

## ABOUT *LASIOSPHAERIA* S.L. (2)

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### Summary

In this second contribution on *Lasiosphaeria* s.l. three species are presented, i.e. *Hilberina subcaudata* (Mouton) Declercq comb. nov., *Hilberina breviseta* (P. Karst.) Declercq comb. nov. and *Hilberina vandervekenii* Declercq sp. nov. The new combination *Hilberina moseri* (O. Hilber) Declercq is proposed and a key to the Western European species of *Hilberina* is presented.

### Samenvatting

Deze tweede bijdrage over *Lasiosphaeria* s.l. behandelt drie taxa, *Hilberina subcaudata* (Mouton) Declercq comb. nov., *Hilberina breviseta* (P. Karst.) Declercq comb. nov. en *Hilberina vandervekenii* Declercq sp. nov. De nieuwe combinatie *Hilberina moseri* (O. Hilber) Declercq wordt voorgesteld en een determinatiesleutel voor de West-Europese soorten in *Hilberina* wordt gegeven.

### Introduction

In a first paper, the author described the most recent evolution related to the *Lasiosphaeria* complex. A key to the *Lasiosphaeria*-like genera was presented.

In this second paper, some species belonging to the genus *Hilberina* Huhndorf & A. N. Mill. are described and a key to the Western European species of that genus is presented.

The genus *Hilberina* was introduced by Miller & Huhndorf (2004a, b) based on phylogenetic analyses. Species in this genus have superficial, hairy, occasionally tuberculate ascomata with papillate neck, asci with refractive, inamyloid ring, without subapical globulus and cylindrical, geniculate ascospores with one end tapering to a distinct point, first hyaline, turning pale brown with age, without gelatinous appendages.

### *Hilberina breviseta* (P. Karst.) Declercq comb. nov. (Fig. 1)

Basionym: *Lasiosphaeria breviseta* P. Karst., Hedwigia 22: 57 (1884)

Perithecia semi-immersed to almost superficial, obovoid, 0,3 mm, papillate, black, no setae observed.

Asci cylindrical, stalked, with refractive apical ring 2,5 µm wide by 1 µm high, without subapical globulus, 8-spored, e.g. 129 × 11 µm. Ascospores cylindrical, geniculate, bent in the lower part, with broadly rounded to conical proximal end and distal end tapering to a 5-7 µm long spine, 40-49 × 3,5-4 µm, 3-septate, smooth, guttulate, pale brown.

Material studied: Belgium, Kemzeke, Stropersbos, IFBL C3.18.43, on rotten wood of *Quercus robur* (?), 27-09-2012, coll. B. Declercq 12/045 (GENT)

Comments: the above mentioned collection is very scanty and in poor condition, by which we were not able to make a good description. *H. breviseta* differs

from *H. subcaudata* by its narrower 3(5)-septate ascospores with distal end tapering to a 3-8 µm long spine (Hilber & Hilber 1983). *H. breviseta* is known from Austria, Belgium, Finland (typus), France and Germany.

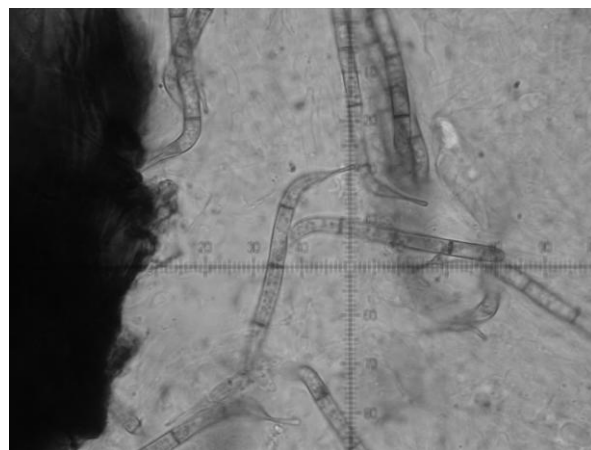


Figure 1. *Hilberina breviseta*. Ascospores (BD 12/045)

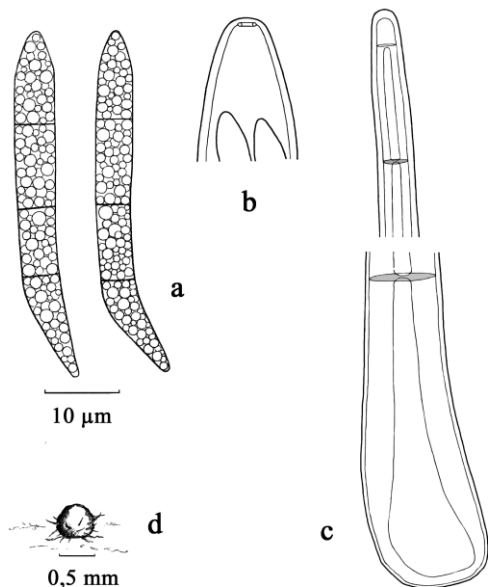
### *Hilberina subcaudata* (Mouton) Declercq, comb. nov. (Fig. 2)

