitish, stalk up to 1 mm long. Asci 95-120x11-13(15) µm, arising from simple septa. Spores 18-26x5,5-6,5, basal end strongly pointed, filled with a cluster of few medium and many minute guttules at both sides, OCI=4. Paraphyses with large low refractive guttules. On decaying leaves of <i>Acer pseudoplatanus</i> and <i>Quercus robur</i>. Phen.: X-XI.</p> <p style="text-align: right;">Hymenoscyphus "punctisporus" Declercq nom. prov.</p>	
8'	<p>Apothecia scutellate, 1-1,6 mm diameter, pale ivory, stalk 1-1,5 mm long and with blackish base. Asci 100-115x10-11 µm, arising from simple septa. Spores aseptate, 19-27(29)x4,5-6 µm, filled with up to 1,5 µm diameter guttules, OCI = 5. Paraphyses with low refractive guttules. On decaying leaves of <i>Acer pseudoplatanus</i>. Phen.: X.</p> <p style="text-align: right;">Hymenoscyphus vacini (Velen.) Baral & Weber</p>	
<p>Etym.: derivation from V. Vacek, Tchechish mycologist.</p>		

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Hymenoscyphus, section Repandoideae.

Typus : *Hymenoscyphus repandus* (Phill.) Dennis

Apothecia with short to long stalk. Spores subellipsoid, clavate, cylindrical or fusiform. Excipulum with textura prismatica-porrecta.

TABLE 3.

Apothecia reddening when damaged. Paraphyses with strongly refractive guttules.

1	Asci arising from simple septa	2
1'	Asci arising from croziers	10
2	Spores with oil content 1-2	3
2'	Spores with oil content 3-5	6
3	Apothecia up to 2(3) mm diameter, very pale yellow to ochraceous yellow, stalked. Asci 55-85x7-8 µm, arising from simple septa. Spores narrowly ellipsoid to cylindrical, 0(1)-septate, 8-14(18)x2,5-3(3,5) µm, with a few small guttules at both ends, OCI = 1-2. On herbaceous stems, sometimes on other substrates. Phen.: (IV)V-X..... Hymenoscyphus repandus (Phill.) Dennis	
3'	Apothecia up to 2,5 mm diameter, flesh-coloured to orange, with long stalk. Asci 90-120 µm long, arising from simple septa?. Spores ellipsoid-cylindrical to slightly clavate, 9-14x2,5-4,5 µm, with a few guttules per side, OCI = 1,5. On <i>Cladium</i> , <i>Phragmites</i> , <i>Scirpus</i> and <i>Typha</i> . Phen.: V-VIII. Hymenoscyphus robustior (P. Karst.) Dennis ?= <i>Hymenoscyphus populneus</i> (Velen.) Svr.	
6	Apothecia 0,5-2 mm diameter, whitish, shortly stalked. Asci 105-120x10-11 µm, arising from simple septa. Spores shoe-shaped, with a thin coating, 0(1)-septate, 13-18x4,5-5,5 µm, with several small guttules at each pole, OCI = 3. Paraphyses with refractive guttules at the upper 15-25 µm of the tip. Excipulum of textura porrecta. On decaying leaves of <i>Castanea</i> , <i>Fagus</i> and <i>Quercus</i> . Phen.: IX-XI. Hymenoscyphus sparsus (Boud.) Baral	
6'	Spores with oil content 4,5-5	9
9	Apothecia up to 2 mm diameter, bright to ochraceous yellow, stalk mostly with a swollen whitish downy base. Asci 80-130x7,5-9 µm, arising from simple septa. Spores with rounded ends, 12-23 (27,5)x3-5 µm, mostly hyaline, aseptate, with many small guttules, OCI = 5, becoming 1(3)-septate and pale brown in a final state. On herbaceous stems, occasionally on other substrates such as on the midveins of leaves of <i>Fagus</i> . Phen.: (V)VI-VIII(X)..... Hymenoscyphus menthae (Phill.) Baral = <i>Helotium consobrinum</i> Boud. ≡ <i>Hymenoscyphus consobrinus</i> (Boud.) Hengstm.	
9'	Apothecia up to 1,5 m diameter and 1,5 µm high, whitish, shortly stalked. Asci 85-120x10-12 µm, arising from simple septa. Spores cylindrical-fusiform, 0(1)-septate, (12)14-16(17)x4,5-5,5(6) µm, multiguttulate, OCI=4,5-5. Paraphyses few in amount, with refractive guttules or cylindrical body. On decaying leaves of <i>Betula pubescens</i> . Phen. : IX-XI..... Hymenoscyphus betulae Declercq sp. nov. inedit.	
10	Ascoporus IKI-	11
10'	Ascoporus weakly to strongly blued in IKI	12
11	Apothecia turbinate, 1-3(4) mm diameter, yellowish, sessile to shortly stalked, fleshy. Asci 100-125x11-15 µm, porus IKI- , arising from ????. Spores pale brown and roughened when ripe, 1(3)-septate, 14-16(20)x5,5-7 µm, with several guttules, OCI = On wet rotten wood and twigs of ? <i>Quercus</i> . Phen.: VIII..... Hymenoscyphus latisporus Declercq sp. nov. ined. Phaeohelotium?	
12	Apothecia white, scutellate, 0,5-1,5 mm diam., with up to 10 mm long slender stalk. Asci 45-80x6-7 µm, arising from croziers. Spores fusiform, asept., 7-11x2,5-3 µm, almost eguttulate. On fallen bud scales of <i>Fagus</i> . Phen.: IV-V..... Hymenoscyphus fagi (Jaap) Baral comb. nov. ined.	
12'	Spores longer	13
13	Spores up to 15 µm long	14
13'	Spores longer	15
14	Apothecia pale ochraceous yellow, reddening when damaged, up to 2 m diameter and 1,5 mm high, stalked. Asci 76-87x7-8 µm, porus medium blued in IKI., arising from croziers. Spores fusiform to sub-cylindrical, aseptate, 10-14(16)x3-4 µm, OCI = 1-2. On dead deciduous wood and bark on boggy ground. Phen.: V. Hymenoscyphus "repandus on wood" Baral spec. prov. ?= <i>Hymenoscyphus peruni</i> (Velen.) Svr. 1986: 216. ≡ <i>Helotium peruni</i> Velen. 1934: 186.	

