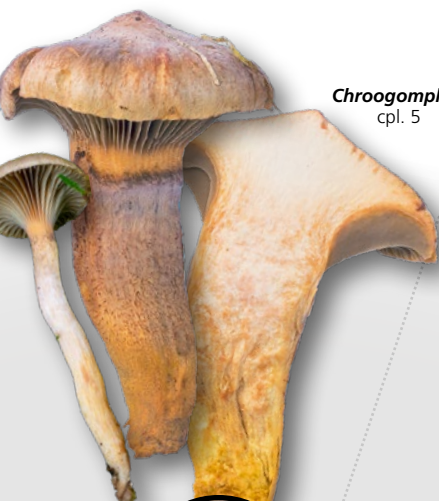


Gomphidioids
This form group includes agarics with dark brown to black spore deposits and deeply decurrent gills. *Chroogomphus* and *Gomphidius* have a ± slimy universal veil that covers the entire young fruitbody. They are related to the boletes and have typical boletoid, long, somewhat fusiform spores. The genus *Melanomphalia* has

no veils and belongs to the *Agaricales*; it has finely dotted-verrucose spores. It is apparently a decomposer.
Chroogomphus and *Gomphidius* are probably parasites on ectomycorrhizal *Boletales* associated with conifers (mainly or exclusively from the genera *Suillus* and *Rhizopogon*).

OTHER SIMILAR FUNGI:
– *Paxillus* and *Phylloporus* have brown spore deposits (page 562).
– *Tapinella* species have brown spore deposits and ± eccentric or absent stems and are wood decomposers (page 65).



Chroogomphus
cpl. 5

large and fleshy; brownish rose; with slimy and threadlike veil



Gomphidius
cpl. 3

large and fleshy; rose or greyish; with slimy veil



Melanomphalia
cpl. 1

slender, with dry and minutely scaly cap; without veil



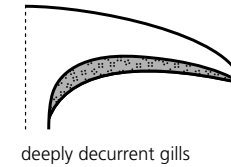
other similar fungi

with brown spore deposits and ± central stem

with brown spore deposits and ± eccentric or absent stem



Micro-drawings:
spores to the left, cystidia to the right.



deeply decurrent gills



paxilloids, page 562



Tapinella, page 65



1. Stem 2–4 mm thick, blackening downwards; without any veil; spores finely warty. Spores 9–12 × 5–7.5 µm; on soil in chalk pits, cemeteries or other urban habitats; rare, mainly Denmark and Sweden *Melanomphalia nigrescens*



2. Veil forming of a slime layer; cap pinkish buff, ash grey to muted rose (☞ [Gomphidius] 3



Veil mostly threadlike; cap muted rose, brownish rose, cinnamon to yellowish brown (☞ [Chroogomphus] 5

3. Cap muted rose (☞ [Gomphidius] 3

Cap 20–50 mm wide; spores 17–20 × 5–5.5 µm; with *Pinus* and *Suillus bovinus* in sandy conifer woodlands; common to scattered *Gomphidius roseus*

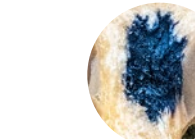
Cap pinkish buff to ± ash grey (☞ [Chroogomphus] 5

Cap 26–60 mm wide; with *Larix*. Spores 17–23 × 6–8 µm; presumably a parasite on *Suillus grevillei*; rare to scattered *Gomphidius maculatus*

Cap not staining when touched; cap 40–130 mm wide; flesh yellow in stem base; with *Picea* (and *Pinus*?). Spores 17–20 × 5.5–6.5 µm; common *Gomphidius glutinosus*



4. Cap stains red when touched, later black (☞ [Gomphidius] 3



5. Gill flesh not amyloid or at most with very few amyloid hyphae 6

Gill flesh distinctly amyloid 7

6. Cap greasy (kiss-positive); the hyphae of the cap flesh gelatinized. Cap 30–70 mm wide; gills rather distant; spores 15–18.5 × 6–7.5 µm, av. 16.9 × 6.6 µm, Qav. 2.4–2.7; with *Pinus* – presumably a parasite on *Suillus* or *Rhizopogon*; scattered *Chroogomphus mediterraneus*

Cap dry; hyphae of the cap cuticle not gelatinized. Cap 30–50 mm wide; gills medium spaced; spores 15–19 (–20) × 6–7.5 µm, Q about 2.6; with *Pinus*, typically 5-needled species, presumably a parasite on *Suillus plorans* or *S. sibiricus*; rare (S) *Chroogomphus helveticus*



7. Stem ± glabrous; gills rather distant (30 to 40 full-length gills); fruitbodies narrow and long-stemmed. Cap 10–45 mm wide; spores 18–23.5 × 6.5–8 µm, av. 20.3 × 7.1 µm, Qav. 2.8–3.0; basal mycelium under the microscope with rather coarse, amyloid grains; cystidia spindle-shaped or with slightly expanded tips; with *Pinus*, but presumably a parasite on *Suillus*, probably *S. variegatus*; scattered *Chroogomphus britannicus*



Stem usually with rose to clay-pink veil girdles; gills mostly medium spaced to crowded (more than 40 full-length gills); fruitbodies usually sturdy 8

8. Spores 15–18 × 5–6.5 µm, av. 16.6 × 5.7 µm. Cap 20–50 mm wide; spore Qav. 2.8–3.0; basal mycelium with amyloid grains; with *Pinus*, presumably a parasite on *Suillus*; rare, but widespread *Chroogomphus purpurascens*

Spores on average larger than 16.6 × 5.7 µm 9



9. Some cheilo- and pleurocystidia thick-walled (wall 1.5–3 µm). Cap 20–90 mm wide; gills rather crowded; spores 16–21.5 (–23) × 5.5–7 µm, av. 16.7–20.5 × 5.9–6.4 µm, Qav. 2.7–3.5; with *Pinus*, but probably a parasite on *Suillus granulatus*; scattered *Chroogomphus rutilus*



Cheilo- and pleurocystidia relatively thin-walled (wall to 1 (–1.5) µm thick), but can appear thick-walled due to a large internal drop 10

10. Spore Qav. 2.3–3.1; cystidia more than 15 µm wide. Cap 40–80 mm wide; stem with reddish spots towards the base; spores 17–24 × 7–8 µm, av. 20.6 × 7 µm; with *Pinus*, but presumably a parasite on *Suillus*; scattered (NE) to rare *Chroogomphus subfulmineus*

Spore Qav. 3.1–3.4; cystidia less than 15 µm wide. Cap 10–45 mm wide; stem with reddish spots towards the base; spores 19–24 × 6–7 µm, av. 21.2 × 6.5 µm; with *Pinus*, presumably a parasite on *Suillus* or *Rhizopogon*; rare (S) *Chroogomphus fulmineus*



10. Spore Qav. 2.3–3.1; cystidia more than 15 µm wide. Cap 40–80 mm wide; stem with reddish spots towards the base; spores 17–24 × 7–8 µm, av. 20.6 × 7 µm; with *Pinus*, but presumably a parasite on *Suillus*; scattered (NE) to rare *Chroogomphus subfulmineus*



Spore Qav. 3.1–3.4; cystidia less than 15 µm wide. Cap 10–45 mm wide; stem with reddish spots towards the base; spores 19–24 × 6–7 µm, av. 21.2 × 6.5 µm; with *Pinus*, presumably a parasite on *Suillus* or *Rhizopogon*; rare (S) *Chroogomphus fulmineus*