

PIETRO VOTO

THE *PSEUDOBAEOSPORA* TAXA HOSTED IN THE HELSINKI HERBARIUM**Abstract**

Four materials, collected and deposited as *Pseudobaeospora* species by Finnish mycologists Harri Harmaja and Ilkka Kytövuori, were studied from Helsinki herbarium (H).

**Riassunto**

Vengono studiate quattro collezioni dell'erbario di Helsinki (H), raccolte e depositate come appartenenti al genere *Pseudobaeospora* dai micologi finlandesi Harri Harmaja e Ilkka Kytövuori.

**Key words:** *Basidiomycota*, *Pseudobaeospora subglobispora*, *Pseudobaeospora paulochroma*, taxonomy, Finland.

**Introduction**

A revision of four *Pseudobaeospora* collections deposited in the Helsinki herbarium revealed two very interesting materials. H6042322, representing a finding from Kytövuori provisionally named as *Ps. cf. albidula*, was found to be similar to *Ps. subglobispora* nom. prov. (Bas 2002, 2003); an analysis over the distribution of the colours of the basidiocarps among the various materials of *P. subglobispora* suggests that hardly more than one species can be isolated between them only on account of those colours while all other characters are fundamentally correspondent. All considered collections key out in the same place in my worldwide online key, [http://www.ameronlus.it/chiavi\\_micologia.php](http://www.ameronlus.it/chiavi_micologia.php). This species is therefore here formally described as a new species retaining the provisional name adopted by Bas.

H6055316 was also an interesting surprise as it resulted very similar to the rare *Ps. paulochroma*; it must dutifully be specified that when Harmaja, in 1979, collected this material and named it "*Pseudobaeospora* n. sp." he was stating the correct truth as *P. paulochroma* was then still unpublished.

The other two collections examined, H6055338, as "*Ps. cf. oligophylla*", and H6055327, as "*Pseudobaeospora* n. sp.", both by Harmaja, represent the nowadays sufficiently common and known *P. pillodii* (Quél.) Wasser; the former one with 4-spored basidia, the latter one with 2-spored basidia; the report of their revision is omitted.

**TAXONOMY**

***Pseudobaeospora subglobispora*** Voto spec. nov. [MB 827914]. Holotype: Finland, Varsinais-Suomi, Lohja rural commune, Torhola, Torholanluola, 29.VIII.1993, on mostly bare soil in forest, I. Kytövuori (93-513), H 6042322

= *Pseudobaeospora subglobispora* Bas nom. prov., *Persoonia* 18 (1): 122. 2002 (nom. inval., no diagnosis, no type designated);

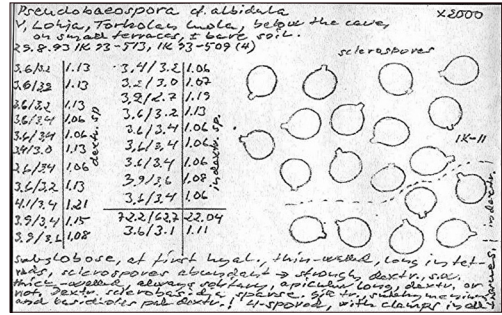
= *Pseudobaeospora subglobispora* Bas nom. prov., *Persoonia* 18 (2): 188. 2003 (nom. inval., no diagnosis, no type designated).

*Etymology:* the name refers to the almost globose spore shape.

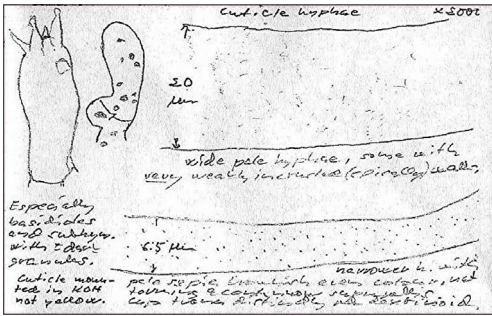
**Pileus** 2-8(12) mm broad, hemispherical to obtusely conical, finally plano-convex to flat, sometimes with small umbo, distinctly brownish purple to rather pale, lilacinous cream to pinkish grey, non-striate, felted to silky, aeriferous.