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- 14' Apothecia up to 2 mm diameter, ochraceous yellow, shortly stalked. Asci 90-110x10 µm, arising from croziers. Spores 10-13x4-4,5µm, with one up to 1,5 µm diameter guttule and several smaller ones per side, OCI = Paraphyses On dead wood and bark. Phen.: V.
Hymenoscyphus "enamii" Declercq sp. prov.
- 15 Apothecia 0,5-1,5 mm diameter, white to pale yellow, reddening, with a long stalk. Asci 85-110x9-11 µm, arising from croziers. Spores (12)16-18(21)x3,5-4 µm, with 1-2(3) large guttules and many small ones per side, OCI = 4. On herbaceous stems of *Polygonatum cuspidatum*. Phen.: VI-X.
Hymenoscyphus macroguttatis Baral, Hengstm. & Declercq nom. nov. ined.
= *Hymenoscyphus menthae* (Phill.) Dennis ss. auct.
- 15' Spores wider 16
- 16 Apothecia up to 2,5 mm diameter, white to pale yellowish, with long stalk. Asci 85-120x10-12 µm. Spores fusiform with rounded ends, becoming (1)3-septate within the asci, 16-22(24)x5-6,5(7) µm, with many small guttules, OCI = 4-4,5. On fallen leaves of *Populusxcanadensis* in muddy places, exceptionally on dead stems of *Rubus fruticosus*. Phen.: IX-XI..... **Hymenoscyphus strangulatus** (Velen.) Svr.
- 16' Apothecia 1-2,5 mm diameter, stalked. Asci 140-160(210)x(10)12-13,5 µm. Spores fusiform with rounded ends, 0(1)-septate, (17)19-25 (27) x5-7(8) µm, with several large guttules, OCI = 4,5. On water-soaked wood and branches of *Fagus* and *Quercus*. Phen.: VII-XII..... **Hymenoscyphus laetus** (Boud.) Dennis

TABLE 4.

