Polish Botanical Journal 47(2): 227–241, 2002

A REVISION OF THE GENUS *DASYSCYPHELLA* (HYALOSCYPHACEAE, HELOTIALES)

AIN RAITVIIR

Abstract: The genus *Dasyscyphella* Tranzschel is critically revised and 20 species and one variety are included. Four new species, *Dasyscyphella norvegica* Raitv., *sp. nov.*, *Dasyscyphella pilosissima* Raitv., *sp. nov.*, *Dasyscyphella rubi* Raitv., *sp. nov.* and *Dasyscyphella scirpicola* Raitv., *sp. nov.*, and a new variety, *Dasyscyphella cassandrae* Tranzschel var. *uncinata* Raitv., *var. nov.* are described. Two new combinations, *Dasyscyphella castaneicola* (Graddon) Raitv., *comb. nov.* and *Dasyscyphella tamajonica* (Raitv. & R. Galán) Raitv., *comb. nov.*, are proposed.

Key words: *Dasyscyphella*, Hyaloscyphaceae, Discomycetes, taxonomy, new species

Ain Raitviir, Institute of Zoology and Botany, Estonian Agricultural University, Riia St., EE-51014 Tartu, Estonia; e-mail: ain@zbi.ee

The history and status of the genus *Dasyscyphella* Tranzschel has been discussed in earlier studies (Raitviir 1970, 1977). Twenty-five years have passed, and in this time the number of species has more than doubled. For this reason a critical revision of the genus is needed.

The concept and scope of the genus is now generally accepted (Hawksworth *et al.* 1995) and some species have been added to it (Galán & Moreno 1984; Galán *et al.* 1984). It comprises species having characteristic hairs which are thin-walled and warted as in *Lachnum* Retz., but possess 1 or 2 smooth glandular cells apically. The hairs of the genus *Albotricha* Raitv. are also apically smooth, and this fact persuaded Baral and Weber (Weber 1992) to transfer the type species of *Albotricha*, *A. acutipila* (P. Karst.) Raitv., to *Dasyscyphella* as *D. acutipilosa* Baral & Weber (look for details under excluded and doubtful species), suggesting implicitly that *Albotricha* is a synonym of *Dasyscyphella*. TEM studies on the ultrastructure of the Hyaloscyphaceae (Leenurm *et al.* 2000) have shown, however, that these two genera really differ. *Dasyscyphella* has an ascus apical apparatus and hair wall structure both very similar to those in *Lachnum*. *Albotricha*, on the other hand, is in these ultrastructural characters close to *Capitotricha* (Raitv.) Baral. Attempts to widen the concept of *Dasyscyphella* seem not well founded and cannot be accepted.

In the present study, 20 species and one variety are included in the genus. Four species and a variety are described as new and two new combinations are proposed. A dichotomous key to all included taxa is provided. I have tried to follow the format designed for a revised edition of *Synopsis of the Hyaloscyphaceae* (in preparation), and only new or reassessed species are provided with critical notes.

Dasyscyphella Tranzschel

Trav. Soc. Imp. Nat. St.-Petersburg **28**: 296. 1898.

Apothecia superficial, stipitate. Disc 0.2–2.5 mm in diameter, concave, white to yellowish, in a few species darker. Receptacle cupulate to shallow-cupulate, in some species infundibuliform to deeply cupulate, whitish, in a few species bright- or dark-colored, externally covered with straight hairs. Stipe well-developed. Ectal excipulum composed of textura prismatica, well developed or thin and delicate. Medullary excipulum well developed, composed of textura intricata. Hairs cylindrical, hyaline, colored in a few species, thin-walled, coarsely granulate, 4–6-septate, regularly with one or two smooth apical cells, without any

encrustation or bearing crystals of calcium oxalate and/or lumps of hyaline to deep orange resinous matter. Asci arising from croziers or simple septa, cylindric-clavate, 8-spored, rarely 4-spored, apical pore blue in MLZ. Spores ellipsoid, fusoid, cylindrical or vermiform, aseptate, rarely 1-septate, usually without, in a few species with inclusions. Paraphyses lanceolate or cylindric-lanceolate, exceeding the asci to various extents.

TYPE SPECIES: *Dasyscyphella cassandrae* Tranzschel, Trav. Soc. Imp. Nat. St.-Petersbourg **28**: 296. 1898.

KEY TO THE INCLUDED SPECIES

1. Crystals of calcium oxalate absent on the hairs . . 2
1*. Crystals of calcium oxalate present on the hairs . . 14

2. Spores over 20 μm long 3
2*. Spores up to 15 μm long 6

3. Spores up to 30 μm long, more or less cylindrical or fusoid 4
3*. Spores over 35 μm long, vermiform 5

4. Croziers absent, spores 1-septate, on wood . . . . . *D. calongei*
4*. Croziers present, spores aseptate, on *Scirpus* . . . . . *D. scirpicola*

5. Croziers absent . . . . . *D. cassandrae*
5*. Croziers present . . . . . *D. cassandrae* var. *uncinata*

6. Apothecia vivid sulphur-yellow when fresh . . 7
6*. Apothecia whitish to pale sulphur-yellow 8

7. Apothecia turning dark brown when dry, croziers absent, on wood . . . . . *D. sulphuricolor*
7*. Apothecia orange-ochraceous when dry, croziers present, on fallen needles . . . . . *D. mughonicola*

8. Hair apical cell very long, *ca* 1/3 of total length of the hair, hymenium deep orange, asci 4-spored . . . . . *D. patuloides*
8*. Hair apical cell not or only slightly longer than other cells 9

9. Croziers present 10
9*. Croziers absent 12

10. Spores with two big lipid globules . . . . . *D. pilosissima*
10*. Spores without inclusions 11

11. Spores 1.8–2.2 μm wide, hair tips usually subclavate . . . . . *D. montana*
11*. Spores 2.2–2.8 μm wide, hair tips usually slightly tapering . . . . . *D. angustipila*

12. On dead leaves of *Carex*, asci 40–50 μm long . . . . . *D. norvegica*
12*. On woody substrata 13

13. On wood, asci 63–72 μm long . . . . . *D. dryina*
13*. On fallen cones of *Pinus*, asci 30–40 μm long . . . . . *D. conicola*

14. Hair apical cell very long, *ca* 1/3 of total length of the hair 15
14*. Hair apical cell not or only slightly longer than other cells 17

15. Croziers absent 16
15*. Croziers present, on *Castanea* involucres . . . . . *D. castaneicola*

16. On dead grasses . . . . . *D. graminicola*
16*. On fallen leaves of *Quercus* spp. . . . . *D. tamajonica*

17. Croziers present 18
17*. Croziers absent 19

18. On decaying wood, spores 5–9 μm long . . . . . *D. nivea*
18*. On fallen leaves, spores 8–13 μm long . . . . . *D. claviculata*

