

## An albinotic form of *Lactarius vietus* and an annulate form of *Psathyrella multipedata*

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The author has distinguished new infraspecific taxa in the *Russulales* and *Agaricales* orders. Two new forms are proposed: *Lactarius vietus* f. *decolorans* and *Psathyrella multipedata* f. *annulata*. Their descriptions are completed with photographs, showing the differentiating characters clearly.

**Key words:** new taxa, *Lactarius*, *Psathyrella*, albinotic form, annulate form.

Hagara L. (2014): Albinotická forma *Lactarius vietus* a prsteňová forma *Psathyrella multipedata*. – Czech Mycol. 66(1): 99–105.

Autor rozlíšil nové poddruhové taxóny z radov *Russulales* a *Agaricales*. Sú navrhnuté dve nové formy: *Lactarius vietus* f. *decolorans* a *Psathyrella multipedata* f. *annulata*. Ich opisy sú doplnené fotografiami, ktoré dobre ukazujú rozlišovacie znaky.

### INTRODUCTION

During mycological field work in Slovakia, the author found some taxa which differed in basidiocarp colour or morphology from the typical forms, whereas anatomical characters were identical with the typical forms of these taxa. Although such forms are already known to many mycologists, they have not yet been validly described.

New forms differ from the typical taxa either by morphological characters or in pileipellis pigmentation; the latter deviation may be considered an albinotic form. Albinotic forms are present in many agaric taxa; they are sometimes described as new taxa (e.g. *Amanita ochraceomaculata* f. *albidopileata* Neville & Poumarat, *Mycena erubescens* f. *alba* Robich, *Xerocomus armeniacus* f. *luteolus* H. Engel & Antonín), or are recognized but without a formal description – e.g. albinotic forms of *Tubaria* (Antonín et al. 2012), *Russula amoenolens* (Romagnesi 1967), and white or grey forms of *Volvopluteus gloiocephalus* (Justo et al. 2011). According to the author's observations, albinotic basidiocarps are produced by a different mycelium than the coloured ones. Therefore, such forms can be described as new taxon.

In this paper, two newly distinguished forms are described based on distinct differences in basidiocarp morphology or coloration. Their differentiating characters are mentioned and discussed.

#### MATERIAL AND METHODS

The collected material was macroscopically described when fresh, photographed, and microscopically studied in Melzer's reagent using a Meopta DD 37 BM light microscope. For basidiospores, the Q factor (mean of quotients of length and width in any one spore) is used. At least 20 mature basidiospores were measured in each holotype collection.

Herbarium specimens are preserved in the herbarium of the Botanical Dept. of the Slovak National Museum, Bratislava (BRA).

#### RESULTS AND DISCUSSION

##### ***Lactarius vietus* f. *decolorans* Hagara, f. nov.**

Fig. 1

(Mycobank MB 808879)

*Diagnosis latina.* A forma typica pileo pallido, plerumque cremeo differt.

*Holotypus.* Slovacia, distr. Senica, Šaštín-Stráže, in *Polytricho commune* in sylva humida cum *Betula pendula* et *Pinus sylvestris*, 1.4 km situ merid. a basilica, 18 September 2009, leg. L. Hagara (holotypus in herbario BRA CR20701 asservatur).

*Description.* Pileus 60–85 mm wide, centrally depressed, without umbo, with glutinous, azonate, whitish to pale cream pileipellis. Lamellae 4–5 mm broad, close, whitish. Stipe 35–50 × 12–14 mm, cylindrical, distinctly shorter than pileus diameter, hollow, whitish. Context (especially in stipe) rather fragile, whitish, with slight unspecific smell and sharp taste. Milk rich, thick, white, acrid, becoming olivaceous tinged when drying up on bruised lamellae. Spore print pale cream. Basidiospores 7.2–9.3 × 5.9–7.2 μm, widely ellipsoid, sometimes almost globose, with sparse, 0.4–0.7 μm high warts; most of the warts connected by thin anastomoses forming an incomplete reticulum.

*Notes.* This taxon differs from the typical form in having a pale, usually cream coloured pileipellis. Basidiocarps of the typical form, possessing a vinaceous brownish, concentrically zonate pileus, were collected at the same locality on the same day (see Fig. 2).

