

***Physarum pusillum* (Berk. & Curt.) G. Lister – PDD 110401 (= AEB SM21) See also Ann's other Australian collection of this species: PDD 110389 (= AEB SM9) – Australian collection number = A193**

**Australian collection designation: A134**

**Substrate: most likely kangaroo dung**

**Collection site: Canning Stock Route, head of Durba Gorge, top of Durba Hills, Western Australia, Long. 122° 30', Lat. 22° 40', habitat vegetation - Spinifex**

**Collector: Sue Palmer**

**Collection date: August 1997**

**Incubation date: 11 July 2005**

**Date first seen: 5 December 2005**

**Identifier: Ann Bell (as part of her work for the Australian Biological Resources Study – ABRS)**

**Fungi also observed by Ann on this incubation of A134: *Iodophanus carneus*, *Hypocopra anomala*, *Lasiobolus trichoboloides*, *Saccobolus portoricensis/globuliferellus* (?), *Sordaria alcina*, *Sporormiella subtilis/cymatomera* (?), *Trichodelitschia munkii***

**Voucher materials: Photos of sclerotia and sporangia (dissecting scope), one Shear's mounting fluid (SMF) heated slide and dried herbarium material [the latter scant by comparison with that for the *P. pusillum* PDD 110389 (= AEB SM9) collection – Australian collection number = A193].**

**Brief description:** (from Dan's observations on 9 Feb. 2006) **Plasmodium** remnants seen clearly as tracks on the filter paper on which the dung was incubating. These were faint straw yellow to straw yellow-brown with what appeared to be areas of **small straw-yellow sclerotia**. **Sporangia** on the dung and surrounding filter paper, usually stalked but some stalks short or seemingly absent, mostly 400–750 µm across but somewhat compressed dorsa-ventrally, with low white, globular to elongate calcareous mounds (granular like the capillitial nodes) over most of the peridium (these sometimes anastomosing)...except that portion near the sporangiophore where a modified 'calyculus' was conspicuous, and calcareous mounds lacking (this 'calyculus' area varied from flat where sporangia were more compressed to conical when not so compressed and these 'calyculi' varied from faint grayish to a color similar to that of the sporangiophore). Portions of the peridium were sometimes free of calcareous mounds and here the violet brown to blackish color of the inner spore mass was quite evident. **Sporangiophores** simple or branching once near their base, solid, colored straw-yellow brown to darker yellow brown to brown with a hint of red, with longitudinal strands; in length up to one and a half (or slightly more) times the greatest sporangial diameter. **Capillitium** most obvious in the basal region where white granular lumpy to elongate, simple or branched lime nodes were obvious and were joined to each other by thinner non-calcareous hyaline strands. The calcareous granules mostly disappeared after 24 hours in the briefly heated SMF slide. **Spores** globose, violet brown, faintly but distinctly verruculose and 11–12 µm (n=10) in diameter.

