

## Biodiversity Record: The fungus, *Meripilus sumstinei*, at Jalan Bukit Merah

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**Subjects:** Giant polypore / Black staining polypore / Rooster of the woods; *Meripilus sumstinei* / *Meripilus giganteus* (Fungi: Basidiomycota: Agaricomycetes: Polyporales: Meripilaceae).

**Subjects identified by:** Jian Hui Low.

**Location, date and time:** Singapore Island, Jalan Bukit Merah (1.283780°N, 103.818222°E); 18 June 2023; around 1600 hrs.

**Habitat:** Urban. Small foliage patch by the main road.

**Observer:** Jian Hui Low.

**Observation:** An example measuring approximately 45 × 30 cm was observed growing off the ground, on an exposed root of a rain tree (*Samanea saman*). The patch comprised of several clusters of rosette mushrooms which were pink and pale brown with whitish margins (Fig. 1a, b). The underside of each mushroom was whitish with faint and harboured tiny pore-like structures. The fungus was firm to the touch, fibrous in texture and grew resiliently even when it was exposed to direct sunlight and high tropical temperatures. It appeared to be a young specimen.

**Remarks:** *Meripilus sumstinei* is a white-rot polypore fungus that was first documented in New York, USA, in 1904 (NCBI Taxonomy Browser, 2023; Species Fungorum, 2023). Depending on geography, this species is called *Meripilus giganteus* in Europe. Both *Meripilus sumstinei* and *Meripilus giganteus* are commonly referred to as being the same species by various sources, and common names such as ‘giant polypore’ and ‘black staining polypore’ apply to both (see Larsen & Lombard, 1988; Wikipedia, 2023a, b; UltimateMushroom.com, 2023). To the best of our knowledge, there are very few documentations of this species in the tropics, with only one recent record in Singapore (Hong et al., 2023 as *Meripilus giganteus*). The species is not treated by Lee & Choong (2023) in their guide to the macrofungi of Singapore. It is interesting to speculate if *Meripilus sumstinei* might have been an introduced species that is starting to gain traction in Singapore’s tropical climate.

The genus *Meripilus* generates fruiting bodies bearing multiple rosette-shaped caps fanning out from a common basal stem. These mushrooms grow in patches and can grow to 20 cm each. The undersides of these mushrooms contain numerous tiny pores, and surfaces appear relatively smooth. *Meripilus* spp. are parasitic and saprophytic, usually found on the ground living off tree roots and stumps several metres away from the main tree trunk (Leacock, 2017; Russell 2017). In extreme cases, advanced infections may affect the lateral roots, leading to tree canopy thinning and loss of plant health (Brazee, 2008).

*Meripilus sumstinei* is an edible fungus and have garnered particular interest to mushroom foragers due to their large sizes and striking similarities with two popular edible mushrooms – ‘hen of the woods’, *Grifola frondosa*, and ‘chicken of the woods’ *Laetiporus sulphureus*. Like *Meripilus sumstinei*, these two species are also native to North America and Europe (Spahr, 2009; Deegan, 2020). This has helped *Meripilus sumstinei* earned the nickname ‘rooster of the woods’ (Kuo, 2010). The key differentiation factor between the three species is that *Meripilus sumstinei* bruises black when damaged, handled, or aged, as seen in our specimen here after a week (Fig. 1c), while the other two mushrooms do not (Leacock, 2017).

*Meripilus sumstinei* is noteworthy due to its commercial potential as an edible species and its role as a persistent phytopathogen. However, the authors strongly advise against the consumption of wild mushrooms due to risks of misidentification.



Fig. 1. In-situ views of *Meripilus sumstinei*. a) Top-down close-up view of the fungus. b) Cluster of the fungus relative to surrounding urban habitat. c) Black staining, or “bruising” as the fungi aged over a week. (Photographs: Jian Hui Low).

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