

**DERMOLOMA MAGICUM SPEC. NOV.,
A GRASSLAND FUNGUS MIMICKING PORPOLOMA METAPODIUM**

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Dermoloma magicum is proposed as a new species, characterised by reddening, then blackening basidiocarps, a unique feature within the genus *Dermoloma*. The species has been collected in grasslands in the Netherlands and Scotland. The collections were initially identified as *Porpoloma metapodium*. The differences with that fungus and with related *Dermoloma* species are discussed.

During mycological research in 1994 in limestone grasslands in southern Limburg, the Netherlands, I came across a tricholomatoid agaric with medium-sized, grey-brown basidiocarps which attracted attention because they stained reddish, then black, when damaged. It was identified on the basis of macroscopic characters as *Porpoloma metapodium* (Fr.) Singer, although the basidiocarps were relatively small for that species. The amyloid spores seemed to confirm this identification. The record of *P. metapodium*, listed in the checklist of the Netherlands by Arnolds et al. (1995) was based on this collection. The following year the same fungus was collected in another locality in the same region.

In the framework of a revision of the genus *Porpoloma* for Flora agaricina neerlandica (Arnolds & Noordeloos, 1999) the collections were studied in more detail. It then appeared that the structure of the pileipellis was a hymeniderm of spheropedunculate cells, substantially different from the cylindrical hyphae in the pileipellis of *P. metapodium*. This combination of characteristics places our fungus in the genus *Dermoloma*, where no discolouring species have been described so far. In view of its striking colour change I describe it as *D. magicum*.

Interestingly, I found among the other collections identified as *Porpoloma metapodium* in the Nationaal Herbarium Nederland (L), further material with a hymeniform pileipellis, collected by M.E. Noordeloos in Scotland. It agrees in all relevant characters with *Dermoloma magicum*. It would not be surprising if some other records of *P. metapodium* have also been misidentified in the past.

***Dermoloma magicum* Arnolds, spec. nov. — Fig. 1**

Pileus 25–50 mm latus, conico-convexus vel plano-convexus, interdum umbonatus, brunneo-griseus vel obscure griseo-brunneus, siccus, glaber vel subsquamulosus, interdum rugulosus. Lamellae adnatae vel emarginatae, subdistantes, subcrassae, intervenosae, ventricosae, pallide griseae vel griseo-brunneae. Stipes 30–65 × 4–12 mm, aequalis, fistulosus, pallide griseus, fibrilloso-striatus, flocculosus. Caro compacta, albida, fracta rubescens, dein nigrescens, odore farinaceo vel herbaceo. Basidiomata vulnerata rubescentia, dein nigrescentia.

Basidia 26–38 × 6.5–7.5 µm, clavata, 4-sporigera vel 4-, 2- et 1-sporigera intermixta. Sporae 6–9 × (3.5–)4–5(–5.5) µm, ellipsoideae vel ellipsoideae-oblongae, amyloideae. Cystidia nulla. Trama lamellarum subregularis. Pileipellis hymenidermium unistratum, cellulae ovatae, clavatae vel spheropeduncu-

latae, $17-52 \times 7-22(-35) \mu\text{m}$, saepe tunicis brunneis. Stipitipellis cutis, hyphae $3-8 \mu\text{m}$ latae. Caulocystidia gregaria, clavata vel subcylindracea, $23-47 \times 4-14 \mu\text{m}$. Fibulae frequentes. Ad terram in pratis. Holotypus: The Netherlands, Limburg, Epen, Cotessen, 21.X.1995, *E. Arnolds 6701* (WAG).

Pileus 25–50 mm wide, conico-convex, convex or plano-convex, with or without obtuse umbo, finally sometimes with the centre depressed, not hygrophanous, brownish grey to rather dark grey-brown (K. & W. 6C3, 6C4, 6E5, 6F6); margin even or lacerate, not striate; surface dull, smooth to slightly squamulose near centre, even or radially wrinkled to rugulose, sometimes cracked, exposing white context beneath. Lamellae (L = 28–40, l = 1–5) adnate to emarginate, moderately crowded to subdistant, rather thick, interveined, ventricose, up to 8 mm broad, pale grey to grey-brown (K. & W. 5C4, 6D3). Stipe 30–65 \times 4–12 mm, cylindrical or slightly tapering downwards, narrowly fistulose, pale grey to beige, base sometimes ochre-yellow, fibrillose striate lengthwise, in addition minutely floccose, in some specimens (*Arnolds 6701*) with grey flocks. Context firm, compact, whitish, when cut soon discolouring orange-red, then black in places, in particular in base of stipe and above lamellae. Smell farinaceous to herbaceous. All parts of basidiocarp quickly turning orange to red when bruised, after a while (15–30 minutes) blackening. Colour of spore-print unknown.