Basionym: *Lasiosphaeria subcaudata* Mouton, Bull. Soc. R. Bot. Belg. 26: 183 (1887)

Perithecia superficial, globose, papillate, slightly tuberculate, 0,4-0,5 mm diam., black, sparsely covered by dark brown setae. Asci cylindrical-clavate, with truncate apex, stalked, 8-spored, spores 2-3-seriate, apical ring 3 µm diam. by 0,5 µm high, IKI-, without subapical globulus, 124-157 × 17-20 µm. Ascospores cylindrical, geniculate, bent in the lower part, with conical proximal end and pointed distal end, 44-48,5 × 5-6 µm, smooth, first hyaline and aseptate, senescent spores light brown and 3-septate, filled with small lipid bodies. Interthecial filaments slender. Peridial wall surface is a dark brown textura globulosa-

angularis. Hairs narrow conical, straight to flexuous, smooth, thick-walled, olivaceous brown, septate, up to  $200 \times 11-16 \mu\text{m}$ .

Material studied: Belgium, Beaufays (Vierset), IFBL F7.54, on rotten decorticated wood, s.d., coll. V. Mouton s.n. (BR, holotype); Ursel, Drongengoed, IFBL C2.46.14, on decorticated wood of *Fagus sylvatica*, 08-08-2007, coll. B. Declercq 07/069 (GENT)



**Figure 2.** *Hilberina subcaudata*, a. ascospores, b. ascus tip, c. hair, d. perithecium.

Comments: *H. subcaudata* is very close to *Lasiochaeta moseri* O. Hilber. Both species have tuberculate perithecia, asci with an inamyloid apical ring and without subapical globulus, and the ascospores have the same morphology. *H. subcaudata* differs by the absence of a conical sulcate ostiolar neck and the broader ascospores. Both species belong in the same genus, the following new combination is proposed:

***Hilberina moseri* (O. Hilber) Declercq comb. nov.**  
Basionym: *Lasiochaeta moseri* O. Hilber, Sydowia 36: 114 (1983).

We herewith confirm Hilber O. & Hilber R. (2002) who have put *L. breviseta* P. Karst., *L. caudata* (Fuckel) Sacc., *L. moseri* O. Hilber and *L. munkii* R. Hilber & O. Hilber in *Lasiochaeta* Ces. & de Not. section *Setosae*, section which meets our concept of *Hilberina*.

Mouton (1887) described in addition a species named *Lasiochaeta subcaudata* f. *sarmentorum* Mouton, occurring on "In sarmentis Clematidis Vitalbae", of which no collection is available in BR.

*H. subcaudata* was up to now only known from the type collection. So, its distribution remains for the moment restricted to Belgium.

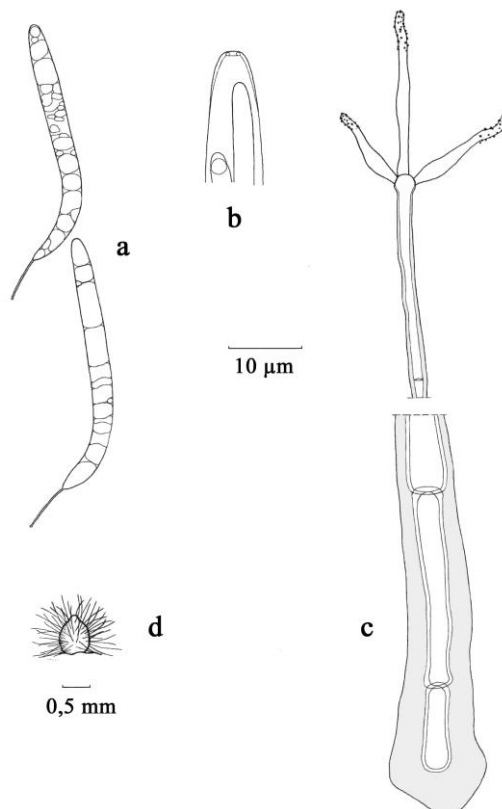
***Hilberina vandervekenii* Declercq sp. nov.** (Fig. 3)  
MycoBank MB802341.

**Diagnosis:** Differs from *Hilberina caudata* by the smaller, aseptate ascospores  $36-47 \times 3-3,5 \mu\text{m}$  with distal end equipped with an up to  $7 \mu\text{m}$  long spine.

**Holotype:** Belgium, La Roche, N  $50^{\circ}10'$  - E  $5^{\circ}34'$ , on stem of *Chamaenerion angustifolium*, 02-07-1988, coll. B. Declercq 88/110 (GENT).

**Etymology:** in honour of prof. Paul Van der Veken, Belgian mycologist (1928-2012).

Perithecia superficial, pyriform, papillate, 0,5 - 0,6 mm diam., black, densely covered by pale brown setae with exception of the beak. Asci subcylindrical, with truncate apex, stalked, (4)8-spored, apical apparatus 2,2  $\mu\text{m}$  wide by 0,5  $\mu\text{m}$  high and IKI-, without subapical globulus,  $100-120 \times 10-12 \mu\text{m}$ . Ascospores cylindrical, geniculate, bent in the lower part, proximal end narrowly rounded, distal end tapering into a sharp point and an up to  $7 \mu\text{m}$  long spine,  $36-47 \times 3-3,5 \mu\text{m}$ , aseptate, smooth, hyaline, guttulate. Interthelial filaments slender. Peridial wall surface composed of a dark brown textura globulosa-angularis. Hairs tapering, straight, smooth, thick-walled, pale brown, apex hyaline, septate,  $300-600 \times 13-14 \mu\text{m}$ , hair tip sometimes ornamented with 20-30  $\mu\text{m}$  long protruding outgrowths.



