



Slime mould log

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Physarum flavicomum

February 9th 2013

Physarum flavicomum

Unlike most *Physarum* species that have conspicuous lime in all or part of their fruiting bodies, *Physarum flavicomum* has very little lime. It is 1-2 mm tall with a reddish, subulate furrowed stipe. Its iridescent peridium is extremely fragile and breaks into small fragments that often remain only at the base of the sporotheca.

I have collected extensive colonies of *P. flavicomum* covering over 2 metres of the underside of small branches of *Eucalyptus* spp. and once from an elevated dead branch of musk (*Olearia argophylla*). The sporangia of the latter colony had intact peridia which immediately broke apart when the branch was snapped from the trunk.

I have found *P. flavicomum* in the milder months of late autumn (April and May) but I also found an extensive fruiting in mid August 2012, the coldest day recorded at Black Sugarloaf in the past 20 years. (We usually have an annual sprinkling of snow, but in August 2012 the snow settled and remained on the ground overnight.) The sporangia that appeared in August arose from an extremely active yellow plasmodium that covered a metre or more of a fallen dogwood (*Pomaderris apetala*). Several flushes of sporangia appeared on sections of the log over several days. In one of my collections the sporangia are lying flat on the substrate.



P. flavicomum detail



February 7th 2013



Physarum viride

Physarum viride

Physarum viride is one of the most commonly occurring slime moulds at Black Sugarloaf. I usually find it on decaying eucalypt (*Eucalyptus* spp.), blackwood (*Acacia melanoxylon*) or dogwood (*Pomaderris apetala*) logs and occasionally on moss or exposed roots. I often find several small groups of sporangia scattered along old logs.

Like many slime moulds, *P. viride* has tiny sporangia with a total height of around 1-2 mm. Its wrinkled stipe is subulate (i.e. tapering to a point from a wide base) and dark brown at the base and lighter at the apex. Its usually nodding sporotheca are lenticular (i.e. lens shaped) and around 0.4 mm diameter by 0.2 mm high.

Physarum species are characterised by the presence of lime in all or part of their fruiting bodies. *P. viride* has a limy peridium which breaks into small petal-like fragments at maturity. The species I find are usually light yellow, but occasionally they have an orange or greenish tinge.

One collection of *P. viride* has unusually shaped sporangia with shorter than usual stipes and laterally compressed sporotheca. This variation in the shape and colour of sporangia of the same species is well documented. It can be as a result of the conditions that occur at the time of transformation of plasmodia to fruiting bodies. The group of fruiting bodies in this unusual collection had several sporangia that more resembled the 'normal' *P. viride*.



P. viride detail



plasmodium

January 9th 2013

Physarum globuliferum

Heavy rain in late December 2012 saturated the rotting logs lying on the ground especially in the shaded forest in Thismia Gully and Big Tree Track. I noticed the distinctive vein-like strands of an active plasmodium covering an unidentified fungus under a log in Thismia Gully and during the following days went to check its progress. On 24th December I collected a section of the plasmodium, brought it home and placed it in a shallow plastic container. Over a period of about 24 hours the plasmodium gradually transformed into a mass of sporangia that were identified as *Physarum globuliferum*.

I subsequently returned to the remaining plasmodium I'd left *in situ* to find that it too had transformed. Approximately 50 metres to the north another extensive fruiting of the same species covered approximately one meter on a large rotting log. I found another smaller colony on a decayed *Acacia melanoxylon* log on Big Tree Track.

According to Martin and Alexopoulos *Physarum globuliferum* often occurs in large conspicuous colonies. M&A also state that its 0.6-1 mm stipe can vary depending on the amount of lime included. I



observed this in the species I collected. The stipes of the sporangia from Thismia gully (including those cultured inside) are straw-coloured and slightly darker at the base. The stipes are abruptly constricted as if pinched, a feature described in Poulain *et al.* In contrast, the sporangia collected from Big Tree Track have stipes that range from straw-coloured to pure white.



mature

The sporangia from all colonies have more or less globose 0.3-0.7 mm diameter sporotheca. The peridia are encrusted with patches of white lime. Some of the sporangia on the *Acacia melanoxylon* log are clustered and sessile. There are also sporangia that have not matured suggesting I collected them too early.



habit

Ceratiomyxa fruticulosa, a common cosmopolitan species I often find on saturated wood, was also in abundance after the rain. It occurs in small or large colonies of usually white 1-10 mm columns. These can be simple or branched, and either short and thick or long and slender. Because they bear their spores on external threads, they seem to sparkle in the sunlight. They are very delicate and collapse

when touched; unlike other slime moulds they don't retain their shape when dried.

Ceratiomyxa fruticulosa is different from other slime moulds in several respects. It is without the shuttle streaming in the plasmodium seen in other myxomycetes and its spores are borne on external thread-like stalks rather than within a sporotheca. Because of these differences *Ceratiomyxa* species (family Ceratiomyxaceae) are in the order Protosteliales in the class Protosteliomycetes rather than in the class Myxomycetes. Nevertheless, they are usually included in surveys of Myxomycetes.



close-up

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