Neither Neuhoff (1956: 160) nor Heilmann-Clausen et al. (1998: 58) mention white or pale cream forms in their monographs. Numerous collections of almost pure white or only slightly pigmented basidiocarps are published from Italy (Basso 1999: 126). The presence of basidiocarps with dull white coloured pilei is



**Fig. 1.** *Lactarius vietus* f. *decolorans*, Slovakia, Šaštín-Stráže, 1.4 km S of the church, in *Polytrichum commune* in humid forest with *Betula pendula* and *Pinus sylvestris*, 18 Sept. 2009, leg. L. Hagara (holotype BRA CR20701). Photo L. Hagara.



**Fig. 2.** *Lactarius vietus* f. *vietus*, Slovakia, Šaštín-Stráže, 1.4 km S of the church, in *Polytrichum commune* in humid forest with *Betula pendula* and *Pinus sylvestris*, 18 Sept. 2009, leg. L. Hagara. Photo L. Hagara.





**Fig. 3.** *Psathyrella multipedata* f. *annulata*, Slovakia, Marianka, in detritus of *Alnus glutinosa*, 25 Sept. 1994, leg. L. Hagara (holotype BRA CR20702, isotype BRNM 761869). Photo L. Hagara.



**Fig. 4.** *Psathyrella multipedata* f. *annulata*, Slovakia, Leľa, 10 Sept. 1995, leg. L. Hagara, (BRA CR20703). Photo L. Hagara.

also mentioned in the original diagnosis (“Variat colore incarnate, livido et albido”, Fries 1838: 344).

**Material observed**

Slovakia. Šaštín-Stráže (Senica District), 1.4 km S of the church, in *Polytrichum commune* in humid forest with *Betula pendula* and *Pinus sylvestris*, 18 Sept. 2009, leg. L. Hagara (holotype BRA CR20701).

***Psathyrella multipedata* f. *annulata* Hagara, f. nov.**

Figs. 3–5

(Mycobank MB 808880)

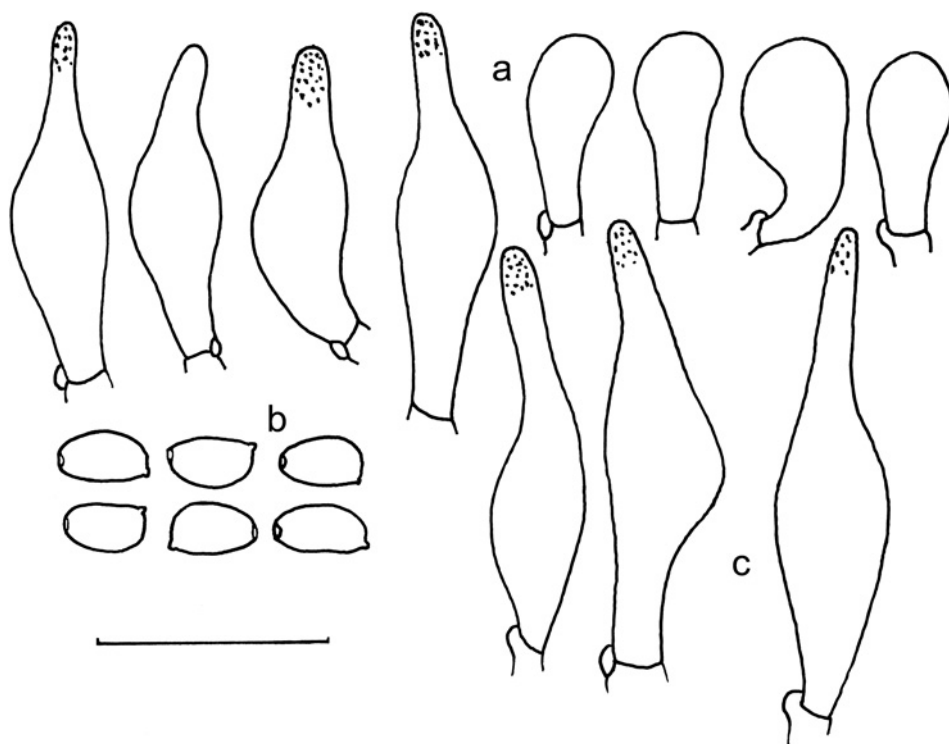
Diagnosis latina. A forma typica annulo angusto praesento differt.

