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Key to *Psathyrella*

Updates:

17.01.12 (many additions and modifications, drawings included), 25.02.12 (D 19 ff. changed, F 8/8* changed), 22.03.12 (D 21/21*, B 3/3*, B 4/4* changed), 23.03.12 (C 7 *P. piluliformis* replaced by *P. carinthiaca*), 13.04.12 (parts F + G strongly modified), 23.04.12 (*P. bivelata* integrated)

Introduction:

The key includes most of the previously described *Psathyrella* species from Europe, in addition, some of which have since been transferred to other genera. Not included are currently *P. excelsa*, *P. langei*, *P. radicellata*, *P. violaceopallens* and *P. wavereniana*.

The dichotomous pairs are based predominantly on microscopic characteristics, to edit material also can be present for which no field notes. Only as an exception habitual or ecological characteristics of differentiation are used. However, it is certain that the difference between these clearly (e. g. tiny vs. large species; growing on sandy soil vs. dung). Measurements are rounded in the key part or for the benefit of the characteristic compared with the species descriptions slightly weighted differently.

It is essential to key out some species more than once, because they show a considerable variability (e. g. *P. senex*) or may represent collective species (e. g. *P. corrugis*). However, it is not possible to consider each extreme (e. g. very large fruitbodies, unusual shape of cystidia, abnormally spores). Should also be noted that various features are developmentally variable (e. g. colored underlining of lamellae edge, thickened cell walls). To verify the determination must be used a detailed description.

Also, it's often to try alternative routes.

Notes on the features:

When the **spores measure** waives the average values, since even the absolute would be relevant. It should be noted that both minimum and maximum may be exceeded occasionally (e. g. with interspersed 2-spored basidia). Done in this case, an orientation to the majority. The same applies to the determination of the **spore shape and colour**.

A missing or existing **germ pore** is a useful feature, though not without problems. Are indispensable, fully mature spores under examination in potassium hydroxide (KOH) due to the better contrast is recommended.

To assess the frequency and distribution of **cheilocystidia** often several preparations from different sections of lamellae are required. Close to the cap often dominate sphaeropedunculate or clavate marginal cells, may occur near the stem spread to the lamellae caulocystidia. The latter are not intended relevant characteristic.









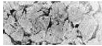






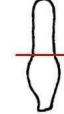

The decision whether **pleurocystidia** happen is to cut down only after a thorough search. Often pleurocystidia are very rare and only found close to the lamellae edge.

The details of **cap diameter** and **velum** to give an idea of the habit of the fruitbody. Also, the **habitat** occasionally valuable or even allow clear conclusions. Other supplementary information is provided only when deemed appropriate (e. g. distinct pink colour of the hat during drying, presence of a pseudorhiza).

Used abbreviations:

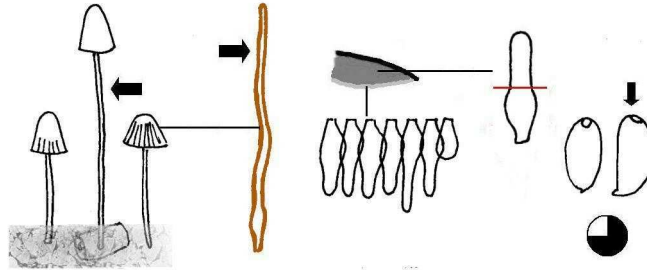
C. = cap, Ch.= cheilocystidia, L. = lamellae, Pl. = pleurocystidia, P. = *Psathyrella.*, Sp. = spores, St. = stipe, Syn. = synonym(s)

Used symbols:

							
Sp. hyaline	Sp. very bright	Sp. moderately bright	Sp. dark	Sp. black	L.edge white	L.edge coloured	L.edge white, coloured underlined
							
soil, litter	sandy soil	open habitat	indoor	in a short time	after a long time	clamps absent	Pl. absent
	CaCO ₃ +	H ₂ O +	C +	N ₂ +	- H ₂ O	+ KOH	n +++ n - - -
nerve expanding	calcareous	wet	burned ground	dung, fertilized	drying	in KOH	very numerous very rare

Part A

- 1 **Cap with long brownish hairs.**
C. up to 55(65) mm broad. Veil absent. Stem often very long. Sp. 12-18(20) x 6,5-9,5(10) μm , germ pore eccentric. Ch. 20-80 x 7-20 μm . Soil, leaf litter, pieces of wood.



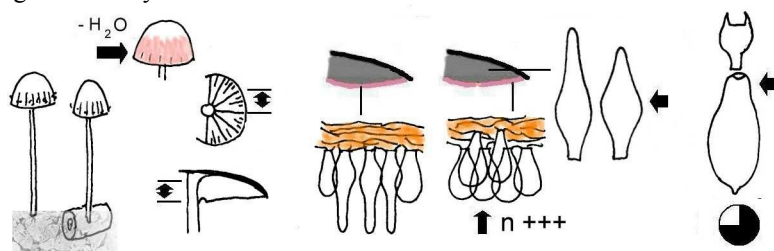
Parasola conopilus (FR.) ÖRSTADIUS & E. LARSSON

(Syn.: *P. conopilus* (FR.: FR.) A. PERS. & DENNIS, *P. arata* (BERK.) W. G. SMITH, *P. atrospora* A. H. SM., *P. circellatipes* BENOIST, *P. graciloides* (PECK) SACC., *P. circellatipes* var. *microspora* A. H. SM., *P. conopilus* var. *subatrata* (BATSCH) CITERIN & BON)

- 1* **Cap without hairs.** 2
2 (1) **Pleurocystidia present.** 3
2* **Pleurocystidia absent or very rarely.** 9
3 (2) **Cystidia strikingly with crystals and/or at least partly thickwalled.**

Part B

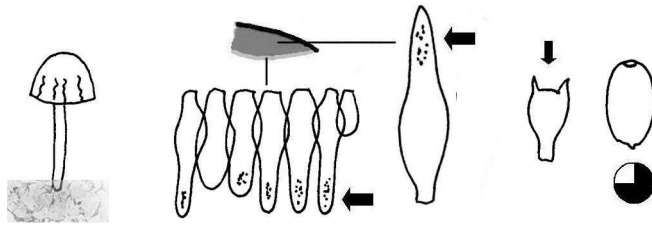
- 3* **Cystidia without or only rarely with crystals and predominatingly thinwalled.** 4
4 (3) **Basidia predominantingly 2-spored.** 5
(See also *P. corrugis*, *P. orbitarum*, *P. pseudogracilis*)
4* **Basidia predominantingly 4-spored.** 8
5 (4) **Spores up to 17(20) μm long.**
C. up to 25 mm broad, during drying often pinkish. Veil scanty. L. edge mostly pigmented. Spores 12-17(20) x 6-9 μm , often apically prolonged. Pl. 35-65(80) x 10-17,5(20) μm . Ch. (25)35-65(70) x 7,5-17,5 μm , clavate marginal cells near the margin of c. very numerous. Soil.



P. prona (FR.) GILLET ss. ÖRSTADIUS

(Syn.: *P. megaspora* A. H. SM., *P. subrubella* A. H. SM.)

- 5* **Spores distinctly shorter.** 6
6 (5) **Spores 13-15 μm long.**
C. 20-40 mm broad. Veil scanty. Sp. 13-15 x 7-8. Pl. 63-75 x 13-21 μm . Ch. 37-63 x 13-20(23) μm , densely packed. Cystidia often with granules. Soil, *Fagus* forest.



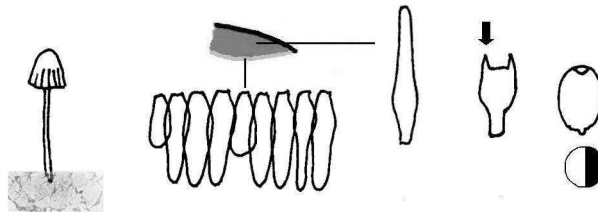
P. macrocystidiata ARNOLDS

6* Spores shorter.

7

7 (6) Pleurocystidia mostly slender fusiform, never subcapitate.

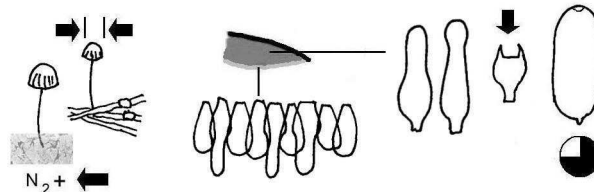
C. up to 11 mm broad. Veil scanty. Sp. 8-9(10) x (5)5,5-6,5 μm . Pl. 32,5-50(60) x 7,5-12,5 μm . Ch. 20-35(45) x 7,5-10(12,5) μm , often closely packed. Soil, leaf litter.



P. perpusilla KITS V. WAV.

7* Pleurocystidia mostly utriform, often subcapitate.

C. 3-10 mm broad. Veil scanty. Sp. (10)11-11,5(12,5) x 5,5-6,5 μm . Pl. 30-40 x 10-17,5 μm . Ch. 27,5-40 x 7,5-15 μm . Dead grass, hay, straw, dung. 2-spored form of *P. romagnesii*.



P. romagnesii KITS V. WAV.
(Syn.: *P. waverenii* ARNOLDS)

8 (4) Germ pore always or predominatingly distinctly visible.

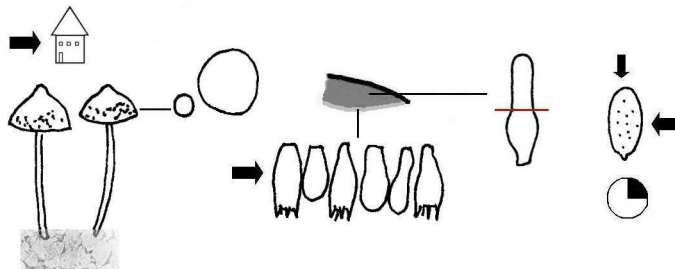
Part C

8* Germ pore absent or not distinctly visible.

Part D

9 (2) Veil consisting of globose elements, spores punctate.

C. 20-30 mm broad. Veil distinctly, grey to greyish brown. Sp. 4,5-6,15(6,8) x 2,5-3,2(3,4) μm . Ch. not differentiated or shape like basidioles. On soil in a subtropical greenhouse; Spain.



P. ornatispora M. VILLARREAL & ESTEVE-RAVENTÓS

9* Not so.

10

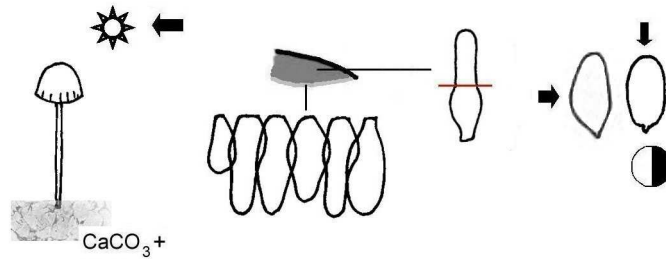
10 (9) Germ pore absent or only very indistinctly visible.

11

10* Germ pore always distinctly visible.

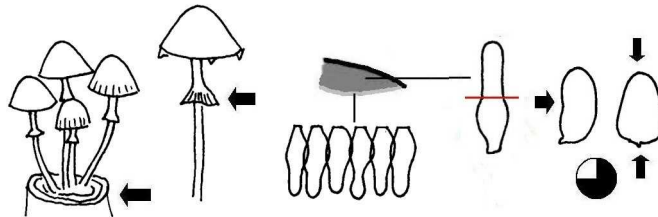
14

- 11 (10) **Spores often limoniform.**
 C. 5-15 mm broad. Veil scanty. Sp. 6.5-9 x 4,5-6 μm . Ch. 30-46 x 12-15 μm ,
 closely packed. Calcareous soil.



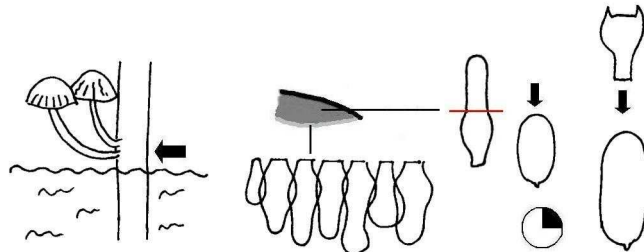
P. submicrospora HEYKOOP & G. MORENO

- 11' **Spores never limoniform.** 12
 12 (11) **Spores in water not strikingly pale.**
 C. up to 80(100) mm broad. Veil scanty. Stipe with annulus. Sp. (7)8-10 x 4,5-6,5
 μm . Ch. 25-40 x 7,5-12,5 μm , closely packed. Caespitose on or around stumps.



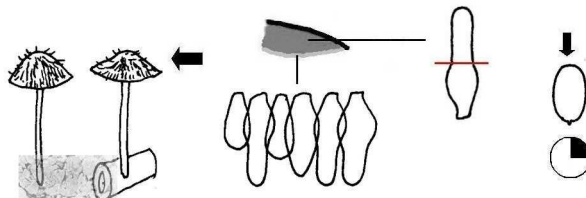
P. leucotephra (BERK. & BROOME) P. D. ORTON

- 12* **Spores in water strikingly pale.** 13
 13 (12) **Spores in water very pale brownish.**
 C. 5-15 mm broad. Veil scanty. Sp. 9-12,5(13) x (5)5,5-8(8,5) μm , larger if 2-
 spored basidia present. Ch. 25-40(50) x 7,5-15(17,5) μm . On aquatic plant
 (especially *Typha* and *Phragmites*) just above the water.



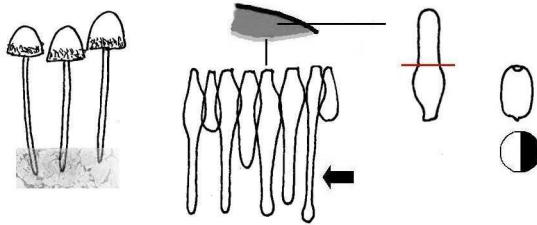
P. typhae (KALCHBR.) A. PEARSON & DENNIS
 (Syn.: *P. subaustralis* A. H. SM.)

- 13* **Spores in water very pale yellowish.**
 C. 25-53 mm broad. Veil distinctly. Sp. 9-11,5(12,5) x 5,5-7 μm . Ch. 30-45 x 12,5-
 17,5 μm . Stumps, dead wood.



P. melanthina (FR.) ROMAGN.
 (Syn.: *P. agaves* (MAIRE) KONR. & MAUBL.)

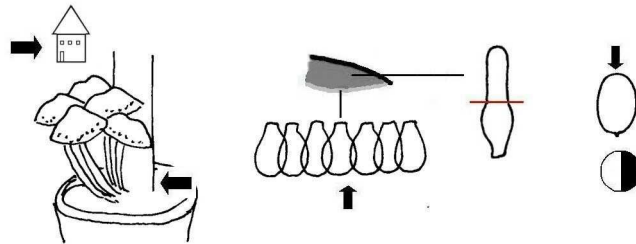
- 14 (10) **Cheilocystidia up to 100 μm long.**
 C. 10-30 mm broad. Veil distinctly. Sp. 7-9 x 4,5-5,8 μm . Ch. (40)45-100 μm ,
 often subcapitat. Soil, between grass.



P. longicystidiata HEYKOOP & G. MORENO

14* **Cheilocystidia shorter.** 15

15 (14) **Spores in KOH pale.**
 C. up to 20 mm broad. Veil scanty. Sp. 6,3-8 x 4-5(5,5) μm . Ch. very rare, utriform; clavate marginal cells dominating. Only in buildings, caespitose on wood, especially Yucca palm.



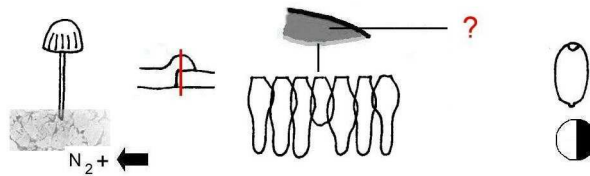
P. lacuum HUIJSMAN

15* **Spores in KOH dark (brown).** 16

16 (15) **Clamps absent.** 17

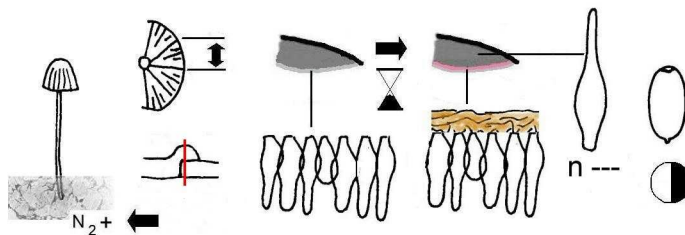
16* **Clamps present.** 18

17 (16) **Habit like *Galerina*.**
 C. (1)4-12 mm breit. Veil scanty. Sp. 9-10,5 x 5,5-6 μm . Pl. absent or extremely rare. Ch. 24-31 x 9-12 μm . Nitrogen-rich soil.



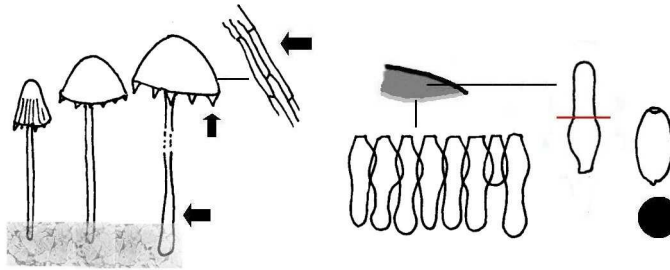
P. citerinii ESSARTIER

17* **Habit like *Mycena*.**
 C. up to 20 mm broad. Veil scanty. L. distant. Sp. 8-11,5(12,5) x 4,4-5,5 μm . Pl. absent or extremely rare. Ch. 15-45(55) x 6-16(20) μm . Nitrogen-rich soil.



