***Didymium bahiense* Gottsb. SM42 (= PDD 110419) – A good match to the description and illustration given by Stephenson in his Myxomycetes of New Zealand (pp. 156-157). This species is not covered in the 1969 Martin & Alexopoulos treatment because it was first described in Nova Hedwigia 15: 365, in 1968. As Stephenson says, many would now treat this and related species in the superspecies complex centering around *D. iridis*.**

Substrate: Pea straw, bits of grass and miscellaneous small plant debris

Collection date: 24 April 2006

Collection site: garden, Lower Hutt, New Zealand

Collector: Ann Bell

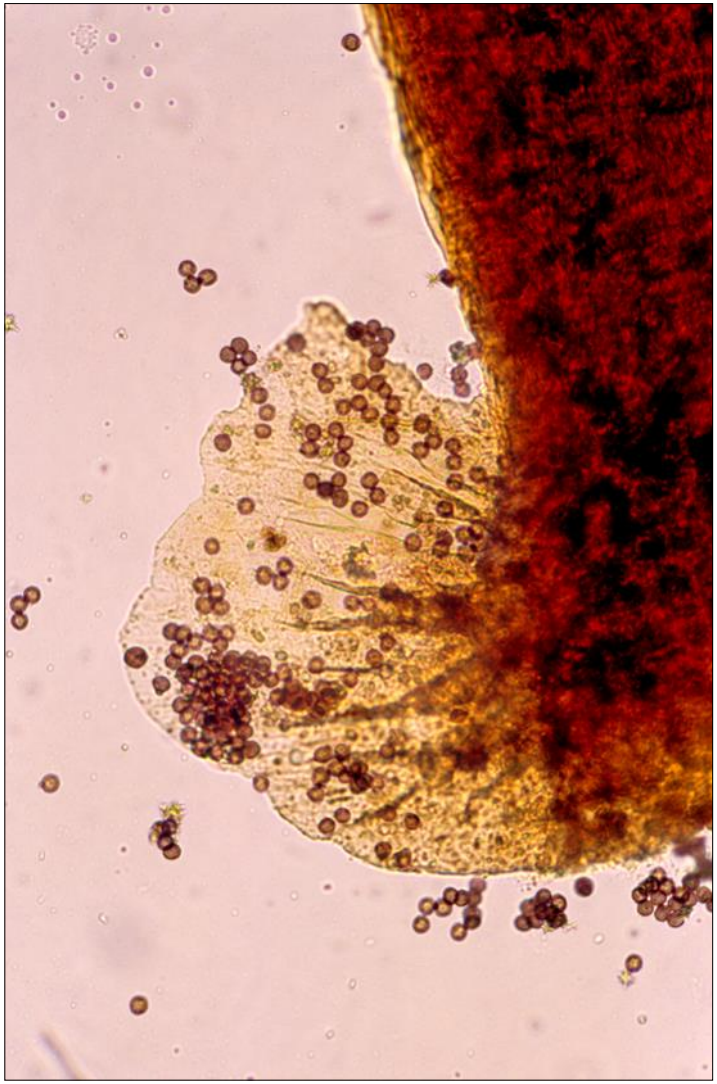
Identifier: Dan Mahoney

Voucher material: Dried herbarium specimen SM42 (= PDD 110419) accompanied by two Shear's mounting fluid (SMF) slides (first mounted in 70% EtOH and teased to break up the sporangia a bit, then irrigated with SMF and finally heated to remove the volatiles and bubbles); colored slide photos of the fresh in-situ fruiting bodies and microscopic detail of capillitium, spores, etc.

Brief description: **Sporangia** stalked, white (covered with many small, radially stellate, white calcareous crystals), nodding somewhat atop the stalk and slightly to deeply umbilicate where the stalk joins the sporangium, subglobose, depressed , 0.5–1.0 mm wide × 0.31–0.40(–0.58) mm in side view; **peridium** colorless or faintly brownish, thin, membranous; **stalks** arising from an obvious, thin, membranous, dark brown, radially veined **hypothallus** (an attachment which comes off with the stalk when sporangia were mounted); non-calcareous stalks composed of long fibrillar strands, at first straw-colored (some remaining so) but usually becoming blackish in the lower and mid portions and lighter rusty brown to straw-brown nearer the sporangium, tapering from base to narrow apex, 0.83–1.0(–1.5) mm tall × roughly 125 µm near the base; **sporangia dehiscing** irregularly to expose the dark purple brown to blackish spore mass and the whitish flat, orbicular, calcareous **pseudocolumella** and numerous non-calcareous **capillitial threads** originating from this columella-like body and the basal portion of the sporangium; **pseudocolumella** of calcareous material, seemingly granular; **capillitial threads** hyaline, non-calcareous, smooth to unevenly roughened with occasional small nodes, strikingly zig-zag or sinuous [especially in my 70% EtOH, SMF irrigated (and heated) mount, less so in my 70% EtOH, water irrigated mount] branching and anastomosing (but with long stretches without branching or anastomosing), 1–2 µm wide or slightly wider at branches and anastomoses; **spores** globose (sometimes appearing broadly angular), violaceous brown, verruculose (warting low, but even and obvious), 10–11 µm in diameter.

