

**PSEUDOBÆOSPORÆ LAVENDULAMELLATÆ**  
**A new species from Kerala, India**

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*Pseudobaeospora lavendulamellata* is described as new. It has been collected several times in Kerala, India. The species is characterised by a combination of relatively stout basidiocarps with violaceous colours, spore-size and the structure of the pileipellis, being a trichodermium turning pale bluish green in KOH.

During their study of agarics in Kerala the two last-named authors came across a remarkable white-spored species with predominantly violaceous basidiocarps. Initially they regarded it as an undescribed species of the genus *Hygrocybe* (Fr.) P. Kumm. During our combined revision of *Hygrocybe* in Kerala (Leelavathy et al., in press) the first author concluded that the collections did not belong to *Hygrocybe* in view of the crowded and thin lamellae, the short basidia and the presence of true cheilocystidia. Instead, they appear to belong to the little known genus *Pseudobaeospora* Singer, in particular because of the thick-walled, dextrinoid spores when mature. No description could be found in literature, matching the collections from Kerala. Consequently it is described here as a new species, *Pseudobaeospora lavendulamellata*.

***Pseudobaeospora lavendulamellata* Arnolds, Leelav. & Manim., spec. nov. — Fig. 1, Colour plate 4 (p. 447)**

Pileus 20–40 mm latus, convexus vel applanatus, primo violaceus, postea pallide brunneo-griseus, non-striatus. Lamellae adnexae, primo lavendulae, postea purpureo-griseae. Stipes 20–40 × 2–4 mm, e pileo concolor. Odor mitis, floralis. Sporae 3.5–4.5(–4.8) × 2.5–3.3(–4.0) μm, subglobosae vel ellipsoideae, initio tenuiter tunicatae et inamyloideae, demum pro parte crasse tunicatae et dextrinoideae, ope KOH 5% caeruleo-viridis. Basidia 23–30 × 5.0–8.0 μm, clavata, 4-sporigera. Acies lamellarum heterogenia. Cheilocystidia 20–30 × 5.0–8.0 μm, versiformia, tenuitunicata, pigmento purpureo-griseo contenta. Trama hymenophoralis subregularis. Pileipellis ope KOH 5% pallide viridis trichodermialis efformata, ex catenatis cellularum 20–62 × 3.0–9.5 μm; subpellis ex catenatis cellularum subglobosis 12–25 μm latis. Fibulae presentes.

Holotypus hic designatus: India, Kerala, Calicut University Campus, 22.VI.1994, *P. Manimohan M584* (L).

Basidiomata medium-sized. Pileus 20–40 mm, convex to almost applanate, frequently subumbonate, dull violet (K. & W. 17D3) to violet grey (17D2) at first, fading through shades of violaceous grey (12F3, 12E3, 12D3) and finally becoming pale greyish brown (6C3), appearing glabrous to the naked eye, finely tomentose under a hand-lens, not translucently striate; margin inflexed, becoming straight, initially entire, becoming fissile. Lamellae adnexed to emarginate, often with decurrent tooth, crowded, up to