P. effibulata ÖRSTADIUS & E. LUDWIG

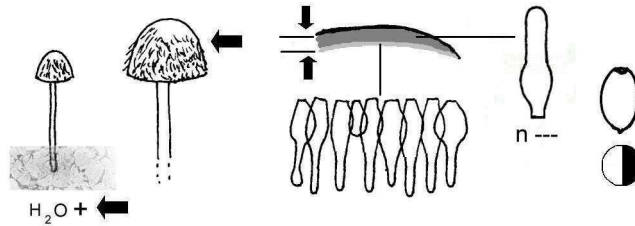
18 (16) **Spores in KOH dark blackish brown.**
 C. up to 40(60) mm broad. Veil young distinctly, a longer time as denticles on the edge of the cap. Sp. 10,5-15(15,5) x 6-8(9) μm . Ch. 25-47,5(60) x 7,5-17,5 μm , closely packed. Soil, pieces of wood.



***Coprinopsis marcescibilis* (BRITZELM.) ÖRSTADIUS & E. LARSS.**
 (Syn.: *P. marcescibilis* (BRITZELM.) SING., *P. delicatella* A. H. SM.,
P. elwhaensis A. H. SM., *P. involuta* (ROMAGN.) M. M. MOSER)

18* Spores in KOH brown. 19

19 (18) **Cheilocystidia lageniform, top small.**
 C. up to 35 mm broad. Veil densely. L. narrow. Sp. 8-10(12) x 4,5-5,5(6) μm. Ch. 25-40(55) x 10-15 μm, z.T. with crystals. Pl. absent or extremely rare. Wet soil, pieces of wood.



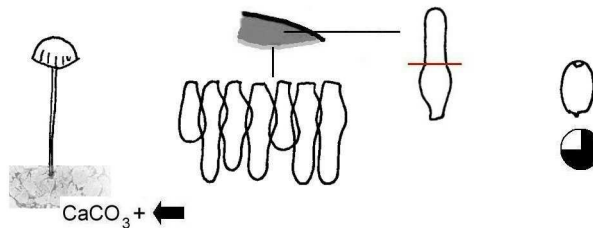
***P. caniceps* (KAUFFM.) A. H. SM.**
 (Syn.: *P. lanuginosa* A. H. SM.)

19* Cheilocystidia utriform, clavate or cylindrical, top broadly obtuse. 20

20 (19) Spores up to 8(9) μm long. 21

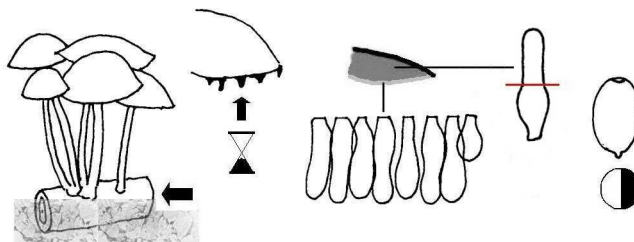
20* Spores longer. 22

21 (20) **Spores 6,5-8 x 4-4,5(5) μm.**
 C. up to 20 mm broad. Veil scanty. Ch. 25-42,5 x 10-20 μm. Soil, pieces of wood.



***P. microsporoides* HEYKOOP & G. MORENO**
 (Syn.: *P. badiophylla* var. *microspora* Kits v. Wav.)

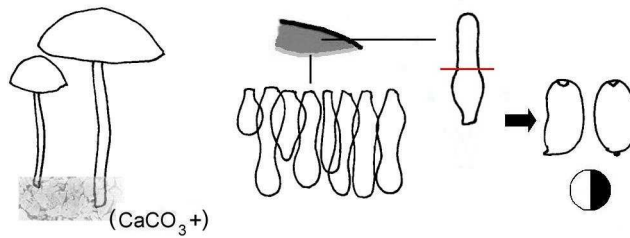
21* **Spores 6,5-9 x (3,5)4-5(5,5) μm.**
 C. up to 70(90) mm broad. Veil young distinctly. Ch. (25)30-70(90) x 10-20 μm, closely packed. (Mostly) caespitose on or near wood. Collective species, morphological not separable.



***P. candolleana* (FR.: FR.) MAIRE apud MAIRE & WERNER**
 (Syn.: *P. appendiculata* (BULL.) MAIRE, *P. coronata* (FR.) M. M. MOSER, *P. egenula* (BERK. & BROOME) M. M. MOSER, *P. elegans* ROMAGN., *P. hymenocephala* (PECK) A. H. SM., *P. jalapalensis* A. H. SM., *P. membranacea* A. H. SM., *P. microlepidota* P. D. ORTON, *P. proxima* ROMAGN., *P.*

pseudocandolleana A. H. SM., *P. rugoproxima* (PARKER) A. H. SM., *P. rupchandii* A. H. SM., *P. scotospora* ROMAGN., *P. singeri* A. H. SM., *P. spintrigera* (FR.) KONR. & MAUBL., *P. thiersii* A. H. SM., *P. candolleana* var. *solitaria* A. H. SM.)

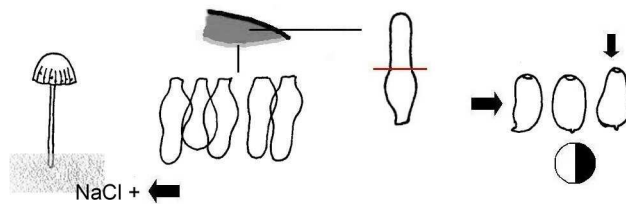
- 22 (20) Spores 11,5-15,5 x (5,8)6,5-7 μm .
C. up to 25 mm broad. Veil scanty. Ch. 25-55 x 10-18 μm . Soil.



***P. badiophylla* (ROMAGN.) PARK.-RHODES**
(Syn.: *P. badiophylla* var. *neglecta* (ROMAGN.) G. HIRSCH)

- 23* Spores shorter. 23

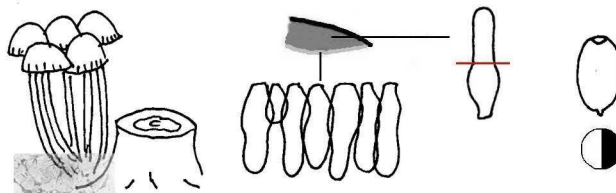
- 23 (22) Spores mostly phaseoliform.
C. up to 20 mm broad. Veil scanty. Sp. 7-11,5 x 5-6,5 μm . Ch. 30-45 x 10-18 μm .
Salty, moist soil, near *Cladium mariscus*, Spain.



***P. halophila* ESTEVE-RAVENTÓS & ENDERLE**

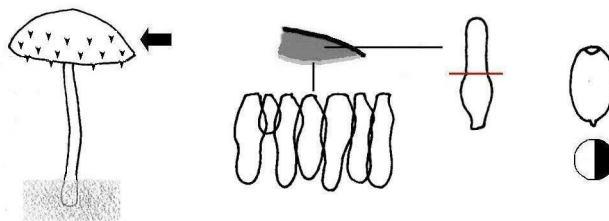
- 23* Spores not phaseoliform. 24

- 24 (23) Sporen up to 6,5 μm broad; veil cells always thinwalled.
C. up to 45 mm broad. Veil scanty. Sp. 8-11 x 5-6,5 μm . Ch. 20-50 x 9-15 μm ,
closely packed. Caespitose, soil and on a stump of *Fagus*.



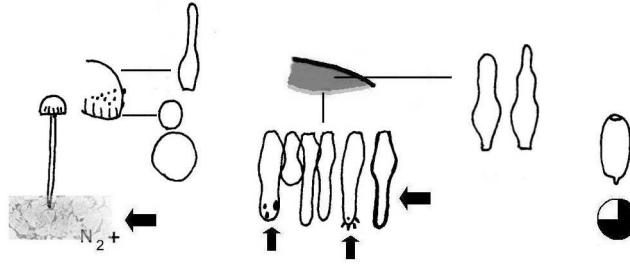
***P. pseudogordonii* KITS V. WAV.**

- 24* Sporen up to 5,5 μm broad; veil cells partly thickwalled.
H. up to 45 mm broad. Vel. distinctly. Sp. 8-10,5(12) x 5-5,5 μm . Ch 24,5-46,5 x
8-13,5 μm , closely packed. Soil.



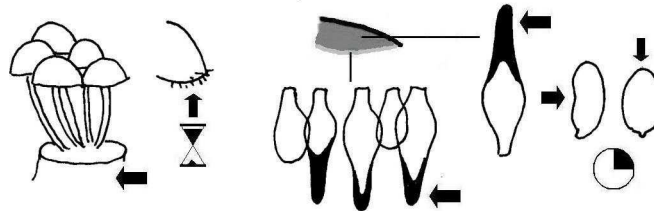
***P. bivelata* CONTU**

- 1 **Pileocystidia present.**
 C. 1,5-9 mm broad. Veil scanty, consisting of globose elements. Sp. (7)7,5-9(9,5) x 3,5-4,5 µm. Pl. 28-68 x 8-22 µm. Ch. 24-32 x 6-10 µm, partly with deposits and weakly thickened walls. Dung.



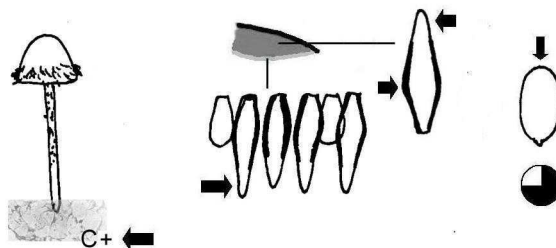
P. coprinoides A. DELANNOY, CHIAFFI, CORTECOUISSE & EYSSARTIER
 (= *P. tenuicula* (P. KARST.) ÖRSTADIUS & HUHTINEN?)

- 1* **Pileocystidia absent.** 2
 2 (1) **Spores without distinctly visible germ pore.** 3
 2* **Spores with always distinctly visible germ pore.** 6
 3 (2) **Cystidia with strongly thickened neckwalls.**
 C. 20-100 mm broad. Veil absent. Sp. 6,5-10(11) x 3,5-5,5(6,5) µm. Pl. (30)55-70(80) x 10-20(25) µm. Ch. 30-85 x 10-25 µm, closely packed. Margin of cap with Hairs, 60-130 x 7,5-10 µm (only at young caps distinctly). Soil, wood, mostly caespitose.



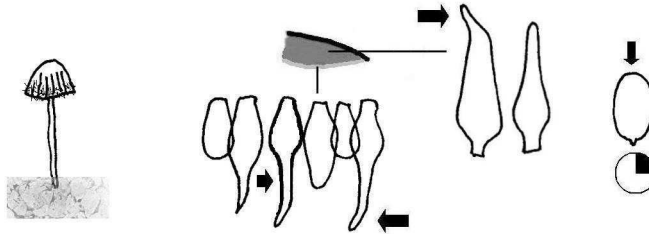
P. spadicea (SCHAEFF.) SING.
 (Syn.: *P. imleriana* VOLDERS, *P. littenii* A. H. SM.?, *P. populum* TRUEBLOOD & A. H. SM.?, *P. rhodospora* WIEAVER & A. H. SM.?, *P. sarcocephala* (FR.) SING. ss. auct. rec. plur., *P. variata* A. H. SM.)

- 3* **Cystidia other.** 4
 4 (3) **Pleurocystidia fusiform.**
 C. up to 50 mm broad. Veil distinctly. Sp. 6,5-9 x 3,5-4,5 µm. Pl. (32,5)35-55 x 10-15 µm. Ch. 22,5-55 x 7,5-12,5(15) µm, without crystals. Fire places.



P. pennata (FR.) A. PEARSON & DENNIS
 (Syn.: *P. carbonicola* A. H. SM.)

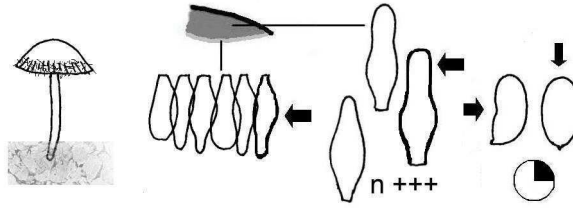
- 4* **Pleurocystidia utriform to lageniform.** 5
 5 (4) **Pleurocystidia mucronat, extension often bent.**
 C. up to 35 mm broad. Veil distinctly. Sp. (6,5)7-8 x 4,5-5(5,5) µm. Pl. 25-65 x 9-15 µm. Ch. 25-45 x 7,5-14 µm, often with bent extension. Soil, moss.



***P. umbrina* KITS V. WAV.**

(Syn.: *P. galerooides* ROMAGN., *P. subumbrina* KITS V. WAV. & ÖRSTADIUS)

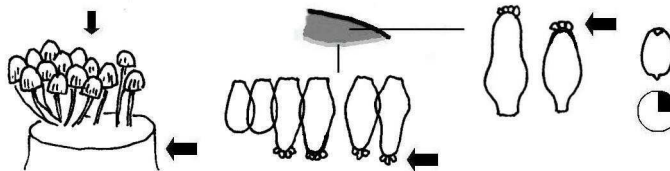
- 5* **Pleurocytiden never mucronat.**
 C. up to 40(55) mm broad. Veil distinctly. Sp. 6,5-8,5(9) x 3,5-5 µm. Pl. 40-70 x 10-16 µm, very numerous. Ch. (15)22-55(60) x 7,5-17,5 µm. Soil, pieces of wood.



***P. cortinarioides* P. D. ORTON**

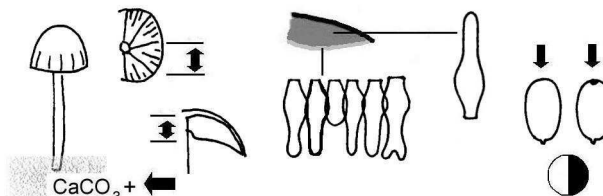
(Syn.: *P. frustulenta* (FR.) A. H. SM. ss. KITS V. WAV. non ss. A. H. SM., *P. multicystidiata* KITS V. WAV.)

- 6 (2) **Walls of cystidia indistinctly thickened, crystals present or absent.** 7
 6* **Walls of cystidia at least partly distinctly thickened, crystals present or absent.** 12
 7 **Cystidia with many crystals.**
 C. 5-20 mm broad. Veil scanty. Sp. 5,5-7 x 3,5-4,5 µm. Pl. 27,5-40 x 12,5-15(17,5) µm. Ch. 20-40 x 10-15(17,5) µm. Dead wood, stumps.



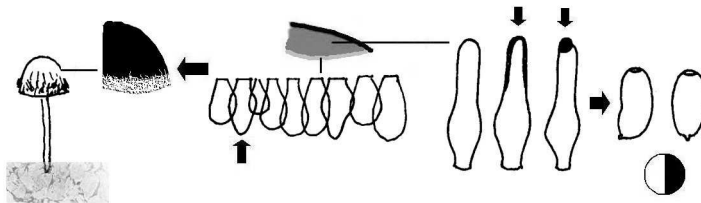
***P. pygmaea* (BULL.: FR.) SING.**

- 7* **Cystidia without or only with very indistinctly crystals.** 8
 8 (7) **Spores up to 12,5 µm long.**
 C. up to 25 mm broad. Veil scanty. L. broadly adnate, distant. Sp. 9,5-12,5 x 5,5-7(7,5) µm. Pl. 27-55 x 8,2-17 µm. Ch. 20,5-47 x 6,8-17 µm. Dry, calcareous soil.



***P. magnispora* HEYKOOP & G. MORENO**

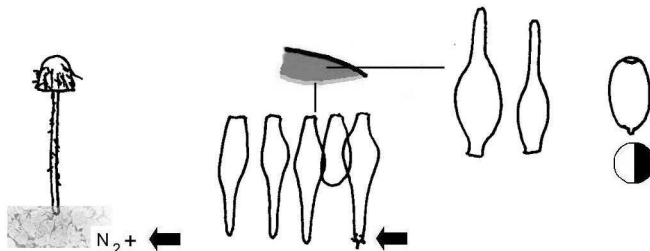
- 8* **Spores shorter.** 9
 9 (8) **Lamellae edge dominated by clavate marginal cells.**
 C. up to 60 mm broad. Veil distinctly, in stark contrast to the fresh cap. Sp. 7-9,5 x 4-5 µm. Pl. 30-55(70) x 10-20 µm, often with slightly thickened walls or mucoid drops. Ch. 20-40 x 9,5-15 µm, +/- "rhomboid", hardly protruding. Soil, pieces of wood.



P. niveobadia (ROMAGN.) M. M. MOSER

9* Lamellae edge with many cheilocystidia. 10

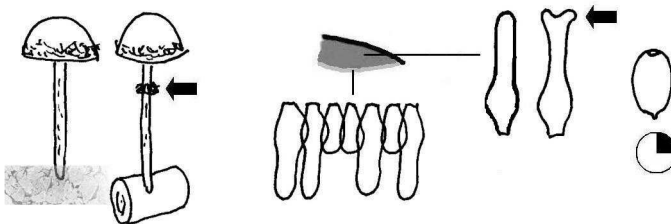
10 (9) **Pleurocystidia not forked.**
 C. 5-20 mm broad. Veil distinctly. Sp. 8,5-10,5 x 4,5-5,5 µm. Pl. 30-60 x 7-16 µm.
 Ch. 20-45 x 7-16 µm, sometimes with crystals. Dung.



P. scatophila ÖRSTADIUS & E. LARSSON

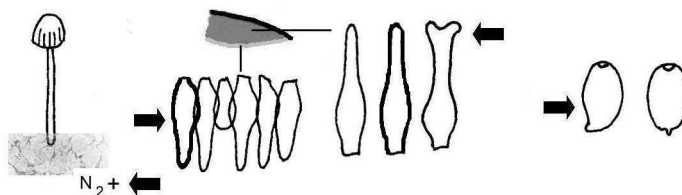
10* Pleurocystidia often forked. 11

11 (10) **Pleurocystidia up to 80 µm long.**
 C. up to 70 mm broad. Veil distinctly. St. often with annulus. Sp. 7,5-10 x 4,5-5,5 µm.
 Pl. 55-80 x 13-19 µm. Ch. 30-50 x 14-18(20) µm. Stipe sometimes with
 annulus. Soil, wood.