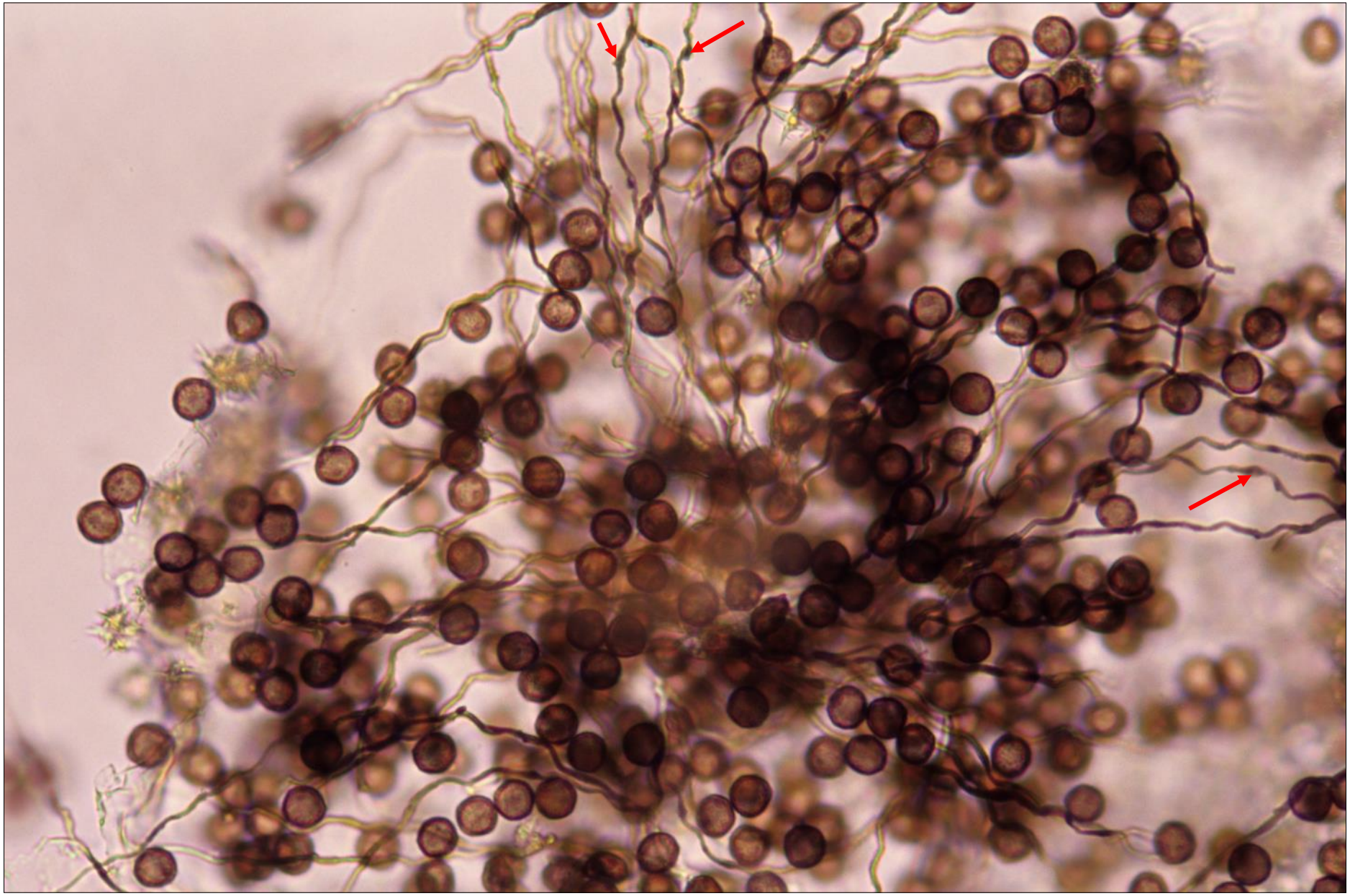
SM42. Fresh fruiting bodies in-situ on pea straw mulch