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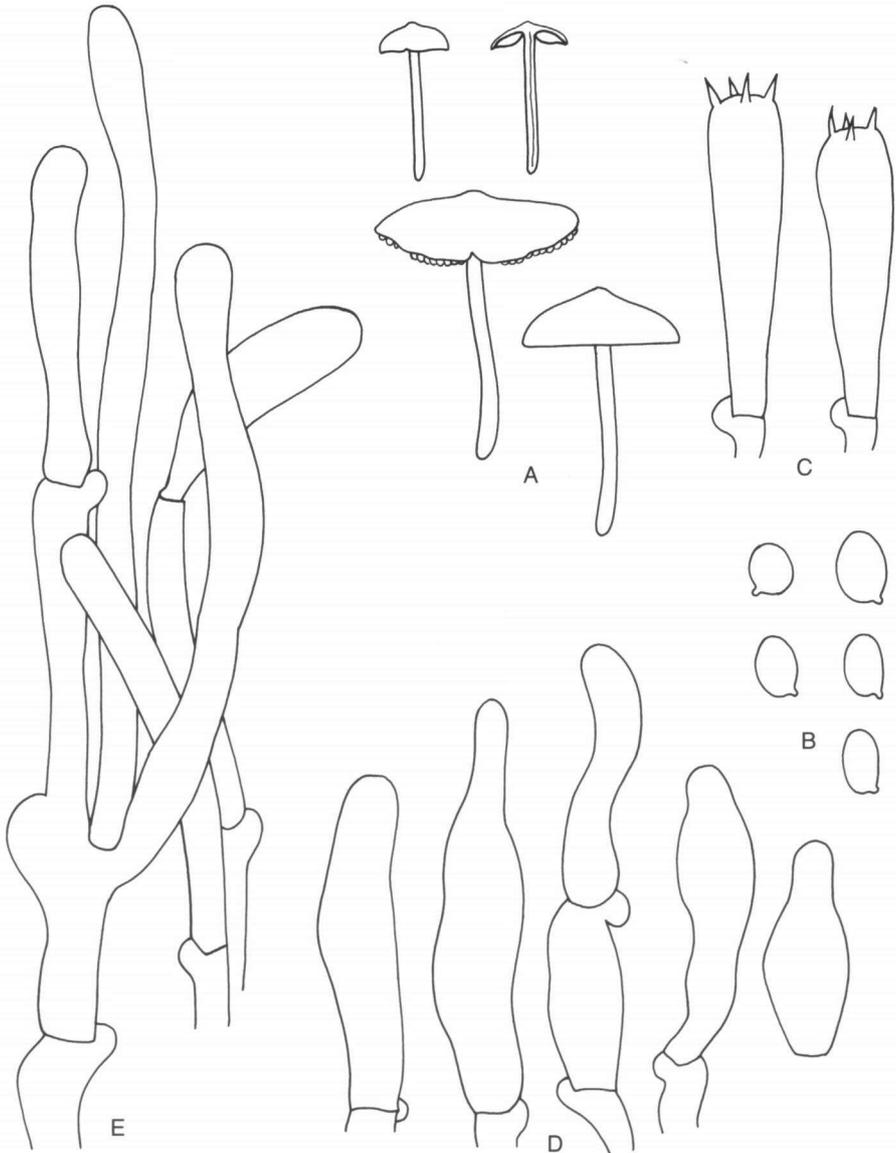


Fig. 1. *Pseudobaeospora lavendulamellata*. A. Habitat, natural size; B. spores  $\times 1500$ ; C. basidia  $\times 1000$ ; D. cheilocystidia  $\times 1000$ ; E. pileipellis near centre of pileus  $\times 1000$ .

6 mm wide, with lamellulae of 1–4 lengths, pale violet (pale lavender) (18B3) at first, becoming pale greyish purple (13B2), with entire, concolorous edge. Stipe 20–40  $\times$  2–4 mm, central, terete or compressed, almost equal, narrowly fistulose, concolorous to the pileus, finely pruinose, glabrescent. Context lilac, becoming dull white. Odour mild, pleasant, sweetish, reminding of flowers.

Spores [35/3/2] 3.5–4.5(–4.8) × 2.5–3.3(–4.0)  $\mu\text{m}$ , Q = (1.1–)1.2–1.4(–1.5), Q av.=1.3–1.35, broadly ellipsoid to ellipsoid, some subglobose, discolouring bluish green in KOH, mostly thin-walled and inamyloid, some becoming thick-walled and dextrinoid. Basidia 23–30 × 5.0–8.0  $\mu\text{m}$ , clavate, thin-walled, often with purplish grey intracellular pigment, 4-spored, with sterigmata up to 4.0  $\mu\text{m}$  long. Lamella-edge heterogeneous. Cheilocystidia 20–30 × 5.0–8.0  $\mu\text{m}$ , versiform: clavate, fusoid, lageniform or cylindrical, thin-walled, frequently with purplish grey intracellular pigment. Pleurocystidia none. Hymenophoral trama subregular, made of hyphae with short elements with rounded ends, 20–70 × 5.0–15  $\mu\text{m}$ , hyaline, thin-walled. Hyphae of pileitrampa similar to those of hymenophoral trama. Pileipellis a trichoderm of ascending to erect hyphae, with chains of subcylindrical cells, 3.0–9.5  $\mu\text{m}$  wide, thin-walled, with brownish intracellular pigment, discolouring rather pale bluish green in KOH 5%. Subpellis made up of chains of ellipsoid to subglobose cells, 12–25  $\mu\text{m}$  broad. Stipitipellis a cutis, frequently disrupted by trichodermial tufts of semi-erect hyphal ends; hyphae 2.0–8.0  $\mu\text{m}$  wide, thin-walled, with brownish intracellular pigment. Clamp-connections present in all parts of the basidiomata.

