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On the identity of Velenovský's *Cantharellus peltigerae*

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Abstract — The application of the name *Cantharellus peltigerae*, which was introduced by Velenovský in 1920 (not 1922 as commonly cited), has been uncertain. A spirit bottle containing original material has now been located in PRC, and found to contain two species of *Arrhenia*, *A. peltigerina* and *A*. cfr. *griseopallida*. The first grows on old thalli of *Peltigera* species, and the second on soil. The element on *Peltigera* is designated as lectotype here to fix Velenovský´s name as a later taxonomic synonym of *A. peltigerina.* Original material of *Mycena praecox*, also described by Velenovský in 1920, was said to be present in the same spirit bottle, but no *Mycena* was to be found inside.

Key words —agaric, *Basidiomycota,* lectotypification, lichenicolous fungi

Introduction

While browsing through Pilát's (1948) compilation and Latin translation of the new taxa of Velenovský's České Houby during an interlude at a meeting of the Governing Committee of the European Mycological Association in Prague in January 2005, the attention of one of us (D.L.H.) was caught by an entry for *Cantharellus peltigerae.* This name was first published by Velenovský (1920a: 270), although it is cited only from a later publication (Velenovský 1922: 911) by both Petrak (1929: 332) and Pilát (1948: 16). Both Velenovský's accounts are in Czech. In the monograph of cantharelloid fungi by Corner (1966), this name only featured in the index (op. cit.: 250) as "(1922), incert. sed." with no discussion or mention in the main text of the work. Although the mushroom

was stated to grow on old thalli of *Peltigera*, the name is not treated in the principle works on lichenicolous fungi (i.e. Vouaux 1912–14, Keissler 1930, Clauzade et al. 1989). The name was, however, mentioned in the catalogue of the lichenicolous of the Czech Republic by Kocourková (2000: 140) who reported that Z. Pouzar had examined a Czech specimen collected in 1930 by Pilát kept under this name (PRM 655552); in this the basidiomes arose from plant debris under a *Peltigera* thallus, and Pouzar asserted that "the fungus does not belong to *Cantharellus*" and that the type material in PRC needed to be studied.

Suspecting from Pilát's Latin description that this might represent the species known as *Arrhenia peltigerina*, at the request of D.L.H., J.K. managed to locate the original material on which this name was based in a preservative liquid in a polythene bottle in the collections of Charles University (Universitatis Carolinae) in Prague (PRC). This note reports the results of our examination of this material and fixes its application.

Taxonomy

Cantharellus peltigerae Velen., Věda Přírodní 1: 270 (1920).

Type: Czech Republic: Prague, Chuchle, on old thalli of *Peltigera* sp., April 1910, *O. Reisner* (PRC 336[a] [parte cum *Peltigera*] – ***lectotypus hic designatus***).

= ***Arrhenia peltigerina*** (Peck) Redhead et al., Mycotaxon 83: 48 (2002).

≡ *Agaricus peltigerinus* Peck, Ann. Rep. N. Y. St. Mus. Nat. Hist. 30: 38 (1878) ["1876"].

No dried type or authentic material under Velenovský's name could be located in PRC and PRM, and the only material he evidently preserved was that in spirit now maintained in PRC in a polythene bottle numbered 336. This bottle was also listed in http://katalogy.nmcz/opac/houby/index.php as containing material of *Mycena praecox*, a species described as new by Velenovský (1920b: 325). However, there is actually a second bottle numbered as "336b" labeled as *M. praecox* so we presume that labeled "336" should be "336a".

Velenovský (1920a) mentioned four sites for the species in what is now the Czech Republic, all in groups on old *Peltigera* thalli: (a) Prague, Chuchle, April 1910, *O. Reisner*; (b) Prague, Hvězda, April, *O. Zvěřinová*; (c) Jince–Zdice, April, *F.A. Novák*; and (d) near Habr at Říčany, May 1920, *J. Velenovský*. According to a label of Velenovský's glued to the card file, the specimen in PRC 336a is from "Chuchle, iv.1920" with no data as to the collector. No other information to link the numerous small mushrooms in the bottle to particular sites was found. We separated the individual specimens onto filter paper, examined them by routine microscopical methods, and found that there were two species present. One was growing directly on and firmly attached to aged *Peltigera* thallus fragments (most probably of *P. rufescens*), and the other arose directly from soil between mosses. We assume that the one on the *Peltigera* is that from Chuchle, and that "1910" was mistranscribed as "1920" on the index card.

The material on the *Peltigera* agreed in all habit and microscopical details we were able to measure, with *Arrhenia peltigerina* (Garnier-Delcourt 2008, Barrasa & Rico unpubl.). Thus, the studied specimens of *A. peltigerina* (PRC 336[a] p.p.; i.e. the parts on *Peltigera*) have: both intracellular and slightly extracellular encrusted pigment in the hyphae of the pileipellis; spores that are non-amyloid, ellipsoid, apiculate, and 8–9 × 4.5–6 µm; basidia that are 4-spored, 30–35 × 5–6 µm; and clamp connections in all tissues.

