

Fungal Portrait: 102

Stropharia hornemannii (Fr.) S. Lundell & Nannf. Conifer Roundhead

Liz Holden¹



Fig. 1. *Stropharia hornemannii* showing typical cap colours, growing in litter, Abernethy Forest, 9 October 2023. Photograph © Liz Holden.

Stropharia hornemannii (Conifer Roundhead) was specifically named by Fries (as *Agaricus hornemannii*) for Jens Wilken Hornemann, a Danish botanist (1770–1841). The genus name comes from the Greek for a belt (Rea, 1922), which seems appropriate given the presence of a ring or ring zone, often highlighted by the dark spores, in all species.

This fungus is widespread in the temperate and boreal forests of the Northern Hemisphere: Fries once described it as ‘ubiquitous in our (Scandinavian) coniferous forests’. It has also been recorded from subalpine birch but in the UK it is restricted to a handful of sites in the Caledonian pine forests of the Central Highlands of Scotland. Indeed it is listed as CR (critically endangered) on the Scottish Biodiversity List (NatureScot, 2020), occurring in less than six 10 km squares.

It is considered a saprotroph and is usually found on the forest floor growing amongst the ground flora and pine litter (Fig. 1). The recent collections described below were in litter but the species is also said to occur on well decayed timber.

A member of the *Strophariaceae*, this has quite a robust fruiting structure, with a cap that can reach up to 20 cm—not something easily overlooked! The cap is viscid when wet and can vary in colour between brownish with a violet tint to something much paler (Fig. 2). The fruit body has a fragile ring (slightly striate above), often white veil remnants on the cap edge and, when fresh, with distinct white floccules below the ring zone (Fig. 3). The gills are adnate to sinuate and start out quite pale, quickly darkening as the spores mature. As would be expected for a species in the *Strophariaceae*, the spore print is dark violet or black with spores ellipsoid to amygdaloid and 10–13 x 5–7 µm. The cheilocystidia are cylindrical to clavate or lageniform and the pleurochrysocystidia lageniform or clavate with a mucronate apex; these are both illustrated on page 969 of Knudsen & Vesterholt (2018).

Peter Orton, a regular visitor to Abernethy Forest, first recorded it there in 1983 and again in 1992. These locations were then extensively searched in 2011 and 2012 by Nev Kilkenny and Andy Taylor for a Priority Species Surveillance



Fig. 2. *Stropharia hornemannii*: a young fruiting body showing pale colours of cap and gills. Photograph © Liz Holden.

project (Anon, 2014) but to no avail. The species was then recorded in 2022 by Stewart Taylor at a different location close by.

Despite being well aware of its existence, this species had previously eluded the author despite extensive foraging in these forests. So in 2023, when looking under old growth pine and finding a rather decayed collection with a lovely shaggy stipe and dark spores, bells were definitely ringing. A few hundred yards on a small group of these fungi were found, in tip top condition, and later work with the microscope and keys confirmed the identification. The following day, a further single fruit body was found, in another part of the forest; all different locations to the earlier collections. Going over the same ground a year later drew a blank. With such a small number of records it is difficult to make confident statements about its fruiting pattern but it does perhaps suggest that it might be more abundant below ground within the habitat, just requiring particular conditions to stimulate fruiting. Undoubtedly a genuinely rare fruiter in the UK.

Within the pinewood habitat, it would be difficult to mistake this species for anything else. Apart from habitat, the large spores distinguish it from *S. inuncta* and *S. coronilla* and the shaggy scales on the stipe from *S. halophila*, *S. rugosoannulata* and *S. melanosperma*. Two of the larger *Psathyrella* species known to the author do occur on conifer wood (*P. cotonea* and *P. caput-medusae*) but both have rather scaly caps. The range of colour for the cap of *S. hornemannii* is



Fig. 3. *Stropharia hornemannii* with floccules on the stipe, particularly obvious below the fragile ring. Photograph © Liz Holden.

mentioned above and the illustrations in Læssøe & Petersen (2019) and Phillips (2006), both show collections with a much redder hue and a less shaggy stipe than the Abernethy collections.

Finding *Stropharia hornemannii* is a classic example of the unpredictability of fungal fruiting structures – years of frustrating search followed by a ‘jump up and down’ moment when something rare turns up!

Acknowledgements

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References

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