Pseudobaeospora basii, a new species described from Slovakia

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Pseudobaeospora basii is described on the basis of specimens from the Biele Karpaty Mts. in Slovakia. Typical characters of this taxon are almost exclusively pale brown tints of basidiocarps, pileipellis palisoderm composed of chains of inflated cells and various shapes of cheilocystidia and caulocystidia. Delimitation of the species is based on comparison with original material of similar taxa, e.g. *P. mutabilis* and *P. laguncularis*.

Keywords: fungi, Agaricales, taxonomy

In Europe, 14 species of the genus *Pseudobaeospora* Singer (Agaricales) are accepted (Bas, 2002; Adamčík & Bas, 2002). With the exception of *P. pillodii* (Quél.) Wasser and *P. oligophylla* (Singer) Singer the others have been recently described (Bas, 1996; Bas & al., 1997; Bas, 1998; Bas & Krieglsteiner, 1998; Bas, 2002; Bas & al., 2002; Adamčík & Bas, 2002). The only known *Pseudobaeospora* species in Slovakia up to now is *P. mutabilis* Bas & Adamčík from the Borská nížina Lowland (Adamčík & Bas, 2002). Therefore it is surprising that our specimens from Biele Karpaty Mts. in Slovakia are different not only from *P. mutabilis*, but from the other European taxa of the genus *Pseudobaeospora*.

Material and methods

The macrocharacters were observed in fresh material. Colours of basidiocarps were compared with Kornerup & Wanscher (1978) and expressed by symbols in parenthesis. The microcharacter structures were mainly observed in dried material using a light microscope

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with oil immersion lens. Fragments of lamellae, stipe and pileipellis were examined in 5% KOH, Melzer's reagent, and a solution of Congo Red in ammonia (1 ml of 25% ammonia dissolved in filtrated solution of 1.5 g of Congo Red and 50 ml of distilled water). Extreme values of microcharacters were estimated as 5 and 95 percentiles of 30 measurements. Spore size refers to thick-walled spores only. The abbreviations of herbaria are cited in accordance with Index Herbariorum (Holmgren & al., 1990).

Pseudobaeospora basii Adamčík & Ripková, **sp. nov.**–Figs. 1, 2.

Pileus 4–11(– 15) mm latus, primo campanulatus vel late conicus, deinde plano-convexus aut applanatus, subumbonatus, cinereo-aurantiacus, fulvus ad obscure pallidulum, in media parte argillaceus, aut melleus usque aereus, superficies laevigatus, haud lucidus. Stipes 25–47 × 1–1.5 mm, filiformis, fere dilucide curvatus, colore primo camellino vel melleo-flavo, dein pallide luteo-fusco, apice cacao-fusco, basi subtiliter concolore-fibrillosus, apice subtiliter concolore-granulosus. Lamellae 1–2 mm latae, L = 17–22, l = 1, adnexae vel emarginatae cum decurrentibus dentibus, fulvae leviter violascentes.

Basidia 4-sporigera. Sporae 3–4.2 × 2.7–3.4 µm (in medio 3.5 × 3 µm), Q = 1.06–1.25 (in medio Q= 1.16), late ellipsoideae, primo tenuiter tunicatae et inamyloideae, dein crasse tunicatae et dextrinoideae, incoloratae, levigatae. Cheilocystidia 15–29 × 3–7.5 µm, (in medio 22 × 5 µm), variabilia, clavata, subcapitata, attenuata, ellipsoidea, utriformia, lageniformia, lanceolata, cylindrica, saepe cum nodulis lateralibus. Pleurocystidia nulla. Pileipellis palisodermaticus (suprapellae desunt), cellulae terminales erectae 22–43 × 7–16 µm (mediocris 29.5 × 10.5 µm), ellipsoideae, clavatae, subcapitatae, utriformae, fragmentum pileipellis in 5% KOH colore luteo-fusco. Caulocystidia 26.5–57 × 7–15 µm (in medio 39.5 × 10.5 µm), variabilia, vulgo clavata, subcapitata, rarius cylindrica, anguste lageniformia aut in media parte constricta, saepe cum dilucidis nodulis lateralibus. Fibulae praesentes.