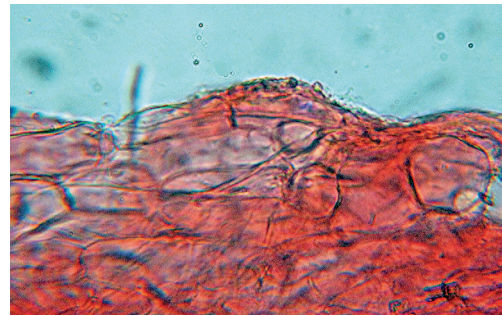
1. *Pseudobaeospora subglobispora*. Holotype H 6042322.  
Photo by Lisa Brancaleoni and Pietro Voto



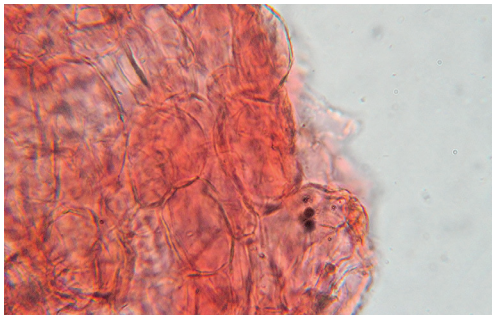
2. *P. subglobispora*. Original notes by Kytövuori 1 of 2.  
Reproduction by Lisa Brancaleoni and Pietro Voto



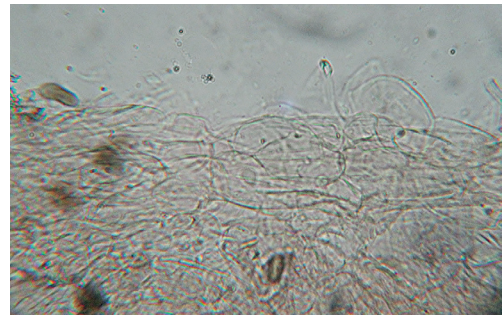
3. *P. subglobispora*. Original notes by Kytövuori 2 of 2.  
Reproduction by Lisa Brancaleoni and Pietro Voto



4. *P. subglobispora*. Pileipellis in Congo Red.  
Photo by Pietro Voto



5. *P. subglobispora*. Pileipellis in Congo Red.  
Photo by Pietro Voto



6. *P. subglobispora*. Pileipellis in KOH, photographed soon,  
before the original pinkish hues fade. Photo by Pietro Voto

**Lamellae** subdistant to somewhat crowded (L = 8-15, l = 0-3), emarginate to adnate, ventricose towards margin, anastomosing in a full mature specimen, brownish purple, cream, incarnate, pinkish beige, pale lilac, greyish pink, with entire edge.

**Stipe** 10-30(34) × 0.4-1 mm, somewhat sinuate, brownish purple, cream to pale brownish, lilacinous grey or greyish pink, subfibrillose, at apex pruinose-flocculose, at base with some whitish rhizoids.

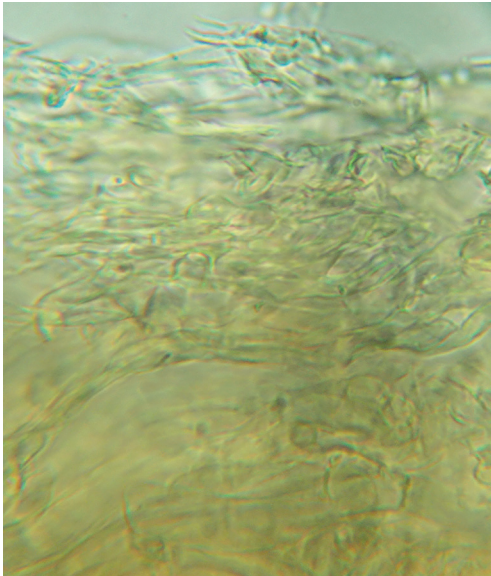
**Spores** (3.0)3.4-4.5(4.7) × (2.7)3.0-4.3 µm, Q = (1.00)1.05-1.15(1.25), average Q = 1.05-1.10, subglobose, rarely globose or broadly ellipsoid, apiculus large, at first thin-walled and non-amylloid, when fully mature thick-walled, congophilous, dextrinoid, strongly cyanophilous.



