

A little-known taxon: *Russula flavispora*

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Introduction

Russula flavispora Romagn. is a rather uncommon taxon; to our knowledge only a few mycologists have reported on it (Cazzoli 2004, Galli 1996, Reumaux 1996, Romagnesi 1967, Sarnari, 1984, 1998).

Searching the database at <http://www.basidiochecklist.info/> (Legon & Henrici 2009) on May the 7th 2013 we noticed it wasn't included in the *Checklist of the British and Irish Basidiomycota*. Neither is it recorded as British in the excellent monograph *The Genus Russula in Great Britain* (Kibby 2011).

Since the temperate climate of northern Italy, where we found the taxon in question, differs little from that of Great Britain and the "partner-trees" of *R. flavispora* are widespread in both Italy and the UK, we suppose it has been neglected or misidentified. Future field researches will be likely to lead to its identification in the UK also.

Materials and methods

The description of the macromorphological characters is derived from the observation of fresh specimens. The microscopic elements like spores, cystidia and the structure of the epicutis have been analysed by a Zeiss Axiostar light microscope, on samples mounted in distilled water, Congo Red or sulphovanillin. Authors of fungal names are quoted according to *Index Fungorum* (see Webpage 1 in references).

Description

Pileus: 60–130 mm across, more or less infundibuliform; cuticle hardly peelable, dry, mat, smooth or somewhat rugose at centre, entirely white or with brownish areas. Margin at first incurved, then straight, not striate (Fig. 1).

Lamellae: moderately distant, adnexed to subdecurrent, cream-ochre to yellow, sometimes with a glaucous hue as in *R. chloroides*.

Stipe: 50–70 x 15–33 mm, cylindrical, sometimes tapering at base, hard and compact, white,

becoming brownish with age, sometimes with a glaucous tinge in the upper part.

Context: firm, at first white, then browning. **Taste** acrid everywhere. **Smell** complex, unpleasant, fruity and fishy.

Dates found: 03/10/2011, 24/10/2011, 29/10/2011.

Ecology: specimens collected in a broadleaved wood (*Carpinus betulus*, *Ostrya carpinifolia*, *Quercus robur*) in the municipality of Valdagno, northern Italy.

Spore print: light yellow (IVb according to Romagnesi's colour chart).

Spores: 7.2–8.5 (-9) x 6.2–7 (-7.6) μm , $Q_m = 1.25$, $V_m = 196 \mu\text{m}^3$, obovoid, verrucose, with obtuse and scarcely amyloid 0.5–1 μm high warts; a small number joined to form short crests (Fig. 2).

Basidia: 42–63 x 10–11.5 μm , clavate, 4-spored with sterigmata up to 10 μm long.

Cystidia: 8–8.5 μm thick, infrequent, long.

Pileipellis: made up of very long, cylindrical dermatocystidia, 3.2–5.5 μm thick and long hairs, provided with a few septa, 2.4–3.0 μm wide (Fig. 3). No fuchsinophile hyphae. The subpellis consists of interwoven hyphae, sometimes abruptly inflated.

Discussion

In the field *Russula flavispora* looks very much like *R. chloroides*, *R. delica*, or *R. pallidispora* and that is probably why it has been neglected or poorly researched.

Its macroscopic distinctive features are: medium to large size, white or white-brownish basidiomata, pileus almost always cushion-like or infundibuliform, cream-ochre to yellow lamellae, acrid taste and unpleasant odour.

Russula pallidispora is almost its twin, but it has a cream spore-print and mild context, features which distinguish it easily, while *R. delica* and *R. chloroides* have whitish lamellae producing a whitish spore print; very different from the cream-ochre or yellow lamellae of *R. flavispora* which produce a yellow spore print.

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Fig. 1. *Russula flavispora* in broad-leaved woods of *Carpinus betulus*, *Ostrya carpinifolia*, *Quercus robur*, in the municipality of Valdagno, northern Italy. Photo © Ottorino Chiarello.

Misidentifications with *Lactarius bertillonii* (Neuhoff ex Z. Schaef.) Bon, *L. glaucescens* Crossl., *L. piperatus* (L.) Pers. and *L. vellereus* (Fr.) Fr. can be avoided mainly by verifying the presence/absence of milk.

With regard to its distribution, *R. flavispora* occurs certainly in Italy (Cazzoli 2004, Galli 1996, Sarnari 1984, 1998, our collections), in France (Reumaux 1996, Romagnesi 1967), but also in Germany, Belgium, Switzerland, Austria, Slovenia and Croatia (according to Wikimedia, see Webpage 4), while it hasn't yet been recorded in Great Britain (Kibby, 2011) or in Nordic countries like Denmark, Sweden, Finland and Norway (Knudsen & Vesterholt, 2008). We have no data about its presence in other Mediterranean and North African countries.