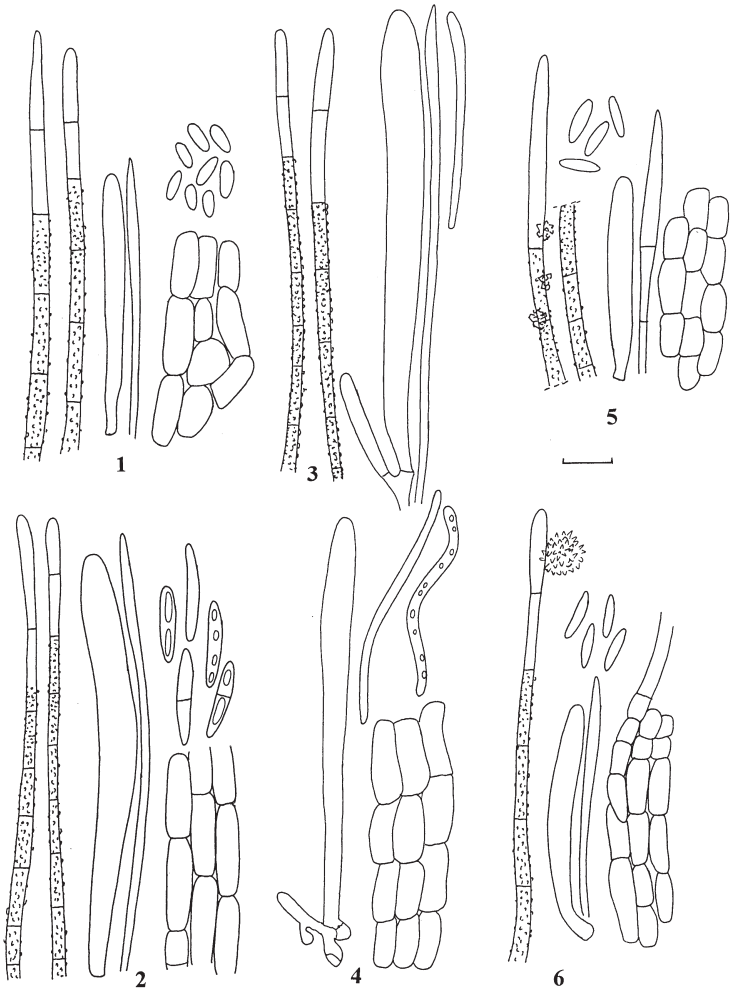
19. Yellow resinous matter absent on the hairs, asci 38–43 μm long . . . . . *D. epilobii*
19*. Yellow resinous matter present on the hairs, asci longer than 50 μm 20

20. Asci 56–70 μm long, on wood . . *D. crystallina*
20*. Asci 50–56 μm long, on canes of *Rubus* . . . . . *D. rubi*

Dasyscyphella angustipila Raitv.

Eesti NSV TA toim., biol. **26**: 33. 1977.

Apothecia scattered or in small groups, stipitate. Disc 0.5–1.5 mm in diameter, concave, whitish when fresh, whitish to pale yellowish when dry. Receptacle cupulate to shallow-cupulate, pure white when fresh, remaining white when dry, densely covered with straight white hairs shorter at the flanks and longer at the margin. Stipe cylindrical, 0.5–2.0 μm long. Ectal excipulum thin, composed of textura prismatica, cells hyaline, thin-walled, 12–18 × 5–7 μm. Hairs cylindrical, apically slightly tapering, hyaline, coarsely granulate, regularly with two smooth apical cells, 90–150 × 2–3 μm, 4–5-septate, not bearing crys-



Figs 1–6. Hairs, asci, paraphyses, spores and excipular cells of 1 – *D. angustipila*, 2 – *D. calongei*, 3 – *D. cassandrae*, 4 – *D. castaneicola*, 5 – *D. claviculata*. Scale bar = 10 μm.

tals or amorphous exudates. Apical cells slightly longer than the other cells. Asci arising from croziers, cylindrical to cylindric-clavate, 8-spored, 48–61 × 4.8–5.8 μm, apical pore blue in MLZ. Spores uniseriate or irregularly biseriate, ellipsoid-fusoid, hyaline, aseptate, without inclusions, 7.3–9.0 × 2.2–2.8 μm. Paraphyses cylindrical with pointed tips to narrowly lanceolate, aseptate, exceeding the asci by 8–12 μm, 1.7–2.5 μm wide (Fig. 1).

ECOLOGY. On decaying wood of *Larix dahurica*, *Picea* spp., *Pinus* spp., *Acer* spp., *Parrotia persica*, unnamed hardwood.

DISTRIBUTION. Widely distributed and rather common in Europe and Asia from Spain to Russian Far East.

Dasyscyphella calongei R. Galán & G. Moreno

Anales Jard. Bot. Madrid **40**: 292. 1984.

Apothecia gregarious or scattered, stipitate. Disc 0.5–1.5 mm in diameter, white when fresh,

yellowish cream-colored when dry. Receptacle infundibuliform, whitish when fresh, whitish to pale buff when dry, externally densely covered with long, straight, white hairs. Stipe cylindrical, up to 2 mm long, 0.2 mm in diameter. Hairs cylindrical, apically subclavate, thin-walled, multiseptate, hyaline, granulate, with 1–2 smooth apical cells, 170–220(–270) × 2.0–3.5 μm, not bearing crystals or amorphous exudates. Apical cells of variable length, as long as or up to twice longer than the other cells. Ectal excipulum thin and delicate, composed of textura prismatica, cells elongated, hyaline, thin-walled, 12–20 × 5–7 μm. Asci arising from simple septa, cylindric-clavate, 8-spored, 100–120 × 8.0–10.5 μm, apical pore blue in MLZ. Spores irregularly biseriate to fasciculate, fusoid, often slightly curved, at first aseptate and bi- to multiguttulate, at maturity 1-septate, 20–25 × 3.5–4.0 μm. Paraphyses filiform to narrowly lanceolate, not exceeding the asci, 2.0–2.5 μm wide (Fig. 2).

ECOLOGY. On decaying wood of *Fagus sylvatica*.

DISTRIBUTION. This species so far has been found only in Spain.

Dasyscyphella cassandrae Tranzschel var. ***cassandrae***

Trav. Soc. Imp. Nat. St.-Petersbourg **28**: 296. 1898.

Apothecia scattered or in small groups, stipitate. Disc 0.5–1.0 mm in diameter, concave, whitish when fresh, whitish to pale yellowish when dry. Receptacle cupulate to shallow-cupulate, pure white when fresh, remaining white when dry, densely covered with straight white hairs shorter at the flanks and longer at the margin. Stipe cylindrical, 0.5–1.5 mm long. Ectal excipulum well developed, composed of textura prismatica, cells hyaline, firm-walled, 10–24 × 5–10 μm. Hairs cylindrical, apically subclavate, hyaline, coarsely granulate, regularly with two smooth apical cells, 150–180 × 2.5–3.5 μm, 4–5-septate, not bearing crystals or amorphous exudates. Apical cells slightly longer than the other cells. Asci arising from simple septa, cylindrical to cylindric-clavate, 8-spored, 80–105 × 7.0–8.5 μm, apical pore blue in MLZ. Spores fasciculate, vermiform, hyaline, aseptate, eguttulate, 37–56 × 1.8–2.7 μm. Paraphyses cylindrical, pointed, aseptate, not exceeding the asci, 1.5–2.0 μm wide (Fig. 3).

ECOLOGY. On dead stems of *Chamaedaphne calyculata*, *Ledum palustre* and *Vaccinium* spp.

DISTRIBUTION. Widely distributed in Europe and Asia from Estonia to Kamchatka, and common where its principal host *Chamaedaphne calyculata* is present.

Dasyscyphella cassandrae var. ***uncinata*** Raitv., *var. nov.*

Dasyscyphellae cassandrae *var*. cassandrae *similis, ascis uncinatis differt.*

Apothecia scattered or in small groups, stipitate. Disc 0.5–1.0 mm in diameter, concave, whitish when fresh, whitish to pale yellowish when dry. Receptacle cupulate to shallow-cupulate, pure white when fresh, remaining white when dry, densely covered with straight white hairs shorter at the flanks and longer at the margin. Stipe cylindrical, 0.5–1.5 mm long. Ectal excipulum well developed, composed of textura prismatica, cells hyaline, firm-walled, 10–24 × 5–10 μm. Hairs cylindrical, apically subclavate, hyaline, coarsely granulate, regularly with two smooth apical cells, 150–180 × 2.5–3.5 μm, 4–5-septate, not bearing crystals or amorphous exudates. Apical cells slightly longer than the other cells. Asci arising from croziers, cylindrical to cylindric-clavate, 8-spored, 80–105 × 7.0–8.5 μm, apical pore blue in MLZ. Spores fasciculate, vermiform, hyaline, aseptate, without inclusions or containing numerous lipid globules, 37–56 × 1.8–2.7 μm. Paraphyses cylindrical, pointed, aseptate, not exceeding the asci, 1.5–2.0 μm wide (Fig. 4).

