

**A NEW SPECIES AND A NEW SECTION OF THE GENUS MYCENA
FROM THE NETHERLANDS**

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Mycena cecidiophila is newly described and illustrated. It grows on knopper galls on the cups of *Quercus robur*, and was collected from a single site in the Netherlands, Huys ten Donck estate. Although the new species resembles a species of sect. *Sacchariferae*, it differs in the negative Melzer-reaction on the lamella trama. The new section *Cecidiophilae* is therefore proposed here to accommodate the new species, characterized by warty elements of the pileipellis, amyloid spores, and absence of pleuro- and cheilocystidia.

During a foray of a local working group of the Dutch Mycological Society an interesting species of *Mycena* was collected in 'Huys ten Donck' estate at Ridderkerk, Zuid-Holland province, The Netherlands. Under a row of *Quercus robur* L. a large number of old knopper galls (outgrowths on acorn cupules caused by the gall-wasp *Andricus quercuscalicis*) were found, some of which carried one or more small white fruit-bodies of *Mycena*. Although these fruit-bodies were at first reminiscent of *M. adscendens*, which occurred on some of the twigs among the galls, they were different upon closer inspection. Under a magnifying glass (10×) the fully expanded pileus showed a consistently brownish centre and a conspicuously fimbriate margin. The stipe was entirely pruinose with a slightly bulbous base. Microscopic examination revealed a complete lack of lamellar cystidia. The species could not be keyed out using the monograph of Maas Geesteranus (1992) as it did not seem to fit in any of the defined sections. It is therefore described here as new, and a new section is proposed to accommodate it.

MATERIAL, PRESENTATION AND ABBREVIATIONS

Spores and lamellar trama were studied in Melzer's reagent and in water, the pileipellis and other details in Congo-red. Colours are described according to the codes of Munsell (1975) and Kornerup & Wanscher (1978), indicated as Mu. and K. & W., respectively. Other abbreviations are: av. - average; L - length of spores; Q - quotient of spore length and width; W - spores in side view. The notation [45, 3, 1] means: 45 spores from 3 specimens from 1 collection were measured.

RESULTS

Mycena cecidiophila, *spec. nov.* — Fig. 1, Plate 10, 11

Pileus 4–10 mm latus, subglobosus, ellipsoideus vel ovoideus, demum campanulatus vel convexus, initio griseo-brunneus margine albidus, demum albus centro brunneus, margine albidus, dentato-fimbria-

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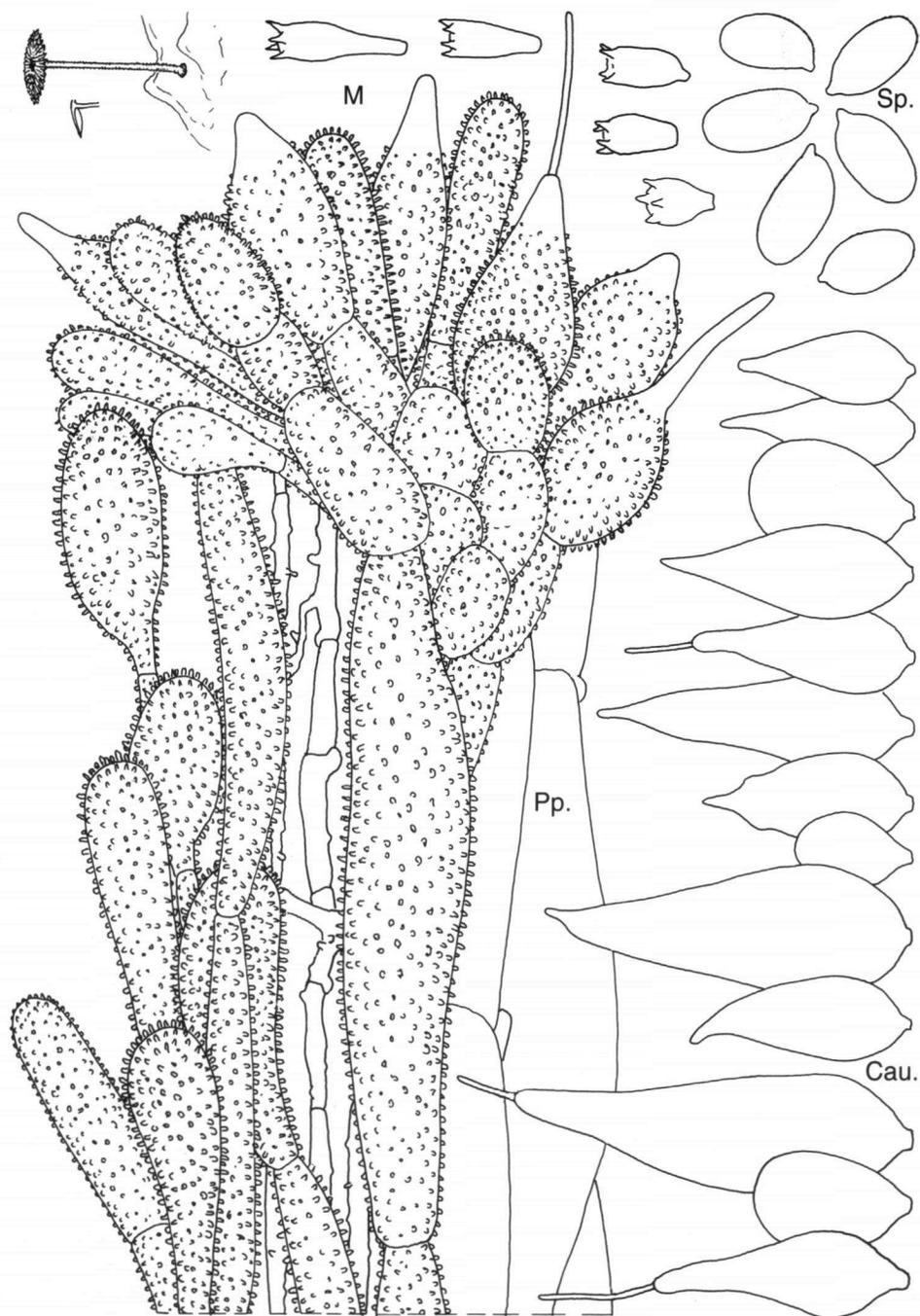