7. *Pseudobaeospora paulochroma*. H 6055316.  
Photo by Lisa Brancaleoni and Pietro Voto



8. *P. paulochroma*. Pileipellis in Congo Red.  
Photo by Pietro Voto



9. *P. paulochroma*. Pileipellis in KOH. Photo by Pietro Voto

**Basidia** 13-25 × 5.0-8.2 μm, 4-spored, rarely 2-spored, sometimes dextrinoid, congophilous sclerified basidia scattered. Subhymenium narrow, densely ramose; small incrustations present on basidia, basidioles and subhymenium.

**Hymenophoral trama** made up of somewhat irregularly disposed, subparallel, up to 37 μm wide hyphae constricted at septa.

**Pleurocystidia** absent.

**Cheilocystidia** absent, lamellae edge made of few basidia and many basidioles and basidioloid cells.

**Pileipellis** made of irregularly disposed to subparallel chains of inflated cells, 12-75(100) × 9-30(36) μm, more swollen at centre, and occasional slender hyphae, average Q = 0.6-3.0; occasional slender, 27-45 × 5-12 μm, pileocystidioid terminal cells sometimes emerging from the subpellis; a fugacious, very thin suprapellis

of 2-7.5 μm broad hyphae sometimes present; in 5% KOH pale (greenish) yellow-brown; in water with a distinct pinkish shade which quickly disappears when observed in 5% KOH.

**Caulocystidia** at apex of stipe, in clusters sometimes agglutinate or covered with a mucous substance, also isolate, often irregular to flexuous, filiform, clavate, cylindrical, narrowly to irregularly lageniform, utriform, rarely somewhat nodulose, 18-44(73) × 2-9 μm.

**Clamp connections** present everywhere.

**Habitat** terrestrial, gregarious, on dryish grassy soil in forest with hardwood trees, bushes and some spruce (holotype), on calcareous dry heathland and in dry grassland on coral limestone (Bas, 2003).

## Discussion

Kytövuori named his collection 93-513 *Pseudobaeospora* cf. *albidula*. On revising the micro characters I found that they fit well with Bas's provisional name *P. subglobispora*. As unfortunately I could not obtain any macro description of the fresh basidiocarps,

I checked the colours of the dried material received and a weak shade of lilacinous grey on the caps and of violaceous grey on the gills were perceptible; a distinct, pure incarnate colour was even clearly visible on the gills of a young specimen with a small and hemispherical cap. This impression is evident also in microscopy when observing the pigment in water. The dried stipes also show an evident pale to almost dark, brownish violaceous colour.

BAS (2003) based his provisional description on two German collections by L.G. Krieglsteiner and decided to exclude a third collection from England, T. Læssøe 2842, mainly on account of the whole basidiocarp being brownish purple; however this colour is present in Kytövuori's collection though only on the (dried) stipe.

As the chromatic discrepancies between the wholly pale colours of Krieglsteiner's collections and the wholly saturated colours of Læssøe 2842, with the partly saturated colours of Kytövuori 93-513 in between, are found on specimens fundamentally identical in their microscopical characters, I believe that they do not authorize creating different taxa at any rank. My personal opinion is that a chromatic continuum of weak to distinct pink-lilac-violaceous tints can be viewed as implying an intraspecific variability of this taxon.

Among the species of subsection *Pseudobaeospora* (characterized by thickset hyphae of not hymeniform pileipellis) this taxon is distinguished by being clamped, without cheilocystidia, with subglobose spores and with a pileipellis made of distinctly swollen, pale (greenish) yellow-brown in KOH hyphae of the subpellis and an almost absent, repent suprapellis. *P. albidula* has pale basidiocarps without any trace of pink, lilac or purple, and its spores have a little higher quotient, 1.05-1.48, on average 1.15-1.23. *P. deckeri* Schwarz, from North America, is much similar, though it differs in the following two characters: it has deep to dark purple colours on pileus and stipe and the pileipellis has cylindraceous, green in KOH hyphae of subpellis and a distinct, trichodermal suprapellis.

