ISSN 1211-8788 *Acta Musei Moraviae, Scientiae biologicae* (Brno)
88: 75–79, 2003

Marasmius querceus Britzelm. (Basidiomycetes, Tricholomataceae) found for the second time in Moravia (Czech Republic)

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ANTONÍN V. 2003: *Marasmius querceus* Britzelm. (Basidiomycetes, Tricholomataceae) found for the second time in Moravia (Czech Republic). *Acta Musei Moraviae, Scientiae biologicae* (Brno) **88:** 75–79. – A new find of *Marasmius querceus* Britzelm. and its detailed macroscopic and microscopic descriptions are published. This fungus, collected in a thermophilous forest stand with oak and hornbeam in the Hádecká planinka National Nature Reserve near Brno (Moravian Karst Landscape Protected Area), was found for the second time in Moravia (Czech Republic) after more than forty years.

Key words. Basidiomycetes, Tricholomataceae, *Marasmius querceus*, Czech Republic, Moravia, Moravian Karst

Introduction

During a mycological excursion to the Hádecká planinka National Nature Reserve (Moravian Karst Landscape Protected Area) near the city of Brno in the very fungus–rich autumn of 2001, a marasmioid fungus with a distinct garlic smell was found growing on dead oak leaves. It was identified as *Marasmius querceus* Britzelm., a rare fungus in the Czech Republic and the whole of Central Europe.

Microscopic features are described from material mounted in Melzer's reagent, Congo red and about 5% KOH. For the basidiospores the following factors are used: E (quotient of length and width in any one spore); Q (mean of E-values) and ∅ (average of length and width). Authors of fungal names are cited after KIRK & ANSELL (1992); colour abbreviations follow KORNERUP & WANSCHER (1983).

***Marasmius querceus* Britzelm.,** *Bot. Centralbl.* **68:** 7. 1896.
(Photograph, Figs 1–4)

Description of carpophores collected. Carpophores single, gregarious. Pileus 10–25 mm broad, convex when young, then low convex to applanate with inflexed to slightly reflexed margin, undulate when old, with obtuse, then at most slightly depressed centre, hygrophanous, translucently striate at margin only, glabrous, smooth or slightly rugulose to sulcate at margin, beige brownish (4A3–4), slightly darker at centre. Lamellae moderately close, L=20–23, l=3, slightly emarginate and ±broadly adnate to a pseudocollarium, slightly ventricose, not or slightly intervenose, pale cream (paler than 4A2), then pale ochraceous (5A2), with concolorous, entire, smooth edge. Stipe 40–65×1.5–2.5 mm, cylindrical, straight, slightly broadened at apex, with straight to



***Marasmius querceus*:** Moravian Karst, Hádecká planinka, 1 Nov. 2001, Antonín 01.340, BRNM 666586, photo V. Antonín.

curved, slightly broadened to subbulbose (up to 5 mm) base, non-insititious, entirely white pubescent-tomentose, brownish at apex (5A2), through brown (7E6) to dark brown (7F6) towards base; with brown basal tomentum. Context whitish in pileus, ±concolorous with surface in stipe, with a distinct garlic smell and a mild, but after short mastication pungent, garlic taste.

Basidiospores 8.0–10(–11)×3.5–5.0 µm, ∅=9.3×4.4 µm, E=1.9–2.4, Q=2.2, pip-shaped, subellipsoid, thin-walled, smooth, hyaline. Basidia 27–30×7.5–9.0 µm, 4- or rarely 2-spored, clavate, clamped. Basidioles 15–33×2.5–8.0 µm, clavate, cylindrical, subfusoid, clamped. Cheilocystidia absent; irregular basidioloid elements present at lamella edge. Pleurocystidia absent. Trama hyphae cylindrical or subinflated, thin-walled, branched, clamped, 2.0–10(–12) µm wide. Pileipellis a hymeniderm of 19–38×9.0–23 µm large, clavate, broadly clavate, pyriform, subfusoid, sometimes lobate or branched, sometimes subrostrate, thin- to slightly thick-walled, smooth, clamped cells

with pale ochraceous yellow walls in KOH. Pileocystidia absent. Stipitipellis a cutis of cylindrical, parallel, slightly thick-walled, clamped, up to 5.0 µm wide hyphae; medulla hyphae thin-walled, up to 10 µm wide. Caulocystidia numerous, 10–110×6.0–9.0 µm, ± cylindrical, thin- to mostly slightly thick-walled, irregular, sometimes branched or with lateral projections, clamped. Neither basidiospores nor any tissues dextrinoid or amyloid.

Biology. On dead leaves of *Quercus*.

Material studied. Locality: PLA Moravian Karst, Brno-Líšeň, Hádecká planinka National Nature Reserve, alt. 400–420 m, 1 Nov. 2001 leg. V. Antonín, R. Dvořáková and A. Vágner, det. V. Antonín (VA 01.340, BRNM 666586).

Remarks. *Marasmius querceus* is characterised by having slender carpophores with a straight and rather long, pubescent-tomentose stipe, a distinct garlic smell and taste, a hymeniform pileipellis, non-dextrinoid hyphae, rather long and narrow basidiospores and lacking cheilo- and pleurocystidia; it also grows on fallen oak leaves. This species is also known under the name *Marasmius prasiosmus* (Fr.: Fr.) Fr. However, this name is not acceptable because in its original sense (Fries 1818, 1821) it represents a different species. For more details of problems in nomenclature concerning the names *Agaricus prasiosmus/A. porreus* see also Antonín & Noordeloos (1996).

