RUSSULA FAUSTIANA: a rare species of beech woods

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A recent finding of *Russula faustiana* in northern Italy (Monte Grappa, Comune di Bassano del Grappa (VI), Veneto) in a beechwood located at about 700 m. a.s.l. led me to research its European distribution on the Internet: I have learned it is common in middle Italy where it grows in association with *Fagus sylvatica* and has also been found in Nordic countries like Denmark (Vesterholt & Petersen 1996) and Sweden (Kaufmann 2007).

Searching the database at http://www.basidiochecklist.info/ (Legon & Henrici 2009) on December the 27th 2009, I noticed that *Russula faustiana* was not included in the *Checklist of the British and Irish Basidiomycota*. I was very surprised. First of all, Denmark and Sweden are two countries geographically not far from the British Isles and their climatic conditions are not very different, at least in summer and autumn; secondly beeches have been growing in Great Britain for thousands of years (Dierschke 1985), especially in south-east England and the midlands, and what is more they have been planted in the past by man in many places in the U.K and nowadays form pure or mixed stands.

I drafted this article believing that *R. faustiana* must occur in britain. Geoffrey Kibby contacted me to say that this is indeed the case; it has recently been found in Kew Gardens and in Kent and is included in an online update to the checklist. So, my description won't lead to a new British record but I hope it will still be useful in spreading awareness of *R. faustiana* in Britain.

Given these considerations I here describe the macro-, microscopical and ecological features of my collection. Spores were mounted in Melzer's reagent to highlight their amyloid ornamentation; cuticular scalps were mounted in sulfovanillin or directly in water to analyse respectively the dermatocystidia and the pileipellis hyphae.

The mean values and standard deviations of the length, width and Q of thirty spores are reported along with the extreme values in brackets.

Description

Pileus: 40–80 mm across, at first convex, later convex-applanate, whitish or ivory with barely visible greenish shades, mat. Margin obtuse, not striate (Fig. 1).

Lamellae: moderately crowded, adnate, sometimes forked, fragile, cream with entire concolorous edge.

Stipe: 30–65 x 10–20 mm, cylindrical, straight, lightly rugose, entirely white or with scattered ocher-brownish spots.

Context: white, unchanging. Taste mild, a little bit acrid in the lamellae of young fruitbodies. Smell faint, insignificant.

Date : August 2009.

Ecology: on calcareous soil in a wood composed mostly of beeches (*Fagus sylvatica*) and some scattered spruce (*Picea abies*).

Spore print: II b or II c (Romagnesi's colour chart).

Spores: (5.4-) 6.6 ± 0.5 (–7.7) x (4.5–) 5.7 ± 0.4 (–6.5) µm ; Q = (1–) 1.2 ± 0.1 (–1.4). They are ellipsoidal, covered with warts and ridges sometimes joined by faint connectives (Fig. 2).

Basidia: 42–60 x 9–11 µm, slightly clavate, 4-spored.

Cystidia: 55–85 x 9–14 µm, numerous, fusiform or cylindroid with obtuse, capitulate or pointed apex.

Pileipellis: made up of lots of cylindroid dermatocystidia provided with an obtuse or mostly a subcapitate or papillate apex, 3.4–8.4 µm thick; the hyphae are articulated, often branched with subglobose or elongated elements. The terminal hyphae are up to 33 µm long and 7 µm wide on average (Fig. 3).

Observations

According to Mauro Sarnari's systematic

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arrangement (1998) the subsection *Griseinae* is made up of twenty two taxa many sharing common macro- and microscopical features such as the colour of the basidiomata and lamellae, the shape of dermatocystidia, spore size and ornamentation. The pileus colour varies from white to green, bluish, often mixed.

In my experience white Griseinae like *R. galochroa* (Fr.) Fr., *R. galochroides* Sarnari, *R. subterfurcata* Romagnesi and *R. faustiana* Sarnari are decidedly rarer than the remaining ones.

All of these look very much alike. According to Sarnari's (1997, 1998) and Donelli's (2003) surveys, *R. galochroa* differs from *R. faustiana* in the ornamentation of its spores, its ecological features and the presence of delicate purple shades on the pileus, while *R. subterfurcata* and *R. galochroides* have smaller basidiomata. Also *R. galochroides* typically grows in the Mediterranean scrub amid plants such as *Quercus ilex*, *Quercus suber*, *Arbutus unedo* and *Erica arborea*.