P. rostellata ÖRSTADIUS
 (Syn: *P. malenconii* FOUCHIER?)

11* **Pleurocystidia up to 60 µm long.**
 C. 3-6 mm broad. Veil scanty to distinctly. Sp. 8-9 x 4,5-5,5 µm. Pl. 25-45(60) x
 8-14 µm. Ch. 25-40 x 8-14 µm, clavate marginal cells small, scattered. Cow dung.

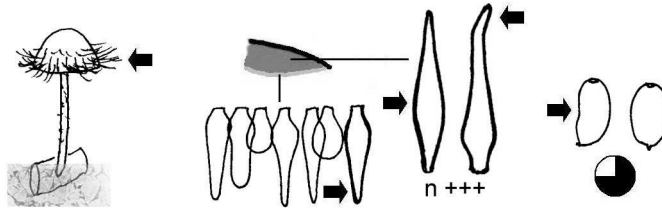


P. fimeseda ÖRSTADIUS & E. LARSSON

12 (6) Cystidia without or with indistinctly crystals. 13

12* Cystidia with distinctly crystals. 14

13 (12) **Pleurocystidia with thick-walled apex.**
 C. up to 60 mm broad. Veil distinctly. St. often with annulus. Sp. 7-8(9) x (3,5)4-5 µm.
 Pl. 60-80 x 7,5-14 µm, top often bent, very frequently. Ch. 45-60(70) x 10-16 µm,
 closely packed. Soil, dead wood (*Fagus*).

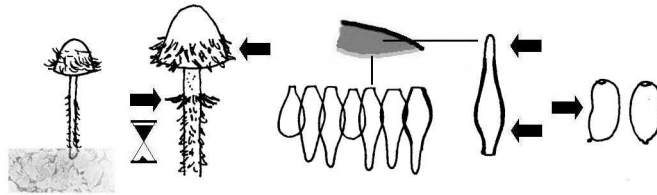


***P. spintrigeroides* P. D. ORTON**

(Syn.: *P. indecorosa* A. H. SM., *P. avelleneifolia* var. *perplexa* A. H. SM.)

13* Pleurocystidia with thinn-walled apex.

C. up to 35(45) mm broad. Veil strongly developed, cells up to 100(150) μ m long. Sp. (7)8-10 x 4,5-5,5 μ m. Pl. 40-80 x 8-17,5 μ m. Ch. 30-65 x (7,5)10-17,5 μ m, often closely packed. Soil, dead wood.

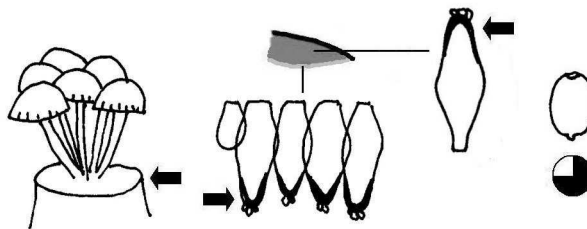


***P. fibrillosa* (PERS.: FR.) MAIRE**

(Syn.: *P. artemisiae* (PASS.) KONR. & MAUBL. ss. auct. rec., *P. lanatipes* A. H. SM., *P. squamosa* (P. KARST.) M. M. MOSER ss. M. M. MOSER ex A. H. SM. non P. KARST.)

14 (12) Walls of pleurocystidia not completely thickened, predominantly in the neck.

C. 12-45 mm broad. Veil absent. Sp. (6)6,5-7(8) x 4-4,5 μ m. Pl. 30-55(70) x 7,5-15(17,5) μ m, sometimes with in NH_4OH greenish deposits. Ch. 20-70 x 10-20 μ m, closely packed. Caespitose on stumps.

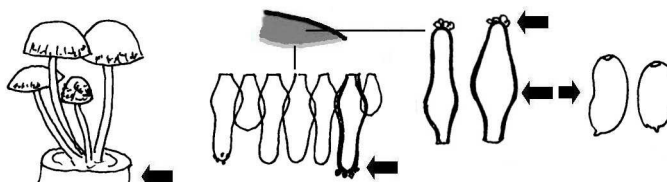


***P. cernua* (VAHL: FR.) G. HIRSCH**

(Syn.: *P. ivoensis* ÖRSTADIUS, *P. papyracea* (PERS.: FR.) VAŠUTOVÁ, *P. polycephala* (FR.) A. H. SM. ss. A. H. SM., *P. sarcocephala* (FR.) SING.)

14* Walls of pleurocystidia completely thickened, not predominantly in the neck.

C. 10-45(60) mm broad. Veil scanty. Sp. (7,5)8-11 x 4,5-6,5 μ m. Pl. 40-60 x 12,5-20 μ m. Ch. 32,5-55(60) x 10-20 μ m, closely packed. Solitary or caespitose on stumps.



***P. olympiana* A. H. SM.**

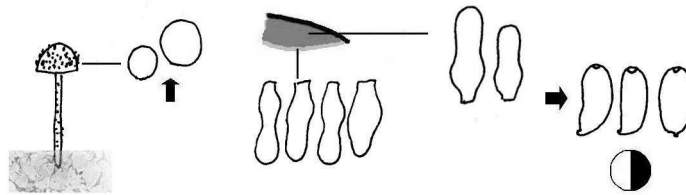
(Syn.: *P. amstelodamensis* KITS V. WAV., *P. cloverae* A. H. SM., *P. ferrugipes* A. H. SM., *P. solitaria* A. H. SM.?, *P. olympiana* f. *amstelodamensis* KITS V. WAV., *P. olympiana* f. *caespitosa* KITS. V. WAV.)

Part C
(Part A)

- | | | |
|-----------|--|----------|
| 1 | Veil consisting of globose elements. | 2 |
| 1* | Veil otherwise. | 3 |
| 2 | Pileocystidia present.
C. 1,5-9 mm broad. Veil scanty. Sp. (7)7,5-9(9,5) x 3,5-4,5 µm. Pl. 28-68 x 8-22 µm. Ch. 24-32 x 6-10 µm, partly with deposits and weakly thickened walls.
Dung. | |

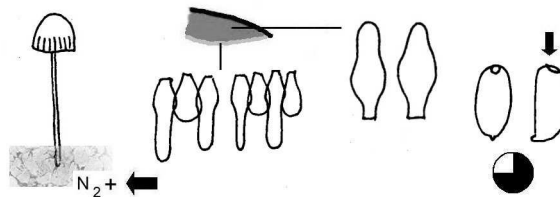
P. coprinoides A. DELANNOY, CHIAFFI, CORTECOUISSE & EYSSARTIER
(see B 1)

- | | | |
|-----------|---|--|
| 2* | Pileocystidia absent.
C. 5-23 mm broad. Veil distinctly. Sp. 8,5-11 x 4,5-6 µm. Pl. 28-54 x 13-18 µm. Ch. 21-54 x 10-14 µm. Manured lawn. | |
|-----------|---|--|



P. albofloccosa ARENAL, VILLAREAL & ESTEVE-RAVENTÓS

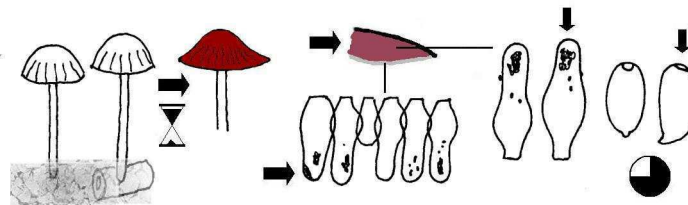
- | | | |
|-----------|--|----------|
| 3 | (1) Germ pore weakly to distinctly eccentric. | 4 |
| 3* | Germ pore central. | 5 |
| 4 | (3) Spores up to 13(13,5) µm long.
C. up to 16 mm broad. Veil scanty. Sp. 10-13(13,5) x 6,5-7 µm, germ pore mostly eccentric. Pl. 30-47,5 x 10-17,5 µm. Ch. 25-45 x 7,5-17,5 µm. Dung. | |



P. saponacea F. C. MOLLER

(Syn.: *P. coprophila* WATLING, *P. equina* A. H. SM., *P. fimetaria* WATLING)

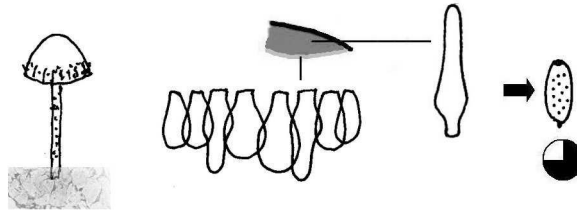
- | | | |
|-----------|---|--|
| 4* | Spores up to 15(16) µm long.
C. up to 40 mm broad, distinctly wrinkled, strikingly reddish tinted. Veil mostly distinctly. Sp. (11,5)12,5-15,5(16) x 7-8(9) µm, germ pore weakly eccentric. Pl. 52,5-100 x 12,5-30 µm. Ch. 35-75 x 10-25 µm, closely packed. Cystidia often with deposits, in NH ₄ OH sometimes pale greenish. Soil, pieces of wood. | |
|-----------|---|--|



P. bipellis (QUEL.) A. H. SM.

(Syn.: *P. barlae* (BRES.) A. H. SM., *P. brooksi* A. H. SM., *P. odorata* (PECK) SACC.)

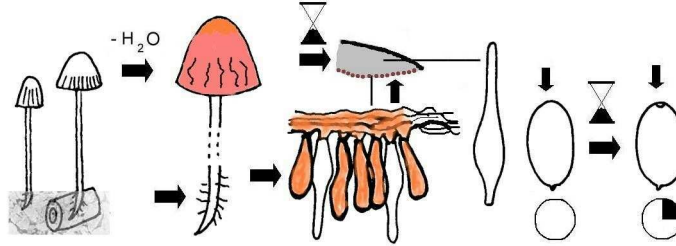
- | | | |
|----------|---|--|
| 5 | (3) Spores rough.
C. up to 70 mm broad. Veil distinctly. Sp. 7-8,5(9) x 3,5-4,5(5) µm. Pl. (20)25-50(60) x 9-15 µm. Ch. 22,5-35(45) x 10-12,5 µm, very rarely. Leaf litter in deciduous forest. | |
|----------|---|--|



P. pseudocasca (ROMAGN.) ex KITS V. WAV.

5* Spores smooth. 6

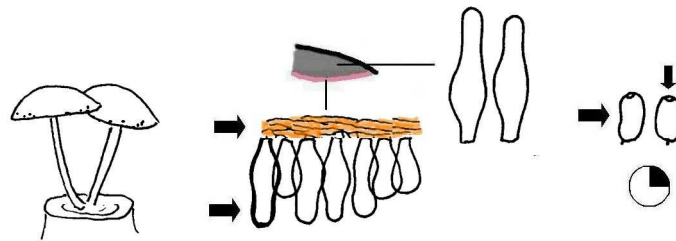
6 (5) Spores for a long time hyalin.
C. 7-30 mm broad, during drying strikingly pink. L. pale. Veil absent. Sp. 12-14,5 x 6-7 µm. Pl. 38-67 x 11-17 µm. Ch. 32-61 x 7,5-14 µm, frequently, lamellae edge with dots, consisting of thickwalled clavate cells. Soil, pieces of wood.



P. amarescens ARNOLDS

6* Spores otherwise. 7

7 (6) Spores 5-6 x 3-3,7 µm.
C. 25-40 mm breit. Veil scanty. L. edge reddish underlined. Pl. 30-45 x 8-13,7 µm. Ch. 17-37 x 8-12 µm, partly with slightly thickened walls. Stumps of *Picea*.



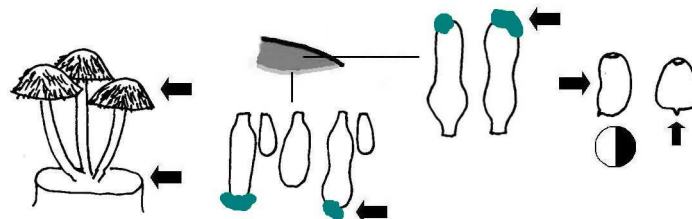
Psathyrella carinthiaca P. VOTO

7* Spores larger. 8

8 (7) Spores in front view partly triangular or strikingly round. 9

8* Spores in front view elliptical or ovoid. 11

9 (8) Cystidia often with deposits, blueish green in NH₄OH; on wood.
C. up to 50(70) mm broad. Veil strongly developed, fibrils ochraceous to brown. Sp. 6,5-8,5(10) x 4,5-6 µm, triangular and strongly phaseoliform. Pl. (35)47,5-70 x 9-22,5 µm. Ch. 30-55 x 8-20 µm. Dead wood of *Populus* (and *Fagus*).



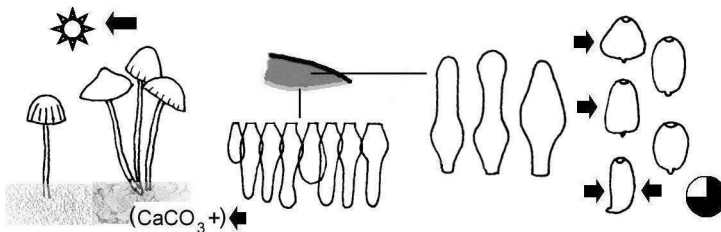
P. sylvestris (GILLET) KONR. & MAUBL.

(Syn.: *P. populina* (BRITZELM.) KITS V. WAV., *P. hispida* HEINEM.?, *P. lepidotooides* A. H. SM.?)

9* Cystidia without such deposits; soil. 10

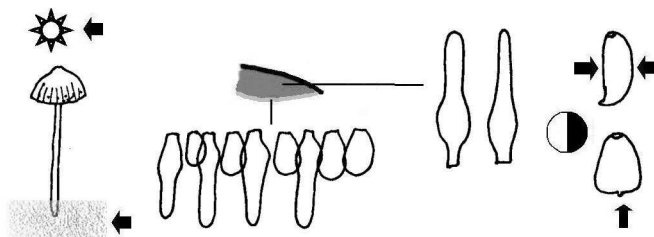
10 (9) Cheilocystidia mostly lageniform.
C. up to 30(45) mm broad. Veil scanty. Sp. 7-10(11) x 4,5-7,5 x 4,5-6,5(7) µm,

triangular (sometimes only few) or roundly. Pl. 30-50(60) x 10-15(17,5) μm , without or with always colourless deposits. Ch. (20)25-45 x 7,5-15 μm , closely packed. Calcereous soil, meadows.



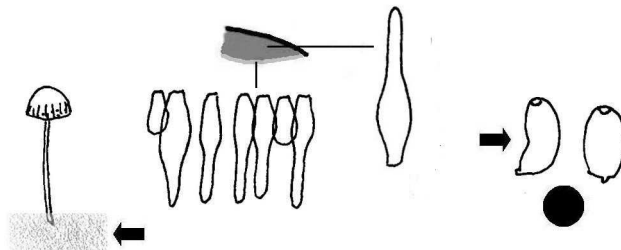
P. panaeoloides (MAIRE) SVRCEK ex ARNOLDS
(Syn.: *P. ovatispora* A. H. SM.)

- 10* **Cheilocystidia mostly lageniform.**
C. up to 20 mm broad. Veil scanty. Sp. 7-9 x 4,5-5,5 μm . Pl. 35-60 x 9-15 μm .
Ch. 30-45 x 7,5-15 μm . Sandy soil, dunes.



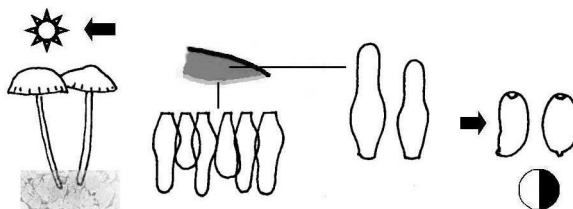
P. seymourensis A. H. SM.

- 11 (8) **Spores very strikingly phaseoliform.** (see also *P. cotonea*). 12
11* **Spores at most slightly phaseoliform.** 15
12 (11) **Pleurocystidia lageniform, top narrow.**
C. 10-25 mm broad. Veil scanty. Sp. (8,5)9-11(12,5) x 5-6(7) μm . Pl. 35-60 x 8-13(15) μm . Ch. 25-40 x 8-20 μm , closely packed. Dunes, sandy soil.



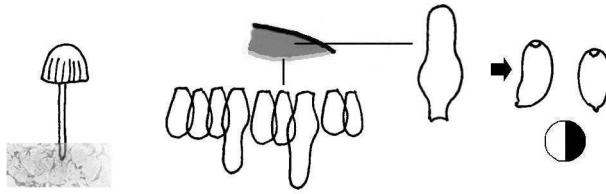
P. flexispora T. J. WALLACE & P. D. ORTON

- 12* **Pleurocystidia utriform, top +/- broadly obtuse.** 13
13 (12) **Spores up to 11,5(12,5) μm long.**
C. up to 28(35) mm broad. Veil scanty. Sp. 9,7-11,5(12,5) x 5,2-6(6,5) μm , mostly phaseoliform. Pl. 35-65 x (10)12-20 μm . Ch. 25-54 x 10-18 μm . Observed on a cornfield.



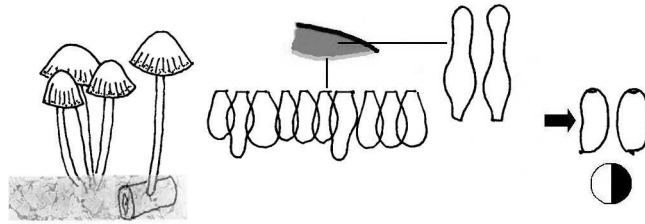
P. agraria ENDERLE (ad. int.)

- 13* **Spores up to 10 μm long.** 14
14 (13) **Spores 8-10 x 5-6 μm .**
C. up to 18 mm broad. Veil scanty or absent. Pl. 30-50 x 10-12,5(20) μm . Ch. 27-35 x 7,5-10(12) μm , rare. Soil.