Apothecia not reddening when damaged. Paraphyses with low refractive or without guttules.

- 1 Apothecia 0,3-1,2 mm diameter, translucent white, with short to long stalk. Asci 65-95x9-10 µm, arising from simple septa. Spores 12-16(17)x3,5-4,5(6) µm, OCI = 1-2. On leaves of *Populus*. Phen.: X-XI.
Hymenoscyphus phyllogenus (Rehm) O. Kuntze
- 1' Asci arising from croziers 2
- 2 Apothecia up to 2 mm diam., pale pink, sessile to stipitate. Asci 90-115x9-10 µm. Spores shoe-shaped, 0(1)septate, 10-16x3-4,5 µm, with a cluster of low refractive guttules at both poles, OCI = 2. On dead stems of *Equisetum*. Phen.: V.
Hymenoscyphus rhodoleucus (Fr.) Phillips
- 2' Apothecia up to 15 mm diameter, disk pale ochraceous to orange, shortly stalked. Asci 125-145x15-16,5 µm. Spores naviculate, 1(3)-septate when old, 18-25x5,5-6 µm, with many medium and small guttules, OCI=4-4,5. On dead twigs and wood of *Laburnum anagyroides*, *Laburnum alpinum*. Phen.: VIII.
[Hymenoscyphus infarciens (Ces.) Dennis]

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Cudoniella Sacc. (1889)
Typus : Not designated.

Apothecia pale to ochraceous yellow, sessile to stipitate. Ascus porus Excipulum of textura prismatica (always?).

TABLE 5.

- | | | |
|----|---|---|
| 1 | Apothecia up to 10 mm diameter, ivory, with short to long stalk. Asci ... μm , porus, arising from croziers. Spores ciboroid, 10-17x4-5 μm , OCI = 1. Paraphyses with ??non refractive guttules. On dead wood and herbaceous stems in wet places. Phen.: III-VII. | Cudoniella clavus (Alb. & Schw.: Fr.) Dennis |
| 1' | Apothecia reddening. Paraphyses with refractive guttules | 2 |
| 2 | Apothecia turbinate with undulating margin, up to 20 mm diameter, ivory to pale greyish yellow and becoming reddish-brown when old, with very stout short stalk. Asci 90-110x8 μm , arising from croziers. Spores ciboroid, 0(1)-septate, 10-16x4,5-5 μm , OCI = 0-2. On woody debris and leaf-litter in wet places. Phen.: IV-VIII. | Cudoniella tenuispora (Cke. & Masee) Dennis |
| 2 | Apothecia not turbinate, with a long stalk | 3 |
| 3 | Apothecia scutellate with strongly convex disk, 2-6 mm diam., ochraceous ivory, becoming reddish-brown when touched, with an up to 10 mm long stalk. Asci 80-110x8-10 μm , porus IKI-, arising from croziers. Spores ciboroid to clavate, 0(1)septate, 8-14(16)x4-5 μm , eguttulate, OCI=0. On watersoaked stems of <i>Juncus effusus</i> . Phen.: V-VII. | Cudoniella junciseda (Velen.) Dennis |
| 3' | Apothecia strongly convex, up to 5 mm diameter, ivory, blackening when hurted, with long stalk. Asci 110-125x12-13 μm , arising from croziers. Spores fusiform, 0(1,3)septate, 15-26x5-6 μm , eguttulate, OCI = 0. On trunks of <i>Quercus</i> . Phen.: (V)VIII-XII. | Cudoniella acicularis (Bull.: Fr.) Schröter |

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Phaeohelotium Kanouse, Pap. Mich. Acad. Sci. 20: 75 (1935).
 Typus : *Phaeohelotium monticola* (Berk.) Dennis = *P. flavum* Kanouse

Apothecia pale to ochraceous yellow, sessile to shortly stipitate. Excipulum at least basally with isodiametrical cells.

TABLE 6.