HOLOTYPE: UNITED STATES OF AMERICA. NEW YORK: Franklin Co., Adirondack Region, Corey's, on dead branches of *Chamaedaphne calyculata*, 06 June 1991, *A. Raitviir* (TAA-137021).

OTHER SPECIMENS SEEN. CANADA. ONTARIO: Algonquin Park, Mizzy Lake trail, on dead branches of *Chamaedaphne calyculata*, 19 June 1991, *A. Raitviir*

(TAA-137050); Algonquin Park, Spruce Bog, on dead branches of *Chamaedaphne calyculata*, 21 June 1991, *A. Raitviir* (TAA-137098).

ECOLOGY. On dead branches of *Chamaedaphne calyculata*.

DISTRIBUTION. Known only from North America.

NOTES. In all Eurasian collections of *D. cassandrae* the asci always arise from simple septa, but in American collections they originate from croziers. On the basis of this difference the studied American population is given varietal rank.

Dasyscyphella castaneicola (Graddon) Raitv., *comb. nov.*

BASIONYM: *Dasyscyphus castaneicola* Graddon, Trans. Brit. Mycol. Soc. **69**: 259. 1977.

non *Lachnum castaneicola* (Graddon) R. Galán, Trans. Brit. Mycol. Soc. **97**: 334. 1986.

Apothecia scattered to gregarious, stipitate. Disc 0.20–0.35 mm in diameter, pure white when fresh and dry. Receptacle infundibuliform to deeply cupulate, pure white when fresh, snow-white when dry, covered with long, white, straight hairs. Stipe cylindrical, up to 350 μm long. Hairs cylindrical with shortly tapering tips, hyaline, thin-walled, multiseptate, granulate with 1–2 smooth apical cells, 90–120 × 2.0–3.5 μm, bearing both rhomboid crystals and spherical balls of small crystals of calcium oxalate along the whole length. The uppermost cell is much longer than the other cells, 45–50 μm. Ectal excipulum composed of textura prismatica, cells hyaline, 10–13 × 5–7 μm to almost isodiametric, cuboid to slightly angular with slightly thickened walls, 8–10 μm in diameter. Asci arising from croziers, cylindric-clavate, 8-spored, 45–55 × 4.0–5.5 μm, apical pore blue in MLZ. Spores fusoid, inequilateral, slightly curved, aseptate, 8–11 × 1.5–2.5 μm. Paraphyses lanceolate, 1–2-septate, exceeding the asci by 20–30 μm, 3.0–3.5 μm wide (Fig. 5).

ECOLOGY. On the spines of *Castanea sativa* involucres.

DISTRIBUTION. Known only from the type locality in Great Britain.

SPECIMEN EXAMINED. GREAT BRITAIN. WARWICKSHIRE: Windmill Naps, on spines of *Castanea vesca* involucres, Oct. 1975, *M. C. Clark* (DG-2639, isotype in TAA).

NOTES. This species is a typical *Dasyscyphella* easily recognizable by its long, slender, crystal-bearing hairs with a very long, smooth apical cell. It is similar to *D. tamajonica* and the differences are discussed under the latter species.

Dasyscyphella claviculata (Velen.) Baral & Svrček

Beihefte zur Z. Mykol. **6**: 64. 1985.

Lachnum claviculatum Velen., Mon. Disc. Bohem. **1**: 261. – *Dasyscyphella immutabilis* R. Galán, A. Ortega & G. Moreno, Int. J. Mycol. Lichenol. **1**: 253. 1984.

Apothecia scattered to gregarious, stipitate. Disc 0.2–0.3 mm in diameter, whitish to pale yellowish when fresh and dry. Receptacle infundibuliform to deeply cupulate, pure white when fresh, appearing pale yellowish when dry due to yellowish resin encrusting the hairs, covered with long, white, straight hairs. Stipe cylindrical, up to 220 μm long. Hairs cylindrical with rounded tips, hyaline, thin-walled, multiseptate, granulate with 2 smooth apical cells, 100–145 × 2.0–2.5 μm, encrusted with yellowish resinous matter and bearing both rhomboid crystals and spherical balls of small crystals of calcium oxalate. Apical cells only slightly longer than the other cells. Ectal excipulum composed of textura prismatica, cells hyaline, thin-walled, 10–13 × 5–7 μm. Asci arising from croziers, cylindric-clavate, 8-spored, apical pore blue in MLZ, 45–50 × 4–5 μm. Spores fusoid, inequilateral, slightly curved, aseptate, 8.5–12.5 × 1.5–2.0 μm. Paraphyses lanceolate, exceeding the asci up to 12 μm, 3.0–3.5 μm wide (Fig. 6).

ECOLOGY. On fallen leaves of *Quercus robur*, *Q. canariensis* and *Q. rotundifolia*.

DISTRIBUTION. The species has a rather wide but scattered distribution in Europe (Czech Re-

public, Germany, Spain, Great Britain) and the Caucasus.

Dasyscyphella conicola (Rehm) Raitv. & Arendh.

Mycotaxon **32**: 355. 1988.

Dasyscypha pulverulenta (Lib.) Sacc. var. *conicola* Rehm, Ann. Mycol. **8**: 482. 1910.

Apothecia solitary or in small groups, stipitate. Disc 0.2–0.5 mm in diameter, whitish when fresh and dry. Receptacle deeply cupulate to cupulate, whitish, densely covered with straight whitish hairs. Stipe cylindrical, 0.2–0.5 mm long. Ectal excipulum thin and delicate, composed of textura prismatica, cells hyaline, thin-walled, 7–10 × 4–5 μm. Hairs cylindrical, apically strongly clavate, hyaline, thin-walled, encrusted with granules of a pale lemon-yellow amorphous matter when dry, 4–5-septate, coarsely warty, short apical cell smooth, 50–70 × 2.5–3.5 μm, apically up to 5 μm wide. Asci arising from simple septa, sometimes with a bifurcate base, cylindric-clavate to clavate, 8-spored, 30–40 × 5.0–6.5 μm, apical pore blue in MLZ. Spores biseriate, ellipsoid-fusoid, sometimes strongly inequilateral, hyaline, aseptate, without inclusions, 6–10 × 1.5–2.5 μm. Paraphyses cylindrical, not or very slightly exceeding the asci, 1.0–1.5 μm wide (Fig. 7).

ECOLOGY. On fallen cones of *Pinus sylvestris*.

DISTRIBUTION. The species has a scattered distribution in Europe (Germany, Finland, Estonia, Russia).

Dasyscyphella crystallina (Fuckel) Raitv.

Scripta Mycol. **1**: 72. 1970.

Peziza crystallina Fuckel, Symb. Mycol. 306. 1869. – *Lachnum crystallinum* (Fuckel) Rehm, Rabenh. Krypt.-Fl. **1**(3): 873. 1893.

Apothecia solitary or in small groups to gregarious, stipitate. Disc 0.5–1.0 mm in diameter, concave, whitish when fresh, whitish to pale yellowish when dry. Receptacle cupulate to shallow-cupulate, pure white, densely covered with straight hairs shorter at the flanks and longer at the margin that are white when fresh, yellowish and covered with orange to brownish orange granules when dry. Stipe cylindrical, 0.5–1.2 mm long. Ectal excipulum well developed, of textura angularis, composed of hyaline, thin-walled rounded cells *ca* 8 μm wide. Hairs cylindrical, apically clavate, hyaline, coarsely granulate with a smooth apical cell, 60–110 × 2–4 μm, 4–5-septate, bearing big spherical crystal masses, heavily encrusted with deep orange amorphous matter dissolving in KOH. Asci arising from simple septa, cylindrical to cylindric-clavate, 8-spored, 56–68 × 5–7 μm, apical pore blue in MLZ. Spores uniseriate, fusoid, hyaline, aseptate, without inclusions, 9.0–13.0 × 1.7–2.3 μm. Paraphyses lanceolate, 1–3-septate, exceeding the asci by 15–25 μm, 3–5 μm wide (Fig. 8).