In my opinion, on account of the very subtle differences occurring among taxa gravitating around *R. galochroa* and *R. faustiana* and their rarity, further investigations are necessary to assess whether all of them are truly good species or some are merely varieties or forms of one and the same entity.

Fig. 1. *Russula faustiana*, collected at Monte Grappa, Northern Italy. Photograph © Eliseo Battistin.

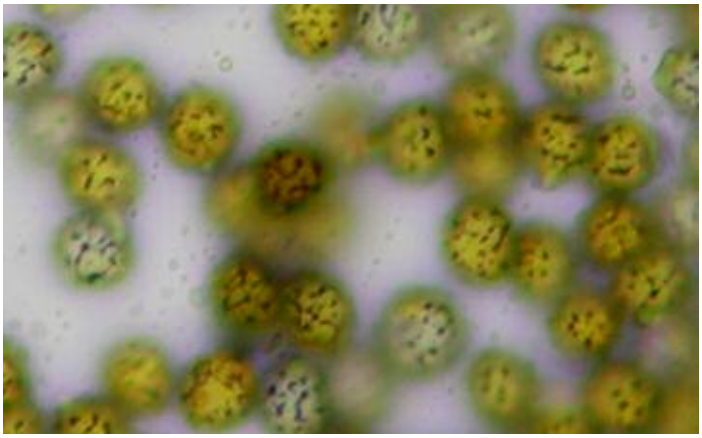

Fig. 2. Spores of *R. faustiana* with warts connected by short ridges and occasional connectives. Photo © E. Battistin.

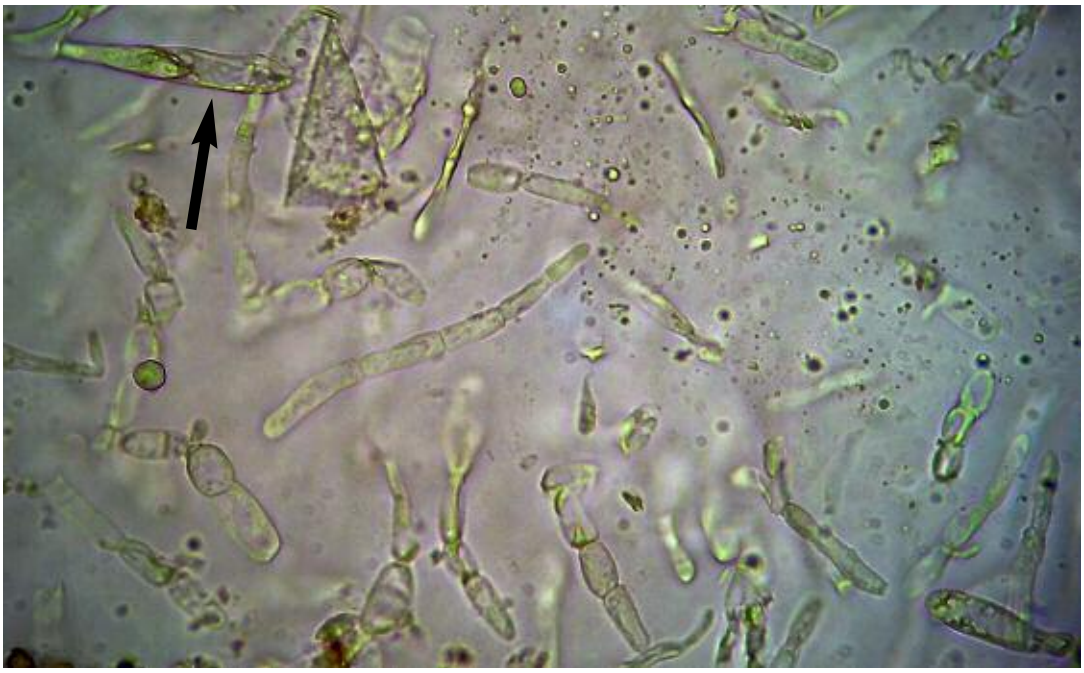

Fig. 3. Pileus cuticle of *R. faustiana* mounted in water, showing the multi-septate hyphae with elongate, pointed to sometimes rounded terminal elements. One of the clavate-fusiform dermatocystidia is arrowed. Photo © E. Battistin.

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