Habitat — On the ground, solitary or scattered, amongst litter in the shade of trees and shrubs, June–July.

*Specimens examined.* INDIA, Kerala State, Calicut University Campus, 25.VI.1991, *Leelavathy* F670; 22.VI.1994, *Manimohan* M584 (holotype); 27.VI.1994, *Manimohan* M584b; 27.VI.1997, *Leelavathy* F868b.

Within *Pseudobaeospora* this species is characterised by the combination of relatively large basidiocarps with beautiful, violet colours, the presence of cheilocystidia and the structure of the pileipellis being a trichoderm, discolouring rather pale bluish green in KOH. Variation in KOH-reaction on the pileipellis was described by Bas (2002) as a useful diagnostic character for species recognition within this genus.

One of the important generic characters of *Pseudobaeospora* is that the spores become thick-walled and dextrinoid when mature (Bas, 2002, 2003). In our material no thick-walled spores were found in the preparations of lamellae and therefore the dextrinoid reaction was overlooked at first. However, on the surface of the pileus some thick-walled, dextrinoid spores were found indeed, but also here the large majority of spores were thin-walled and non-dextrinoid. Also the spores discoloured bluish green in KOH, a feature not noticed by Bas (2002) in European species.

Recently, Bas (2002, 2003) published a revision of *Pseudobaeospora* in Europe. In his key he distinguished a group of species with the pileipellis “discolouring red, blue, green or yellow-green in KOH” and a group with the “pileipellis not discolouring or becoming pale yellowish, yellowish-brownish, reddish-brownish or greyish-greenish in KOH”. In *P. lavendulamellata* the pileipellis turns rather pale bluish green, so that its position in one of these groups is disputable. In the group with green pileipellis in KOH our species seems to come closest to *P. pyrifer* Bas & L.G. Krieglst., originally described from Germany. That species also combines relatively sturdy basidiocarps with violaceous colours and the presence of cheilocystidia, but it differs in smaller, globose spores (2.8–3.7 × 2.6–3.5  $\mu\text{m}$ ), broadly clavate cheilocystidia (10–30 × 4.0–13  $\mu\text{m}$ ) and the structure of the pileipellis with chains of inflated cells, 10–35(–42) × 6.0–17  $\mu\text{m}$  (Bas & Krieglsteiner, 1998).

In the group of species with non-discolouring pileipellis *P. lavendulamellata* comes closest to *P. jamonii* Bas, Lalli & Lonati, originally described from Italy. That species has also versiform cheilocystidia and spores about 3.0–4.0  $\mu\text{m}$  long, but the basidiocarps are smaller (pileus 5–15(–25) mm, stipe 15–25(–40)  $\times$  1–2 mm) with more reddish purplish colours, the spores are subglobose ( $Q = 1.05\text{--}1.20\text{(--}1.30)$ ,  $Q \text{ av.} = 1.10\text{--}1.15$ ) and the pileipellis is a cutis (Bas et al., 2002; Bas, 2003).

#### REFERENCES

- Bas, C. 2002. A reconnaissance of the genus *Pseudobaeospora* in Europe I. *Persoonia* 18: 115–122.
- Bas, C. 2003. A reconnaissance of the genus *Pseudobaeospora* in Europe II. *Persoonia* 18: 163–199.
- Bas, C. & L. G. Krieglsteiner. 1998. *Pseudobaeospora pyrifera*, a new species found in southern Germany and The Netherlands. *Z. Mykol.* 64: 203–206.
- Bas, C., G. Lalli & G. Lonati. 2002. *Pseudobaeospora jamonii*, una nuova specie in Italia. *Micol. e Veget. Medit.* 17: 31–35.
- Leelavathy, K.M, P. Manimohan & E.J.M. Arnolds. In press. The genus *Hygrocybe* in Kerala State, India. *Persoonia* 18.



Colour plate 1. *Phlebopus portentosus*. Coll. Jarvio 1150.



Colour plate 2. *Phylloboletellus chloephorus*. Coll. Bandala 3505.



Colour plate 3. *Chlorogaster dipterocarpi*, habitus and longitudinal section of the holotype (after a colour slide by Th. Læssøe).



Colour plate 4. *Pseudobaeospora lavendulamellata*, habitus (holotype).