Apothecia reddening when damaged. Paraphyses with strongly refractive guttules. Spores ciboroid, cylindrical to fusiform.

- | | | |
|----|---|----|
| 1 | Asci arising from simple septa | 2 |
| 1' | Asci arising from croziers (H. conocephali and H. ravis to be checked) | 5 |
| 2 | Spores up to 15 µm long | 3 |
| 2' | Spores longer | 4 |
| 3 | Apothecia scutellate, up to 2 mm diameter, whitish to pale ochraceous yellow, subsessile. Asci 45-90x7,5-8,5 µm, ascus length varying with the ascocarp size, arising from simple septa. Spores ciboroid to ovoid, asept., 7-10x3-4,5 µm, with one or a few polar guttules per side, OCI = 1-2. Ectal excipulum of hyaline textura angularis up to the margin. On old water-soaked cones and wood of <i>Picea abies</i> , on water-soaked deciduous wood. Phen.: IV-V.

<div style="text-align: right; margin-right: 20px;"> Phaeohelotium rufescens (Velen.) Declercq comb. nov. ined.
 Basionym: <i>Pezizella rufescens</i> Velen., Mon. Discom. Bohemiae: 164 (1934) </div> | |
| 3' | Apothecia scutellate, whitish, up to 6(11) mm diameter, short to long stalk, base rugulose and sometimes blackish. Asci 75-90x7-8 µm, arising from simple septa. Spores cylindrical-suballantoid to subfusiform, 0(1)-sept., 8-13(15)x(2,5)3-3,5(4) µm, with 5-10 small guttules per side, OCI = 1-2. Lateral ectal excipulum of textura prismatica. On twigs and branches of <i>Alnus</i> and <i>Salix</i> in wet to wet places. Phen.: (II)IV-VI(XI).

<div style="text-align: right; margin-right: 20px;"> Phaeohelotium vernum (Boud.) Declercq comb. nov. ined.
 Basionym: <i>Ombrophila verna</i> Boud., Bull. Soc. mycol. Fr. IV: 77 (1889) </div> | |
| 4 | Exemplaires nombreux récoltés le 14-09-2003 essentiellement (mais pas exclusivement) sur cônes d'épicéa très humides à semi-immergés dans l'eau en bordure de saulaie fangeuse. Excipulum constitué d'une textura angularis-globulosa et medulla constituée de textura intricata gélifiée. Paraphyses à guttules réfringentes. Asques cylindriques octospores, 140-150 x 10 µm, aporhynches, IKI bleu. Spores ciboroides, hyalines, contenant de nombreuses petites guttules à chaque extrémité, 1 cloison centrale, 13-15 x 4-5 µm (G.S. Garcia, email 19/03/2004 – photo)

<div style="text-align: right; margin-right: 20px;"> ? Phaeohelotium umbellicatum (Le Gal) Dennis
 Identical with "Hymenoscyphus" <i>sazavae</i> ss. Baral in Weber in table 7? </div> | |
| 4' | Apothecia turbinate, 0,5-5 mm diameter, ochraceous to brown, reddening when damaged, stalk basally dark brown. Asci 110-160x10-12 µm, arising from simple septa. Spores fusiform, 17-25x4,5-5,5 µm, with several medium and small guttules, OCI = 4-5. On moist plant debris such as twigs of <i>Carpinus</i> , <i>Fagus</i> and <i>Quercus</i> , cupules and leaves of <i>Fagus</i> , cones of <i>Picea</i> . Phen.: VIII-X.

<div style="text-align: right; margin-right: 20px;"> Phaeohelotium fulvidulum (Boudier) Declercq comb. nov. ined.
 Basionym: <i>Pachydisca fulvidula</i> Boudier, Hist. et Class. Discom. D'Europe: 94. </div> | |
| 5 | Spores average shorter than 10 µm | 6 |
| 5' | Spores longer | 7 |
| 6 | Apothecia turbinate to scutellate, disk slightly concave to plane, ivory grey, up to 2 mm diameter, shortly stipitate. Asci 65-80x7-9 µm, arising from Spores ovoid, 6,5-10x2,5-3(3,5) µm, eguttulate, OCI = 0. Paraphyses with refractive guttules. On bud-scales of <i>Picea abies</i> . Phen.: IV-V.

