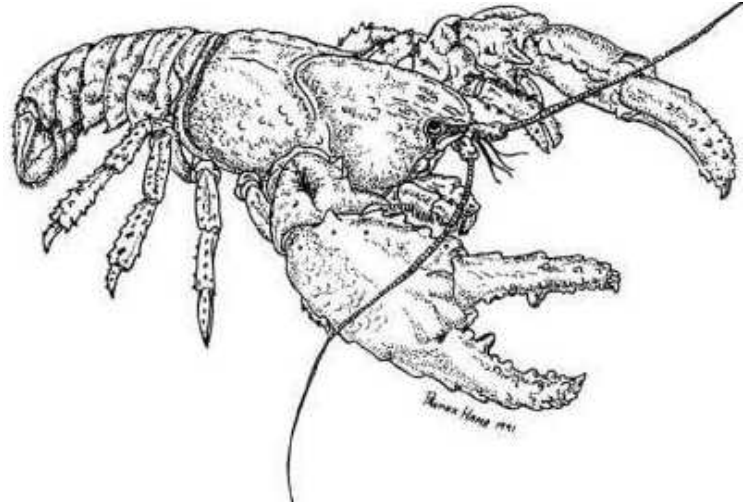


Disjunct Naturalists

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Slime mould log

by **Sarah Lloyd**

[7th November 2012](#) | [9th November 2012](#) | 25th November 2012



Badhamia utricularis
plasmodium

November 25th 2012

I have been watching the species associated with a dogwood (*Pomaderris apetala*) log since it first fell in 2008. Initially the log was visited by a plethora of insects including ovipositing parasitic wasps and mating weevils. It is now in an advanced state of decay and dotted with tiny yellow ascomycetes (*Bisporina citrina*) and adorned with shelf and jelly fungi including *Stereum ostrea* and *Calocera* sp.

In April 2010 a large yellow plasmodium was moving about on the log. During dry weather a sclerotium (the hardened dormant structure formed from a plasmodium) appeared. When rain once again dampened the log, the plasmodium would rehydrate and start moving. (A plasmodium (pl. plasmodia) is the second feeding (or trophic) stage of a slime mould; the first feeding stage, the myxamoebae, is microscopic and functions within the substrate.)

The plasmodium was mostly active on the shaded southern side of the log. On June 21st 2010, two months after I first saw it, a group of immature sporangia (type of fruiting body) appeared on the northern side of the log and photographs of mature sporangia were taken on June 30th. The slime mould is *Badhamia utricularis*.

On April 28th 2012 I photographed three different species, *Comatricha nigra*, *Physarum viride* and a *Stemonitis* sp., within about 1 metre of one another in approximately the same place as I'd seen *B. utricularis*.

In May 2012 I collected fruiting bodies of *B. utricularis*. When I returned from an overseas trip in late July 2012 there were two groups, one mature and one immature and more appeared in August and September. The sporangia depending (i.e. hanging down from its own weight) from the underside of the log had 3 mm stalks but more sporangia near the upper side of the log were sessile (i.e. without stalks). On October 30th I collected another cluster of sessile sporangia.

My field observations of the *Badhamia* mirror those of A. Lister as described in M&A¹. Lister cultivated the species for more than 6 years during which time four different varieties appeared, apparently from a single strain. This slime mould is often found in association with old fruiting bodies of wood-rotting fungi. (S&S)



Slime moulds on a blanketleaf

It is not uncommon to find a concentration of species within centimetres on the same substrate. About ten metres south of the dogwood log is a dead standing *Bedfordia salicina* (blanketleaf), a medium sized understorey tree endemic in Tasmania. In early October 2012 the conspicuous white *Ceratiomyxa fruticulosa* attracted my attention to this tree, a substrate I had not thus far investigated. Another species, a white *Physarum* sp., was immediately obvious and closer examination revealed an extensive colony of immature *Metatrachia floriformis*, a very common species in the forest this year. (I find it on the underside of strongly decayed logs including *Eucalyptus* spp., and *Pomaderris apetala*.)

On Thursday 22nd November I saw (in the same place) immature *Comatrachia typhoides* and collected it on Friday 23rd. A close examination of the collected substrate (strongly decayed (papery) bark 30 mm x 50 mm) revealed several much smaller species of slime moulds including *Clastoderma debaryanum* and *Licea minima*.



Metatrachia floriformis *Licea minima*

It was exciting to find a scattering of *Licea minima*. This was my introduction to this very large genus of minute slime moulds more likely to be found in moist chamber cultures than in the field.