P. phaseolispora ARNOLDS

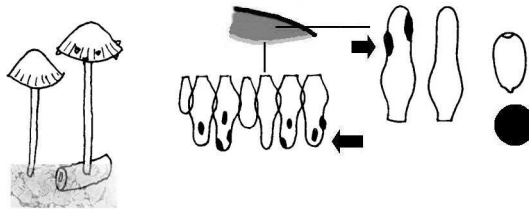
- 14* **Spores (6,5)7-9,5(10) x 4,5-5,5(6) μ m.**
 C. up to 50 mm broad. Veil distinctly. Pl. 32,5-55(70) x 9-15(17,5) μ m. Ch. 27,5-40(60) x 9-15 μ m, rare. Solitary and caespitose, soil.



P. fatua (FR.) KONR. & MAUBL.

(Syn.: *P. exalbicans* (ROMAGN.) M. M. MOSER ex BON, *P. spadiceogrisea* f. *exalbicans* (ROMAGN.) KITS. v. WAV.)

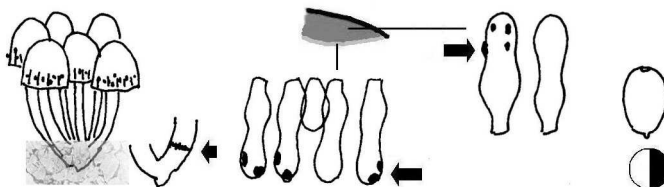
- 15 (11) **Cystidia with conspicuous deposits.** 16
 15* **Cystidia without conspicuous deposits.** 22
 16 (15) **Deposits in NH₄OH without greenish colour.** 17
 16* **Deposits in NH₄OH greenish.** 18
 17 (16) **Spores up to 11,5(12,5) x 6,5 μ m.**
 C. up to 50(75) mm broad. Veil scanty. Sp. 9-11,5(13,5) x (4,5)5-7 μ m. Pl. (35)47,5-65(80) x 12,5-17,5(20) μ m. Ch. 30-70 x (7,5)10-17,5 μ m, closely packed. Soil, pieces of wood.



P. fusca (SCHUMACH.) A. PEARSON

(Syn.: *P. tephrophylla* (ROMAGN.) M. M. MOSER ex BON)

- 17* **Spores up to 9(10) x 5,5(6) μ m.**
 C. 5-30 mm breit. Veil distinctly. St. base with annular zone Sp. (7,5)8-9(10) x (4,5) 4,75-5,5(6) μ m. Pl. 53-60 x 12-16 μ m. Ch. 32-61 x 10-15 μ m. Soil.



P. conferta EYSSART. & CHIAFFI

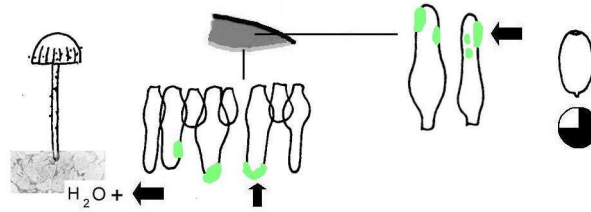
- 18 (16) **Spores up to 15(16) μ m long.**

P. bipellis (QUEL.) A. H. SM.
 (see C 4*)

- 18* **Spores shorter.**

19 (18) **Pleurocystidia +/- utriform (versiform).**

C. up to 50 mm broad. Veil distinctly. Sp. (8)9-10(11) x 4,5-6 µm. Pl. (30)45-70(80) x 10-20(25) µm. Ch. 25-50(65) x 7,5-17,5(20) µm. Deposits distinctly to strongly, in NH₄OH blueish green, exceptionally absent. Wet soil.



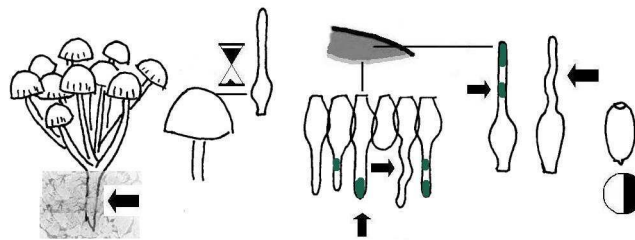
P. lutensis (ROMAGN.) M. M. MOSER ex BON
(Syn.: *P. vialis* A. H. SM.?)

19* **Pleurocystidia lageniform.**

20

20 (19) **Spores up to 8(9) µm long.**

C. up to 40 mm broad. Young with pileocystidia. Veil practically absent. Sp. (6,5)7-8(9) x 3,5-5 µm. Pl. 32,5-60(80) x 8-12 µm. Ch. 30-70(80) x 7,5-12,5 µm, closely packed. Numerous specimen with a common pseudorhiza. Soil.



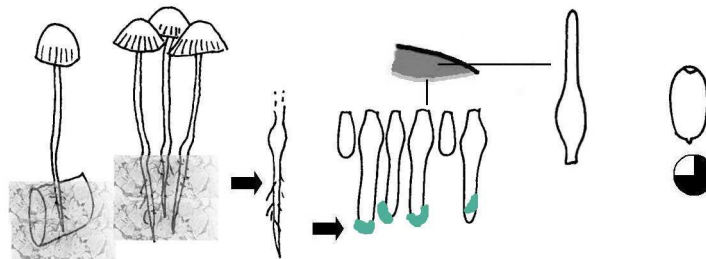
P. multipedata (PECK) A. H. SM.

20* **Spores longer.**

21

21 **Spores 9-11,5(12) x 4,5-6(7) µm.**

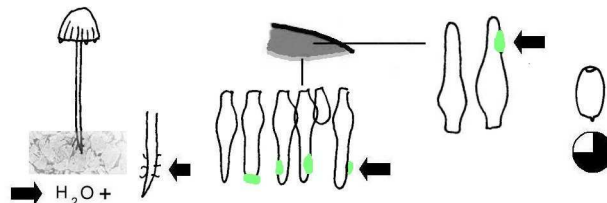
C. up to 20 mm broad. Veil absent. St. rooting. Pl. 35-65 x 10-15 µm. Ch. 27,5-50(65) x 7,5-15 µm. Smell like asphalt. Soil.



P. supernula ÖRSTADIUS & ENDERLE
(Syn.: *P. narcotica* KITS V. WAV.)

21* **Spores 11-13 x 6-7 µm.**

C. 15-33 mm broad. Veil scanty. St. rooting. Pl. up to 60 µm long. Ch. up to 65 µm long. Soil.



P. jacobssonii ÖRSTADIUS

22 (15) **Cheilocystidia (very) numerous, often closely packed.**

Clavate and sphaeropedunculate marginal cells not dominating.

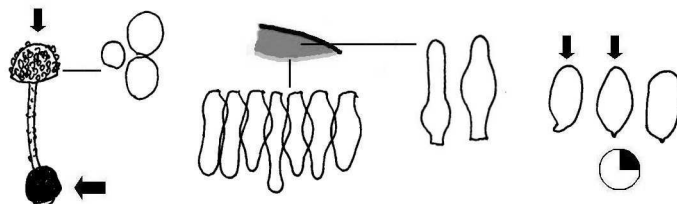
Because of unequal distribution of the marginal elements try alternatively Part F!

Part E

22* **Cheilocystidia scattered to absent.**

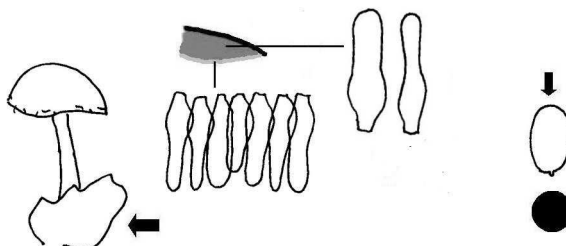
Part D
(Part A)

- | | | |
|----|---|---|
| 1 | Parasitic on deformed basidiomycetes. | 2 |
| 1* | Other locations. | 3 |
| 2 | Veil consisting of globose elements.
C. up to 16(25) mm broad. Veil strongly developed. Sp. 7-8,5(10) x 4-4,5 µm. Pl. 25-60 x 12,5-14,8 µm. Ch. 20-45 x 9-15 µm. On different basidiomycetes. | |



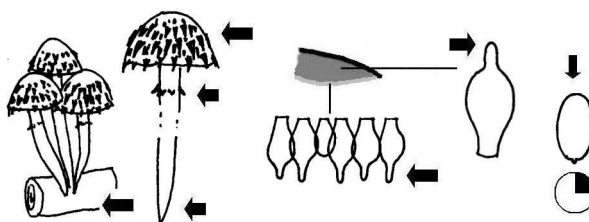
P. globosivelata GRÖGER
 (Syn.: *P. friburgensis* GRÖGER)

- | | | |
|----|---|--|
| 2* | Veil otherwise.
C. 20-60 mm broad. Veil scanty. Sp. 6,5-12,5 x 5-10 µm. Pl. 40-70 x 9-15 µm. Ch. 30-65 x 6-15 µm. On large <i>Coprinus</i> - and <i>Coprinopsis</i> -species. | |
|----|---|--|



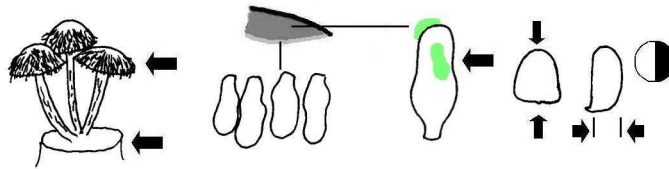
P. epimyces (PECK) A. H. SM.

- | | | |
|---|--|--|
| 3 | (1) Spores up to 6 µm long.
C. up to 80 mm broad. Veil strongly developed, dark scaly. St. often with annular zone. Sp. 4,5-6 x 2,3-4 µm. Pl. 22,5-50 x 10-15 µm. Ch. 10-40 x 5-16(22) µm. Stumps (also conifers). | |
|---|--|--|



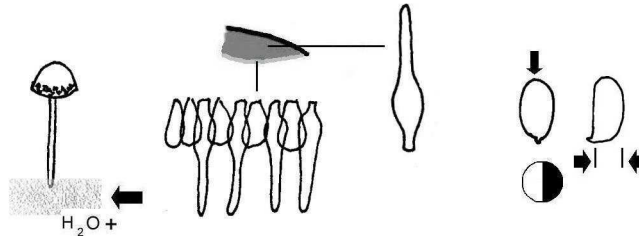
P. maculata (PARKER) A. H. SM.
 (Syn.: *P. scobinacea* (FR.) SING. ss. SING.)

- | | | |
|----|--|---|
| 3* | Spores longer. | 4 |
| 4 | (3) Spores lentiform. | 5 |
| 4* | Spores not lentiform. | 6 |
| 5 | (4) Cap 15-30 mm broad.
Veil scaly, persistent. Sp. 6-7,5 x 5-5,5 x 4-5 µm. Pl. 25-40 x 10-17 µm. Ch. 20-35 x 10-16 µm. Dead wood (especially <i>Fraxinus</i>). | |



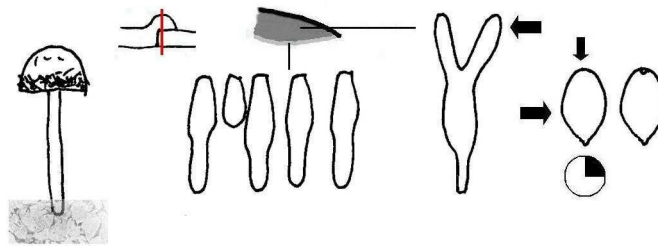
P. hirtosquamulosa (PECK) A. H. SM.

- 5* **Cap 9-13 mm broad.**
 Veil scanty. Sp. 6,5-7,5(8) x 4-5 x 3,5-4 μm. Pl. 34-50 x 8-14 μm. Ch. 25-50 x 7-12 μm. Sandy soil, dunes.



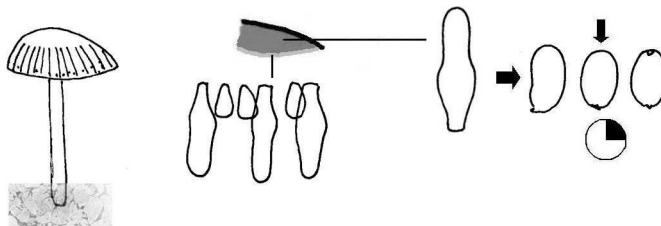
P. parva A. H. SM.

- 6 (4) **Spores strikingly ovoid or fusiform.** 7
 6* **Spores not strikingly ovoid or fusiform.** 8
 7 (6) **Pleurocystidia often forked.**
 C. 8-25 mm broad. Veil distinctly. Sp. 8,5-10,5 x 5-6 μm, often fusiform. Pl. 40-70 x 10-16 μm. Ch. 30-60 x 8-18 μm. Clamps absent. Dead wood.



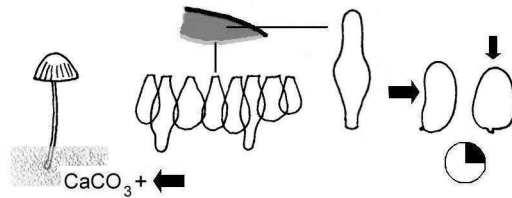
P. romellii ÖRSTADIUS

- 7* **Pleurocystidia not forked.**
 C. 30-90 mm broad. Veil scanty. Sp. 7,5-10 x 4,5-6,5 μm. Pl. 40-90 x 10-24 μm. Ch. 35-90 x 10-22 μm. Soil.



P. larga (KAUFFM.) A. H. SM.

- 8 (6) **Spores in KOH pale.** 9
 8* **Spores in KOH dark.** 14
 9 (7) **Spores up to 10(12) μm long.** 10
 9* **Spores shorter.** 11
 10 (9) **Clamps present.**
 C. up to 30 mm broad. Veil scanty. Sp. 8-10(12) x 5-6,5 μm. Pl. 37,5-60(75) x 10-17,5 μm. Ch. 30-60 x 9-20 μm. Calcareous soil.

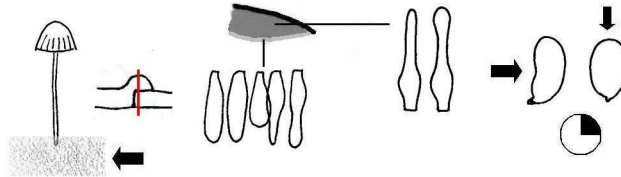


P. clivensis (BERK. & BROOME) P. D. ORTON

10*

Clamps absent.

C. 3-12 mm broad. Veil scanty. Sp. 4,4-10 x 3,8-6 μ m. Pl. 30-45 x 7,5-9 μ m. Ch. 30-42 x 7-9 μ m. Costal dunes.



P. liciosae CONTU & PACIONI

11 (9) **Pleurocystidia often mucronat.**

12

11* **Pleurocystidia otherwise.**

13

12 (11) **Pleurocystidia often with curved extention.**

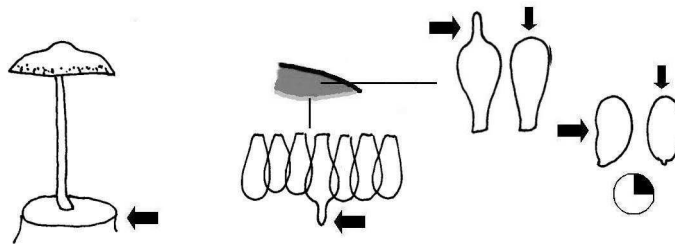
P. umbrina KITS V. WAV.

(see B 5)

12*

Pleurocystidia often with straight extention.

C. up to 70(90) mm broad. Veil scanty. Sp. 7-8 x 4-4,5 μ m. Pl. 20-27,5(37) x 7,5-11(12,5) μ m. Ch. 25-35 x 7,5-13 μ m, mucronat, infrequently. Clavate marginal cells dominating. Solitary and caespitose on tree stumps (also conifers).



P. mucrocystis A. H. SM.

(Syn.: *Psathyrella chondrodermoides* ROMAGN.)

13 (9) **Spores 6,5-8,5(9) x 3,5-5 μ m.**

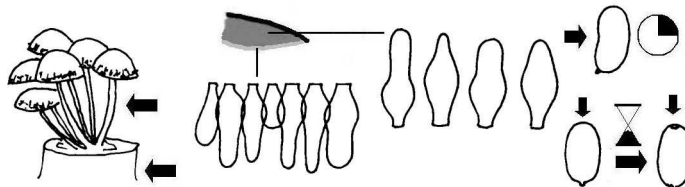
P. cortinarioides P. D. ORTON

(see B 5*)

13*

Spores 5-6,5(7,5) x 3-3,5(5) μ m.

C. up to 80 mm broad. Veil scanty. Germ pore sometimes visible but always tiny. Pl. 37,5-70 x 7,5-17,5 μ m, versiform, sometimes mucronat. Ch. 22,5-57,5 x 7,5-22,5 μ m. Dead wood.



P. piluliformis (BULL.: FR.) P. D. ORTON

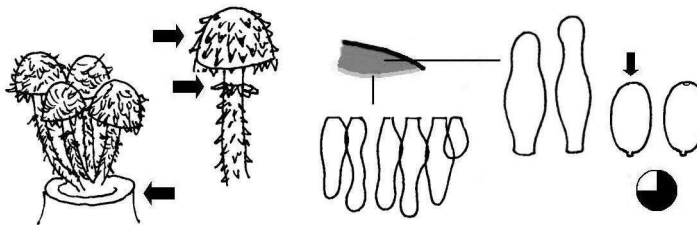
(Syn.: *P. alaskaensis* A. H. SM., *P. deceptiva* A. H. SM., *P. hydrophila* (BULL.)

MAIRE, *P. hydrophiloides* KITS V. WAV., *P. ogemawensis* A. H. SM., *P.*

subpapillata (P. KARST.) ROMAGN.)