Holotypus. Slovakia, distr. Malacky, Marianka, in detritu *Alni glutinosae*, 25 September 1994, leg. L. Hagara (holotypus in herbario BRA CR20702 asservatur).

Description of young basidiocarps. Growing in ± rich clusters. Single pilei 7–18 mm broad, hemispherical, usually with small umbo, smooth, hygrophanous, reddish brown when moist, becoming brownish when drying out, with permanent red-brown tinge at least at centre; hung with almost denticulate or spiny, white velum at margin when young. Lamellae up to 3.5 mm broad, fusoid, whitish and covered with white cobweb-like velum when young, then grey brownish to dark brown, with fimbriate edge. Stipe (20)40–70 × (1.5)2–3.5 mm, hollow, lustrous, whitish, striate in approx. upper third, farinaceous at apex, finely flocculose in lower parts, in basal quarter – below the annulus – covered with thin, spiny squamules which are oriented upwards, with whitish basal tomentum. Annulus located in lower part of stipe, narrow, projecting horizontally. Context thin and brownish in pileus, white and fragile in stipe, without smell and with mild taste. Basidiospores (fresh) 6.5–7.3 × 4.4–4.8 µm, ellipsoid, adaxially flattened, with small apiculus and distinct germ pore, red-brown in Melzer’s reagent. Cheilocystidia 30–40 × 7–9 µm (up to 70 × 12 µm in typical form), lageniform.

Notes. This taxon differs from the typical form in having a narrow annulus between stipe base and centre (mostly at 1/4–1/3 of stipe length above the base) in young basidiocarps. The typical form, *Psathyrella multipedata* f. *multipedata* is characterised by a poorly developed velum, noticeable usually only in primordial stage, when it connects the pileus margin with the stipe forming a cobweb (cf. Örstadius & Knudsen 2012: 714). It is interesting that formation of a ring in *P. multipedata* was not described by Kits van Waveren (1985: 263). Only rarely the velum may be rich, forming a typical annulus being present only in young basidiocarps and disappearing during maturing.

The annulate form is also known from other localities; besides the holotype specimen, a collection from Leľa (S Slovakia) is documented. The form has also been observed at other sites in Slovakia, the Czech Republic (see below) and in other European countries.



**Fig. 5.** *Psathyrella multipedata* f. *annulata* (holotype BRA CR20702, isotype BRNM 761869): **a** – cheilocystidia, **b** – basidiospores, **c** – pleurocystidia. Scale bar = 20 µm. Del. V. Antonín.

#### Material observed

Slovakia. Marianka (Malacky District), in detritus of *Alnus glutinosa*, 25 Sept. 1994, leg. L. Hagara (holotype BRA CR20702, isotype BRNM 761869). – Leľa (Nové Zámky District), 10 Sept. 1995, leg. L. Hagara (BRA CR 20703). – Tepličky (Hlohovec District), mixed forest (*Fagus*, *Alnus*, *Corylus*, *Salix*, *Acer*), 20 Sept. 2013, leg. M. Ochodnický (specimen documented only photographically, see [http://www.nahuby.sk/obrazok\\_detail.php?obrazok\\_id=417361](http://www.nahuby.sk/obrazok_detail.php?obrazok_id=417361)). – Chtelnica (Piešťany District), locality named Vitek, 230 m a.s.l., fringe of *Fagus/Alnus* forest, 25 Nov. 2012, leg. J. Komár (specimen documented only photographically, see [http://www.nahuby.sk/obrazok\\_detail.php?obrazok\\_id=364865](http://www.nahuby.sk/obrazok_detail.php?obrazok_id=364865)).

Czech Republic. Frýdek-Místek, Lískovec part, 9 Oct. 2005, leg. D. Matýšek (specimen documented only photographically, see [http://www.nahuby.sk/obrazok\\_detail.php?obrazok\\_id=22204](http://www.nahuby.sk/obrazok_detail.php?obrazok_id=22204)).

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