<div style="text-align: right; margin-right: 20px;"> [Hymenoscyphus ravis Svrcek] </div> | |
| 6' | Apothecia turbinate, disk plano-convex, whitish, up to 1 mm diameter, subsessile. Asci 60-75x8-9 µm, arising from croziers. Spores ovoid to inequilateral, 8-10x3,5 µm, with a 1,5 µm diameter guttule and a few minute ones per side, OCI = 2. Ectal excipulum of textura angularis, marginal zone of textura prismatica-porrecta. On cupules of <i>Quercus robur</i> , in dry habitat. Phen.: VIII.

<div style="text-align: right; margin-right: 20px;"> Phaeohelotium biguttatum Declercq sp. nov. ined. </div> | |
| 7 | Spores up to 15 µm long | 8 |
| 7' | Spores average longer than 15 µm | 10 |
| 8 | Apothecia turbinate to scutellate, disk plano-convex, whitish to pale ochraceous yellow, 1-2(4) mm diam., shortly stipitate. Asci 60-95x7-9 µm, arising from croziers. Spores ovoidaseptate, sometimes 1sept. before germinating, 8-13(16)x3-4,5(5) µm, with a few minute guttules at both poles, OCI = (0)1-2. Paraphyses with strongly refractive guttules. Excipulum basally pale brown. On fallen dead twigs, branches and woody debris in wet places. Phen.: (III)V-XI(XII).

<div style="text-align: right; margin-right: 20px;"> Phaeohelotium imberbe (Bull.: Fr.) Svrcek </div> | |

