Sporophagomyces chrysostomus (*Hypocreaceae*), a 'spore-eating' fungus new to Britain

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Fig. 1. Mycelium covering spore mass on underside of bracket of *G. adspersum*, Puttenham, 20 November 2024. Photograph © H. Chilvers.

Two records of a remarkable fungus, *Sporophagomyces chrysostomus* (Berk. & Br.) K. Põldmaa & Samuels, not previously reported from Britain, have been made recently from Surrey. A general account of the fungus is given, along with a brief description based on the two British collections.

This species exhibits a quite specialised ecology, utilising the spores of wood-rotting bracket fungi which it effectively traps by developing a cottony 'net' comprising white, radially developed strands of hyphae. This is attached centrally to the host pore surface, with the rest of the feathery growth suspended just below the host hymenium, 'catching' the host spores as they are discharged. When so trapped, the spores, which are formed in vast numbers and released over an extended period, build up into a thick mass beneath the host brackets and may provide a good indication of the presence of the *Sporophagomyces* (Figs 1, 2 and back cover).

Sporophagomyces chrysostomus (Berk. & Br.) K. Põldmaa & Samuels, *Can J. Bot*. 77(12): 1765 (2000)

Hypomyces chrysostomus Berk & Broome, *Bot. J. Linn. Soc.* 14: 113 (1873)

Peckiella chrysostoma (Berk. & Broome) Sacc., *Sylloge Fungorum* 9: 944 (1891)

Hypolyssus chrysostomus (Berk. & Broome) Kuntze, *Revis. gen. pl.* (Leipzig) 3(3): 488 (1898)

Hypomyces porotheliiformis Lindtner, *Ann. Mycol.* 36: 326 (1938)

Anamorph:

Acremonium lindtneri (Kirschstein) Samuels & Rogerson, *Mycologia* 85(2): 248 (1993)

Septocylindrium lindtneri Kirschstein, *Z. Pilzk*. 20(4): 118 (1936)

Moeszia lindtneri (Kirschstein) G.R.W. Arnold, *Westfälische Pilzbriefe* 8(1): 13 (1970)

Mycelium white, cottony, comprising radially developed hyphae, hyaline, often in strands, septate, thin-walled, c. 2.5–4 µm wide, forming patches or eventually covering the entire underside of the host fruitbody. Conidiophores arising directly from mycelial hyphae, branched, c. 70 × 2–3 µm, gradually tapered to c. 1 µm at the

apex; conidia hyaline, cylindric or cylindric-fusoid, 1–3-septate, slightly narrowed at septa, 11–13 (–16) × 3–4 µm, smooth. Perithecia developed on the mycelium, *Hypomyces*-like, gregarious, enveloped in whitish hyphal tomentum, KOH-negative, immature in present material.

Specimens examined: England, Surrey, Puttenham, Britty Wood, SU90194546, on underside of fruitbody of *Ganoderma adspersum*, 20 Nov 2024, H. Chilvers (K-M001444478); Godalming, Lammas Lands, by River Wey, SU97134411, same host, 30 Nov 2024, H. Chilvers (K-M001444393).

The host fungus of these two collections was reported initially as *G. applanatum* (H. Chilvers). However, basidiospores for both collections, measured subsequently, are in the range 9–11 × 5–7 µm, larger than those of *G. applanatum*, and characteristic of *G. adspersum*.

The characteristic anamorph of this species was described by Kirschstein (1936) in *Septocylindrium* (as *S. lindtneri*) based on material from *Ganoderma lucidum* from Serbia, and subsequently referred by Arnold (1970) to *Moeszia*. More recently it has been transferred by Rogerson & Samuels (1993) to *Acremonium*. The teleomorph is *Hypomyces*-like, with perithecia gregarious amongst a white hyphal subiculum, developed directly on the mycelium and not on the host hymenophore as usually seen in species of *Hypomyces*. In the Surrey material it is present only in an immature state. As described by Arnold (1970), Rogerson & Samuels (1993), and in Põldmaa *et al*. (2000), perithecia are papillate, pale, buff to yellowish, up to 245 µm diam., with a yellow ostiole. The asci are 8-spored, 80–100 × 5–6 µm, the ascospores 1-septate, hyaline, narrowly ellipsoid to fusoid, smooth or finely verruculose, sometimes with tiny apiculi, occasionally disarticulating into part-spores after discharge, 10–17 x 3–4 µm.