Spores $6.0-9.0 \times (3.5-4.0-5.0(-5.5) \mu\text{m}$, on average $6.7-7.8 \times 4.4-4.5 \mu\text{m}$, $Q = 1.35-2.0(-2.3)$, av. $Q = 1.50-1.75$, ellipsoid to ellipsoid-oblong with prominent hilar appendix, often with one or two droplets, amyloid. Basidia $26-38 \times 6.5-7.5 \mu\text{m}$, clavate, 4-spored or mixed 4-, 2- and 1-spored, in exsiccata with brown content. Lamella-edge fertile. Hymenophoral trama subregular, made up of cylindrical to inflated elements, $35-85 \times 5-16 \mu\text{m}$. Pileipellis a unistratous hymeniderm, made up of erect, branched hyphae with swollen, ovate, clavate to spheropedunculate cells, $17-52 \times 7-22(-35) \mu\text{m}$, often slightly thick-walled, with parietal to encrusted brown pigment; sometimes with scattered, subcylindrical pileocystidia, $52-58 \times 6-6.5 \mu\text{m}$. Stipitipellis a cutis of repent hyphae, $3-8 \mu\text{m}$ wide, with pale yellowish parietal pigment, in addition sometimes minutely encrusted, producing dense clusters of caulocystidia, in particular near apex of stipe. Caulocystidia subcylindrical to clavate, $23-47 \times 4-14 \mu\text{m}$, thin-walled, hyaline.

Habitat — Terrestrial, saprotrophic, solitary or in small groups in old, not or weakly fertilised pastures on dry, loamy, often calcareous soil. Aug.–Oct.

Collections examined. THE NETHERLANDS: Limburg, Epen, Cotessen, 21 Oct. 1995, *E. Arnolds 6701* (WAG, holotype); Limburg, Wittem, Nijswiller, 12 Oct. 1994, *E. Arnolds 6549* (WAG).— GREAT BRITAIN: Scotland, Moffat, 24 Aug. 1996, *M. E. Noordeloos 9665* (L).

Dermoloma magicum is rather variable in some characters. In the collection from Scotland the spores are ellipsoid (av. $Q = 1.5$) and small ($6-7.5 \times 4-4.5(-5.0) \mu\text{m}$), in the collection from Cotessen predominantly ellipsoid-oblong (av. $Q = 1.75$) and larger: $7.0-9.0 \times (3.5-4.0-5.0) \mu\text{m}$. The collection from Nijswiller is intermediate in this respect, and differs from the other collections in the presence of 2- and 1-spored basidia, a feature often observed in *Dermoloma*-species and of no taxonomic significance (Arnolds, 1993). In addition the Nijswiller collection bears some pileocystidia in between the hymenidermal cells (Fig. 1E), a phenomenon not reported before in this genus. They could not be found in the other collections. It is unclear whether this character is taxonomically important or only an accidental anomaly.