Holotypus hic designatus: Slovakia, Biele Karpaty Mts., on a meadow ca 1 km W from Vršatec hill, SSW exposition, alt. ca 780 m, on limestone, 1.10.2002, S. Adamčík, K. Devánová, I. Kautmanová, V. Kautman, V. Kučera, S. Ripková (SAV).

Etymology. – in honour of C. Bas, an author of the monograph of the genus *Pseudobaeospora* in Europe.

Macrocharacters:

Pileus 4–11(– 15) mm wide, at first campanulate or broadly conical, in adult plano-convex to applanate, subumbonate, slightly hygrophanous, when dry greyish orange (5B4), sandy (5C4) to dark blond (5D4), at the centre usually darker to clay (5D5) or honey yellow (5D6), when wet dark blond (5D4), at the centre bronze (5E5); surface smooth, matt; margin indistinctly striate in adult. – Stipe 25–47 × 1–1.5 mm, slender, filiform, usually distinctly curved, darker than pileus – at first camel (6D4) or honey yellow (5D6), soon fawn brown (7E4), towards lamellae cacao (6E6), surface at base finely

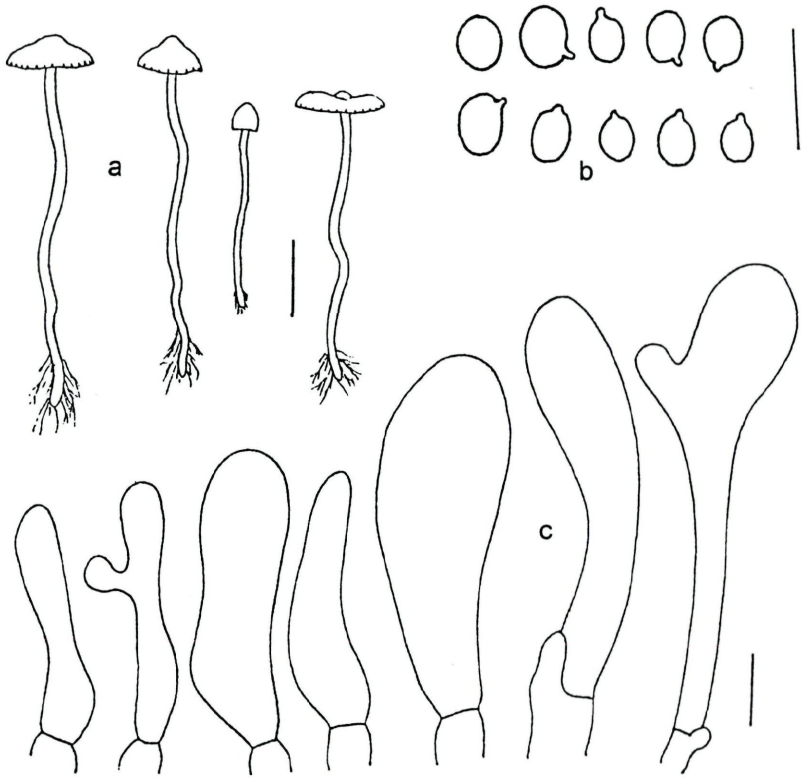

Fig. 1. Habitus and microcharacters of *Pseudobaeospora basii*. – a. Basidiocarps. – b. Spores. – c. Caulocystidia. – Scale bars: a = 1 cm; b, c = 10 µm.

concolored-fibrillose, and towards lamellae finely concoloured-granulose. – Lamellae 1–2 mm wide, L = 17–22, l = 1, adnexed or emarginate with decurrent tooth, sandy (5C4) with indistinct violaceous tint, edge entire, concolorous. – Flesh with similar colours as pileus or stipe, elastic, without specific smell.