ECOLOGY. On decaying wood of *Quercus robur*.

DISTRIBUTION. Not rare in oak forests in Europe and Caucasus.

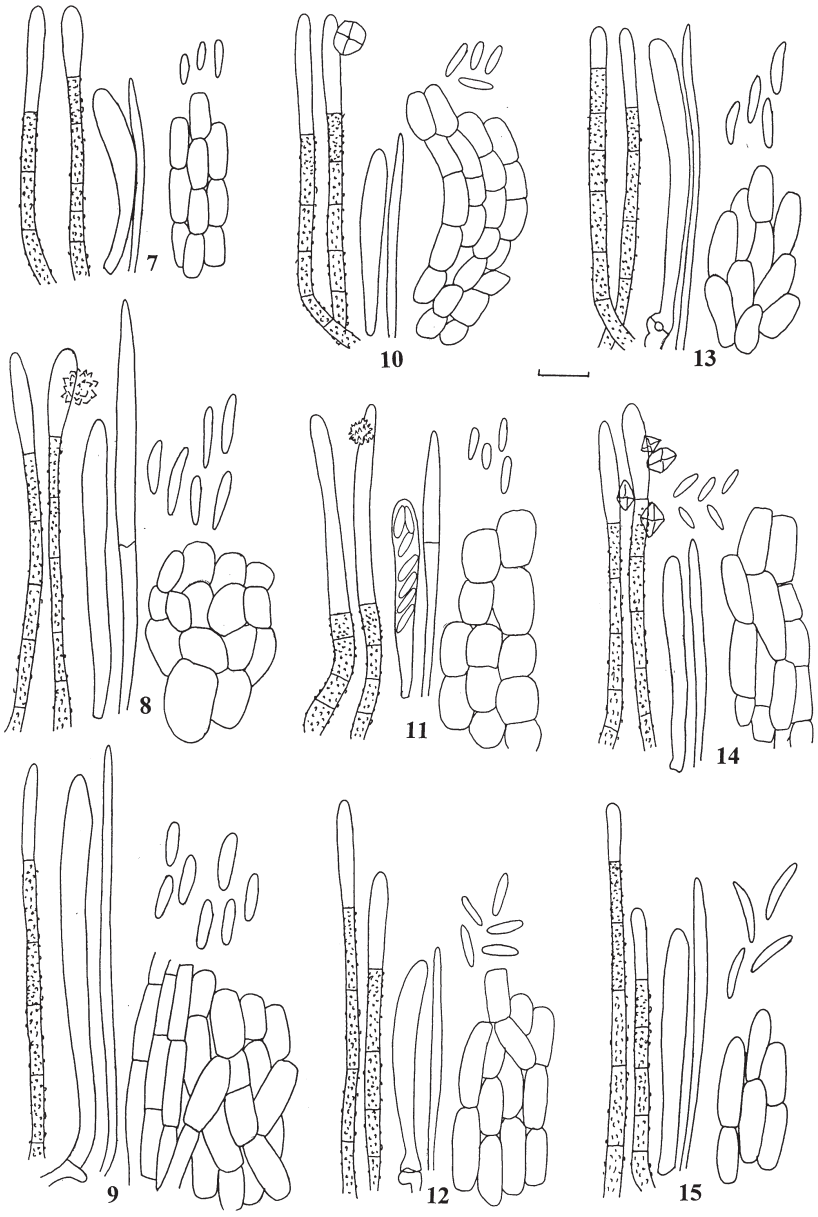
NOTES. This species was synonymized with *D. nivea* in an earlier work (Raitviir 1977), but it really differs from the latter in having considerably longer asci and spores, and well developed lanceolate paraphyses. It also prefers strongly decayed wood of old stumps, whereas *D. nivea* is more frequently found on fallen sticks and weakly decayed wood.

Dasyscyphella dryina (P. Karst.) Raitv.

Scripta Mycol. **1**: 72, 1970.

Peziza dryina P. Karst., Not. Sällsk. Fauna Fl. Fenn. Förh. **10**: 183. 1869. – *Dasyscypha distinguenda* (P. Karst.) Sacc., Syll. Fung. **8**: 434, 1889. – *Dasyscypha lundellii* LeGal, Rev. Mycol. **4**: 50. 1939.

Apothecia scattered, stipitate. Disc 0.5–2.5 mm in diameter, shallow-concave, whitish when fresh and dry. Receptacle cupulate to shallow-cupulate, whitish to pale yellowish or light yellowish-brown when fresh and dry, covered with whitish or pale yellowish straight hairs. Stipe cylindrical, 0.3–1.0 mm long. Ectal excipulum duplex, comprising irregular textura prismatica-angularis covered with a few-cells-thick textura porrecta, cells thin-walled. Hairs cylindrical, apically very slightly



Figs 7–15. Hairs, asci, paraphyses, spores and excipular cells of 7 – *D. conicola*, 8 – *D. crystallina*, 9 – *D. dryina*, 10 – *D. epilobii*, 11 – *D. graminicola*, 12 – *D. montana*, 13 – *D. mughonicola* , 14 – *D. nivea* , 15 – *D. norvegica.* Scale bar = 10 μm.

swollen, hyaline, up to 6-septate, coarsely granulate with a smooth apical cell, 80–120 × 2–3 μm. Asci arising from simple septa, cylindrical, 8-spored, 63–72 × 4.5–6.0 μm, apical pore blue in MLZ. Spores ellipsoid to fusiform-ellipsoid, slightly inequilateral, aseptate, 9.0–12.0 × 2.0–3.2 μm. Paraphyses cylindrical with pointed tips, not exceeding the asci, 1.5–2.5 μm wide (Fig. 9).

ECOLOGY. On decaying wood of *Populus* sp., *Picea abies*.

DISTRIBUTION. Widely distributed in Europe and Asia from France to the Russian Far East, but rare everywhere, also present in North America.

Dasyscyphella epilobii Raitv. & H. Järv

Eesti TA toim., biol. **46**: 100. 1997.

Apothecia scattered or in small groups, stipitate. Disc 0.2–0.5 mm in diameter, pure white when fresh and dry. Receptacle deeply cupulate to cupulate, white when fresh and dry, covered at the flanks and margin with white hairs. Stipe cylindrical, 0.2–0.3 × 0.15–0.2 mm. Ectal excipulum well developed, composed of textura prismatica, individual cells thin-walled, hyaline, 8–15 × 4–7 μm. Hairs cylindrical, 4–5-septate, 50–80 × 2.5–3.5 μm, hyaline, thin-walled, finely granulate but with a smooth apical cell, bearing large crystals of calcium oxalate. Asci arising from simple septa, cylindrical to cylindric-clavate, 8-spored, apical pore blue in MLZ, 38–43 × 4–5 μm. Spores biseriate, cylindric-fusoid to elliptic-fusoid, straight, hyaline, aseptate, containing two minute polar guttules, 7.2–9.6 × 1.3–1.6 μm. Paraphyses narrowly lanceolate, aseptate, exceeding the asci by up to 10 μm, 2.0–2.5 μm wide (Fig. 10).

ECOLOGY. On dead stems of *Epilobium angustifolium.*

DISTRIBUTION. Known only from the type locality in Norway.

Dasyscyphella graminicola Raitv. & H. Järv

Eesti TA toim., biol. **46**: 101. 1997.

