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Krieglsteinera lasiosphaeriae: a mycoparasite on *Lasiosphaeria ovina* – new to Britain (NBR 224), Norway, Russia and the USA

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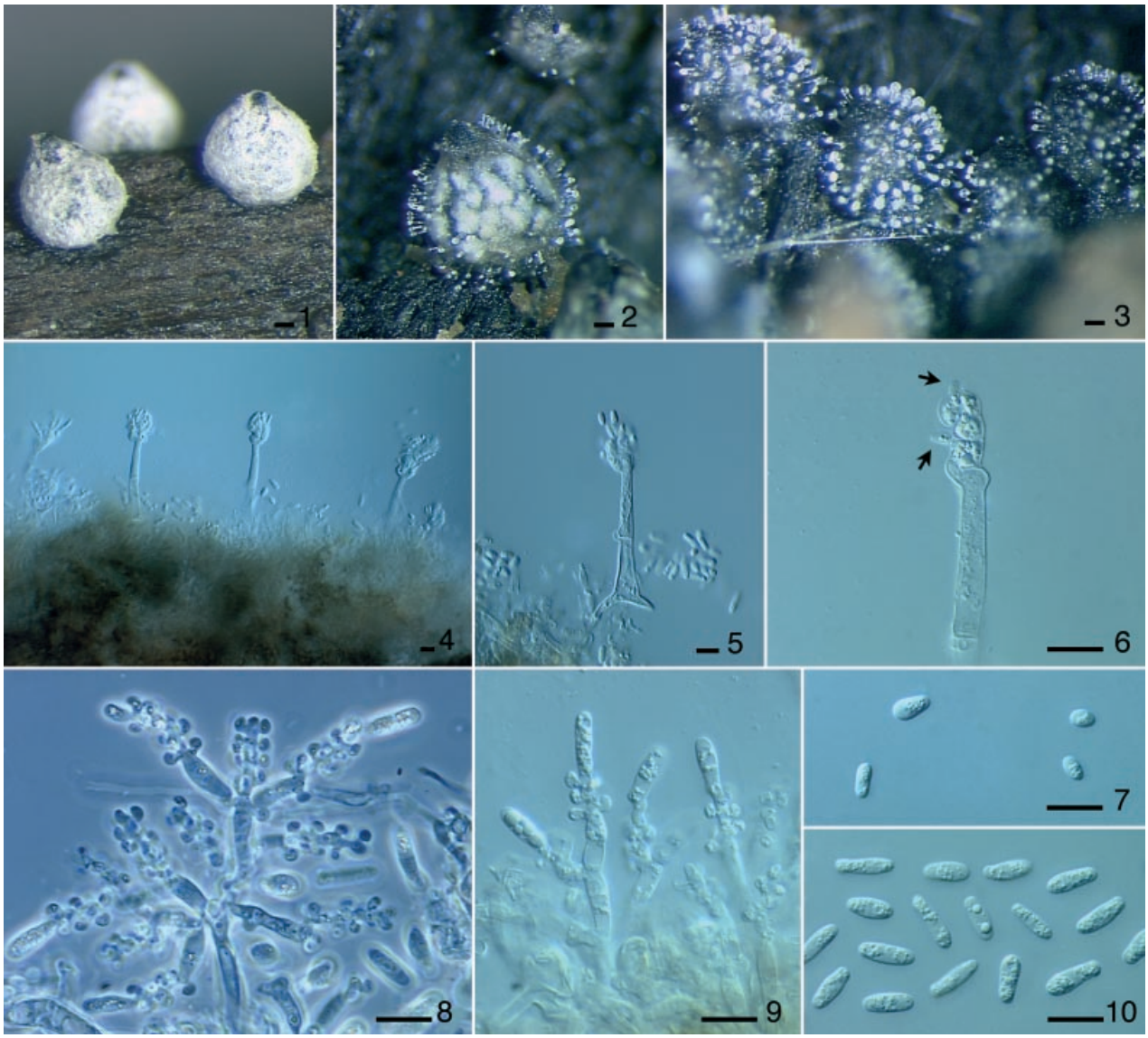
The mycoparasite *Krieglsteinera lasiosphaeriae* Pouzar was first invalidly and illegitimately published by Arnaud (1951) as *Jacobia conspicua* from a collection near Paris. Although he thought that the sporophores resembled basidia, he described it as a hyphomycete (characterized by the large clamp-connexions) on the basis of the successive spore production. Pouzar (1987) later collected this fungus from Czechoslovakia and Poland and determined that the sporogenous branches described by Arnau were actually basidia. He appropriately redescribed it as a heterobasidiomycete renaming it *Krieglsteinera lasiosphaeriae* Pouz. after the German mycologist, J. Krieglsteiner. At the same time it was placed in its own family, Krieglsteineraceae, which is now considered a synonym of Platygloeaceae in the Urediniomycetes (Kirk *et al*., 2001). Pouzar believed that *K. lasiosphaeriae* was endangered and should be included in the red data book of Central European mycota owing to the rapid decrease of its host caused by air pollution. However, since then it has been found in Denmark (Læssoe & Lange, 1998) and is now reported here for the first time from England, Norway, Russia and the United States. *Krieglsteinera lasiosphaeriae* is probably much more abundant than previously thought, but is infrequently observed due to its cryptic nature.