Fig. 1. *Mycena cecidiophila*. Sp. = spores, $\times 2000$; Pp. = pileipellis; M = pileipellis at margin of pileus; Cau. = caulocystidia (all microscopical details $\times 800$, all figs from holotype). (Del. C. Uljé.)

tus. Lamellae anguste-adnatae, albae demum cremaeae. Stipes 12–22 × 0.5–0.75 mm, cylindraceus, albus vel pallide brunneus, hyalinus, toto pruinosis, versus basim subbulbosus, villosus.

Spores 5.0–8.5 × 3.0–4.5 µm, Q = 1.5–2.1, Qav 1.7–1.8, ellipsoidea, ovoidea vel cylindracea, amyloidea. Basidia 11–18 × 6.5–8.0 µm, tetrasporigera. Cheilo- vel pleurocystidia nulla. Pileipellis ex acanthocystis, 20–70 × 8.0–25 µm cylindraceis, subglobosis vel fusiformis confertim verrucosis composita. Trama lamellarum haud amyloidea nec dextrinoidea. Fibulae presentes.

Ad galli putrida cupularum Quercorum.

Holotypus: The Netherlands, prov. Zuid-Holland, Ridderkerk, Huys ten Donck, 13-VII-1998, A. P. van den Berg & A. E. van den Berg-Blok s. n. (L).

Pileus 4–10 mm when expanded, at first subglobose, ellipsoid or ovoid, then expanding to campanulate or convex, finally flattened, with deflexed margin becoming slightly recurved when old; in primordia grey-brown at centre (Mu. 10 YR 3/3; K. & W. 5E/F4), white hairy-floccose at sides and base, when expanded whitish with brown centre (Mu. 10 YR 4/3; K. & W. 6E4 finally 10 YR 5/3; 5D/E4 or somewhat paler), minutely pruinose towards margin, dentate-fimbriate at margin (handlens). Lamellae, L = 20–30, l = 1, distant, narrowly adnate, sometimes forming a pseudocollarium, ventricose, white, becoming cream when old, with entire, concolorous margin. Stipe 12–22 × 0.5–0.75 mm, cylindrical with somewhat bulbous base, white or brownish, somewhat hyaline, entirely evenly pruinose, hairy at base.

Spores [45, 3, 1] 5.0–8.5 × 3.0–4.5 µm, on average 5.8–7.0 × 3.4–3.8 µm; Q = 1.55–2.05, Qav = 1.70–1.80; ellipsoid to oblong, rarely subcylindrical in side-view, oblong to ovoid in frontal view with rather pronounced apiculus, amyloid, hyaline, thin-walled. Basidia 11–18 × 6.5–8.0 µm, 4-spored. Cheilo- and pleurocystidia absent. Pileipellis a cutis made up of diverticulate, cylindrical or slightly inflated elements, 15–50 × 2.0–6.0 µm, with acanthocyst terminal elements. Acanthocysts clavate, less frequently cylindrical, subglobose or fusiform, 20–70 × 8.0–25 µm, verrucose with nipple-shaped to cylindrical warts up to 2(–2.5) × 1.0 µm; the fusiform type usually with smooth rostrum. Subpellis made up of radially arranged, cylindrical, oblong or fusiform elements, approximately 20–100 × 5.0–30 µm, with smooth walls or with scattered diverticulae. Caulocystidia 30–70 × 10–22 µm, mostly conical to broadly conical, with acute, sometimes rostrate apex, sometimes with needle-like extension, less frequently broadly clavate, ellipsoid or ovoid, with thin, smooth walls. Trama of lamellae not amyloid or dextrinoid. Clamp-connections present.

Habitat & distribution— On decaying knopper galls on *Quercus robur* acorn cups. Only known from the type-locality at Ridderkerk.