***Pseudobaeospora paulochroma*** Bas, *Persoonia* 18 (1): 121, 2002

**Spores** 4.0-5.0(5.3) × 3.0-3.75(4.0) μm, on average 4.45 × 3.45 μm, Q = (1.13)1.18-1.39(1.47), on average 1.28 [a number of larger, non-amyloid, spores, 5.2-5.8(6.5) × 4-4.8(5.5) μm, Q = 1.18-1.44, were found either floating free or still attached at the sterigmata], broadly ellipsoid, apiculus large, at first thin-walled, hyaline and non-amyloid, when fully mature thick-walled, congophilous, dextrinoid.

**Basidia** 20-25(28) × 5.0-6.6 μm, 4- (2-, 1-) spored, sclerified basidia diffused.

**Subhymenium** ramose.

**Hymenophoral trama** subregular.

**Pleurocystidia** absent.

**True cheilocystidia** absent, lamellae edge made of scattered basidia and many 20-25(28) × 5-8(12) μm large basidioles and basidioloid cells.

**Pileipellis** divided in two layers, a subpellis made of cylindraceous, 23-70 × 7-16 μm, Q = 1.77-5.6, hyphae at centre, and a suprapellis of 4.5-12 μm broad at centre and 4.5-8 μm broad towards margin, cylindraceous hyphae; in 5% KOH ochraceous with or without a greenish to brownish shade.

**Caulocystidia** at apex of stipe, -65 × 5-12 μm, often irregular, clavate to cylindraceous, sometimes incrustated or agglutinated and with adhering spores.

**Clamp connections** present everywhere.

**Habitat** terrestrial, gregarious, on grassy, bare to littered soil in forest with presence of *Betula alba* L., *Corylus avellana* L., *Picea abies* (L.) H. Karst., *Sorbus aucuparia* L., *Ulmus glabra* Huds., *Ulmus laevis* Pall.

**Collection studied:** Finland, Varsinais-Suomi, Lohja, Torhola, 6.X.1979, H. Harmaja, H 6055316.

### Discussion

The scanty original field notes report pileus campanulate, very pale brown, not hygrophanous; stipe pale brown; lamellae sinuate, when young very pale yellowish. By my observation of the dried material received I can add pileus very minutely felted under lens; lamellae adnexed, ventricose towards the margin, subspaced [18-19, lamellulae 1 (3?)], not anastomosing, weakly intervenose under lens, pale- to beige- avellaneous; stipe somewhat violaceous brownish in upper half.

Apart from the Danish descriptions by Bas (2002, 2003), up to now the only another collection described in literature is HAUSKNECHT *ET AL.* (2012) from Austria. The Finnish collection is similar in most characters with these descriptions and the only deviating parameters are the minority presence of 2- and 1-spored basidia and the somewhat larger spore dimension, though the quotient remains corresponding to Bas's (2002) data [ $3.8\text{-}4.5 \times 2.9\text{-}3.5(3.8) \mu\text{m}$ ,  $Q = (1.10)1.20\text{-}1.35$ ]; on the other hand HAUSKNECHT *ET AL.* (2012) report somewhat smaller spores ( $3.0\text{-}4.5 \times 2.5\text{-}3.5 \mu\text{m}$ ). There is no substantial motive in not admitting an intraspecific variability of the spore dimension for this still little described taxon.

The most similar species among the pale species of subsection *Pseudobaeospora* is *P. albidula* Bas; however the latter one can be separated for having a not or very little differentiated pileipellis made of more thickset hyphae, a stipe darkening from the base and an almost colourless to very pale brownish KOH reaction (Bas, 2002 reports a yellow reaction in KOH for *P. paulochroma*).

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