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- = **Hymenoscyphus imberbis** (Bull.: Fr.) Dennis
- 8' Asci average longer than 90 µm 9
- 9 Apothecia turbinate, margin tending to become lobbed, sometimes fasciculate, whitish to pale ochraceous yellow. Asci 85-110x8-10 µm, arising from croziers. Spores cibaroid, with thin gelatinous coating, 0(1)-septate, 8-15x3-5,5 µm, with several up to 2 µm diameter guttules per side, OCI = 3-4. Paraphyses with minute refractive guttules. On fallen dead twigs and branches in wet places. Phen.: (IV)V-XI.
- Phaeohelotium subimberbe** (Baral) Declercq comb. nov. ined.
 Basionym: *Hymenoscyphus subimberbis* Baral sp. prov.
- 9' Apothecia 1-2(3) mm diameter, pale ochraceous yellow to yellow disk, short paler stalk. Asci 80-130x9-10(11) µm, porus faintly blued in IKI. Spores (11)12-13(15)x4-4,5 µm, with thin hyaline covering sheath, mostly with one medium size polar guttule and several small ones per side, OCI=2-3, sometimes forming sphaerical ascoconidia at one end. On the ground between mosses. Phen.: (III)IX-X.
- Phaeohelotium epigeum** (P. Karst.) Declercq comb. nov.
 Basionym: *Helotium epigeum* P. Karst., Notiser ur Sällskapet pro Fauna et Flora Fennica Förhandlingar, 13 (n.s. 10) : 449, 1874
- = **Hymenoscyphus epigaeus** (P. Karst.) O. Kuntze
- 10 Ascoporus IKI- 11
- 10' Ascoporus IKI+ 12
- 11 Apothecia turbinate, 3-8 mm diam., bright yellow. Asci 110-145x8-10 µm, porus IKI- or faintly blued, arising from croziers. Spores fusiform, inequilateral, 0(1)septate, 13-19x3,5-4,5 µm, with 1(2) medium and several small guttules per side, OCI=4. Paraphyses guttulate. Ectal excipulum dextrinoid. On buried rotten woody and herbaceous debris. Phen.: IX-X.
- [Phaeohelotium sabranskyana** (Bäumler) Declercq comb. nov.
 Basionym: *Humaria sabranskyana* Bäumler, Beitr. z. Crypt. Fl. d. Presb. Com., Heft III: 162 (1897)
 = **Helotium sabranskyana** (Bäumler) Bánh.
 = **Calycella citrina var. terrestris** Boud.
 = **Calycella terrestris** (Boud.) Le Gal
 = **Phaeohelotium terrestris** (Vel.) Svrcek
- 11' Apothecia turbinate, up to 7 mm diam., bright yellow, reddening. Asci 110-150x10-12 µm, porus IKI-, arising from ?croziers. Spores shoe-shaped, 0(1)-septate, 12-21x3,5-5,5 µm, with 1(2) medium and several small guttules per side, OCI = 4. On twig of ?*Populus*. Phen.: X.
- Hymenoscyphus "Paul"** Baral spec. prov.
Different from P. terrestris?
Has the coll. H. "Paul" a textura angularis????
- 12 Apothecia cyathiform, densely crowded, disk concave to plane, 1-2 mm diameter, pale ochraceous yellow, outer surface whitish pruinose (crystals), shortly stalked. Asci 100-110x9 µm arising from croziers. Spores fusiform, inequilateral, (0)1(2)sept., 12-19x3,7-4,5 µm, with many small refractive guttules, OCI = 4 (guttulation disappearing when becoming septate). Erumpent from bark of *Salix caprea* branches still attached to the tree. Phen.: V.
- Phaeohelotium crystalliferum** Baral nom. prov.
 In table 7?
- 12' Apothecia without crystals 13
- 13 Apothecia scutellate, disk yellow, reddening, shortly stalked. Asci (dead) 85-90x7-7,5 µm. Spores slightly shoe-shaped, (dead) 12-15x3,5-4 µm, OCI=3-4. On cones of *Pinus sylvestris*. Phen.: VII-IX.
- [Phaeohelotium lutescens** (Hedw.: Fr.) Declercq comb. nov. ined.)
 = **Hymenoscyphus lutescens** (Hedw.: Fr.) Phill.
 = **Hymenoscyphus sazavae** (Vel.) Svr.
 Basionym: *Octospora lutescens* Hedw.,
- 13' Apothecia turbinate with concave to plano-convex disk, fleshy, 0,5-3(7) mm diameter, pale yellowish to yellow, reddening when damaged, subsessile to shortly stipitate. Asci 90-135x9-11 µm. Spores assymetrical fusiform, inequilateral, 0(1)-septate, (9)11-20(24)x(3)4-5,5 µm, with 1(2) up to 3 µm diameter guttules and many small ones at each side, OCI = 4-4,5, becoming 2(?3)-septate and pale greyish brown when overmature. Paraphyses, subhymenium and excipulum with strongly refractive guttules. On plant debris, such as cones and needles of *Pinus*, catkins of *Betula*, cupules of *Quercus* and *Fagus*, but mainly on leaf litter of *Quercus*. Phen.: (VIII)IX-XI.
- Phaeohelotium epiphyllum** (Pers.) Declercq comb. nov. ined.
 = **Hymenoscyphus epiphyllus** (Pers.) Rehm ex Kauffman
 Basionym: *Peziza epiphyllo* Pers. ex Fr., Syst. Mycol. II (1): 137 (1822)

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TABLE 7.

Apothecia not reddening when damaged. Paraphyses with low refractive guttules or eguttulate. Spores ciboroid, cylindrical to fusiform.