Apothecia scattered or in small groups, stipitate. Disc 0.2–0.5 mm in diameter, pure white when fresh and dry. Receptacle deeply cupulate to cupulate, white when fresh and dry, covered at the flanks and margin with white hairs. Stipe cylindrical, 0.3–0.5 × 0.15–0.2 mm. Ectal excipulum well developed, composed of textura prismatica to textura angularis, individual cells thin-walled, hyaline, 15–17 × 8–13 μm. Some amount of hyaline refracting matter present in intercellular spaces. Hairs cylindrical to tapering, 4–5-septate, 50–60 × 3.0–3.5 μm, apically 2.5 μm in diameter, hyaline, thin-walled, with a very long (30–36 μm) smooth apical cell, and finely granulate short basal cells, bearing large balls of small acicular crystals of calcium oxalate. Asci arising from simple septa, cylindrical to cylindric-clavate, 8-spored, 37–43 × 3–4 μm, apical pore blue in MLZ. Spores biseriate, cylindric-fusoid to elliptic-fusoid, straight, hyaline, aseptate, 5.6–7.2 × 1.3–1.8 μm. Paraphyses narrowly lanceolate, 1-septate, exceeding the asci up to 15 μm, 2.0–2.5 μm wide (Fig. 11).

ECOLOGY. On dead culms of grasses.

DISTRIBUTION. Known only from the type locality in Norway.

Dasyscyphella montana Raitv.

Eesti NSV TA toim., biol. **26**: 32. 1977

Apothecia solitary or in small groups to gregarious, stipitate. Disc 0.5–1.0 mm in diameter, concave, pure white when fresh and dry. Receptacle cupulate to shallow-cupulate, pure white when fresh and dry, densely covered with straight white hairs shorter at the flanks and longer at the margin. Stipe cylindrical, slender, 0.5–1.2 mm long. Ectal excipulum thin, composed of textura prismatica, cells hyaline, thin-walled, 13–20 × 5–8 μm. Hairs cylindrical, hyaline, coarsely granulate with a smooth apical cell, 70–110 × 2–3 μm, 4–5-septate, not bearing crystals, apical cell only slightly longer than the other cells, up to 25 × 4 μm, subclavate with rounded tip. Asci arising from croziers, cylindrical to cylindric-clavate, 8-spored, 46–53 × 4.3–5.4 μm, apical pore blue in MLZ. Spores uniseriate, ellipsoid-fusoid, sometimes slightly clavate, hyaline, aseptate, without inclusions, (5.0–)7.1–7.8(–9.0) × 1.8–2.2 μm. Paraphyses cylindrical to narrowly lanceolate, aseptate, exceeding the asci by 10–18 μm, 1.8–2.7 μm wide (Fig. 12).

ECOLOGY. On decaying wood of *Picea* spp, *Corylus avellana*, *Quercus robur*, *Salix* spp.

DISTRIBUTION. Widely distributed and fairly

common in Europe and Asia from Spain to the Russian far East.

Dasyscyphella mughonicola (Svrček) Raitv. & Arendh.

Mycotaxon **32**: 355. 1988.

Dasyscyphus mughonicola Svrček, Česká Mykol. **21**: 65. 1967.

Apothecia solitary or in small groups, stipitate. Disc 0.4–1.0 mm in diameter, sulphur yellow when fresh, darker yellow when dry. Receptacle cupulate, concolorous to the disc, externally covered with long, straight, yellowish hairs. Hairs cylindrical, apically clavate, hyaline to pale yellowish, thin-walled, 4–6-septate, granulate with a smooth apical cell, 80–110 × 2.0–3.5 μm, encrusted with granules of a lemon-yellow amorphous matter. Ectal excipulum composed of thin and delicate textura prismatica, cells hyaline, thin-walled, 11–16 × 5–8 μm. Asci arising from croziers, cylindrical, 8-spored, 50–60 × 4.5–5.0 μm, apical pore blue in MLZ. Spores fusoid, hyaline, aseptate, eguttulate, 8.5–11.0 × 2.0–3.0 μm. Paraphyses cylindrical, pointed, exceeding the asci by up to 5 μm, 1.5–2.5 μm wide (Fig. 13).

ECOLOGY. On fallen needles of *Pinus* spp.

DISTRIBUTION. This species has a rather scattered distribution in Europe (Czech Republic, Germany) and Asia (Yekaterinburg Region of Russia).

Dasyscyphella nivea (Hedw.: Fr.) Raitv.

Scripta Mycol. **1**: 72. 1970.

Peziza nivea Hedw.: Fr., Syst. Mycol. **2**: 90. 1822. – *Lachnum niveum* (Hedw.: Fr.) P. Karst., Mycol. Fenn.: 168. 1971.

Apothecia solitary or in small groups to gregarious, stipitate. Disc 0.5–1.0 mm in diameter, concave, whitish when fresh, whitish to pale yellowish when dry. Receptacle cupulate to shallow-cupulate, pure white, densely covered with straight hairs shorter at the flanks and longer at the margin that are white when fresh, yellowish and covered with orange to brownish orange granules when dry. Stipe cylindrical, slender, 0.5–1.2 mm long. Ectal excipulum composed of textura prismatica, cells hyaline, thin-walled, 12–18 × 5–8 μm. Hairs cylindrical, hyaline, coarsely granulate with one or two smooth apical cells, 60–110 × 2–4 μm, 4–5-septate, bearing sparse to numerous crystals and spherical crystal balls of calcium oxalate, heavily encrusted with deep orange amorphous matter dissolving in KOH; apical cell only slightly longer than the other cells, up to 20 × 4 μm, subclavate with rounded tip. Asci arising from croziers, cylindrical to cylindric-clavate, 8-spored, 40–53 × 3–5 μm, apical pore blue in MLZ. Spores uniseriate, ellipsoid-fusoid, sometimes slightly clavate, hyaline, aseptate, without inclusions, (5.0–)6.0–7.5(–9.0) × 1.7–2.3 μm. Paraphyses cylindrical to narrowly lanceolate, aseptate, exceeding the asci by up to 12 μm, 1.5–3.0 μm wide (Fig. 14).

ECOLOGY. On fallen sticks and decaying wood of *Quercus robur*, more rarely on *Carpinus* spp., *Betula* spp, *Fagus* spp., *Populus* spp., *Pyrus communis*, *Salix* spp.

DISTRIBUTION. Widely distributed and common in Europe and Asia from Spain to Korea.

Dasyscyphella norvegica Raitv., *sp. nov.*

Apothecia breviter stipitata, 0.2–0.5 mm diametro, albida. Excipulum externum e textura prismatica compositur. Pili cylindracei, hyalini, tenuiter tunicati, granulosi, apicibus laevibus, 60.0–80.0 × 2.5–3.0 μm. Asci non uncinati, cylindraceo-clavati, octospori, poris amyloideis, 40–50 × 4–5 μm. Sporae fusoideae, aseptatae, eguttulatae, 12.0–15.0 × 1.5–2.0 μm. Paraphyses anguste lanceolatae, ascos parum superantes, 2–3 μm diametro. Dasyscyphellae montanae *similis, sporis longis, ascis non uncinatis et substratis differt.*

Apothecia scattered to solitary, stipitate. Disc 0.2–0.5 mm in diameter, concave, whitish to pale cream-colored when dry. Receptacle cupulate to shallow-cupulate, whitish to pale ochraceous, densely covered with straight hairs shorter at the flanks and longer at the margin that are white when dry. Stipe cylindrical, up to 0.3 mm long. Ectal excipulum composed of well developed textura prismatica, composed of several layers of

elongated, hyaline, thin-walled cells 12–24 × 4–6 μm. Hairs cylindrical, hyaline, coarsely granulate with a smooth apical cell, 60–80 × 2.5–3.0 μm, generally 5-septate, bearing neither crystals nor encrusting amorphous matter; apical cell of the same length as the other cells, subclavate with rounded tip. Asci arising from simple septa, cylindric-clavate, 8-spored, 40–50 × 4–5 μm, apical pore blue in MLZ. Spores irregularly biseriate, fusoid, usually inequilateral, sometimes slightly curved, hyaline, aseptate, without inclusions, 12.0–15.0 × 1.5–2.0 μm. Paraphyses cylindrical, pointed, scarcely exceeding the asci, 2–3 μm wide (Fig. 15).