Very nice pictures of *R. flavispora* can also be found on the internet (see Webpages 2 and 3).

Acknowledgment

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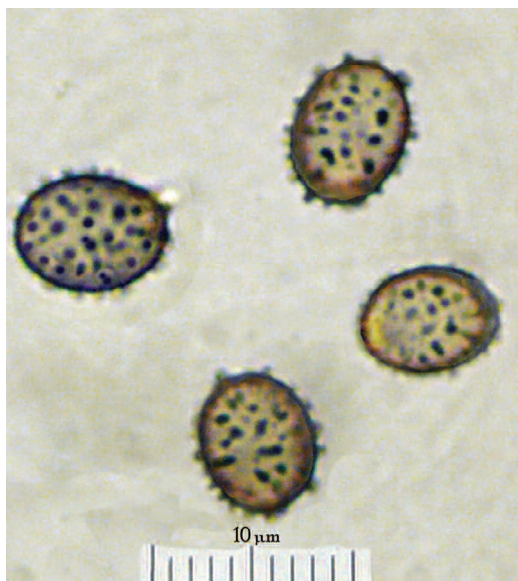


Fig. 2. Spores of *R. flavispora* showing the isolated warts with only a few forming short crests. Photo © Ottorino Chiarello.

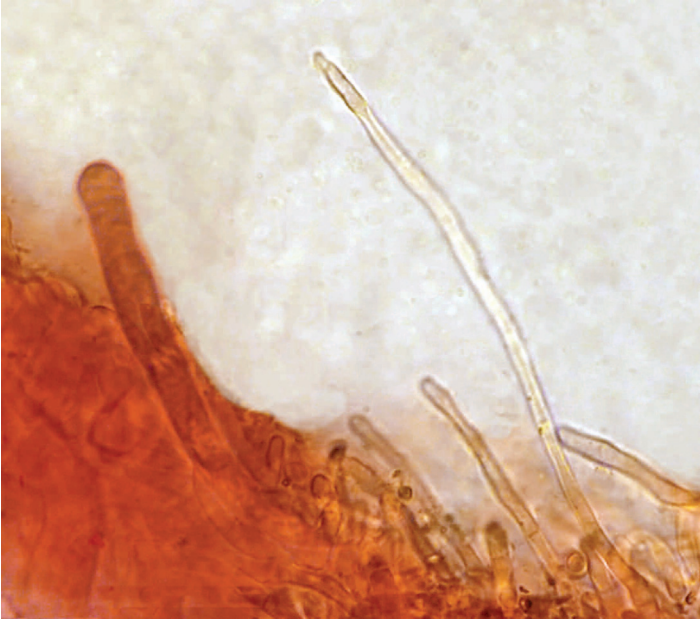


Fig. 3. Dermatomycetium (left) and terminal, hair-like hyphae (right) from the pileipellis of *R. flavispora*. Photo © Ottorino Chiarello.

References

Cazzoli, P. (2004). Approccio al Genere *Russula*. *Rivista di Micologia* 2: 99–113.

Galli, R. (1996). *Le Russule*. Edinatura. Milano.

Kibby, G. (2011). *The Genus Russula in Great Britain*. Available from www.nhbs.com.

Knudsen, H. & Vesterholt, J. [Eds.]. (2008). *Funga Nordica*. Nordsvamp. Copenhagen.

Legon, N.W. & Henrici, A. *Checklist of the British and Irish Basidiomycota*. Web pages at <http://www.basidiochecklist.info/> accessed on 07.05.2013.

Reumaux, P. (1996). *Russules rares ou méconnues*. Ed. Fédération Mycologique Dauphiné-Savoie.

Romagnesi, H. (1967). *Les Russules d'Europe et d'Afrique du Nord*. Bordas. Paris.

Sarnari, M. (1984). Le Plorantinae a spore colorate. *Bollettino del Gruppo Micologico G. Bresadola* (3-4) : 117–124.

Sarnari, M. (1998). *Monografia illustrata del genere Russula in Europa*. Tomo I. A.M.B.

3. http://www.mtsn.tn.it/russulalesnews/tx_photos.asp?index=5534 (accessed 16.05.2013).

4. http://commons.wikimedia.org/wiki/File:Distrib-ution_of_Russula_flavispora.svg (accessed 16.05.2013).

Web Pages

1. <http://www.indexfungorum.org/Names/AuthorsOfFungalNames.asp> (accessed 16.05.2013).

2. <http://www.funghiitaliani.it/index.php?showtopic=39074> (accessed 16.05.2013).