I used the key in Poulain *et al* to identify the specimen as *Licea minima*. It has scattered pulvinate (cushion shaped) sporangia with a diameter between 0.3 mm-0.6 mm. The dark red brown peridium, marked with a net of shining ridges, cracks into plates. The spores are red brown, minutely warted with a paler germination area.

(Culturing slime moulds in moist chambers is a commonly used technique that I'm yet to try. It is especially successful for those extremely small species that are easy to overlook in the field as well as species that favour the bark of living trees. Put simply, the moist chamber technique involves placing small pieces of substrate (bark, dung, twigs, leaves etc) on damp paper in a Petri dish (or similar), placing it in suitable location (room temperature with diffuse light) and

checking regularly to see what turns up. There's a more detailed description in S&S².)



Elaeomyxa cerifera

November 9th 2012

Elaeomyxa cerifera has turned up again on an old log on Big Tree Track. I noticed immature sporocarps on Friday 2nd. By the 7th they had matured and I collected them. I also noticed some immature sporocarps on big tree log about 2 metres away.

E. cerifera is among the relatively few species of slime mould that are easy to identify using a hand lens. However, its identification remained quite a mystery until I sent a collection to Paul George in Melbourne. An account of our communication *A fruitful collaboration: Elaeomyxa cerifera* appears in the [Fungimap Newsletter 43](#)

A short article about this species is on [this website](#).

As mentioned in the article, I started to search for slime moulds in 2010. At the time I wasn't collecting specimens but I was taking numerous field photographs and *E. cerifera* appeared regularly. I mainly found it on moss on large decaying eucalypt logs or stumps; I occasionally found it on wood. After only one year of observations I could have concluded that this was the most common species of slime mould at Black Sugarloaf. But what a different conclusion I would have reached had I started searching in 2011! In that year I chanced upon only one small cluster of *E. cerifera*.

Description: total height 1.2 mm

E. cerifera is a gregarious slime mould that appears in small clusters of about 20 usually stalked sporocarps. At all stages of development it is pretty distinctive. The most obvious feature in immature specimens is the thick yellow waxy collar at the top of the stipe below the sporotheca. The 0.6 mm stipe is dark brown or black with a granular texture. It is subcylindrical i.e. with slightly concave sides.

The 0.15 mm waxy collar darkens as the fruiting bodies mature.

The subglobose sporotheca (diameter 0.4 mm) has an iridescent peridium with blue, green, purple and copper reflections. The peridium eventually splits into petaloid lobes.

Poulain *et al* (2011) describes it as growing on dead wood. I usually find it on moss.



Maturing *Stemonitis*

November 7th 2012

On November 6th I collected a *Stemonitis* species that I first noticed on Thursday November 1st when it was no more than scattered piles of white shiny 'beads' (immature *Stemonitis* spp. can also be pink or yellow). A day later these had [elongated and changed colour](#) to dark reddish brown. The

scattered tufts of sporocarps were on the underside of a large eucalypt log in an advanced state of decay. Despite being a relatively sheltered place the sporangia became wet after rain on Friday 2nd and I thought they may not mature. When I checked on Tuesday (after a weekend away) they were in good condition to collect.

Description: Scattered group of tufted sporangia, stipe 4 mm black and shiny; sporotheca 4 mm pinkish brown. Total height 8 mm.

Substrate: On strongly decayed wood with clay-like consistency



Stemonitis axifera

Soon after collecting the above *Stemonitis* I noticed scattered groups of white 'beads' adjacent to the track. Like other slime moulds the appearance of the sporangia changed as they matured.



Stemonitis fusca

Description: Group of tufted sporangia. Stipe 3.5 mm, sporotheca 4.8 mm cylindrical, spores dark brown. Columella 4.3 mm.

Substrate: On leaf litter, twigs and strongly decayed moss-covered wood on ground.

On November 12th I collected yet another much smaller species of *Stemonitis*.

Description: Scattered small tufts of stalked sporangia. Stipe 1.2 mm dark shiny cylindrical. Sporotheca 2 mm pinkish brown.

Substrate: On strongly decayed fallen large eucalypt branch

Comatricha typhoides (called *Stemonitopsis typhina* in Poulain *et al*) was collected from a strongly decayed small log of *Pomaderris apetala* on 9th November. More sporangia appeared on the same log on November 18th.



small unidentified
Stemonitis sp.

C. typhoides
mature

C. typhoides
immature

References

- ¹Martin, GW & Alexopoulos, CJ *The Myxomycetes* (1969) University of Iowa Press, Iowa City
- ²Stephenson, SL & Stempen H (1994) *Myxomycetes a handbook of slime moulds*, Timber Press, Oregon

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