The nature of the mycelial 'web' has been variously interpreted. Based on its habit and appearance, it was considered by Lloyd (1915) to belong in *Sebacina* (basidiomycetes) and referred to *S. dendroidea* (Berk. & M.A. Curtis) Lloyd (= *Thelephora dendroidea* (Berk. & M.A. Curtis) Cooke). It has also been known as *Hyphelia bombycina* Fr. ex Weinm. (*Institale bombycinum* (Fr. ex Weinm.) Fr.) (Rogerson & Samuels 1993), which comprises sterile mycelium but occurs on rotten *Alnus incana*.

Although new to Britain, this is a surprisingly widespread species, found almost exclusively on species of *Ganoderma*. It was first described from Ceylon (Berkeley & Broome 1873), as 'parasitic on a feathery brown mycelium', though the brown colour was evidently due to the spores of the host, not otherwise noted. *Hypomyces porotheliiformis* Lindtner, shown by Arnold (1970) to be a synonym, and the anamorph, *Septocylindrium lindtneri* Kirschstein (Kirschstein 1936), were described from Serbia on *G. lucidum*. *S. chrysostomus* has since been recorded much more widely. As summarised by Rogerson & Samuels (1993), and by Leacock (online), its distribution includes Australia, N. America, Belarus, Brazil, Canada, Colombia, France, Germany, New Zealand, Poland, Puerto Rico, Serbia, Sri Lanka, Sweden, Thailand, Ukraine, and Venezuela. Lloyd (1915) also had material from Madagascar. Other than *G. adspersum* and *G. lucidum*, it has been reported in N. America on *G. applanatum* (Rogerson & Samuels, 1993). These authors also mention *Phellinopsis conchatus* (as *Fomes*) as a host.

Sporophagomyces chrysostomus is the type of the genus, introduced by K. Põldmaa & Samuels (in Põldmaa *et al*., 2000) for three species with a similar ecology. The two other species, *S. lanceolatus* (Rogerson & Samuels) Põldmaa & Samuels, on *Rigidoporus microporus* from Puerto Rico, and *S. moellerianus* (Bres.) Põldmaa & Samuels, on *Pyrofomes* sp. from Brazil, differ from the present species in host, spore characters, and lack of an anamorph.

Fig. 2. Mycelium on spore mass on underside of *G. adspersum*, Godalming, 30 November 2024. Photograph © H. Chilvers.

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Collybiopsis subpruinosa in Britain

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Here in central urban Winchester, Hampshire, there is a small isolated stand of trees, mainly *Taxus baccata*, which have somehow survived despite the surrounding school, car park and housing developments. Whilst walking down the short footpath next to these trees in September 2024 the author noticed clusters of an agaric arising from the buried woody debris. Hygrophanous striate caps were reddish-brown when young soon becoming light-brown, gills were adnate and the stems cream-buff at the apex, dark brown to almost black towards the base. Viewed through a hand lens, the cap, stem and gill edges were found to be minutely pruinose. Initially I thought these were *Gymnopus foetidus*, which is locally common, but all the fruit bodies were odourless. Collected specimens dropped white, ellipsoid, inamyloid spores measuring 7.5–9 × 3.5–4 µm. The collection was tentatively named *Gymnopus inodorus*.

A subsequent trawl of the internet produced *Collybiopsis subpruinosa* which looked a good match for my collection. This species has a wide distribution being recorded from Argentina, Brazil, Costa Rica, Ecuador, Hawaii, Jamaica, Madeira, New Zealand, Panama, Puerto Rico and the USA where it is found on humus-rich soils, woody debris and logs. In Europe, where it has been recorded in Austria, Czechia, Denmark, France, Germany, Hungary, Italy, the Netherlands, Spain and Switzerland, *C. subpruinosa* is regarded as an introduced alien North American species. There are no records of *C. subpruinosa* on the FRDBI but it has made it onto update 11 of the British Checklist CBIB (Ainsworth & Henrici, 2023) via a 2021 collection from Nick Aplin found on buried debris beneath *Kalmia latifolia* (a New World ericaceous shrub) in a garden at Crawley, East Sussex. It was accepted by CBIB as *C. subpruinosa* "based on a comparison of its ITS sequence (N. Aplin) with those of this species sensu Antonín (MK646034) and Hughes & Petersen (e.g. DQ450027)" who are recognised specialists in this field.