Microcharacters:

Basidia 4-spored, 15.5–25 × 4–5 µm (average 21 × 4.5 µm), sclerified basidia scattered, with thick, dextrinoid wall. – Spores 3–4.2 × 2.7–3.4 µm (av. 3.5 × 3 µm), Q = 1.06–1.25 (av. Q= 1.16), broadly ellipsoid, at first thin-walled and inamyloid, later thick-walled and dextrinoid, colourless, smooth, with small apiculus. – Cheilocystidia 15–29 × 3–7.5 µm (av. 22 × 5 µm), versiform, clavate, subcapitate, attenuate, cylindrical, ellipsoid, utriform, lageniform, lanceolate, frequently with lateral nodes, thin-walled and colourless. – Pleurocystidia absent. – Pileipellis palisoderm,

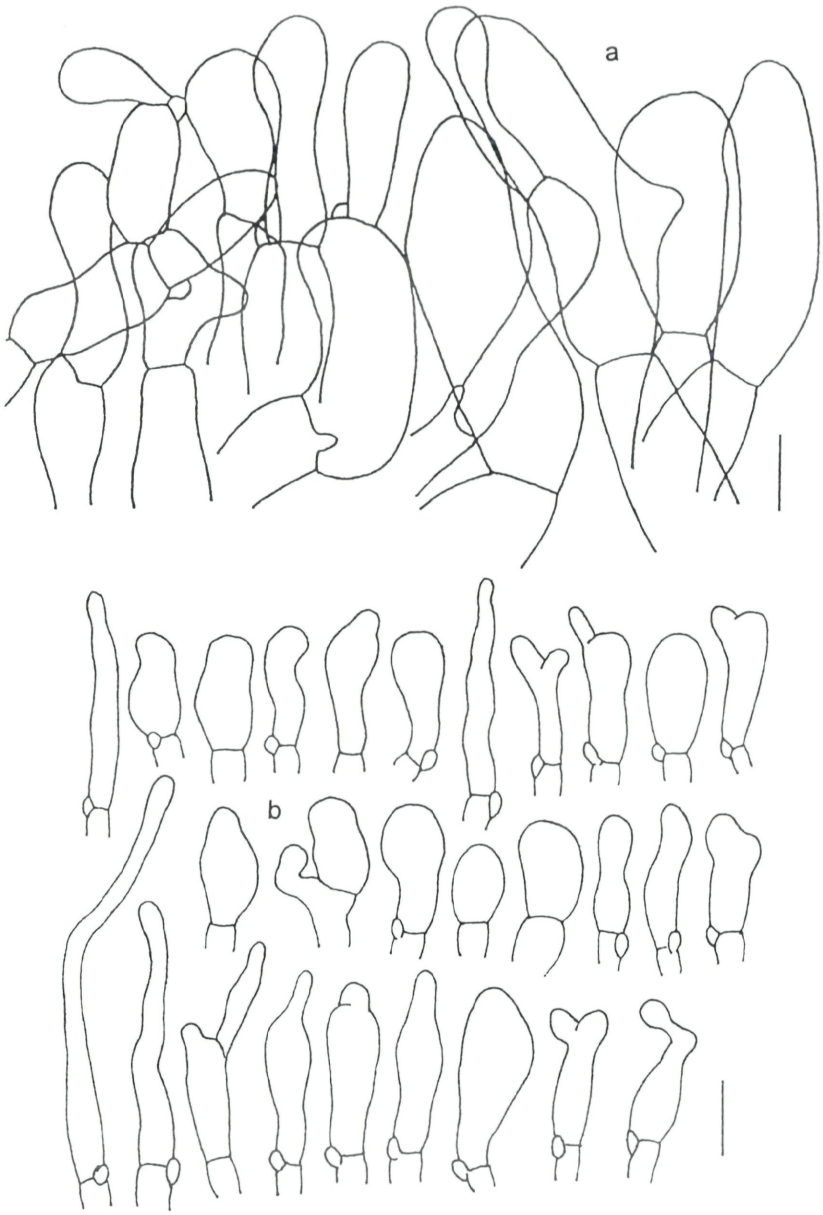

Fig. 2. Microcharacters of *Pseudobaeospora basii*. – a. Pileipellis. – b. Cheilocystidia. – Scale bars = 10 µm.

without suprapellis, composed of erect chains of inflated cells; terminal cells 22–43 × 7–16 µm (av. 29.5 × 10.5 µm), ellipsoid, clavate, subcapitate, utriform, smooth, thin walled and colourless. A fragment of the pileipellis in 5% KOH observed under microscope turning brownish yellow. Hyphae of trama broadly ellipsoid to subglobose, 10–15 µm wide. – Caulocystidia 26.5–57 × 7–15 µm (av. 39.5 × 10.5 µm), versiform, mostly clavate, subcapitate, less frequently cylindrical, narrowly lageniform or with median constriction, often with distinct lateral nodes, thin-walled and colourless, towards lamellae more frequent. – Clamp connections present.