HOLOTYPE: NORWAY. DOVRE AREA: Folldal, Hedmark, Råtåsjöen, on dead parts of *Carex sp*., 23 Aug. 1985, *S. Huhtinen 85/60* (TUR; isotype in TAA).

ECOLOGY. On dead leaves of *Carex* sp.

DISTRIBUTION. Known so far from the type collection only.

NOTES. The hairs of this species are similar to those of *D. montana*, but *D. norvegica* is easily recognizable by its comparatively long and narrow spores, simple septa on ascus base and growth on *Carex*.

Dasyscyphella patuloides Raitv. & R. Galán

Nova Hedwigia **58**: 457. 1994.

Apothecia in small groups on lower surface of leaf, concentrated on the veins, stipitate. Disc 0.5–1.0 mm in diameter, concave, deep egg-yellow to orange-yellow when fresh, pale yellowish when dry. Receptacle cupulate to shallow-cupulate, pure white when fresh and dry, densely covered with straight white hairs shorter at the flanks and longer at the margin. Stipe cylindrical, slender, 0.5–1.0 × 0.12–0.15 mm. Ectal excipulum composed of well developed textura prismatica consisting of several layers of hyaline thin-walled cells 7–12 × 5–8 μm. Hairs cylindrical, slightly tapering, sometimes conical, hyaline, coarsely granulate with a smooth apical cell, 60–70 × 2–3 μm, 4–5-septate, heavily encrusted with colorless amorphous matter dissolving in KOH; apical cell considerably longer than the other cells, 23–30 μm, subconical to subclavate with rounded tip. Asci arising from croziers, cylindrical to cylindric-clavate, in maturity 4-spored, 40–52 × 3.5–5.0 μm, apical pore blue in MLZ. Spores uniseriate, broadly fusoid to trapezoid, hyaline, aseptate, without inclusions, 8.0–13.0 × 2.0–3.2 μm. Paraphyses narrowly lanceolate, aseptate, containing numerous small oil drops, exceeding the asci by up to 10 μm, 2.5 μm wide (Fig. 16).

ECOLOGY. On fallen leaves of *Quercus faginea*.

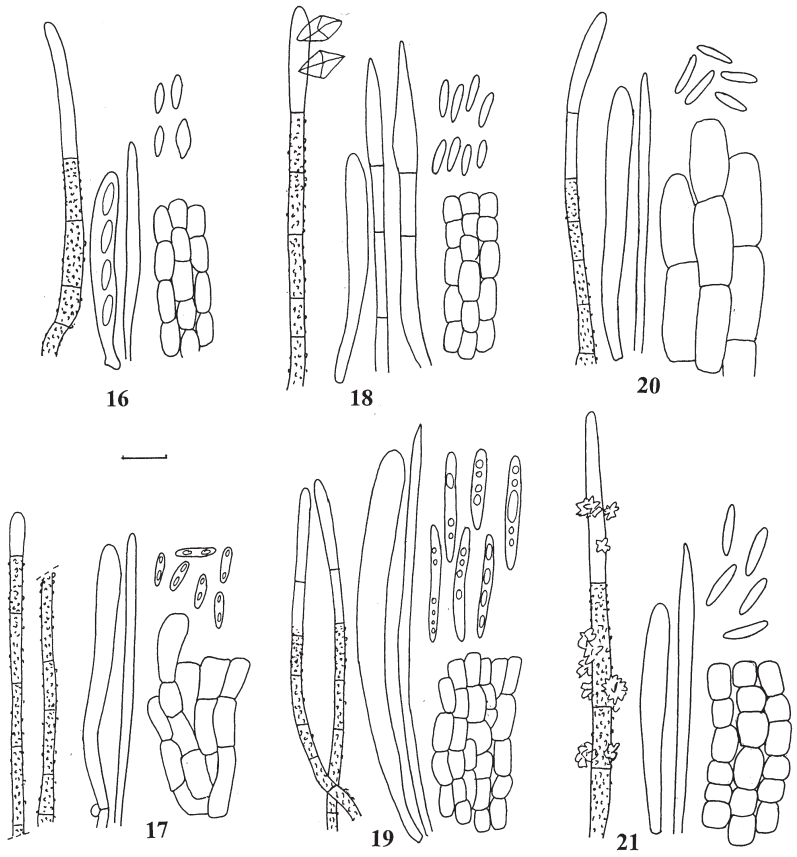
DISTRIBUTION. Known only from the type locality in Spain.

NOTES. This species is quite distinctive in the field with its deep yellow hymenium. It differs from another foliicolous species of the genus, *Dasyscyphella claviculata* (Velen.) Baral, in having shorter and differently shaped spores, considerably shorter asci, no crystals on the hairs, and brightly colored hymenium when fresh. *Dasyscyphella tamajonica*, growing also on oak leaves and having similar hairs with very long apical cells, differs in its white hymenium, abundant crystals on the hairs, and isodiametric, thick-walled excipular cells. The mature asci of *Dasyscyphella patuloides* are constantly 4-spored, but in earlier stages of development 8 spores are observed to start to develop, 4 of them soon aborting.

Dasyscyphella pilosissima Raitv., *sp. nov.*

Apothecia stipitata, 0.5–1.5 mm diametro, albida, hymenio sicco pallide luteo. Excipulum externum ex textura prismatica compositur. Pili cylindracei, hyalini, tenuiter tunicati, granulosi, apicibus laevibus, non crystalliferis, 90–160 × 2–3 μm. Asci uncinati, cylindraceo-clavati, octospori, poro amyloideo, 50–65 × 5–6 μm. Sporae ellipsoideae vel clavato-ellipsoideae, aseptatae, biguttulatae, 7.0–9.0 × 1.6–2.0 μm. Paraphyses cylindraceae vel anguste lanceolatae, ascos minute superantes, 1.7–2.5 μm diametro. Ad lignum putridum crescit. Dasyscyphellae montanae *similis, pilis longis et sporis biguttulatis differt.*

Apothecia scattered to gregarious, stipitate. Disc 0.5–1.5 mm in diameter, concave, whitish when fresh, pale yellowish when dry. Receptacle



Figs 16–21. Hairs, asci, paraphyses, spores and excipular cells of 16 – *D. patuloides*, 17 – *D. pilosissima*, 18 – *D. rubi*, 19 – *D. scirpicola*, 20 – *D. sulphuricolor*, 21 – *D. tamajonica*. Scale bar = 10 μm.

cupulate to shallow-cupulate, pure white when fresh, remaining white when dry, densely covered with straight white hairs shorter at the flanks and longer at the margin. Stipe cylindrical, 0.5–2.0 μm long. Ectal excipulum thin, composed of textura prismatica, cells hyaline, thin-walled, 8–14 × 4–6 μm. Hairs cylindrical, apically slightly tapering, hyaline, coarsely granulate, regularly with two smooth apical cells, 90–160 × 2–3 μm, up to 10-septate, not bearing crystals or amorphous exudates. Apical cells slightly shorter than the other cells. Asci arising from croziers, cylindrical to cylindric-clavate, 8-spored, 50–65 × 5–6 μm, apical pore blue in MLZ. Spores uniseriate or irregularly biseriate, ellipsoid to clavate-ellipsoid, hyaline, aseptate, containing two big lipid globules, 7.0–9.0 × 1.6–2.0 μm. Paraphyses cylindrical with pointed tips to narrowly lanceolate, aseptate, scarcely exceeding the asci, 1.7–2.5 μm wide (Fig. 17).

HOLOTYPE: ESTONIA. JÖGEVAMAA: Alam-Pedja Nature Reserve, Madise zone, on a fallen twig of *Salix caprea*, 20 Aug. 1997, *E. Parmasto* (TAA-166915).