14 (8) **Veil very strongly developed.**

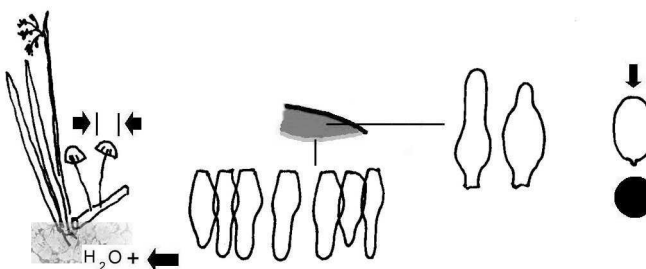
C. up to 75 mm broad. St. often with annular zone. Sp. 9-12,5(13) x (4,5)6-7,5 μ m, germ pore absent or tiny. Pl. 40-70(75) x (12,5)15-20(25) μ m. Ch. 35-75(95) x 7,5-20 μ m, closely packed. Caespitose on stumps of conifers.



P. caput-medusae (FR.) KONR. & MAUBL.

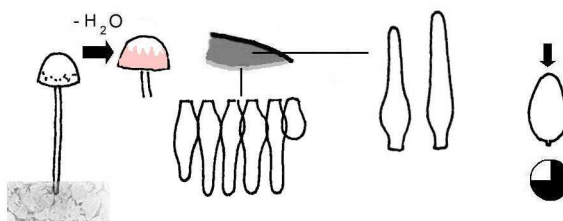
(Syn.: *P. gruberi* A. H. SM.?, *P. pseudocotonea* A. H. SM., *P. annulata* A. H. SM.?)

- 14* Veil not very strongly developed or absent. 15
 - 15 (14) Cheilocystidia mostly closely packed. 16
 - 15* Cheilocystidia distracted, only partly closely packed. 18
 - 16 (15) Tiny species. 18
- C. up to 4 mm broad. Veil scanty. Sp. 6-7,5 x 3,5-4 μm. Pl. 23-51 x 7,5-16 μm. Ch. 20-45 x 5,5-15 μm. Between *Juncus effusus*.



P. scheppingensis ARNOLDS

- 16* Larger species. 17
 - 17 (16) Spores up to 8 x 4,5 μm. 17
- C. up to 45 mm broad, during drying often pinkish. Veil distinctly. Sp. 6,5-8 x 3,6-4,5 μm, often limoniform. Pl. (30)35-55(60) x 8-14 μm. Ch. (25)27,5- 45(50) x 7,5-10(12,5) μm. Soil (coniferous forest).



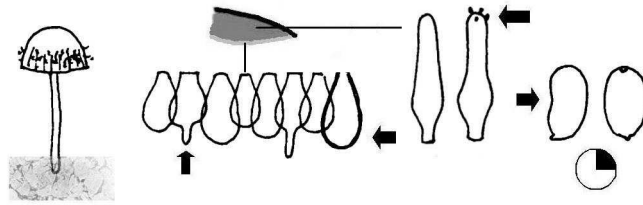
P. atomatoides (PECK) A. H. SM.

(Syn.: *P. caespitosa* WEHOLT, *P. rannochii* KITS. V. WAV.)

- 17* Spores up to 12,5 x 7 μm. 17
- P. magnispora* HEYKOOP & G. MORENO
(see B 8)

- 18 (15) Pleurocystidia with deposits, in NH₄OH blueish green. 19
- P. cernua* (VAHL: FR.) G. HIRSCH
(see B 14)

- 18* Pleurocystidia without deposits. 19
 - 19 (18) Cheilocystidia mucronat. 20
 - 19* Cheilocystidia not mucronat. 21
 - 20 (19) Spores up to 10 μm long. 19
- C. up to 30 mm broad. Veil scanty. Sp. 7-10 x 4,5-5,5(6) μm, germ pore absent or tiny. Pl. 25-75 x 9-16 μm, sometimes with granules. Ch. 30-50 x 7,5-17 μm, rare, mucronat. Soil.



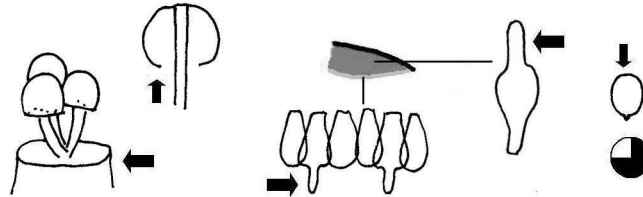
***P. obtusata* (PERS.: FR.) A. H. SM.**

(Syn.: *P. tubarioides* A. H. SM.?, *P. vrynwyensis* KITS V. WAV.)

20*

Spores up to 6 µm long.

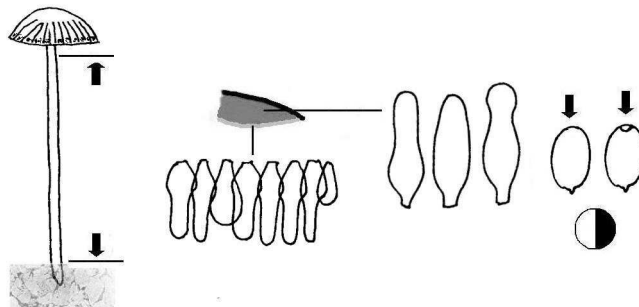
C. up to 25 mm broad, margin incurved. Veil scanty. Sp. 4,6-5,6(6) x 3,6-4,1 µm. Pl. on average 40 x 10 µm. Ch. 10-30 x 5-15 µm. Fresh mushroom with sweetish odour. Stumps of *Quercus*.



***P. obscurotristis* ENDERLE & M. WILHELM**

21 (19) **Spores up to 5,5(6) µm broad.**

C. up to 40(50) mm broad. Veil scanty to distinctly. St. often disproportionately long. Sp. 7-9,5(10) x (4)4,5-5,5(6) µm, germ pore absent to distinct. Pl. (25)30-60(70) x 10-17,5(20) µm. Ch. 20-60(70) x (6)10-17,5(20) µm. Soil, pieces of wood.



***P. senex* (PECK) A. H. SM.**

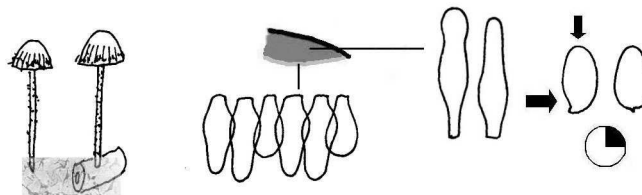
(Syn.: *P. badia* KITS. V. WAV., *P. capitatocystis* KITS V. WAV., *P. communis* A. H. SM., *P. distans* A. H. SM., *P. fallax* A. H. SM., *P. friesii* KITS V. WAV., *P. fusca* (SCHUM.) A. PEARS. ss. KITS V. WAV., *P. fuscospora* A. H. SM., *P. ocellata* (ROMAGN.) M. M. MOSER, *P. ploddensis* KITS V. WAV., *P. pseudotrepida* A. H. SM., *P. twickelensis* KITS V. WAV., *P. fulvescens* var. *brevicystis* KITS V. WAV.)

21* **Spores up to 4,5 µm broad.**

22

22 (21) **Spores very bright.**

C. 10-18 mm broad. Veil strongly developed. Sp. 7-8(9) x 3,5-4,5 µm. Pl. 35-50 x 12,5-17,5 µm. Ch. 30-40 x 7,5-15 µm. Soil.



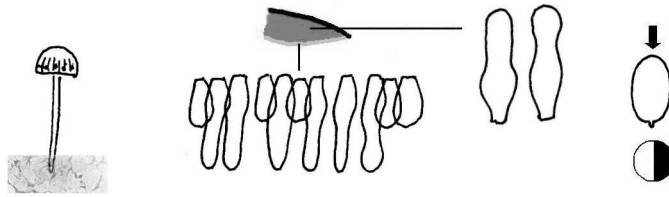
***P. kitsiana* ÖRSTADIUS**

(Syn.: *P. obtusata* var. *abberans* KITS V. WAV., *P. umbrina* var. *utriformis* KITS. V. WAV., *P. rhombispora* KEIZER & ARNOLDS?)

22* **Spores somewhat darker.**

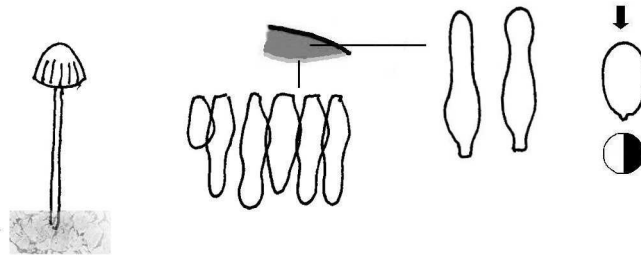
23

- 23 (22) **Spores in water reddish brown.**
 C. up to 19 mm broad. Veil distinctly. Sp. 7-8 x 4-4,5 µm. Pl. 30-50(55) x 12,5-15(17,5) µm. Ch. 27,5-45 x 7,5-15 µm. Soil.



P. denniensis KITS. v. WAV.

- 23* **Spores in water orange brown.**
 C. up to 32 mm broad. Veil scanty. Sp. 7-8,5 x 4-4,5 µm. Pl. (30)35-45(50) x (7,5)9-13 µm. Ch. 25-45 x 7,5-12,5 µm. Soil.

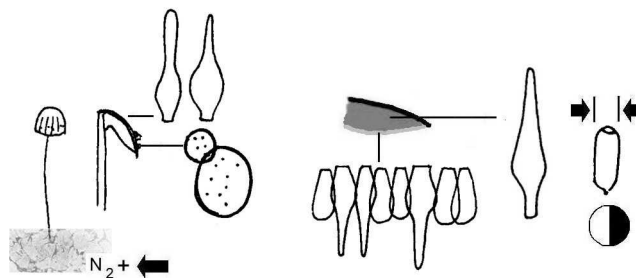


P. romseyensis KITS. v. WAV.

Part E
(Part C)

- 1 **Veil consisting of globose elements.** 2
 1* **Veil otherwise.** 4

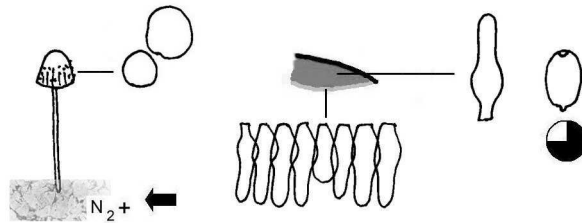
- 2 (1) **Pileocystidia present.**
 C. up to 20 mm broad. Sp. 5,8-7,4 x 3-3,7 µm. Pl. 20-30 x 4-9,5 µm.
 Pileocystidia 50 x 11 µm. Clamps only in the mycelium. Dung, especially wild boar.



P. tenuicula (P. KARST.) ÖRSTADIUS & HUHTINEN

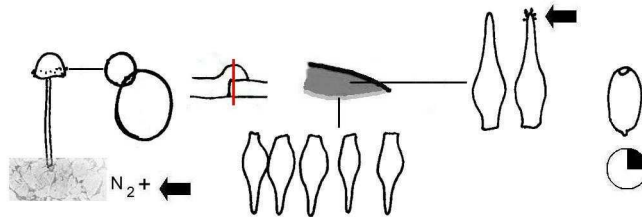
(Syn.: *P. berlinensis* E. GERHARDT, *P. minima* PECK, *P. granulosa* ARNOLDS?, *Psathyrella coprinoides* A. DELANNOY, CHIAFFI, CORTECOUISSE & EYSSARTIER?, *Coprinus parvulus* ULJÉ & KEIZER)

- 2* **Pileocystidia absent.** 3
 3 (2) **Pleurocystidia broadly obtuse at top.**
 C. up to 14 mm broad. Veil distinctly. Sp. 7,5-9(9,5) x 4-5,5 µm. Pl. 20-37,5 x 7,5-12 µm. Ch. 18-36 x 6-12 µm, closely packed. Dung.



P. sphaerocystis P. D. ORTON

- 3* **Pleurocystidia narrow at top.**
 C. up to 8 mm broad, Veil scanty. Sp. 7,8-8,5(9) x 3,5-4,5 µm. Pl. 26-28 x 7,5-8,5 µm. Ch. 18-27 x 7,5-9,5 µm. Cow dung.



P. granulosa ARNOLDS

(= *P. tenuicola* (P. KARST.) ÖRSTADIUS & HUHTINEN?)

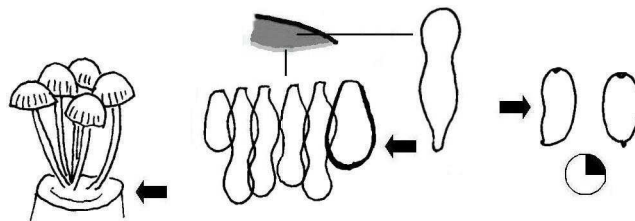
- | | | |
|---------------|---|---|
| 4 | (1) Spores up to 10(10,5) µm long. | 5 |
| 4* | Spores longer. | |
| Part G | | |
| 5 | (4) Spores up to 10,5 µm long. | 6 |
| 5* | Spores up to 6,5 µm long. | 8 |
| 6 | (5) Pleurocystidia often forked. | 7 |
| 6* | Pleurocystidia not or very rarely forked. | 9 |
| 7 | (6) Pleurocystidia up to 80 µm long. | |

P. rostellata ÖRSTADIUS
(see B 11)

- 7* **Pleurocystidia up to 45(60) µm long.**
 C. 3-6 mm broad. Veil scanty up to distinctly. Sp. 8-9 x 4,5-5,5 µm. Pl. 25-45(60) x 8-14 µm. Ch. 25-40 x 8-14 µm. Cow dung.

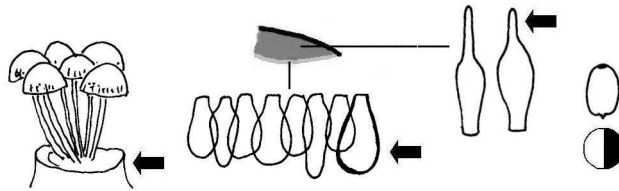
P. fimeseda ÖRSTADIUS & E. LARSSON
(see B 11*)

- 8 (5) **Pleurocystidia utriform.**
 C. up to 45 mm broad. Veil scanty. Fresh mushroom with sweetish odour. Sp. 5,5-6,5 x 3-3,5 µm. Pl. 40-52 x 10-17,5 µm. Ch. 30-40 x 10-15 µm, closely packed. Caespitose on wood of conifers.



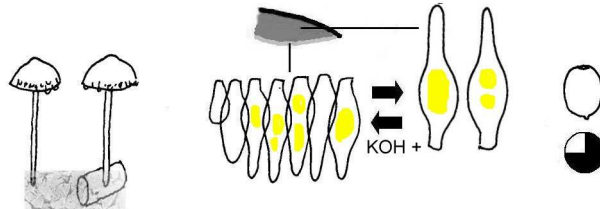
P. fragrans A. H. SM.
(= *P. piluliformis* (BULL.: FR.) P. D. ORTON?)

- 8* **Pleurocystidia lageniform.**
 C. up to 45(50) mm broad. Veil scanty. Sp. 5,5-6 x 3-3,5 µm. Pl. 32,5-45 x 10-15(17,5) µm. Ch. (15)20-35(40) x 7,5-15 µm, very scattered. Around stumps.



P. laevisima (ROMAGN.) SING.

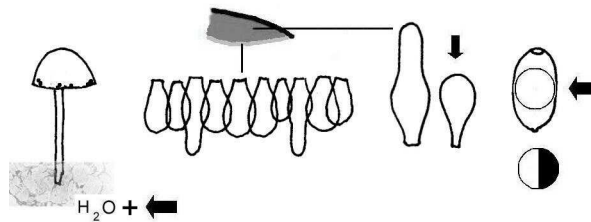
- 9 (6) **Cystidia with a large oily inclusion (in KOH yellow).**
 C. up to 50(75) mm broad. Veil scanty to distinctly. Sp. (6,5)7-9(9,5) x 4,5-5,5(6) μm. Pl. 40-85 x 10-20 μm. Ch. 27,5-65 x 10-17,5 μm, closely packed. Soil, pieces of wood, stumps.



P. gossypina (BUL.: FR.) A. PEARS. & DENNIS
 (Syn.: *P. delineata* A. H. SM., *P. xanthocystis* P. D. ORTON)

- 9* **Cystidia otherwise.** 10

- 10 (9) **Spores with a large, circular oil drop.**
 C. 5-20 mm broad. Veil scanty. Sp. 8-10,5 x 5-6,2 μm. Pl. (30)36-52 x 6,8-19 μm, utriform, beside many sphaeropedunculate cells. Ch. 22-40(50) x 6,8-19 μm, scattered, clavate marginal cells up to 30(40) x 13,5(20) μm, frequently. Muddy or wet soil.



P. ephemera A. H. SM.

- 10* **Spores not so.** 11

- 11 (10) **Cheilocystidia often (sub-) capitat.**
P. senex (PECK) A. H. SM.
 (see D 21)

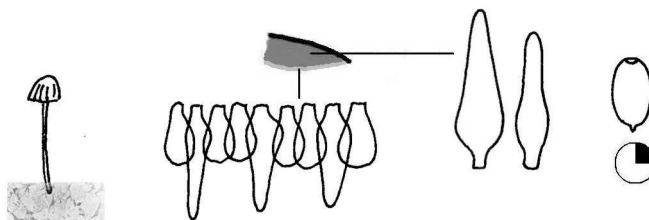
- 11* **Cheilocystidia mostly not (sub-) capitat.** 12

- 12 (11) **Cheilocystidia not rarely, but not closely packed.** 13

- 12* **Cheilocystidia frequently, mostly closely packed.**

Part H

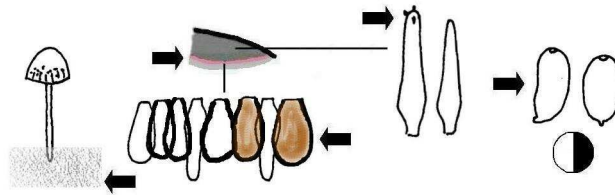
- 13 (12) **Lamellae edge never pigmented.**
 C. up to 9 mm broad. Veil scanty. Sp. 9-10 x 4,5-5,5 μm. Pl. 45-70 x 12,5 - 17,5(20), top often forked. Ch. 35-50(55) x 10-16 μm. Soil.