1	Asci arising from simple septa	2
1'	Asci arising from croziers	5
2	Apothecia turbinate, up to 6 mm diameter, white, with short stout stalk. Asci 120-170x11-12 µm, arising from simple septa. Spores fusiform, sometimes with hooked apical end, 0(1)-septate, 23-40x4,5-6 µm, with several small guttules, OCI = 3. On cupules, fruit scales and branches of <i>Quercus</i> . Phen.: IX-XI. Phaeohelotium geogenum (Cooke) Svrcek & Matheis	
2'	Spores shorter	3
3	Apothecia turbinate, 1-5 mm diam., bright yellow, sessile. Asci 170-190x10-12 µm. Spores broadly fusiform, 0(1)septate, 11-19x4,5-6(7) µm, with several medium and small guttules, OCI = 4, with a gelatinous coating, forming stalked ascoconidia. Paraphyses with bright yellow guttules close to the septa. On rotten wood of <i>Picea abies</i> . [Phaeohelotium pilatii (Svrcek) Declercq comb. nov.] ? = Helotium eichleri Bres., see type species revision by Dennis (1964: 43) Basionym: <i>Pachydisca pilatii</i> Svrcek,	
3'	Apothecia scutellate, 1-2,5 mm diameter, ivory to pale yellowish, shortly stalked. Asci 110-160x9-10(11) µm. Spores 0(1)-septate, 12-17x4-5 µm, with a large cluster of minute guttules at both sides, OCI = 3-4. Paraphyses eguttulate. Excipulum marginal of textura prismatica, lateral with more isodiametrical cells and a few covering hyphae, stalk of textura prismatica. On leaf litter and other debris of <i>Picea abies</i> . Phen.: IX-X. "Hymenoscyphus" sazavae (Velen.) Svrcek ss. ?Baral in Weber(1992: 120) = Helotium eichleri Bres. ss. Velen. (1934:197)	
5	Apothecia with plano-convex disk, up to 3 mm diameter, pale yellowish, shortly stalked. Asci 90-115x8-10 µm, arising from croziers. Spores ciboroid, binucleate, 9-16x3,5-4,5 µm, almost eguttulate, OCI = 1. Excipulum lateral with shortly prismatical to almost isodiametrical cells. On leaves of <i>Populus</i> . Phen.: X. Phaeohelotium binucleatum Declercq sp. prov.	
5'	Spores not binucleate	6
6	Spores up to 15 µm long	7
6'	Spores longer	10
7	Apothecia turbinate, with flat to convex disk, 1-3 mm diameter, white to greyish blue, drying pale reddish brown, sessile or with short stout stalk, fleshy, base with brownish ring. Asci 70-95x9-9,5 µm. Spores 8-13(16) x4-5(6) µm, OCI = 0-1. Paraphyses with a low refractive cylindrical body. Excipulum of textura globulosa-angularis. On cupules of <i>Fagus</i> . Phen.: IX-XI. Phaeohelotium fagineum (Pers.) Declercq comb. nov. = Hymenoscyphus fagineus (Pers.) Dennis Basionym: <i>Peziza faginea</i> Pers. ex Fr., Syst. Mycol. II (1): 136 (1822)	
7'	Apothecia turbinate to scutellate, up to 2(3) mm diameter, whitish to pale yellow, shortly stipitate. Asci 80-130x9-10 µm. Spores ciboroid, 10-14(16)x4-5 µm, with weakly distinct small guttules, OCI = 1-2. On leaves of <i>Fagus</i> , <i>Platanus</i> , <i>Populus</i> , <i>Quercus</i> , <i>Salix</i> and petioles of <i>Aesculus</i> . Phen.: (VI) IX-XI. Phaeohelotium immutabile (Fuckel) Declercq comb. nov. = Hymenoscyphus immutabilis (Fuckel) Dennis Basionym: <i>Helotium immutabile</i> Fuckel, Symb. Mycol., Nachtr. 1: 50 (1871)	
10	Ascoporus not blued in IKI	11
10'	Ascoporus blued in IKI	12
11	Apothecia 0,7-1, 5 mm diameter, white to yellowish, sessile. Asci 85-110(125)x10-12µm, porus reddish in IKI, arising from croziers. Spores subcylindrical, 0(1)-septate, 12-20x4-5(5,5) µm, OCI = 2-4. On leaves of <i>Carpinus</i> , <i>Fagus</i> , <i>Quercus</i> , <i>Vaccinum</i> . Phen.: IX-XI.... [Hymenoscyphus carpnicolus (Rehm) Arenholz]	
12	Apothecia turbinate, densely crowded, 0,6-1 mm diameter, white, shortly stalked. Asci 82-103x11 µm, arising from croziers. Spores fusiform, 0(1)septate, 12-18x4-5 µm, with two polar guttules and several smaller ones, OCI = 2-3, forming cylindrical ascoconidia. On cupules and twigs of <i>Quercus robur</i> . Phen.: VIII..... Phaeohelotium quercicolum Declercq sp. nov. ined.	
12'	Apothecia turbinate, 1-3 mm diameter, bright yellow, sessile to shortly stalked, fleshy. Asci 95-140x9-11 µm, porus IKI+, arising from croziers. Spores fusiform, inequilateral, symmetrical, with rounded ends at both sides, 0(1)-septate, 12-19x(3)4-5 µm, with 1(2) medium guttules and several smaller ones per side, OCI = 4,5, pale brown when overmature. Paraphyses and excipulum with low refractive guttules. On	