Collection examined. THE NETHERLANDS: prov. Zuid-Holland, Ridderkerk, Huys ten Donck, 13 July 1998, on knopper gall, also including specimens obtained from subsequent fructification on the same galls, A. P. van den Berg & A. E. van den Berg-Blok (holotype, L).

Mycena cecidiophila has a number of characters which would place it in sect. *Sacchariferae*, in particular the type of pileipellis with acanthocyst terminal elements and amyloid spores. However, all members of this section have well-differentiated cheilocystidia (Desjardin, 1995), with the exception of *M. incarnativelum* Desjardin. More important is the fact that our species does not have amyloid or dextrinoid trama, which is considered an essential feature of sect. *Sacchariferae* (Desjardin, 1995; Maas Geesteranus, 1983; Maas Geesteranus & de Meyer, 1997, 1998). The combination of warty elements in the pileipellis, amyloid spores, absence of cheilocystidia, 4-spored basidia, and negative Melzer-reaction of the lamellar trama does not fit any other section in the classification of Maas Geesteranus (1992). The absence of cheilocystidia suggests a place in sect. *Radiatae*, but in that section

the species are medium-sized, with a centrally squamulose pileus and smooth elements in the pileipellis. A new section is therefore proposed here to accommodate our new species:

Mycena* section *Cecidiophilae*, *sect. nov.

Basidiomata statura parva. Sporae amyloideae. Cheilo- vel pleurocystidia nulla. Trama lamellarum iodi haud reagentia. Pileipellis a elementatibus inflatis verrucosis constituitis. Caulocystidia conicoidea, glabra.

Holotypus: *Mycena cecidiophila* v.d. Berg, v.d. Berg-Blok, Noordel. & Uljé.

Fruit-bodies small. Spores amyloid. Cheilo- and pleurocystidia absent. Lamellar trama not amyloid. Pileipellis a cutis of inflated, warted elements. Caulocystidia conical, smooth.

Holotype: *Mycena cecidiophila* v.d. Berg, v.d. Berg-Blok, Noordel. & Uljé.

The type locality at the private 'Huys ten Donck' estate is renowned for its mycoflora. To date nearly 500 species have been recorded, many of which are included in the Red List of endangered macrofungi in the Netherlands (Arnolds & Kuypers, 1996). A variety of (primarily deciduous) old trees and shrubs grows on a rich clayey soil. Only a limited number of visitors is allowed access and maintenance is 'fungus-friendly'. A local working group of the Dutch Mycological Society (Working Group Oud-Beijerland) has been organising more or less regular forays to update the old records, during one of which our find was collected. The galls were at least one year old, embedded in litter under various shrubs, and soaking wet due to a period of continuous damp weather. After collecting the galls the fruit-bodies soon collapsed and turned brownish.

In the type locality several knopper galls bearing 1 to 3 fruit-bodies were found. Return visits yielded a few more specimens. Most remarkably, they seemed to be associated exclusively with this type of gall. Some small twigs among the galls carried *M. adscendens*, but not a single instance of mixed occurrence was noted. This suggests that the substrate might be typical for this species.

If the new species were truly confined to the knopper gall substrate, it would be a rare species in nature. Knopper galls appear as irregular outgrowths of acorn cups of *Quercus robur* or *Q. petraea*. They are the result of an infection by the agamic generation of the gall wasp *Andricus quercuscalicis* (Burgsd.). To accommodate the sexual generation, the life cycle of this organism requires a nearby second host (*Q. cerris* L.), which is far less common (planted in parks and lanes). This restricts the occurrence of this type of gall and consequently that of any putatively associated fungus species. In the type locality a few *Q. cerris* trees are indeed present.

To our surprise it was easy to grow more fruit-bodies on the galls by keeping them embedded in soaked humus in a simple transparent container with small holes at a moderately lit spot at home at temperatures around 17°C. Within days after collection a first flush of new fruit-bodies was obtained. Unfortunately the true significance of our find was not immediately recognised and most of the early material was not retained. Occasional basidiocarps continued to appear for several months. At first the only other visibly recognisable fungus species was *Ciboria batschiana* which is specific to the interior tissue of old acorns. Fructification seemed critically dependent on keeping the galls and the humus bed soaked. A later collection of galls from the same site also produced occasional fruit-bodies. On forays at other estates more knopper galls were found, suggesting a general abundance of this type of plant disease during the previous fruiting season [knopper gall occurrence shows strong

yearly fluctuation, according to H. A. van der Aa (pers. comm.)). However, no specimens of the new *Mycena* species were found. Galls collected at these sites and kept under the same conditions as described above did not develop any fruit-bodies. After two months only a few fruit-bodies of *M. galopus* developed on the additional gall collections.

ACKNOWLEDGEMENTS

The authors wish to thank several people who made this publication possible. In chronological order: Ms. Grieta Fransen-Batenburg as the driving force behind the regular visits to the locality, Ms. Joke Anema-Balke, who detected the first fruit-body during our foray and Dr. R. A. Maas Geesteranus, whose expertise was indispensable in deciding to describe our find as a new species.

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