P. minutissima KITS V. WAV.

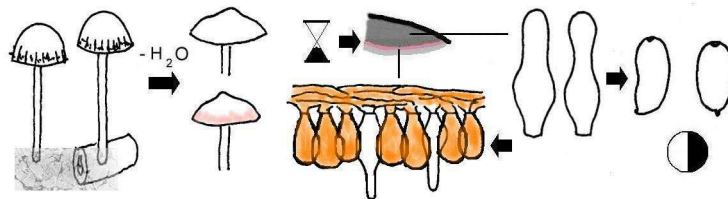
- 13* **Lamellae edge at least partly pigmented.** 14

- 14 (13) Clavate marginal cells often thickwalled and brownish. 15
 14* Clavate marginal cells not or only very rarely so. 16
 15 (14) Spores 7-9 x 4,5-5,5 µm.
 C. up to 20 mm broad. Veil scanty. Pl. 47,5-65 x 18-21 µm, utriform or sublageniform, at top often with deposits. Ch. 30-45 x 9-12,5 µm, not frequently. Dunes, sandy soil.



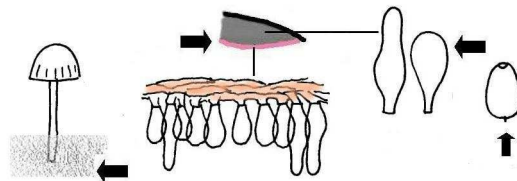
P. dunensis KITS V. WAV.

- 15* Spores 6,5-7(8) x (4)4,5(5) µm.
 C. up to 60 mm broad, during drying often slightly pinkish. Veil scanty. Pl. 37-60 x 12,5-17 µm, utriform, sometimes subcapitat. Ch. 30-48 x 12-17 µm. Soil, pieces of wood.



P. pseudocorrugis (ROMAGN.) BON ss. ROMAGN.
 (Syn.: *P. borgensis* KITS V. WAV.)

- 16 (14) On sandy soil, dunes.
 C. up to 25 mm broad. Veil scanty. Sp. 8-10,5(12) x 4,5-6,5(7) µm. Pl. 35,5-52,5 x 10-16,5 µm, utriform, fusiform or lageniform, spheropedunculate cells also present. Ch. 24,5-50 x 9,5-15 µm, distracted.



P. dunarum KITS V. WAV.

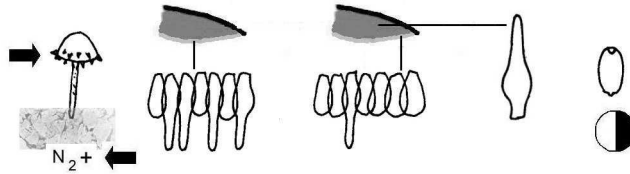
- 16* On dung.
P. scatophila ÖRSTADIUS & E. LARSSON
 (see B 10)

Part F
(Part C)

- 1 Spores up to 10 µm long. 2
 1* Spores above 10 µm long. 11
 2 (1) Pleurocystidia narrow at the top. 3
 2* Pleurocystidia broadly obtuse at the top. 4
 3 (2) Spores 7-10 x 4,5-5,5(6) µm.

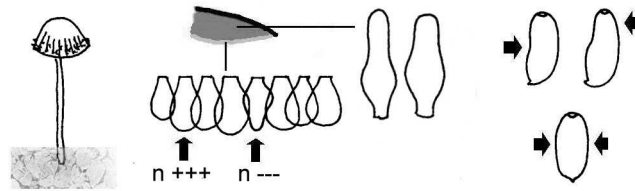
P. obtusata (PERS.: FR.) A. H. SM.
 (see D 20)

- 3* **Spores 6,5-8 x 3,5-4,5 μm .**
 C. 5-20 mm broad. Veil scanty. Pl. 25-50 x 8-15 μm , lageniform and subutriform.
 Ch. 20-40 x 6-13 μm , near margin of cap very rare. Cow dung.



P. merdicola ÖRSTADIUS & E. LARSSON

- 4 (2) **Lamellae edge almost exclusively with clavate marginal cells.** 5
 4* **Lamellae edge with +/- many cystidia.** 7
 5 (4) **Spores up to 4,5 μm broad.**
 C. up to 30 mm broad. Veil distinctly. Sp. 7-8,7 x 3,5-4,5 μm . Pl. 30-50(55) x 8-15(20) μm . Ch. 20-33 x 8-13,5 μm , very rare. Soil.

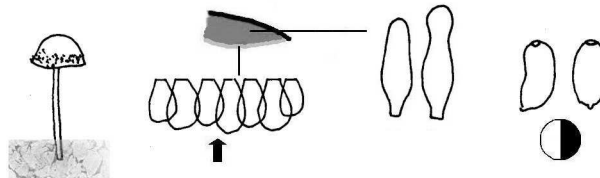


P. praecox A. H. SM.

- 5* **Spores broader.** 6
 6 (5) **Cheilocystidia rarely.**

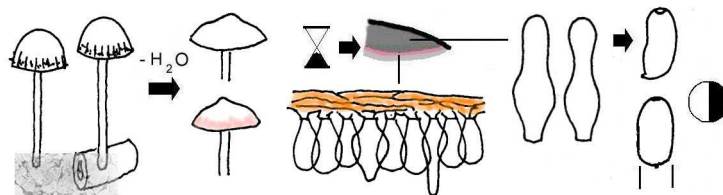
P. niveobadia (ROMAGN.) M. M. MOSER
 (see B 9)

- 6* **Cheilocystidia practically absent.**
 C. up to 30 mm broad. Veil distinctly. Sp. 7-8 x 4,5-5 μm . Pl. 35-45(55) x 10-12 μm . Soil.



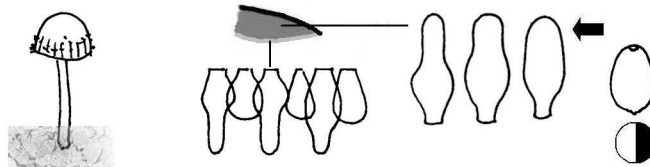
P. casca KONR. & MAUBL.

- 7 (4) **Lamellae edge at least partly pinkish underlined.**
 C. up to 50 mm broad. Veil scanty. Sp. 7-9,5(10) x 4-5,5 μm , walls subparallel. Pl. 32-50 x 10-12,5(16) μm . Ch. 25-37,5(45) x 10-18 μm . Soil, pieces of wood.



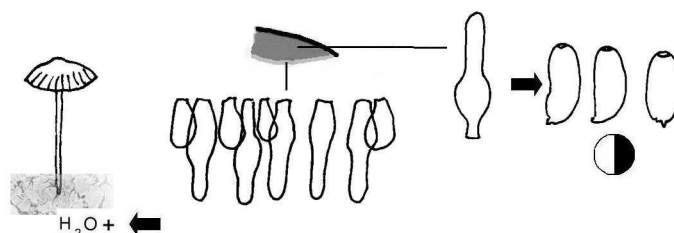
P. pseudocorrugis (ROMAGN.) BON ss. K.V.WAV., ARNOLDS, ENDERLE
 (see also E 15*)

- 7* **Lamellae edge not pinkish underlined.** 8
 8 (7) **Pleurocystidia often +/- (sub-) cylindrical.**
 C. up to 60 mm broad. Veil scanty. Sp. (7)7,5-9 x 4,5-5,5 μm . Pl. 30-45(70) x 10-17(20) μm . Ch. 32,5-47,5 x 10-20 μm . Soil.



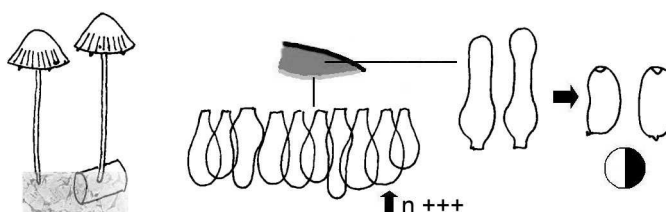
P. phegophila ROMAGN.

- 8* Pleurocystidia not (sub-) cylindrical. 9
- 9 (8) Spores up to 6,5 µm broad.
C. up to 40 mm broad. Veil scanty. Sp. 9-11,5 x 5,5-6,5 µm. Pl. 39-52 x 12-17 µm. Ch. 40-50 x 11-14 µm. Muddy soil.



P. lutulenta ESTEVE-RAV. & M. VILLAREAL

- 9* Spores up to 5,5(6) µm broad. 10
- 10 (9) Spores thickwalled.
C. up to 60(75) mm broad. Veil scanty. Sp. 7-10(10,5) x 4-5,5 µm, shape and size variable. Pl. (27,5)32,5-60(67,5) x (10)12,5-17,5(22) µm. Ch. 25-50 x 12,5-17,5 µm. Soil, pieces of wood, solitary or gregarious.

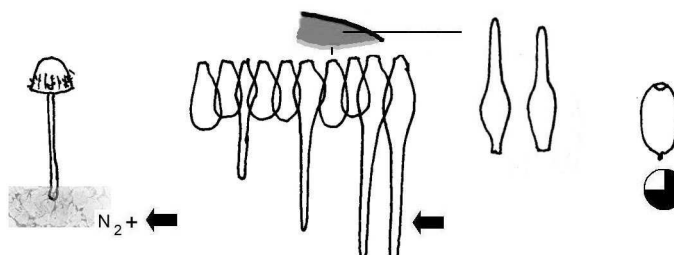


P. spadiceogrisea (SCHAEFF.: FR.) MAIRE

(Syn.: *P. groegeri* G. HIRSCH, *P. vernalis* (J. E. LANGE) M. M. MOSER, *P. spadiceogrisea* f. *mammifera* (ROMAGN.) KITS V. WAV., *P. spadiceogrisea* f. *vernalis* (J. E. LANGE) KITS V. WAV.)

- 10* Spores thinwalled. *P. fatua* (FR.) KONR. & MAUBL. (see C 13*)

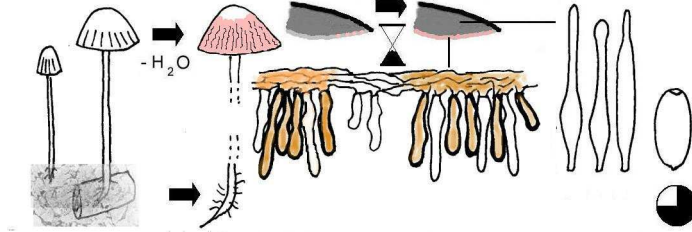
- 11 (1) Cheilocystidia partly longer than pleurocystidia.
C. 4-13 mm broad. Veil scanty. Sp. 11-14,5 x 6-7 µm. Pl. 32,5-65 x 8-18 µm. Ch. 20-80 x 6-28 µm. Dung.



P. stercoraria ÖRSTADIUS & E. LARSSON

- 11* Not so. 12
- 12 (11) Pleurocystidia narrow at the top. 13
- 12* Pleurocystidia broadly obtuse at the top. 18
- 13 (12) Cheilocystidia mixed with slender clavate and irregular cells.

C. up to 20 mm broad, during drying often pinkish. Veil practically absent. St. rooting. Lamellae edge pinkish underlined, interrupted by colourless parts. Sp. (11,5)12,5-15,5 x 6,5-7 μm , sometimes giant spores. Pl. 50-67,5(75) x 10-13,2 μm . Ch. 30-45 x 7-10 μm . Soil, pieces of wood.



***P. corrugis* (PERS.: FR.) KONR. & MAUBL.**

(Syn.: *P. atrolaminata* K. v. WAV., *P. corrugis* f. *corrugis* ENDERLE, *P. corrugis* f. *gracilis* ENDERLE, *P. gracilis* (FR.) QUEL., *P. gracilis* f. *atrolimbata* K. v. WAV., *P. gracilis* f. *clavigera* K. v. WAV., *P. gracilis* f. *corrugis* K. v. WAV., *P. gracilis* var. *corrugis* (PERS.: FR.) A. PERS. & DENNIS, *P. gracilis* var. *fulva* A. H. SM., *P. melanophylla* K. v. WAV., *P. melanophylloides* K. v. WAV., *P. ochracea* K. v. WAV., *P. pallens* P. KARST., *P. polycystis* (ROMAGN.) K. v. WAV., *P. caudata* (FR.) QUÉL. non ss. RICKEN)

13* **Cheilocystidia mixed with broad clavate or sphaeropedunculate cells.** 14

14 (13) **Lamellae edge at least partly pinkish underlined.** 15

14* **Lamellae edge not pinkish underlined.** 16

15 (14) **Lamellae edge small pinkish underlined.**

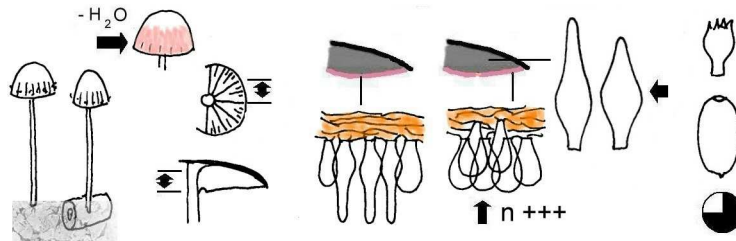
C. up to 17 mm broad. Veil scanty. Spores 11,5-12,5 x 6,5-7 μm . Pl. 47,5-70 x 12,5-15 μm . Ch. practically absent. Soil.

***P. infida* QUÉL.**

(= *P. prona* (FR.) GILLET?)

15* **Lamellae edge broad pinkish underlined, especially near margin of cap.**

C. up to 25 mm broad, during drying often pinkish. Veil scanty. Spores (11,5)12,5-15,5(16) μm , sometimes giant spores, often with a different shape. Pl. 35-65(80) x 10-17,5(20) μm . Ch. (25)35-65(70) x 7,5-17,5 μm . Clavate marginal cells very densely packed near the margin of cap. Soil.

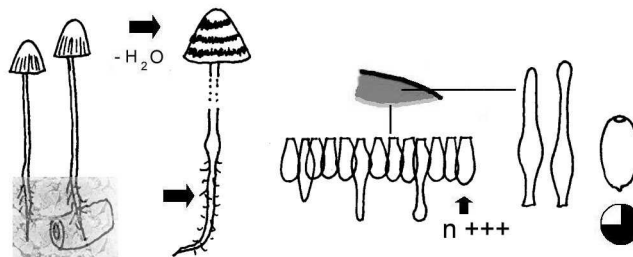


***P. prona* (FR.) GILLET**

(Syn.: *P. picta* (ROMAGN.) BON, *P. prona* var. *prona* f. *picta* (ROMAGN.) KITS V. WAV., *P. prona* var. *prona* f. *prona* (ROMAGN.) KITS V. WAV., *P. sublanata* A. H. SM.)

16 (14) **Pleurocystidia with evenly tapering neck, partly (sub-) capitat.**

C. up to 50 mm broad. Veil scanty. St. with a long pseudorhiza. Sp. 10,5-15(16) x 5-8(8,5) μm . Pl. 42,5-80 x 7,5-15(17,5) μm , partly slightly capitat. Ch. 22,5-40 x 7,5-10(12,5) μm , clavate marginal cells very frequently. Soil.



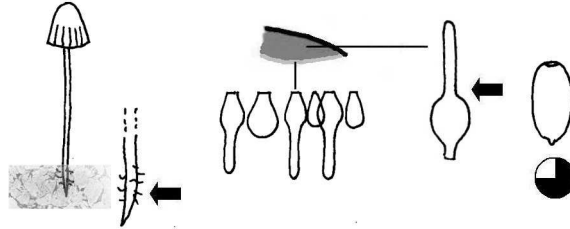
***P. longicauda* P. KARST.**

(Syn.: *P. caudata* (FR.) QUÉL. ss. RICKEN)

16* Pleurocystidia with +/- cylindrical neck, not (sub-) capitat. 17

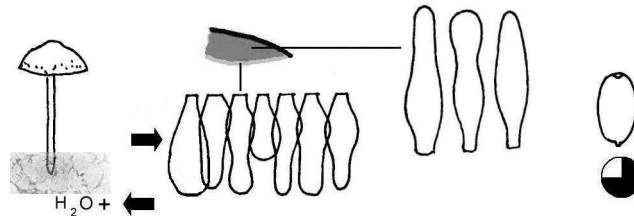
- 17 (16) **Cheilocystidia mixed with many slender clavate and irregular marginal cells.**
C. up to 40 mm broad. Veil practically absent. Sp. 11-14,5 x 6,5-7,5 µm, sometimes giant spores. Pl. 35-82 x 9-17 µm. Ch. 22,5-55 x 6-15 µm. Soil, pieces of wood.
P. corrugis (PERS.: FR.) KONR. & MAUBL.
(see also F 13)

- 17* **Cheilocystidia mixed with few clavate marginal cells.**
C. up to 13 mm broad. Veil scanty. St. rooting. Sp. 11,5-13,5 x 6,5-7 µm. Pl. 40-75 x 10-12 µm. Ch. 35-47,5 x 8-12,5 µm. Soil.



P. pellucidipes (ROMAGN.) GALLANT ex M. M. MOSER

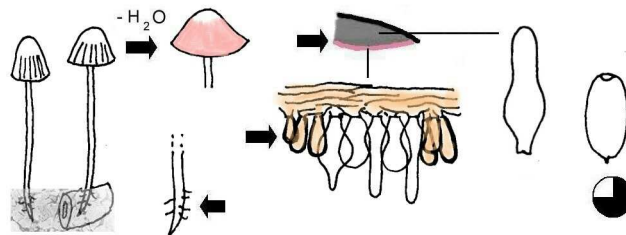
- 18 (12) **Clavate marginal cells strikingly large (up to 50 x 25 µm).**
C. up to 35 mm broad. Veil scanty to distinctly. Sp. 8-11,5 x 4,5-6,5 µm. Pl. 40-65 x 10-20 µm. Ch. 37,5-50 x 9-15 µm. Wet soil, on remnants of *Typha*, *Phragmites*, *Cirsium*.