**Figure 3.** *Hilberina vandervekenii*, a. ascospores, b. ascus tip, c. hair, d. perithecium.

Comments: *H. vandervekenii* has inamyloid asci without apical globulus and spores with a tapering distal end, typical for the genus *Hilberina*. Spore size is similar to *H. breviseta*, but differs from the latter by up to 600 µm long hairs and its herbicolous preference.

Unfortunately, only dead spores of *H. vandervekenii* could be observed with coalescent guttation (fig. 3a). However, the drawing suggests a row of large lipid bodies in living spores.

The presence of hyaline, ornamented protrudings on the tip (fig. 3c) and even at the uppermost septum of some hairs is an exceptional feature in *Hilberina* as well as in allied taxa.

#### Key to the Western European species of *Hilberina*

As far as applicable, the spore length includes the spine of the distal end.

1. Ascospores cylindrical, geniculate, 0(1)-septate, distal end equipped with a spine ..... **2**
- 1.' Ascospores cylindrical, geniculate, multiseptate .. **3**
2. Perithecia partly immersed, often covered with reddish-brown setae; ascospores (18-)23-32 × 3,5-4,5(5,5) µm, with spiny distal tip, 0(1)-septate, hyaline to light brown; setae aseptate, up to 150 µm long; saprophytic on decayed wood of *Quercus*, *Salix*, stems of *Rubus fruticosus* agg.; phen.: VI-XII ..... *Hilberina munkii*
- 2.' Perithecia superficial, pyriform, 0,5-0,6 mm diam., densely covered by pale brown setae; ascospores 36-47 × 3-3,5 µm, distal end tapering into a sharp point and an up to 7 µm long spine, aseptate, smooth, hyaline, guttulate; on stem of *Chamaenerion angustifolium*; phen.: VII ..... *Hilberina vandervekenii*
3. Ascospores average shorter than 50 µm..... **4**
- 3.' Ascospores average longer than 50 µm ..... **6**
4. Perithecia superficial or slightly immersed, 0,25-0,4 mm diam., sparsely covered with setae, black; ascospores 40-47 × 3,2-4 µm, 3(-5)-septate, distal end tapering into a 3-8 µm long spine, guttulate, becoming pale brown; saprophytic on decayed wood of *Abies alba*, *Alnus glutinosa*, *Quercus robur*, *Pinus*, ?*Prunus padus*; phen.: III-X ..... *Hilberina breviseta*
- 4.' Ascospores with tapering distal end without spine . ..... **5**
5. Perithecia superficial, 0,4-0,5 mm diam., sparsely covered with dark brown setae; ascospores with conical upper and pointed lower end, 44-48 × 5-6 µm, senescent spores 3-septate and pale brown, densely multiguttulate; saprophytic on decorticated *Fagus*; phen.: VIII..... *Hilberina subcaudata*
- 5.' Perithecia roughly tuberculate, with a conical sulcate ostiolar neck, covered with robust brown setae; ascospores already pigmented in the asci, 42-55 × 4-4,5 µm, 3-4-septate, dark brown;

saprophytic on wood of *Ulmus*, coaled twig; phen.: IX-X ..... *Hilberina moseri*

6. Perithecia covered by short brown setae, rarely 1-septate near the base; ascospores 48-58 × 3,5-3,8 µm, distal end with a spine, 3-septate, hyaline to yellowish; saprophytic on wood of *Quercus*; phen.: X ..... *Hilberina rufa*
- 6.' Perithecia covered by long, black, shiny and septate setae; ascospores longer ..... **7**
7. Ascospores (55) 62-90 × (4) 4,5-6 (7,2) µm, 5-9-septate, hyaline to yellowish, guttulate; saprophytic on wood and bark of *Alnus glutinosa*; phen.: VIII-X ..... "*Lasiosphaeria*" *meznaensis*
- 7.' Ascospores 3-septate ..... **8**
8. Ascospores 55-68 × 6 µm, distal end without spine, 3-septate, hyaline to yellowish; saprophytic on wood of *Prunus spinosa*, *Quercus robur*, stems of *Rubus sp.*, petioles of *Aesculus*; phen.: XII-VI..... *Hilberina caudata*
- 8.' Ascospores geniculate to sigmoid, with spiny distal end, 48-57(-66) × 3,5-4,5(-5) µm, first hyaline and aseptate, finally 3-septate and pale brown; on culms of *Agropyron repens*, *Dactylis glomerata*, *Deschampsia caespitosa*, *Phalaris arundinacea*; phen.: IV-VIII ..... *Hilberina dactylina*

#### Acknowledgements

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