Krieglsteinera lasiosphaeriae Pouz. in *Beiträge zur kenntnis der Pilze Mitteleuropas* **3**: 401-405 (1987).

Uninfected perithecia (of *Lasiosphaeria ovina*) tomentose or waxy to almost glabrous with age (Fig 1). *Infected perithecia* setose with capitate setae composed of translucent droplets at apices of hyaline stalks (Figs 2,3). *Basidiophores* aculeate to subulate, (44.5-) 51 – 66.5 x 3 – 6 µm at apex, hyaline, 1– septate with a large clamp-connexion, thin – to slightly thick-walled (walls up to 1.5 µm thick), anchored at base with root-like outgrowths; base tri – to tetrapodal, 10-23 µm wide, hyaline, slightly thick-walled; apically with 2-3 basidia (Figs. 4, 5). *Basidia* crozier-like, 13.5 – 20 x 4 – 7 µm, hyaline, transversely-septate, 4-celled; apical cell hooked, thin-walled, with basal clamp-connexion (Fig 6). *Basidiospores* ellipsoid to obpyriform, 4.5 – 7 (-8) x 2 – 3.5 µm, hyaline, thin-walled, produced successively in large masses, aggregating to form a large, slimy droplet, occasionally replicating and appearing as two cells joined by a short conjugation tube (Fig 7). *Anamorph* composed of hyaline, regularly branched, thin-walled, clamped hyphae; conidia produced sympodially on terminal branches, denticles remaining upon release of conidia (Figs 8, 9). *Conidia* elongate ellipsoid to cylindrical, 8.5 – 13 x 3 – 4 µm, irregular at base, hyaline, thin-walled (Fig 10). *Surface hyphae* 2 – 4 µm, hyaline, thin-to slightly thick-walled, clamped; gloeohyphae occasionally present, bulbous, with resinous contents, refractive.

Specimens examined (on perithecia of *Lasiophaeria ovina*): ENGLAND: Hertfordshire, Waterford Heath, 11 Nov. 2001, Robinson, F 1139244; K(M) 91502 (**New British Record 224**). NORWAY: Sogn og Fjordane, Sogndal, Kaupanger centre along river W of Kaupstad, planted spruce on richer ground, on *L. ovina* (n 37137)



Figs 1-10 *Krieglsteinera lasiosphaeriae* on *Lasiosphaeriae ovina*. Fig 1. Uninfected perithecia of *L. ovina*. Figs 2-3, Infected perithecia of *L. ovina*. Fig 4. Mycoparasite projecting from outer ascomal wall. Fig 5. Basidiophore with basidia and basidiospores. Fig 6. Basidium producing two basidiospores (arrows). Fig 7. Basidiospores. Figs 8-9, Anamorph producing conidia showing sympodially arranged denticles left after production of conidia. Fig 10. Conidia. All images (except Fig 1) from F1139244. Bar: Figs. 1 – 3 = 100 µm; Figs. 4 – 10 = 10 µm.

on *Betula*, UTM(WGS84): MN 047 853, 8 Sep. 2000, Johannesen, *det*. Læssøe, K(M) 79259 (K-F37626). RUSSIA: Khabarovskiy krai, Khrebet Khekhtsir, (48° 14' N, 134° 58' E), forest incl. *Quercus mongolica*, *Tilia amurensis*, *Fraxinus manshurica*, 8 Aug. 1998, Læssøe, TL-5066 (C). U.S.A.: Illinois, Ogle County, Castle Rock St. Park, 27 Sept. 1996, Huhndorf & Fernandez, SMH 2672 (F); White Pines Forest St. Park, 28 Sept. 1996. Huhndorf & Fernandez, SMH 2696, SMH 2712 (F).

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