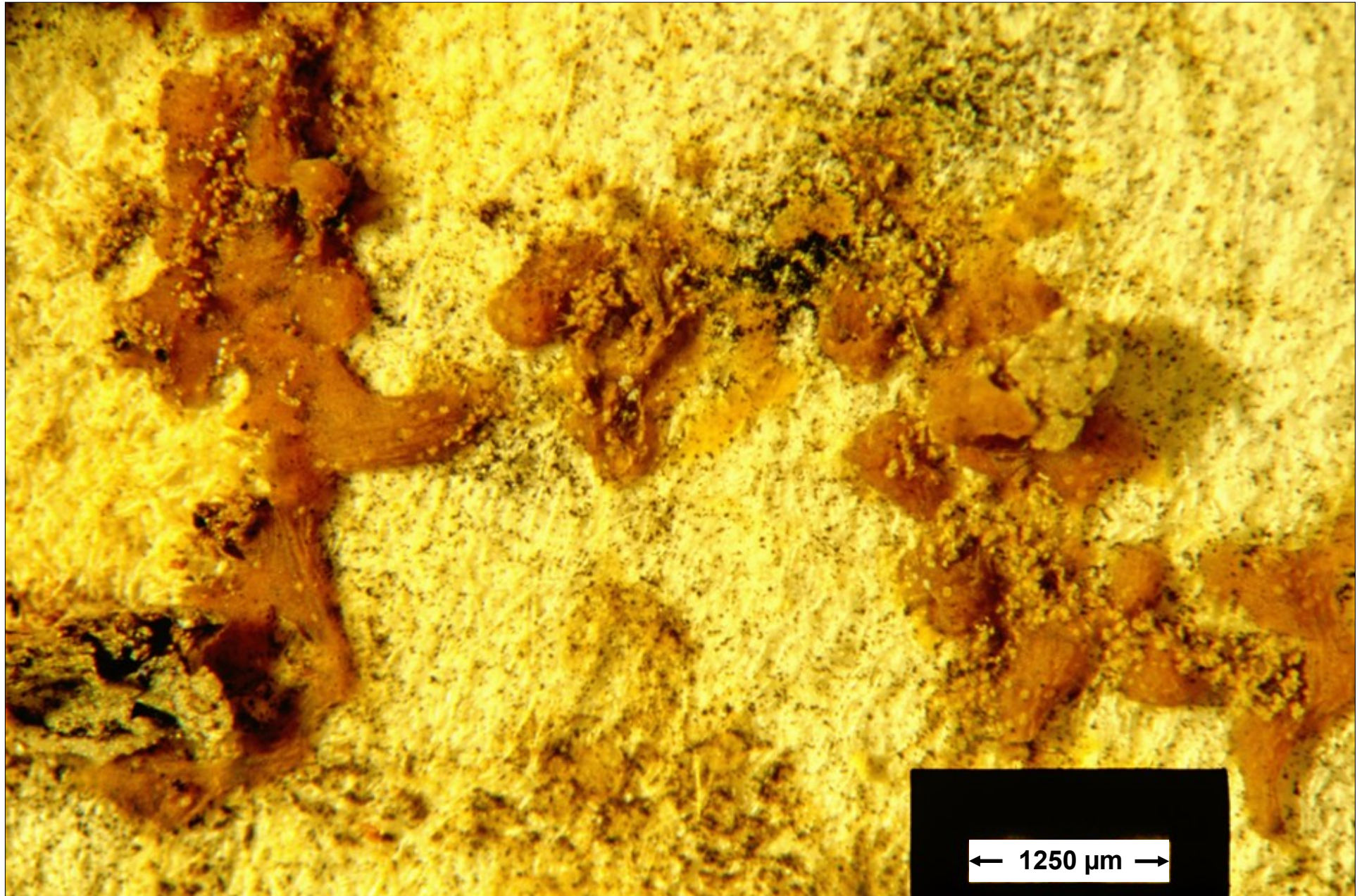
**Comments:** Of note here are 1) The pigmented plasmodium (Martin & Alexopoulos, 1969, report a white plasmodium). 2) The small fragments of what I believe are yellow sclerotia on the filter paper on which the dung was incubating (not reported elsewhere). 3) The small sporangia with lime mounds on the peridium (lime lacking on the more persistent peridial base). 4) Sporangiophores without lime and brownish to straw-brown with hints of red. 5) Lack of columella and 6) Representative lime nodes and spores that fit ***Physarum pusillum*** quite well.

Fruiting bodies of this species in A193 had yellow lime nodes as viewed among the spore mass with the dissecting scope. A134, however, had white lime nodes with no trace of yellow.

Of interest are earlier reports of this species from dung in desert and warmer habitats [see summary papers on coprophilous myxomycetes by Eliasson and Lundqvist (1979) and Eliasson and Keller (1999)].

Also of interest was this picture on the cover of *Mycologia*:





*Physarum pusillum*. PDD 110401 (= AEB SM21, Australian collection # A134). Photo 13 March 2006 showing yellow sclerotia in-situ on filter paper where the kangaroo dung was incubating.



*Physarum pusillum*. PDD 110401 (= AEB SM21, Australian collection # A134). Photo 13 March 2006 showing fruiting bodies in-situ on filter paper where the kangaroo dung was incubating. Note the white lime on the sporangia peridia & the sporangiophore color.



*Physarum pusillum*. PDD 110401 (= AEB SM21, Australian collection # A134). Photo 13 March 2006 showing a fruiting body in-situ on filter paper where the kangaroo dung was incubating. Note the sporangium peridium with white lime above but not in the 'calyculus' below.