Specimens examined: Slovakia, Biele Karpaty Mts., on a meadow with *Brachypodium pinnatum*, *Hypericum perforatum*, *Laser trilobum*, *Asarum europaeum*, *Fragaria moschata*, *Vicia cracca* agg., *Ranunculus acris*, *Achillea millefolium*, *Senecio ovatus* and *Festuca rubra*, cca 1 km W from Vršatec hill, SSW exposition, alt. ca 780 m, on limestone, 17.9.2002, leg. S. Adamčík, K. Devánová, I. Kautmanová, V. Kautman, V. Kučera, S. Ripková (SAV). Ibidem, 1.10.2002, leg. S. Adamčík, V. Kučera. The site is located in quadrate 6974b of Central European mapping scheme (Niklfeld, 1971).

Delimitation of the species

Pseudobaeospora basii Adamčík & Ripková is characterised by pale brown colour of basidiocarps, only on the lamellae with indistinct violaceous tint, relatively sparse lamellae, pileipellis turning brownish yellow in 5% KOH, cheilocystidia and caulocystidia of various shapes, pileipellis palisoderm (without suprapellis) composed of erect chains of inflated cells (terminal cells are ellipsoid, clavate, subcapitate or utriform), and broadly ellipsoid, relatively small spores.

Pseudobaeospora lagunculariss Bas is similar to *P. basii* in its pale brown colour of basidiocarps, number of lamellae, yellow brown discoloration of pileipellis in 5% KOH, spore shape and size, and presence of cheilocystidia. However, the colour of the pileipellis is darker and with purple or violaceous tints, that have not been observed in *P. basii*. According to the original description and personal observation of the type material (K(M)8107, Leedal, 8.10.1991), the most distinct differences have been found in the structure of the pileipellis and shape of cheilocystidia and caulocystidia. Dominant shape of cheilocystidia of *P. lagunculariss* is narrowly lageniform (25–43 × 3.5–7 µm). *Pseudobaeospora basii* has very various shapes of cheilocystidia (clavate, subcapitate, attenuate, cylindrical, ellipsoid, utriform, lageniform, lanceolate, frequently with lateral nodes), but narrowly lageniform cheilocystidia are less frequent. We observed (in solution of Congo red) also incrustations on terminal parts of cheilocystidia and caulocystidia of *P. lagunculariss*, which have not

been observed in *P. basii*. Typical variety of *P. laguncularis* has a suprapellis composed of sparse, long, cylindrical or attenuate terminal cells. *P. laguncularis* var. *denudata* Bas lacks a suprapellis. Both varieties of *P. laguncularis* differ from *P. basii* in shape of caulocystidia, which are mostly narrowly cylindrical (17.5–65 × 3–5.5 µm) in the former species.

Similar structure of pileipellis, presence of cheilocystidia and indistinct reaction of pileipellis in KOH are typical characters for three other species: *P. pyrifera* Bas & L. G. Krieglst., *P. jamonii* Bas, Lalli & Lonati and *P. mutabilis* Bas & Adamčík. *Pseudobaeospora pyrifera* and *P. mutabilis* have distinctly violaceous coloured basidiocarps and broadly clavate cheilocystidia. *Pseudobaeospora jamonii* has also distinct violaceous or purple tints in the basidiocarps. It has similar cheilocystidia as *P. basii*, but it differs in forming a pileipellis with a distinct suprapellis composed of slender hyphae.

All known Slovakian specimens of *Pseudobaeospora* were collected on unfertilised grasslands in association with rare species of vascular plants and agaricoid fungi. The special character of this ecosystems could be the reason why Slovak species have not been reported from other countries yet.

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