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wet rotten wood, cupules of *Quercus*. Phen.: VII-X..... **Phaeohelotium monticola** (Berk.)
Dennis

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Bryoscyphus Spooner in Kirk, P.M. & Spooner, B.M., Kew Bull. 38: 557.(1984)
Typus : *Bryoscyphus conocephali* (Boyd) Spooner

Apothecia parasitic on mosses, whitish to pale ochraceous, reddening when damaged, sessile to shortly stipitate. Excipulum at least basally with isodiametrical cells, mostly with hair-like processes.

TABLE 8.

- | | | |
|----|---|---|
| 1 | Asci arising from simple septa | 2 |
| 1' | Asci arising from croziers (<i>B. conocephali</i> to be checked) | 3 |
| 2 | Apothecia 0,8-1 mm diameter, stalked, white. Asci 95-110x7,5 µm, porus IKI+, arising from simple septa. Spores broadly fusiform, 9-15x4,5-5 µm, OCI = 3. On <i>Rhytidiadelphus squarrosus</i> . Phen.: XI-V. | |
| | Bryoscyphus phascoides (Fr.) Declercq comb. nov.
Basionym: <i>Peziza phascoides</i> Fr., Syst. Mycol., II, 1 : 138 (1822) | |
| 3 | Apothecia scutellate, 1-1,5 mm diameter, shortly stalked. Asci 160-180x11,5-13 µm, porus IKI-, arising from croziers. Spores broadly fusiform, 14-22x5-8 µm, OCI = 3-3,5. On <i>Ceratodon purpureus</i> , <i>Paraleucobryum longifolium</i> , <i>Barbula fallax</i> and <i>Rhytidiadelphus squarrosus</i> . Phen.: X-II | |
| | Bryoscyphus dicrani (Ade & Höhnelt) Spooner | |
| 3' | Ascoporus IKI+ | 4 |
| 4 | Apothecia scutellate, 0,5-1,5 mm diameter, ochraceous to brown, reddening when damaged, subsessile to shortly stalked. Asci 110-130x9-11 µm, arising from ?croziers. Spores shoe-shaped, 0(1)-sept., 21-24x4,5-6 µm, eguttulate, OCI = 0. On <i>Conocephalum conicum</i> . Phen.: X-IV. | |
| | Bryoscyphus conocephali (Boyd) Spooner | |
| 4' | Apothecia scutellate, 1-5 mm diameter, ochraceous to brown, shortly stalked. Asci 140-160x6-10 µm, arising from croziers. Sp. shoe-shaped, 0(1)-septate, 9-16x3,5-5 µm, OCI = 2. On <i>Marchantia polymorpha</i> and <i>Conocephalum conicum</i> . Phen.: V-VII. | |
| | [Bryoscyphus marchantiae (Berk.) Declercq comb. nov. ined.]
Basionym: <i>Peziza marchantiae</i> Berk. In Smith, Engl. Fl. 5(2): 204 (1836) | |

REJECTED SPECIES.

Hymenoscyphus phiala (Vahl) Arnolds

Apothecia turbinate, yellow. Asci arising from croziers. Spores naviculate.
This is a *Bisporella* fide Baral & Weber (?) and has a *Taeniolella* anamorph state.

Phaeohelotium extumescens (P. Karst.) Dennis

H. O. Baral (in litt.) examined the type collection and observed typical *Hyaloscypha* hairs, probably *Hyaloscypha albohyalina* var. *albohyalina*.

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