P. almerensis KITS V. WAV.

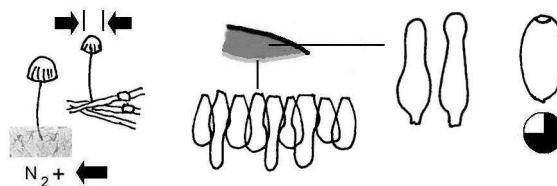
18* Clavate marginal cells not strikingly large. 19

- 19 (18) **Clavate marginal cells with often thickened walls.**
C. up to 40 mm broad, during the drying out almost always pinkish. Veil scanty. St. rooting. Sp. 10-13,5(15) x 6-7(7,5) µm, sometimes giant spores. Pl. 35-80(100) x 10-20 µm, broadly fusiform or utriform. Ch. 20-60(75) x 7,5-17,5(20) µm. Soil, pieces of wood.



P. pseudogracilis (ROMAGN.) M. M. MOSER
(Syn.: *P. opaca* (ROMAGN.) KITS V. WAV. ss. ROMAGN., *P. prona* var. *utriformis* KITS V. WAV.)

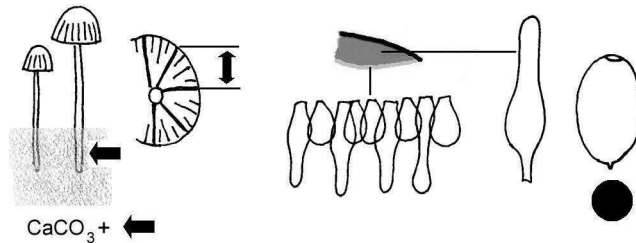
- 19* **Clavate marginal cells thinwalled.**
C. up to 8(15) mm broad. Veil scanty. Sp. (9,5)10-12,5(15) x (5,5)6-7(7,5) µm. Pl. 32,5-55 x 10-17,5 µm. Ch. 25-40 x 7,5-12,5 µm. Dead grass, hay, straw, dung.



P. romagnesii KITS V. WAV.

Part G
(Part E)

- 1 Spores up 19 μm long.**
Hut 5-20 mm broad. Veil scanty. L. distant. Sp. 12-19 x 7-10 μm . Pl. 45-70(80) x 9,5-13,5 μm . Ch. (24,5)27-50 x 8-20 μm , moderately frequently, also many clavate marginal cells present. Calcareous, dry soil.

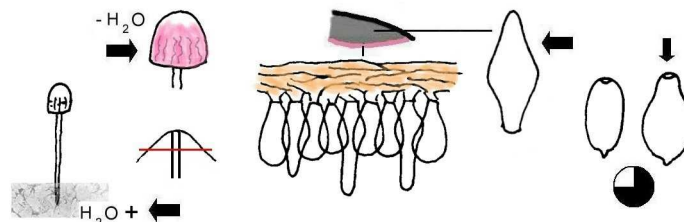


P. calcarea (ROMAGN.) M. M. MOSER

- 1* Spores shorter.** **2**
- 2 (1) Spores up to 14,5(15,5) μm long.** **3**
- 2* Spores up to 12,5(14) μm long.** **13**
- 3 (2) Lamellae edge pinkish underlined.** **4**
- 3* Lamellae edge not pinkish underlined.** **8**
- 4 Lamellae edge pinkish underlined with colourless gaps.**
C. up to 30 mm broad. Veil practically absent. Sp. 11-14,5 x 6,6-7 μm . Pl. (40)55-85(90) x 7,5-15,5(17,5) μm . Ch. 25-57,5(70) x 7,5-15 μm , mixed with slender clavate and irregular cells, these sometimes with thickened walls. Soil, pieces of wood.

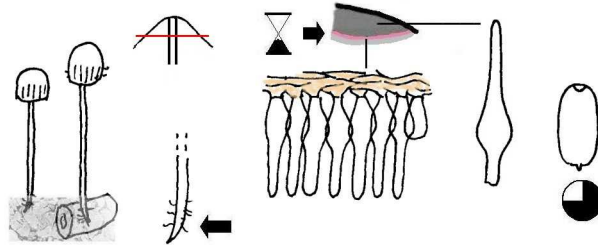
P. corrugis (PERS.: FR.) KONR. & MAUBL.
(see also F 13)

- 4* Lamellae edge continuously pinkish underlined.** **5**
- 5 (4) Pleurocystidia utriform, top broadly obtuse.** **5**
- P. pseudogracilis* (ROMAGN.) M. M. MOSER
(see F 20)
- 5* Pleurocystidia lageniform or fusiform, top narrow.** **6**
- 6 (5) Pleurocystidia fusiform with short neck.**
C. mostly 2-5 mm broad, never expanding, during the drying out almost always pinkish or reddish. Veil scanty or absent. Sp. 9-14 x 5-6,5(7,5) μm (larger if 2-sporiged basidia present). Pl. 35-60(70) x 10-15 μm . Ch. 40-60 x 10-15 μm . Wet soil.



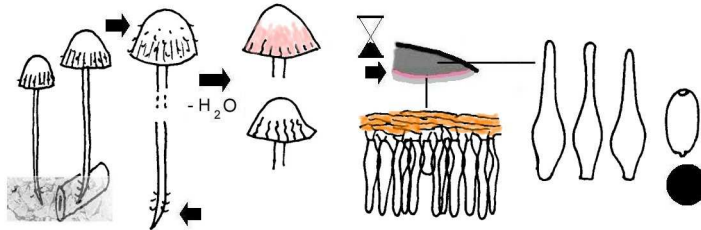
P. orbitarum (ROMAGN.) M. M. MOSER
(Syn.: *P. prona* f. *orbitarum* (ROMAGN.) KITS V. WAV.)

- 6 Pleurocystidia lageniform.** **7**
- 7 (6) Cap 2-20 mm broad.**
C. never expanding. Veil scanty. St. rooting. Sp. (9,5)10-13,5 x 5,5-7 μm . Pl. (35)40-70(80) x 10-15(17,5) μm . Ch. 25-50 x 7,5-12,5 μm . Soil, pieces of wood.



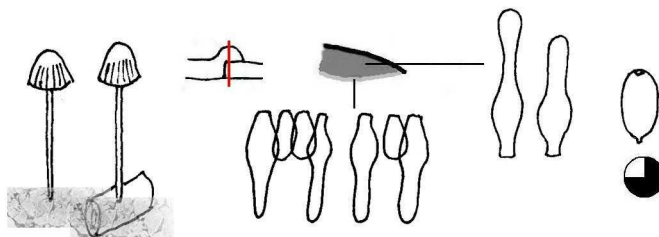
***P. orbicularis* (ROMAGN.) KITS. v. WAV.**
(Syn.: *P. bernhardii* Kits v. Wav.)

- 7* **Cap up to 50 mm broad.**
C. during drying often pinkish. Veil scanty. St. rooting. Sp. 10-13,5(14,5) x (5,5)6-7(8) μm . Pl. 40-70(85) x 8-15 μm . Ch. 20-55 x 5-13 μm . Soil, pieces of wood.



***P. microrhiza* (LASCH: FR.) KONR. & MAUBL.**
(Syn.: *P. badiovestita* P. D. ORTON, *P. bifrons* (BERKELEY) A. H. SM. ss. KITS v. WAV., *P. squamifera* P. KARST., *P. subrosea* P. KARST., *P. stellata* (ROMAGN.) M. M. MOSER ex BON)

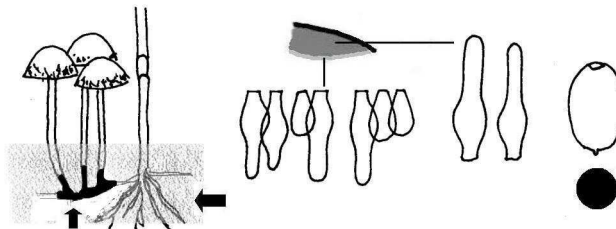
- 8 (3) **Clamps absent.**
C. up to 25 mm broad, fresh purplish brown. Veil scanty. Sp. (9)10-14,5(15,5) x 5,5-8 μm . Pl. (35)40-65(80) x 11-20 μm . Ch. 20-55(60) x 10-15(20) μm . Soil, pieces of wood.



***P. vinosofulva* P. D. ORTON**
(Syn.: *P. riparia* A. H. Sm.?)

- 8* **Clamps present.** 9

- 9 (8) **Pleurozystiden utriform.**
C. up to 50 mm broad. Veil scanty to distinctly. Sp. 10- 14 x 6,5-8(8,5) μm . Pl. (30)40-70(75) x (10)12,5-22,5(27,5) μm . Ch. 25-55(70) x 10-17,5(20) μm . Dunes, sandy soil, plant roots enclosing.

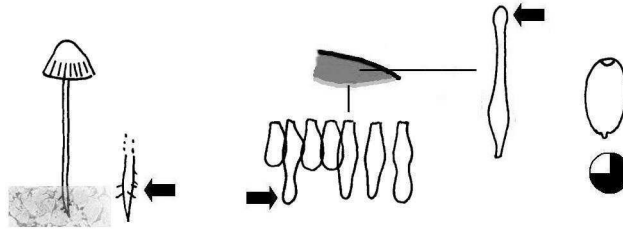


***P. ammophila* (DURIEU & LEV.) P. D. ORTON**
(Syn.: *P. arenulina* (PECK) A. H. SM.)

- 9* **Pleurozystiia lageniform or fusiform.** 10

- 10 (9) **Pleurocystidia mostly (sub-) capitata (Fig 35).**
C. up to 20 mm broad. Veil scanty. St. rooting. Sp. 11,5-13,5 x 6,5-7 μm . Pl. 40-60 x 7,5-14(17,5) μm . Ch. 30-45 x 6-10 μm . Around a stump of *Fagus* on a costal

dune.

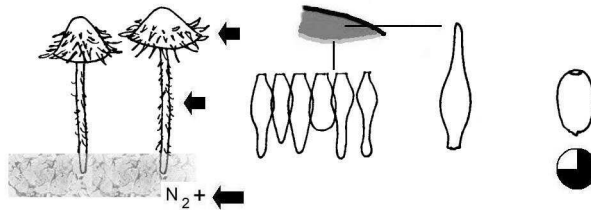


P. ridicula KITS V. WAV.

10* Pleurocystidia not or rarely (sub-) capitata. 11

11 (10) Pleurocystidia lageniform.

C. up to 25 mm broad. Veil distinctly. Sp. (9)10-12,5(13,5) x (4,5)5-7 μm. Pl. (20)30-55(60) x 10-17,5 μm. Ch. 25-50 x 7,5-15 μm. Dung, fertilized soil.



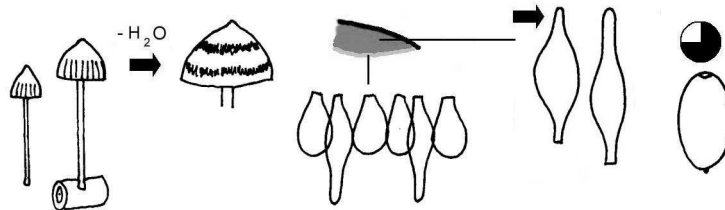
P. hirta PECK

(Syn.: *P. coprobia* (J. E. LANGE) A. H. SM.)

11* Pleurocystidia fusiform with short neck. 12

12 (11) Cap fresh striate, colour predominatingly brown, spores up to 7 μm broad.

C. 6-25 mm broad. Veil scanty. Sp. 10-14 x (4,5)5-7 μm. Pl. 35,5-60 x 9,5-16,5 μm. Ch. 24,5-60 x 8-16,5 μm. Soil, pieces of wood.

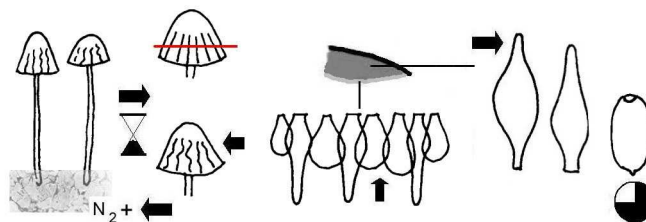


P. albidula (ROMAGN.) M. M. MOSER

(Syn.: *P. prona* var. *prona* f. *albidula* (M. M. MOSER) KITS V. WAV.)

12* Cap fresh not striate, colour predominatingly grey, spores up to 8,5 μm broad.

C. 10-25 mm broad. Veil scanty. Sp. 11,5-14,5 x 6,5-8,5 μm. Pl. 32-70 x 10-17,7 μm. Ch. 22-55 x 5,5-16,5 μm. Soil, dung.



P. potteri A. H. SM.

(Syn.: *P. argentata* A. H. SM., *P. atomata* ss. J. E. LANGE, *P. prona* f. *cana* KITS V. WAV.)

13 (2) Lamellae edge pinkish underlined. 14

13* Lamellae edge not pinkish underlined. 17

14 (13) Lamellae edge continuously pinkish underlined.

P. microrhiza (LASCH: FR.) KONR. & MAUBL.
(see C 7*)

14* Lamellae edge indistinctly or not continuously pinkish underlined. 15

15 (14) Cheilocystidia mixed with slender clavate and irregular cells.

C. 10-25 mm broad. Veil practically absent. Sp. 10-12,5 x 5-7(7,5) μm . Pl. (40)46,5-70(80) x 8-13,5(16,5) μm . Ch. 24,5-55 x 7-13,5 μm . Clavate and irregularly marginal cells often with thickend. Soil, pieces of wood.

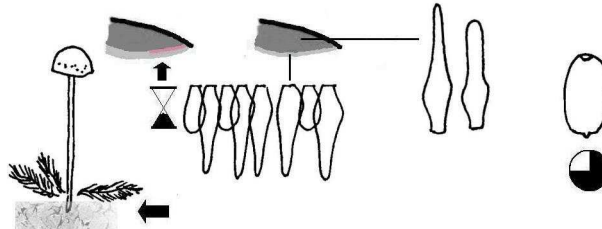
P. corrugis (PERS.: FR.) KONR. & MAUBL.
(see also F 13)

15* Without irregular cells.

16

16 (15) **Cheilocystidia mostly with a long neck.**

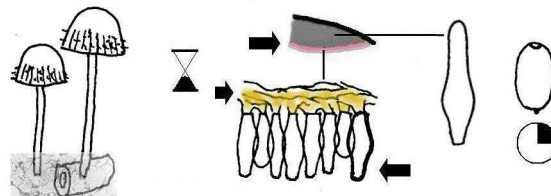
C. up to 30(50) mm broad. Veil scanty. Lamellae edge sometimes pigmented near the margin of cap. Sp. (9)10-12(12,5) x 5,5-6,5 μm . Pl. 47,5-72,5 x 10-17,5(19) μm . Ch. (27,5)32,5-50(60) x 7,5-12,5 μm . Mossy, poor soil.



P. dicrani (A. E. JANSEN) KITS V. WAV.

16* **Cheilocystidia mostly with a short neck.**

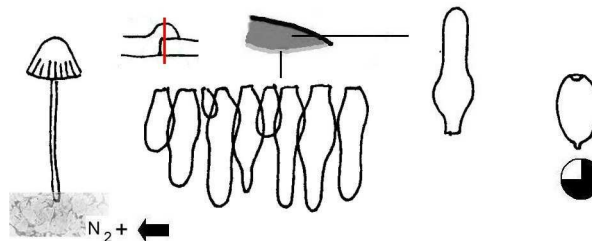
C. up to 70 mm broad. Veil scanty. Sp. (8,5) 9-11,5(12) x (5)5,5-6,5(7) μm . Pl. 40-80 x 10-16(17,5) μm . Ch. 30-60 x 12,5-15 μm , sometimes with slightly thickened walls. Lamellae edge in aging often pigmented. Soil, pieces of wood, under *Fagus* (and *Castanea sativa*).



P. fagetophila ÖRSTADIUS & ENDERLE
(Syn.: *P. murcida* (FR.) KITS V. WAV. ss. auct. rec.)

17 (13) **Clamps absent.**

C. 10-20 mm broad, strikingly purplish. Veil scanty. Sp. 9,5-11,5(12) x 5-6 μm . Pl. 39-48 x 9-12 μm . Ch. 30-58 x 9-14 μm . Fertilized soil, dung.



P. purpureobadia ARNOLDS

17* **Clamps present.**

18

18 (17) **Germ pore indistinctly, small.**

P. magnispora HEYKOOP & G. MORENO
(see B 8)

18* **Germ pore distinctly.**

19

19 (18) **Spores up to 7,5 μm broad.**

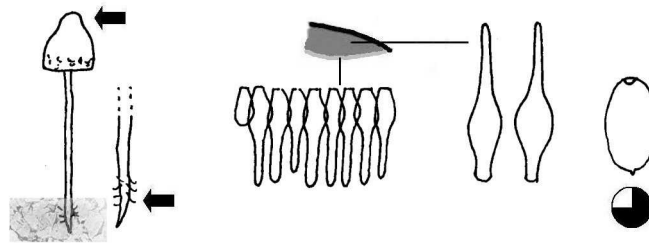
20

19* **Spores smaller.**

21

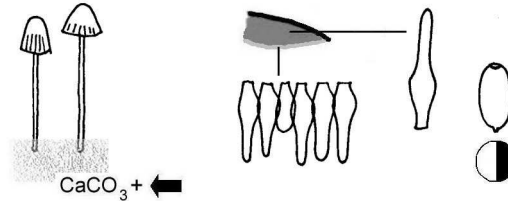
20 (19) **Stipe with a short pseudorhiza; spores dark brown.**

C. up to 15 mm broad, with umbo. Veil scanty. St. rooting. Sp. 10-12,5(13,5) x (5,5)6,5-7(7,5) μm . Pl. 35-68(74) x 7,5-10(14,5) μm . Ch. 27-44 x 5,5-15 μm . Soil.