The specimens apparently arising directly from soil, however, were poorly preserved, but some microscopic details could be determined. This species had: clamp connections, a zebroid encrusted pigment in the pileipellis, spores that were non-amyloid, ellipsoid to pyriform or sublacrymoid measuring 9–11 × 6–6.5 µm; and 2–4-spored basidia. These features show that this is a different *Arrhenia* species, most likely *A. griseopallida* (Desm.) Watling 1989 (cfr. Kuyper 1995: 86, as *Omphalina griseopallida*). That species is considered to be a saprobe and not lichenicolous or lichenized; reports of its being associated with algae (e.g. Hawksworth 1972) are likely to be mis-identifications for species of *Lichenomphalia*.

No evidence of any *Mycena* was found in PRC 336[a] nor was any *Mycena* found in PRC 336b by Kubičková in 1978 according to a revision label, the database, and a card file in PRC; there is, however, no evidence that she studied bottle PRC 336[a]. We speculated whether the *A.* cfr. *griseopallida* might have been what Velenovský (1920b: 325) described as the new species *M. praecox,* but there are important differences from the protologue. In particular, it occurred on wet parts of trunks and stumps of deciduous trees, the pileus recalled a long blunt truncated cone, which was black-grey with translucent lamellae when wet and also 2 cm wide, and cystidia and coralloid hyphae were very common in the pileipellis. No cystidia or coralloid hyphae whatever occur in *Arrhenia* species. This *Mycena* was compared and then synonymized with *M. abramsii* (Murrill) Murrill 1916 by Maas Geesteranus (1980: 167), but only on the basis of the published description, as he did not locate any original material. Superb colour macro- and microscopic illustrations of *M. abramsii* are provided by Robich (2007: 217–222). We can only conclude that the original material of *M. praecox* in PRC 336 had been removed from the bottle and separated out as PRC 336b subsequent to its original labeling, and then lost or destroyed.

As all four of the specimens of *Cantharellus peltigerae* cited by Velenovský (1920a, 1922) were growing on (not between) *Peltigera* thalli and as their features agree closely with his descriptions, we treat this name as a later taxonomic synonym of *A. peltigerina* and here lectotypify it by the basidiomes on the *Peltigera* thalli in PRC 336[a], which we assume to have been the syntype from "Chuchle" with the year of collection wrongly transcribed on the label glued to the index card.

How material of *A.* cfr. *griseopallida* came to be in the same spirit bottle as the *Cantharellus peltigerae* material and what became of that of *Mycena praecox* are two mysteries that must remain unsolved at this time. In the light of this experience, we do, however, strongly recommend that type and authentic or other key material of mushrooms be preserved as dried herbarium specimens where they can be kept in well-labeled packets – and not several together (or even singly) in spirit in bottles bearing only a reference number.

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Literature cited

Clauzade G, Diederich P, Roux C. 1989. Nelikeniĝintaj fungoj likenloĝaj: illustrita determinilibro. Bulletin de la Société linnéenne de Provence, numéro special 1: 1–142.

Corner EJH. 1966. A Monograph of Cantharelloid Fungi. [Annals of Botany Memoirs No. 2.] Oxford University Press: Oxford. 255 pp.

Garnier-Delcourt M. 2008. *Arrhenia peltigerina*, un basidiomycète lichénicole nouveau pour la mycoflore luxembourgeoise (*Basidiomycota*, *Agaricales*, *Tricholomataceae*. Bulletin Société des Naturalistes Luxembourgeois 109: 3–7.

Hawksworth DL. 1972. The natural history of Slapton Ley Nature Reserve IV. Lichens. Field Studies 4: 535–578.

Keissler KA. 1930. Flechtenparasiten. Dr L. Rabenhorst's Kryptogamen-Flora von Deutschland, Österreich und der Schweiz 8: i–ix, 1–712.

Kocourková J. 2000. Lichenicolous fungi of the Czech Republic (the first commented checklist). Acta Musei Nationalis Pragae, Series B, Historia Naturalis 55: 59–169.

Kuyper TW. 1995. *Omphalina* Quél. In: Bas C, Kuyper TW, Noordeloos ME, Vellinga EC (eds), Flora Agaricina Neerlandica. Vol. 3. Rotterdam: A.A.Balkema, pp. 78–88.

Maas Geesteranus RA. 1980. Studies in *Mycena* 1–4. Proceedings, Koninklijke Nederlandse Akademie van Wetenschappen C 83: 167–174.

Petrak F. 1929. XII. Verzeichnis der neuen Arten, Varietäten, Formen, Namen und wichtigsten Synonyme der Pilze 1922–1928. Just's Botanischer Jarhresbericht 57: 291–697.

Pilát A. 1948. Velenovskýi species novae basidiomycetum. [Opera Botanica Čechica No.6.] Societas Botanica Čechoslovaca: Prague. 301 pp.

Robich G. 2007. *Mycena* d'Europa. Associazione Micologica de Bresadola: Trento. 728 pp.

Velenovský J. 1920a. Různé zprávy mykologické. Věda Přírodní 1: 270–271.

Velenovský J. 1920b. České Houby. Vols 1–2. Česká Botanická Společnost: Prague. 424 pp.

Velenovský J. 1922. České Houby. Vols 4–5. Česká Botanická Společnost: Prague. 217 pp.

Vouaux L. 1912–14. Synopsis des champignons parasites de lichens. Bulletin de la Société Mycologique de France 28: 177–256; 29: 33–128, 399–494; 30: 135–198, 281–329.