OTHER SPECIMENS SEEN. SPAIN. SAN CELONÍ: Olzinellas, Barcelona; on decorticated wood of *Quercus* sp., 16 Oct. 1991, *C. Illana et al.* (AH-6650).

ECOLOGY. On decaying wood.

DISTRIBUTION. Estonia, Spain.

NOTES. This species bears some resemblance to *D. montana* but differs in having very abundant

hairs which are considerably longer and more densely septate, and spores containing two big lipid globules. *D. angustipila* has hairs of about the same length but more sparsely septate and with differently shaped apical cells. Also the spores of *D. angustipila* are much wider and without inclusions. *D. pilosissima* is the only small-spored *Dasyscyphella* having prominent lipid globules in its spores.

Dasyscyphella rubi Raitv., *sp. nov.*

Apothecia stipitata, 0.5–1.0 mm diametro, albida, sicca extus luteopunctata. Excipulum externum ex textura prismatica compositur. Pili cylindracei, hyalini, tenuiter tunicati, granulosi, apicibus laevibus, crystalliferis, 60–110 × 3–4 μm. Asci non uncinati, cylindraceo-clavati, octospori, poro amyloideo, 50–56 × 4.0–5.5 μm. Sporae fusoideae, aseptatae, eguttulatae, 7.0–10.0 × 1.5–2.0 μm. Paraphyses lanceolatae, 3-septatae, ascos 15–30 μm superantes, 3–6 μm diametro. In caulibus Rubi idaei *crescit.* Dasyscyphellae crystallinae *similis, sporis et ascis brevibus et substrato differt.*

Apothecia solitary or in small groups to gregarious, stipitate. Disc 0.5–1.0 mm in diameter, concave, whitish to faint yellowish when fresh, whitish to pale yellowish when dry. Receptacle cupulate to shallow-cupulate, pure white, densely covered with straight hairs shorter at the flanks and longer at the margin that are white when fresh, whitish and tipped with light yellow to orange-yellow granules when dry. Stipe cylindrical, slender, 0.5–1.0 mm long. Ectal excipulum composed of well developed textura prismatica consisting of several layers of hyaline, thin-walled cells 7.0–12.0 × 4.5–6.0 μm at the flanks and almost cuboid, 6–7 × 6–7 μm, close to the margin. Hairs cylindrical, hyaline, coarsely granulate with one, rarely two, smooth apical cells, 60–110 × 3–4 μm, 4–5-septate, bearing innumerable rhomboid crystals, heavily encrusted with deep orange amorphous matter dissolving in KOH; apical cell not longer than the other cells, clavate to broadly fusoid, 5–7 μm wide. Asci arising from simple septa, cylindrical to cylindric-clavate, 8-spored, 50.0–56.0 × 4.0–5.5 μm, apical pore blue in MLZ. Spores uniseriate, fusoid, sometimes slightly inequilateral, hyaline, aseptate, without inclusions, 7.0–10.0 × 1.5–2.0 μm. Paraphyses lanceolate, up to 3-septate, exceeding the asci by 15–30 μm, 3–6 μm wide (Fig. 18).

HOLOTYPE: RUSSIA. TUVA AUTONOMOUS REPUBLIC: Eastern Sajan Mountains, Ush-Beldir, on dead canes of *Rubus idaeus*, 16 Aug. 1972, *A. Raitviir* (TAA-62704).

OTHER SPECIMENS SEEN. RUSSIA. (YEKATERINBURG) SVERDLOVSK REGION: Kytlym, on dead canes of *Rubus idaeus*, 20 July 1973, *A. Raitviir* (TAA-62979). – CANADA. QUEBEC: Kuujjuarapik (Great Whale River, Poste-de-la-Baleine), 55°17′N, 77°46′W, 2 km E of village, on dead canes of *Rubus idaeus*, 02, 03, 10 Aug. 1982, *S. Huhtinen 82/182, 82/213, 82/302* (TUR).

ECOLOGY. On dead canes of *Rubus idaeus*.

DISTRIBUTION. Russia, Canada.

NOTES. This species of northern distribution is closely related to *D. crystallina* differing from it in having shorter asci and spores, and in its substrate. *D. nivea* is closer in ascus and spore size, but has asci arising from croziers and short, narrow paraphyses.

Dasyscyphella scirpicola Raitv., *sp. nov.*

Apothecia stipitata, 0.3–0.5 mm diametro, albida. Excipulum externum e textura prismatica compositur. Pili cylindracei, hyalini, tenuiter tunicati, granulosi, duobus cellulis apicalibus laevibus, 70–90 × 2.0–2.5 μm. Asci uncinati, cylindraceo-clavati, octospori, poris amyloideis, 85–100 × 6–8 μm. Sporae cylindraceo-fusoideae raro subclavatae, aseptatae, multiguttulatae, 23.0–28.0 × 2.0–2.5 μm. Paraphyses anguste lanceolatae, ascos parume superantes, 2–3 μm diametro. Dasyscyphellae calongei *similis, sporis longis multiguttulatis, ascis uncinatis et substrato differt.*

Apothecia scattered to gregarious, stipitate. Disc 0.3–0.5 mm in diameter, concave, whitish when fresh and dry. Receptacle cupulate to shallow-cupulate, whitish, densely covered with straight hairs shorter at the flanks and longer at the margin that are white when fresh and dry. Stipe cylindrical, up to 0.5 mm long. Ectal excipulum composed of well developed textura prismatica consisting of several layers of hyaline, thin-walled cells, 6.5–11.0 × 3.0–5.0 μm; cell walls slightly refractive, some refractive matter present in inter-

cellular spaces. Hairs cylindrical, hyaline, coarsely granulate with two smooth apical cells, 70–90 × 2.0–2.5 μm, 5–6-septate, bearing neither crystals nor encrusting amorphous matter; apical cell only slightly longer than the other cells, subclavate with rounded tip. Asci arising from croziers, cylindric-clavate, 8-spored, 85–100 × 6–8 μm, apical pore blue in MLZ. Spores irregularly biseriate, elongated cylindric-fusoid, sometimes slightly clavate, hyaline, aseptate, containing several lipid globules, 23.0–28.0 × 2.0–2.5 μm. Paraphyses cylindrical, pointed, scarcely exceeding the asci, 2–3 μm wide (Fig. 19).

HOLOTYPE: SPAIN. CIUDAD REAL: Cabañeros National Park, on dead culms of *Scirpus holoschoenus*, 28 Sept. 1996, *A. Raitviir* (Holotype TAA-137681).

ECOLOGY. On dead culms of *Scirpus holoschoenus.*

DISTRIBUTION. Known so far from the type collection.

NOTES. This species is easily recognizable by its long multiguttulate spores and cannot be confused with any other species of *Dasyscyphella*.

Dasyscyphella sulphuricolor (Peck) J. H. Haines

Mycotaxon **35**: 345. 1989.

Dasyscypha sulphuricolor Peck, New York State Mus. Bull. **157**: 25. 1912. – *D. cinnamomea* Raitv., Eesti NSV Tead. Akad. toim., biol. **26**: 31. 1977. – *D. purpurea* Raitv., Eesti NSV Tead. Akad. toim., biol. **26**: 31. 1977.

Apothecia scattered, stipitate. Disc 0.5–2.5 mm in diameter, shallow-concave, apricot- to dark amber-colored when dry. Receptacle cupulate to shallow-cupulate, sulphur yellow when fresh, buff to dark amber-colored or sometimes blackish purple when dry, covered with long concolorous hairs. Stipe cylindrical, stout, 0.5–1.0 mm long. Ectal excipulum of textura angularis to textura prismatica, composed of thin-walled cells having brownish content in the outer layer. Hairs cylindrical, with thin hyaline walls and brownish content, exuding a faint to deep vinaceous pigment in KOH, up to 6-septate, coarsely granulate with a smooth apical cell, 80–125 × 2–3 μm, apically slightly swollen. Asci arising from simple septa, cylindrical, 8-spored, 55–75 × 4.5–5.5 μm, apical pore blue in MLZ. Spores ellipsoid to fusiform-ellipsoid, slightly inequilateral, aseptate, 6.6–11.6 × 2–2.8 μm. Paraphyses cylindrical with pointed tips, not exceeding the asci, 1.5–2.5 μm wide (Fig. 20).