This species is usually compared with *Marasmius alliaceus* (Jacq.: Fr.) Fr. as a very similar fungus with similar smell. However, the very common *M. alliaceus* has a differently coloured pileus (grey, then grey-brownish or brown, later pallescent to dirty white), broader, (8.0–)9.0–12(–14.5)×5.0–7.5(–9.0) µm large basidiospores, well-developed, fusoid, cylindrical to sublageniform cheilocystidia and grows on decaying stems and twigs of *Fagus*, very rarely also *Carpinus*.

Marasmius querceus is widely distributed in Europe and also occurs in northern Africa (Antonín & Noordeloos 1993, Malençon & Bertault 1975). It grows on the fallen leaves of many *Quercus* species. It has also been occasionally collected on *Carpinus* and *Fagus* leaves. It is more common in northern and western Europe. In the Czech Republic, it has been collected in three localities, two in Bohemia and one in Moravia (Antonín & Noordeloos 1993). The only previous Moravian record was noted from the vicinity of the village of Lipůvka (Dubová hora Hill) near Brno, by F. Šmarda in October and November 1960 (BRNM 314016 and 314020). Therefore, our find represents the fourth for the Czech Republic and the second for Moravia. In Moravia, it was collected for the first time after an interval of more than forty years. The locality in the Hádecká planinka National Nature Reserve consists of a thermophilous forest stand with oaks and hornbeams on a calcareous plateau. Numerous groups of *M. querceus* were growing in several places there.

Acknowledgements

The author wishes to thank Jan W. Jongepier (Veselí nad Moravou, Czech Republic) for correcting his English manuscript.

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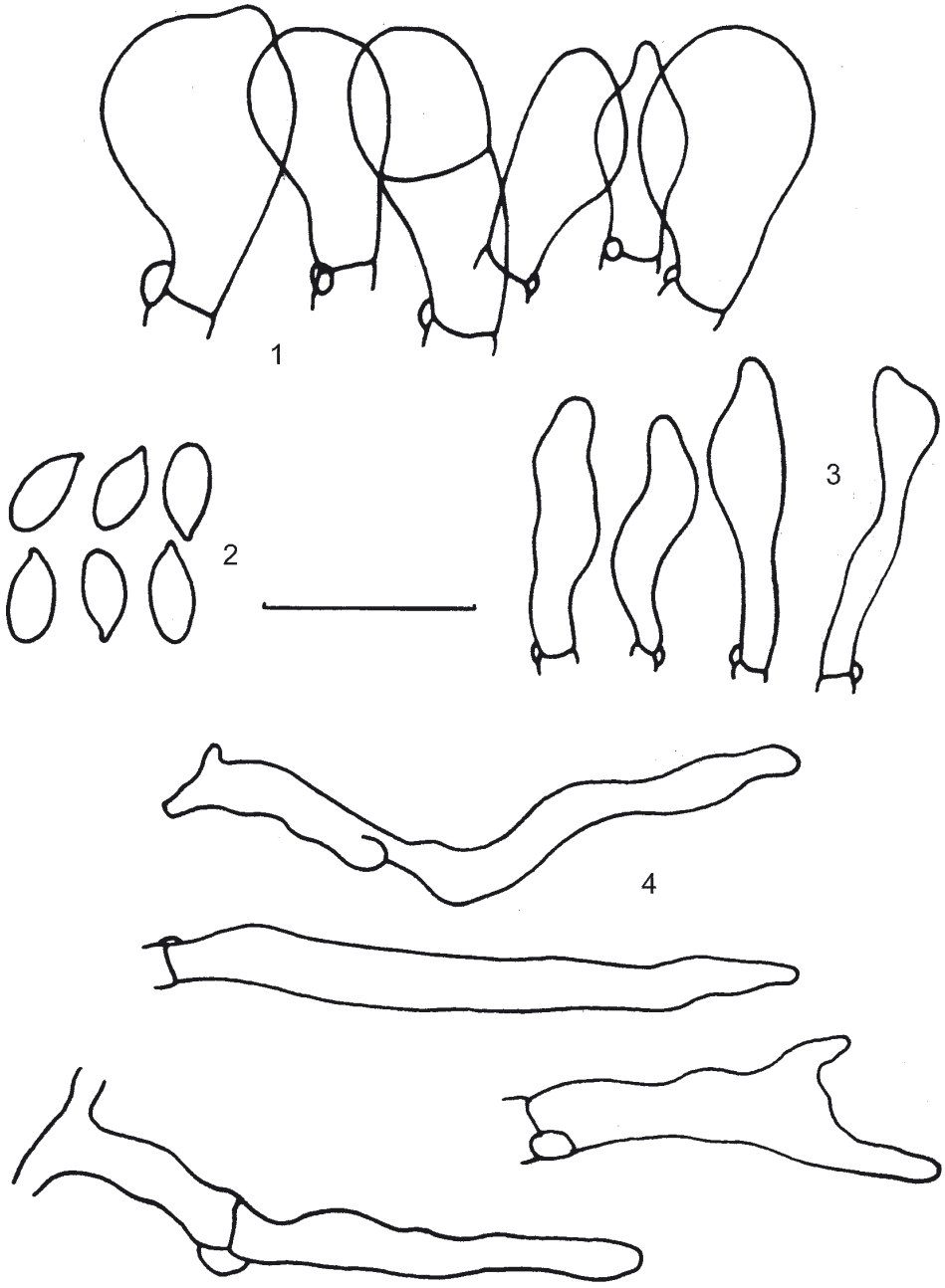
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Figs 1–4. *Marasmius querceus* (PLA Moravian Karst, Hádecká planinka National Nature Reserve): 1 – pileipellis cells, 2 – basidiospores, 3 – elements on lamella edge, 4 – caulocystidia. Scale bar=20µm.