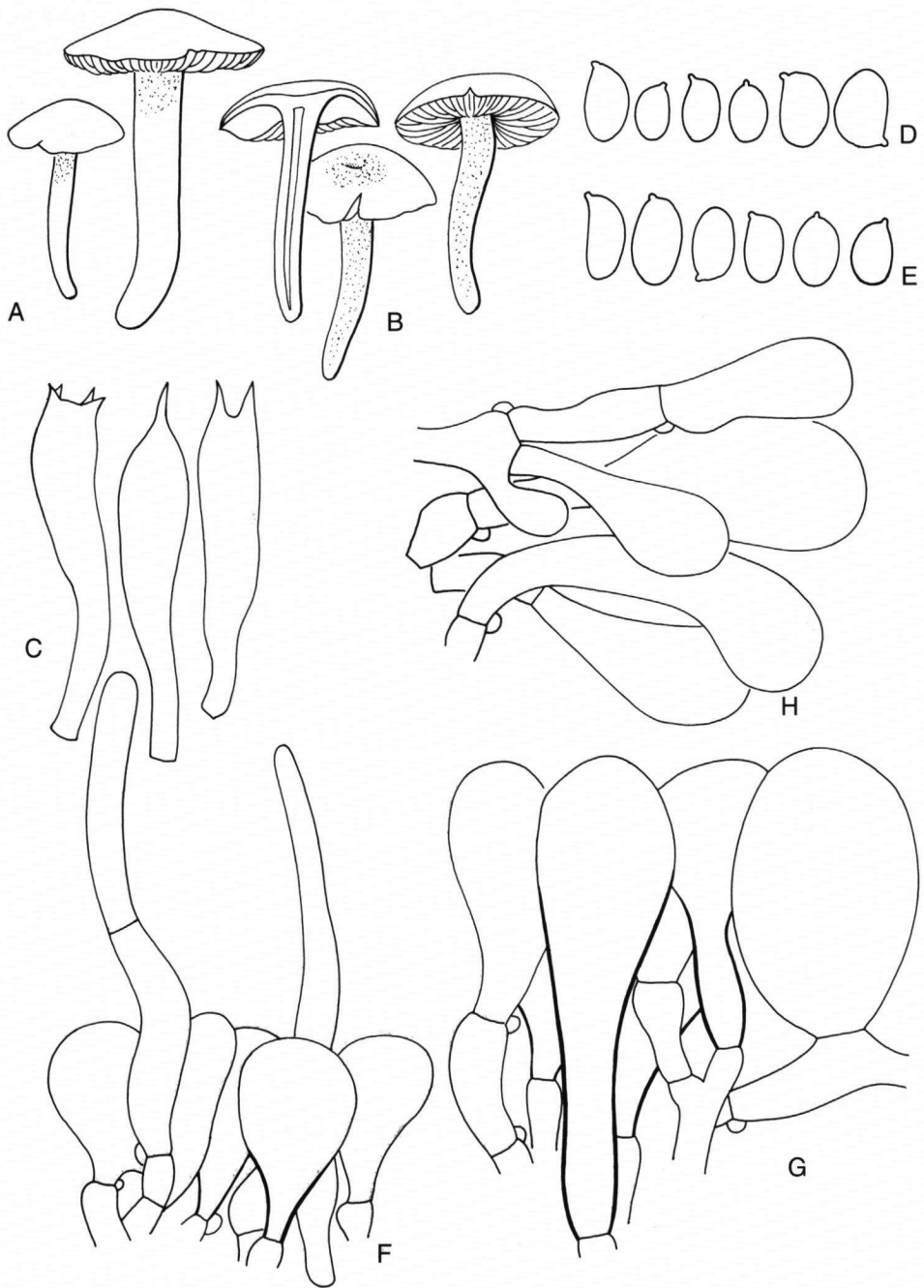


Fig. 1. *Dermoloma magicum*. A, B. Basidiocarps ($\times 0.7$); C. basidia; D, E. spores; F, G. pileipellis; H. caulocystidia (Figs. B–H, $\times 1400$; Figs. B, E, G, H from Arnolds 6701, type; A, C, D, F from Arnolds 6549).

Within the genus *Dermoloma*, *D. magicum* is unique in its reddening, then blackening basidiocarps. In microscopic characteristics this species shows most resemblance to *D. pseudocuneifolium*, for instance in the relatively large spore-size (Arnolds, 1993). As well as lacking the remarkable discoloration, the latter species also differs in its smaller basidiocarps (pileus 7–25 mm, stipe 12–50 × 1–3 mm, lamellae 11–21) with darker colours.

Dermoloma magicum differs from *Porpoloma metapodium* not only in the hymeniform pileipellis, but also in general habit. The latter species has more robust basidiocarps with the pileus 50–100 mm in diameter, the stipe 10–20(–30) mm thick and more numerous lamellae (40–50). In addition the stipe in *Porpoloma metapodium* is concolorous with the pileus, whereas in *D. magicum* it is considerably paler than the pileus. The spores in *P. metapodium* are slightly narrower, measuring 6–8 × 3–4 µm (Arnolds & Noordeloos, 1999).

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