

Slime mould log

by **Sarah Lloyd**

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mature

December 22nd 2012

Paradiachea cylindrica

On December 12th I noticed a large milky-white plasmodium on the underside of a fallen log on big tree track about 1 km from home. Two days later I attempted to collect the mature sporangia. This was quite difficult, not only because they were on an inaccessible part of the log, but also because the substrate was very hard and therefore difficult to cut without damaging the sporangia.

A few days later I saw another milky-white plasmodium on an old log about 25 metres from the house which turned out to be the same species. Its close proximity meant I could monitor and photograph *in situ* the transformation of the plasmodium to mature sporangia. As can be seen from the photographs, the crowded sporangia hanging down from the log gradually changed colour from white to pink to brown. They covered an area of approximately 10 x 20 cm. I collected and photographed the mature sporangia.

The sessile sporangia are cylindrical and mostly 1.5 mm high with a diameter of 0.5 mm. The fragile iridescent peridium is mostly silvery golden with occasional bluish purple reflections. One of the most distinctive features of the sporangia is the relatively thick columella. (The columella is a continuation of the stalk inside the sporotheca; in sessile sporangia the columella is entirely within the sporotheca). It reaches almost to the top of the sporotheca and is yellowish brown. The threads of the capillitium arise from the full length of the columella. (Capillitium (plural: capillitia) are sterile threads found within the spore mass of many slime moulds.)





taken on 13/12/2012 at 2.37 pm same at 4.29 pm



Lycogala epidendrum

December 6th 2012

Lycogala epidendrum – or are they?

Lycogala epidendrum is one of those slime moulds with a cosmopolitan distribution. In fact, it is one of the most commonly occurring slime moulds in the world. At Black Sugarloaf it was particularly common and widespread in 2011 with extensive colourful displays on strongly decayed wood on the ground. It has not been as common this year.

Lycogala epidendrum appears as solitary, scattered or crowded more or less spherical 3-12 mm fruiting bodies called aethalia. (aethalium (plural: aethalia) is a relatively large sessile (stalkless) fruiting body formed from all or a major part of a plasmodium.) The aethalia are bright pink or orange when they first appear but gradually fade to various shades of brown. The cortex (i.e. the covering of the spore mass), which is dotted with circular scales, has a small apical tear through which the spores are ejected (see below). It is found on rotting wood or woody debris such as sawdust.

I have several collections of *Lycogala* species that I'd assumed were all *L. epidendrum*. However, after close inspection of the scales on the cortex and a check of my reference books, I suspect they are different species.

Lycogala epidendrum (and the closely related *L. exiguum*) is a complex of microspecies. Two of these, *L. terrestre* and *L. confusum*, are now recognised at the species level.¹ *L. exiguum* has black or brown scales that are in groups while those of *L. confusum* are dark, more or less angular and grouped.



L. epidendrum



L. confusum




L. exiguum

Reference: ¹Schnittler, M (2002) *Ecology and biogeography of Myxomycetes*



November 26th 2012

Dog's vomit slime, *Fuligo septica*, has appeared in a couple of places in the past few days. One quite small (30 mm) fruiting body on top of an old eucalypt stump near home has faded to a pale



Fuligo septica shade of yellow, while a much larger specimen covering an area of approximately 200 mm on a decaying log near the big tree stump is still bright yellow.

F. septica must be among the best known slime moulds. Its common names of 'dog vomit' or 'scrambled egg' slime mould evocatively describe its size and consistency although 'fried egg' better describes its appearance. It begins as a moist bright yellow blob on a white hypothallus (the thin layer deposited by the plasmodium at the time of fruiting). As its spores develop it fades and gradually hardens and the outer layer (the cortex) becomes fragile. Its fruiting bodies (called aethalium; plural aethalia) are usually solitary or scattered and can be relatively large - an aethalium covering an area of 500-600 cm² has been documented. It appears in the summer months and unlike other slime moulds that mostly favour wet shady places it turns up just about anywhere including on old logs, stumps, leaf litter, soil and living plants.

Because it is thought that the majority of slime moulds have a cosmopolitan distribution it is likely that *Fuligo septica* was the species featured in 9th century Chinese writing where it was referred to as 'Kwei hi' which translates to 'demon droppings'. In an area of Mexico the plasmodium is fried and eaten by some of the indigenous people who call it 'caca de luna' - 'moon's excrement'!

There are other *Fuligo* species that have a different coloured cortex. To identify these species positively it is necessary to examine the spores microscopically to determine their size and surface decoration. There are also several varieties of *F. septica* with different coloured aethalia, inner lime and plasmodia:



Fuligo septica 2

- F. septica* var. *septica* has a pale yellow, yellow or whitish ochraceous aethalium; white inner lime and yellow plasmodium
- F. septica* var. *flava* has a yellow aethalium; yellow inner lime and yellow plasmodium
- F. septica* var. *candida* has a white aethalium; white inner lime and white plasmodium
- F. septica* var. *rosea* has a pink or lilac aethalium; pink or lilac inner lime and unknown plasmodium
- F. septica* var. *rufa* has a pale reddish, orange reddish, red-brown aethalia; rufous or reddish brown inner lime and yellow plasmodium.

Fuligo septica can become parasitised with a fungus *Nectriopsis violacea* which turns the cortex violet.

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