ECOLOGY. On decaying hardwood.

DISTRIBUTION. USA (New York, Pennsylvania).

NOTES. Haines (1989) has shown that *Dasyscypha sulphuricolor* Peck is the earlier available name for this North American species with intensely colored robust apothecia. It is related to another robust species, *D. dryina*, from which differs in having intense yellowish pigments dissolving and sometimes turning violaceous in KOH.

Dasyscyphella tamajonica (Raitv. & R. Galán) Raitv., *comb. nov.*

BASIONYM: *Lachnum tamajonicum* Raitv. & R. Galán, Nova Hedwigia **58**: 466. 1994.

Apothecia solitary or scattered, sometimes in small groups on both surfaces of leaf blade, stipitate. Disc 0.2–0.5 mm in diameter, pure white when fresh, whitish or sometimes pale ochraceous when dry. Receptacle deeply cupulate to cupulate, white, covered at the flanks and margin with white hairs tipped when dry with small pale ochraceous to pale orange granules. Marginal hairs sometimes agglutinated into teeth. Stipe cylindrical, slender, of variable length, 0.2–0.6 mm long. Ectal excipulum of textura prismatica, cells thick-walled (walls up to 0.8 μm thick), short and wide, 8.0–14.0 × 6.5–10.0 μm. Hairs cylindrical, hyaline, thin-walled, 5–8-septate, finely granulate with a long smooth apical cell forming 1/5 to 1/3 of the total length of a hair, 80–100 × 3–4 μm. Asci arising from croziers, cylindrical to cylindric-clavate, 8-spored, 45–55 × 4.5–5.5 μm, apical pore blue in MLZ. Spores obliquely uniseriate, sometimes irregularly biseriate, cylindric-ellipsoid to ellipsoid-fusoid, straight or sometimes slightly curved,

aseptate, without inclusions, 8.5–13.0 × 1.3–2.0 μm. Paraphyses narrowly lanceolate, aseptate to 1-septate, exceeding the asci by 10–20 μm., 2–3 μm wide (Fig. 21).

ECOLOGY. On fallen leaves of *Quercus rotundifolia* and *Q. faginea*.

DISTRIBUTION. Spain.

NOTES. The species was originally described as a *Lachnum* with totally rough hairs. Reexamining the species from a rich collection from leaves of *Quercus faginea* in Cabañeros National Park, Ciudad Real, Spain, 14 Nov. 1996, *A. Raitviir* (TAA-137689), I discovered, however, that it has typical *Dasyscyphella* hairs with a very long smooth apical cell. But if the material is mounted in KOH and kept in this mountant for a long time the outer layer of the apical cell wall swells irregularly, resulting in its rough appearance. This was evidently the reason for the mistake made in compiling the original description and preparing the line drawing (Galán & Raitviir 1994: Fig. 11, F).

D. tamajonica is similar to *D. castaneicola* but clearly differs from it in having thick-walled cubic excipular cells, unlike the elongated thin-walled excipular cells of *D. castaneicola*.

DOUBTFUL AND EXCLUDED SPECIES

Dasyscyphella acutipila Cash

Stud. Nat. Hist. Iowa Univ. **17**: 216. 1937.

NOTES. It is a synonym of *Lachnum cyphelloides* (Pat.) J. H. Haines & Dumont (Haines & Dumont 1984).

Dasyscyphella acutipilosa Baral & E. Weber

Bibl. Mycol. **140**: 103. 1992.

NOTES. The authors transferred *Albotricha acutipila* (P. Karst.) Raitv., the type species of *Albotricha* Raitv., to *Dasyscyphella*, suggesting that *Albotricha* is a synonym of *Dasyscyphella*. Ultrastructural studies (Leenurm *et al.* 2000) have shown, however, that these two genera are strictly different.

Dasyscyphella aeruginosa (Henn.) Jacz.

Opredelitel gribov **1**: 371. 1913.

NOTES. I have studied the type species of *Erinella aeruginosa* Henn., Hedwigia **45**: 30. 1905, deposited in LE, and found that it represents an undescribed genus of unclear taxonomic position.

Dasyscyphella albocitrina (Cooke) Baral

Z. Mykol. **59**: 6. 1993.

NOTES. This combination evidently is based on a misnamed specimen, as Baral (1993) refers to his drawing showing a species with hairs having apically smooth hairs bearing octagonal crystals. The true *Peziza albocitrina* Cooke, however, has totally finely warted hairs without crystals (Dennis 1963).

Dasyscyphella appressa Cash

Stud. Nat. Hist. Iowa Univ. **17**: 217. 1937.

NOTES. It is a synonym of *Lachnum chusqueae* (Pat.) J. H. Haines & Dumont (Haines & Dumont 1984).

Dasyscyphella dificillima Höhn.

Sitzungsber. Kaiserl. Akad. Wiss., Math.-Natur. wiss. Cl. Abt 1 **108**: 393. 1909.

NOTES. I have not studied the type specimen, but the rather detailed original description suggests that it is a bambusicolous long-spored *Lachnum*.

Dasyscyphella indica Cash

Mycologia **40**: 724. 1948.

NOTES. The correct name for this species is *Lachnum indicum* (Cash) J. H. Haines & Dumont (Haines & Dumont 1984).

Dasyscyphella miniopsis (Ellis) Kanouse

Pap. Michigan Acad. Sci. **23**: 151. 1939.

NOTES. Korf (1978) selected the species as the type species of *Parachnopeziza* Korf and proposed the corresponding combination *Parach-*

nopeziza miniopsis (Ellis) Korf, Mycotaxon **7**: 468. 1978.

Dasyscyphella palmae Kanouse

Mycologia **33**: 464. 1940

NOTES. Spooner (1987) showed that it should be placed in *Lachnum* as *Lachnum palmae* (Kanouse) Spooner.

Dasyscyphella pommeranica (Ruhland) Kirschst.

Ann. Mycol. **33**: 228. 1935.

NOTES. Dennis (1949) already showed that this species belongs to the genus *Trichoscyphella* (= *Lachnellula*). It is a synonym of *Lachnellula pseudofarinacea* (Crouan) Dennis.

Dasyscyphella pulverulenta (Lib.) Baral

Z. Mykol. **59**: 6. 1993.

NOTES. This species is a member of *Lachnum* as it has the totally warted hairs typical of this genus.

Dasyscyphella schroeteriana Rehm

Hedwigia **39**: 95. 1900.

NOTES. It is a synonym of *Lachnum abnorme* (Mont.) J. H. Haines & Dumont (Haines & Dumont 1984).

Dasyscyphella subcorticalis (Pat.) Cash

Mycologia **35**: 601. 1943.

NOTES. It is a synonym of *Lachnum sclerotii* (A. L. Sm.) J. H. Haines & Dumont (Haines & Dumont 1984).

ACKNOWLEDGEMENTS. The author is greatly indebted to Dr. Ricardo Galán, who enabled me to make several collecting trips in Spain and placed his collections of *Dasyscyphella* at my disposal, to Dr. John H. Haines, who made it possible for me to make collections in North America, to Dr. Seppo Huhtinen and the Curators of BPI, H, K, LE and NY for lending valuable materials, and to the anonymous reviewer for valuable suggestions on the manuscript. The figures were inked by my wife, Malle Raitviir. I thank Mr. Hans-Otto Baral for valuable specimens, information and discussion. The study was financially supported by the Estonian Science Foundation (grants 2148 and 4078).

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Received 4 February 2002