P. opaca (ROMAGN.) M. M. MOSER ex KITS V. WAV. ss. KITS V. WAV.

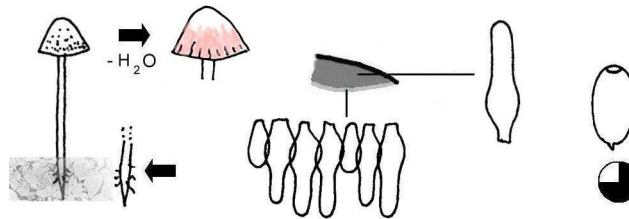
- 20* **Stipe without pseudorhiza; spores reddish brown.**
 H. 12-30 mm broad. Veil practically absent. Sp. (9)9,5-12,5(14) x (5,5)6-7,5 µm.
 Pl. 23-55 x 9-14 µm. Ch. 22-45 x 7,5-13 µm. Calcareous, poor soil.



P. mesobromionis ARNOLDS

- 18* **Spores smaller.** 19

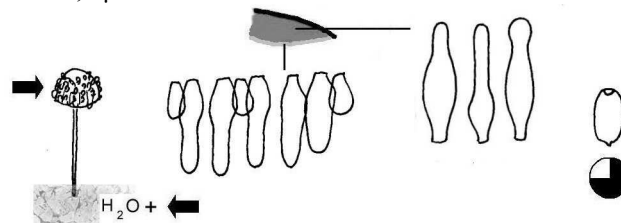
- 21 (19) **Spores up to 5,5 µm broad.**
 H. 10-20 mm broad. St. rooting. Sp. 8-11 x 4,5-5,5 µm. Pl. similar the Ch., very rarely. Ch. 40-62 x 8-12(15) µm. Soil, pieces of wood.



P. bifrons (BERKELEY) A. H. SM. ss. A. H. SM.

- 21* **Spores broader.** 22

- 22 (21) **Veil strongly developed, scaly.**
 C. 16-40 mm broad. Sp. 8-11(11,5) x 4,5-6(7) µm. Pl. (35)50-80 x 8-20 µm. Ch. 32,5-57,5 x 8-12,5 µm. Wet soil.



P. gordonii (BERK. & BROOME) A. PEARS. & DENNIS

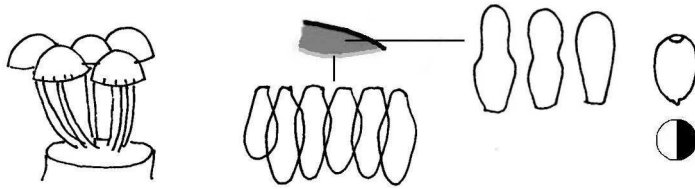
(Syn.: *P. abortiva* A. H. SM., *P. candidissima* A. H. SM., *P. pervelata* KITS V. WAV., *P. variabilissima* A. H. SM., *P. vestita* (PECK) A. H. SM.)

- 22* **Veil scanty, not scaly.** 23

- 23 (22) **Pleurocystidia up to 50 µm long.** 24

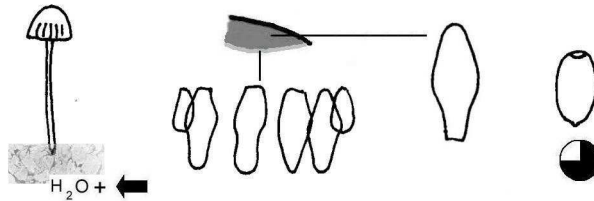
- 23* **Pleurocystidia up to 75(90) µm long.** 26

- 24 (23) **Caespitose on dead wood (*Salix*).**
 C. up to 40 mm broad. Veil scanty. Sp. 9-11 x 5,5-6,5 µm. Pl. 35-50 x 12,5-22,5 µm. Ch. 35-50 x 12,5-22,5 µm.



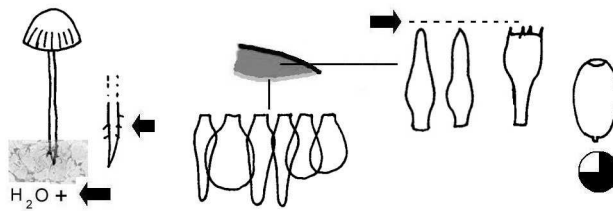
P. storea (FR.) M. M. MOSER ex BON

- 24* On muddy soil. 25
- 25 (24) Cap 3,5-10 mm broad.
Veil scanty. Sp. 11-11,5(12,5) x (5,5)6-6,5 µm. Pl. 40-50 x 10-15 µm. Ch. 30-40 x 10-16 µm.



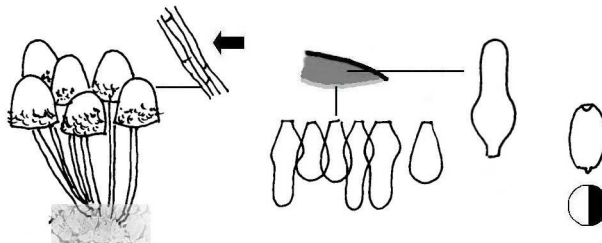
P. palustris (ROMAGN.) M. M. MOSER

- 25* Cap 12-30 mm broad.
Veil scanty. St. rooting. Sp. 10-12 x 5,5-6,5 µm. Pl. 35-50 x 10-16 µm, very short.
Ch. 30-38 x 9-15 µm.



P. trepida (FR.) GILLET

- 26 (23) Cheilocystidia predominantingly utriform. 27
- 26* Cheilocystidia predominantingly lageniform. 29
- 27 (26) Pileipellis as cutis.
C. up to 35(50) mm broad. Veil scanty to distinctly. Sp. (8)9-11(12) x 5-6,5 µm.
Pl. (35)47,5-70(90) x 15-25 µm. Ch. (30)35-60(65) x 10-25 µm. Caespitose on
hardwood stumps.



Coprinopsis pannucioides (J. E. LANGE) ÖRSTADIUS & E. LARSSON
(Syn.: *P. cuspitata* A. H. SM., *P. pannucioides* (J. E. Lange) M. M. Moser)

- 27* Pileipellis as hymeniderm. 28
- 28 (27) Clavate marginal cells strikingly large (up to 50 x 25 µm); on wet soil.
P. almerensis KITS V. WAV.
(see F 18)
- 28* Clavate marginal cells not strikingly large; not on wet soil.
P. fagetophila ÖRSTADIUS & ENDERLE

29 (26) Stipe with a short pseudorhiza.

P. pellucidipes (ROMAGN.) GALLANT ex M. M. MOSER

(see G 27)

29* Stipe without a Pseudorhiza.

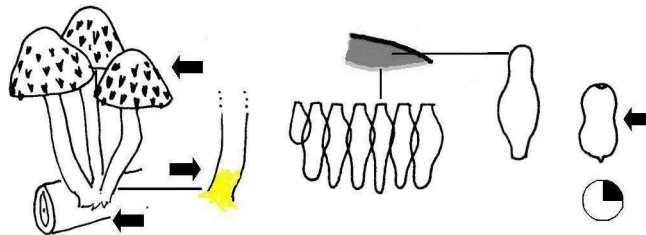
P. dicrani (A. E. JANSEN) KITS V. WAV.

(see G 16)

Part H
(Part E)

1 **Spores median often constricted.**

C. up to 75(100) mm broad. Veil distinctly, scaly. Stem at the base usually yellowish. Sp. (6)6,5-8(9) x 3,5-4,5 µm. Pl. (32,5)35-50(75) x 10-17,5 µm. Ch. 30-65 x (7,5)10-15, polymorph. Solitary and caespitose, soil.



P. cotonea (QUÉL.) KONR. & MAUBL.)

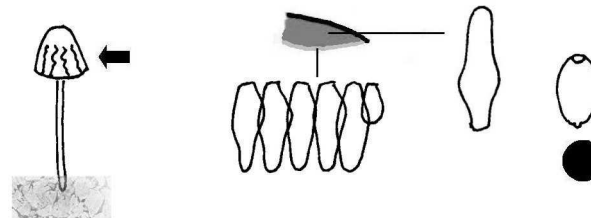
(Syn.: *P. alboalutacea* A. H. SM., *P. duchesnayensis* A. H. SM., *P. insignis* A. H. SM., *P. lacrymabunda* (FR.) M. M. MOSER ss. A. H. SM., *P. olivaceopallida* A. H. SM., *P. subvolvata* A. H. SM.)

1* **Spores otherwise.**

2

2 (1) **Spores up to 6 µm broad.**

C. up to 20(30) mm broad, wrinkled. Veil scanty. Sp. (7,5)8,5-9(10) x 5-6 µm. Pl. (28)38-65 x 12-19 µm. Ch. 15-43 x 8-15 µm. Soil.



P. reticulata (ROMAGN.) M. M. MOSER

(Syn.: *P. romagnesiana* BON)

2* **Spores maximally 5(5,5) µm broad.**

3

3 (2) **Pleurocystidia with often constricted apex.**

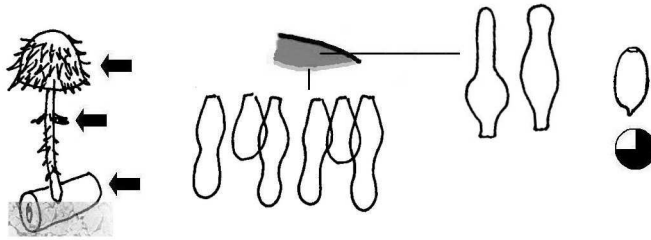
4

3* **Pleurocystidia without often constricted apex.**

6

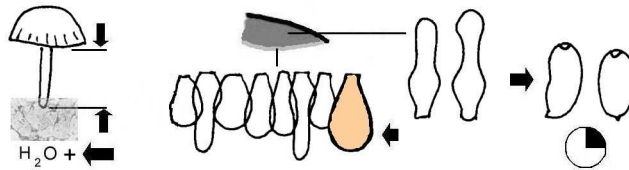
4 (3) **Cheilocystidia lageniform.**

C. 10-50 mm broad. Veil strongly developed. St. often with annulus. Sp. (6)6,5-9(10) x 4-4,5(5) µm. Pl. 40-50 x 15-18 µm. Ch. 30-55 x 12-15 µm. Fresh mushroom with sweetish odour. Dead wood, bark chips, soil.



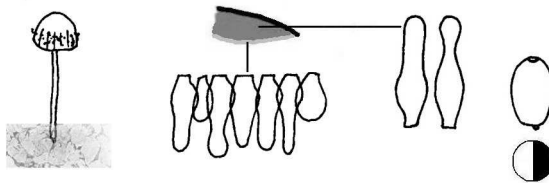
P. suavissima AYER
(Syn.: *P. sacchariolens* ENDERLE)

- 4* **Cheilocystidia utriform.** 5
- 5 (4) **Spores (6,5)7-8(9) x 4-5(5,5) μ m.**
C. 10-50 mm broad. Veil scanty to distinctly. Stem usually strikingly short. Pl. (37,5)40-70 x 10-20 μ m. Ch. (22,5)27,5-60 x (7,5)10-17,5(20) μ m. Larger clavate marginal cells often brownish. Muddy or wet soil.



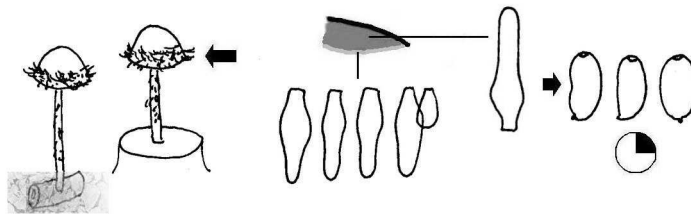
P. noli-tangere (FR.) A. PEARSON & DENNIS

- 5* **Spores up to 7,5 μ m long.**
C. up to 16 mm broad. Veil scanty. Sp. 6,2-7,5 x 3,7-4,5 μ m. Pl. 33-57,5 x 9,5-17,5 μ m. Ch. 22-40(50) x 8-15 μ m. Soil.



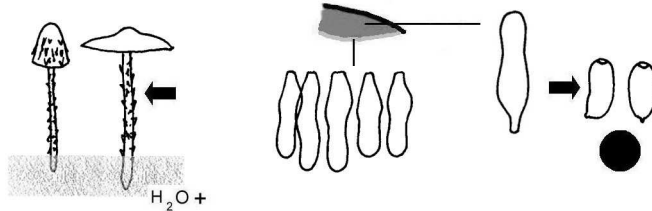
P. mookensis KITS V. WAV.

- 6 (3) **Spores up to 8(9) μ m long.** 7
- 6* **Spores up to 10(10,5) μ m long.** 9
- 7 (6) **Spores pale reddish yellow.**
C. up to 35 mm broad. Veil strongly developed, cells up to 300 μ m long. Sp. 6-8 x 3,5-5 μ m. Pl. 30-80 x 6-14 μ m. Ch. 25-60 x 6-15 μ m. Dead wood, stumps (*Fagus*).



P. squamosa (P. KARST) M. M. MOSER ex A. H. SM.
(Syn.: *P. artemisiae* var. *microspora* KITS V. WAV.)

- 7* **Spores distinctly darker.** 8
- 8 (7) **Sporen up to 3,5(4) μ m broad, black.**
H. up to 50 mm broad, Veil strongly developed. Stem with scales. Sp. 7-8,5 x 3-3,5(4) μ m. Pl. 30-50 x 7-14 μ m. Ch. 30-50 x 7-14 μ m. Sandy soil, floodplain forest with *Alnus*; Switzerland.

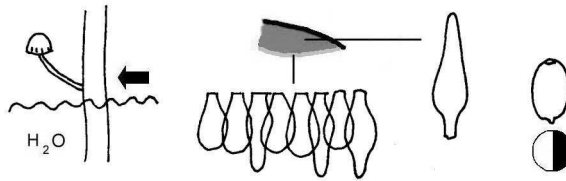


P. immaculata HORAK & GRIESSER

- 8* **Spores up to 5 µm broad, brown.**
 C. up to 20 mm broad. Veil scanty. Sp. 6,5-9 x 3,5-5 µm. Pl. 25-48 x 7-14 µm.
 Ch. 15-40 x 6-14 µm. Wet soil.

P. rubiginosa A. H. SM.

- 9 (6) **On *Phragmites* and *Scirpus* just above the water.**
 C. up to 10 mm broad. Veil scanty. Sp. 8-10 x 5,5-6 µm. Pl. 37,5-52,5 x 10-15 µm.
 Ch. 35-50 x 11-15 µm.

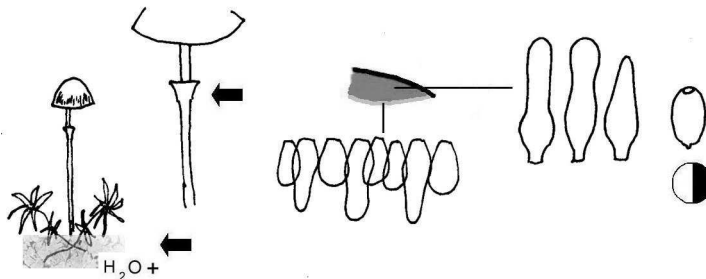


P. basii KITS V. WAV.

- 9* **Other habitat.**

10

- 10 (9) **Stem with annulus.**
 C. up to 30 mm broad. Veil scanty. Sp. 8-10 x 4,5-5,5(6) µm. Pl. 45-67,5 x 12,5-17,5 µm. Ch. 27,5-50 x 10-17,5 µm. Between *Sphagnum* (and other moss).



P. sphagnicola (MAIRE) J. FAVRE

- 10* **Stem without annulus.**

11

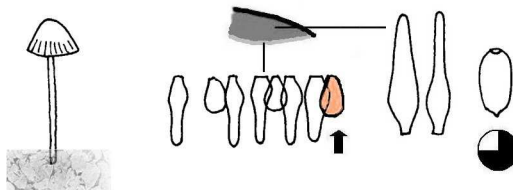
- 11 (10) **Sphaeropedunculate marginal cells partly thickwalled.**

12

- 11* **Sphaeropedunculate marginal cells always thinwalled and colourless.**

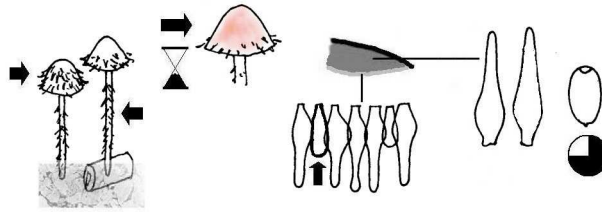
13

- 12 (11) **Large sphaeropedunculate marginal cells thickwalled and brownish.**
 C. up to 30(45) mm broad. Veil scanty. Sp. 7-10(10,5) x 4-5(5,5) µm. Pl. 35-60(88) x 8-15(17,5) µm, fusiform. Ch. 25-45 x 7,5-13(15) µm. Soil, stumps.



P. fulvescens (ROMAGN.) M. M. MOSER

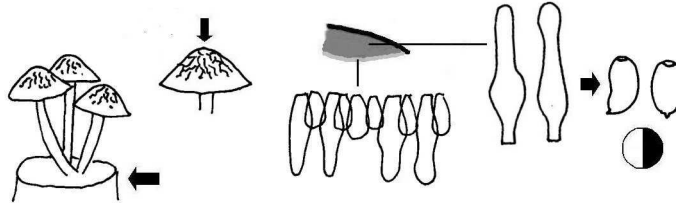
- 12* **Large sphaeropedunculate marginal cells thickwalled and colourless.**
 C. up to 45 mm broad, during the drying mostly pinkish. Veil distinctly. Sp. 8-10(10,5) x (4)4,5-5,5(6) µm. Pl. 35-55(65) x 10-17,5 µm. Ch. 20-55 x 7,5-15 µm. Soil.



P. impexa (ROMAGN.) BON

13 (11) Spores at base mostly truncated.

C. up to 50(75) mm broad, distinctly wrinkled. Veil scanty to distinctly. Sp. 6,5-8(9) x 3,5-4,5(5) µm. Pl. 40-90 x 12,5-17,5 µm, fusiform to utriform. Ch. 30-60 x (9)10-13(15) µm. Cystidia some times subcapitat. Stumps of conifers.



P. pertinax (FR.) ÖRSTADIUS

(Syn.: *Psathyrella chondroderma* (BERK. & BROOME) A. H. SM.)

13* Spores not so.

P. senex (PECK) A. H. SM.

(see D 21)

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