SM42. Fresh fruiting bodies in-situ on living grass leaf

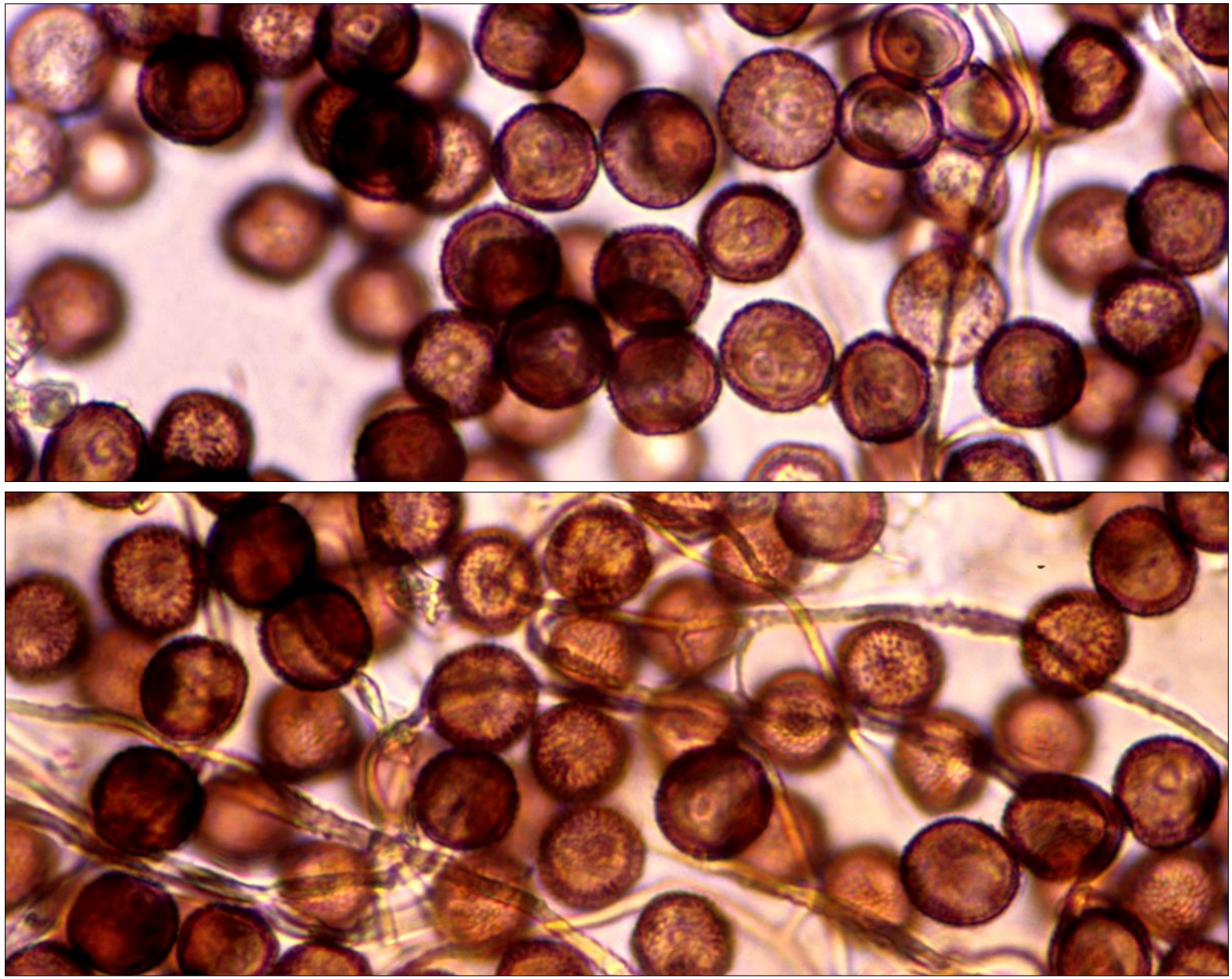


SM42. Left photo: fresh fruiting body in-situ on living grass leaf. Right photo: brown hypothallus at base of the stalk (note that it is strengthened by fibrils extending outward from the stalk), SMF mount (heated), X40 objective, brightfield microscopy.

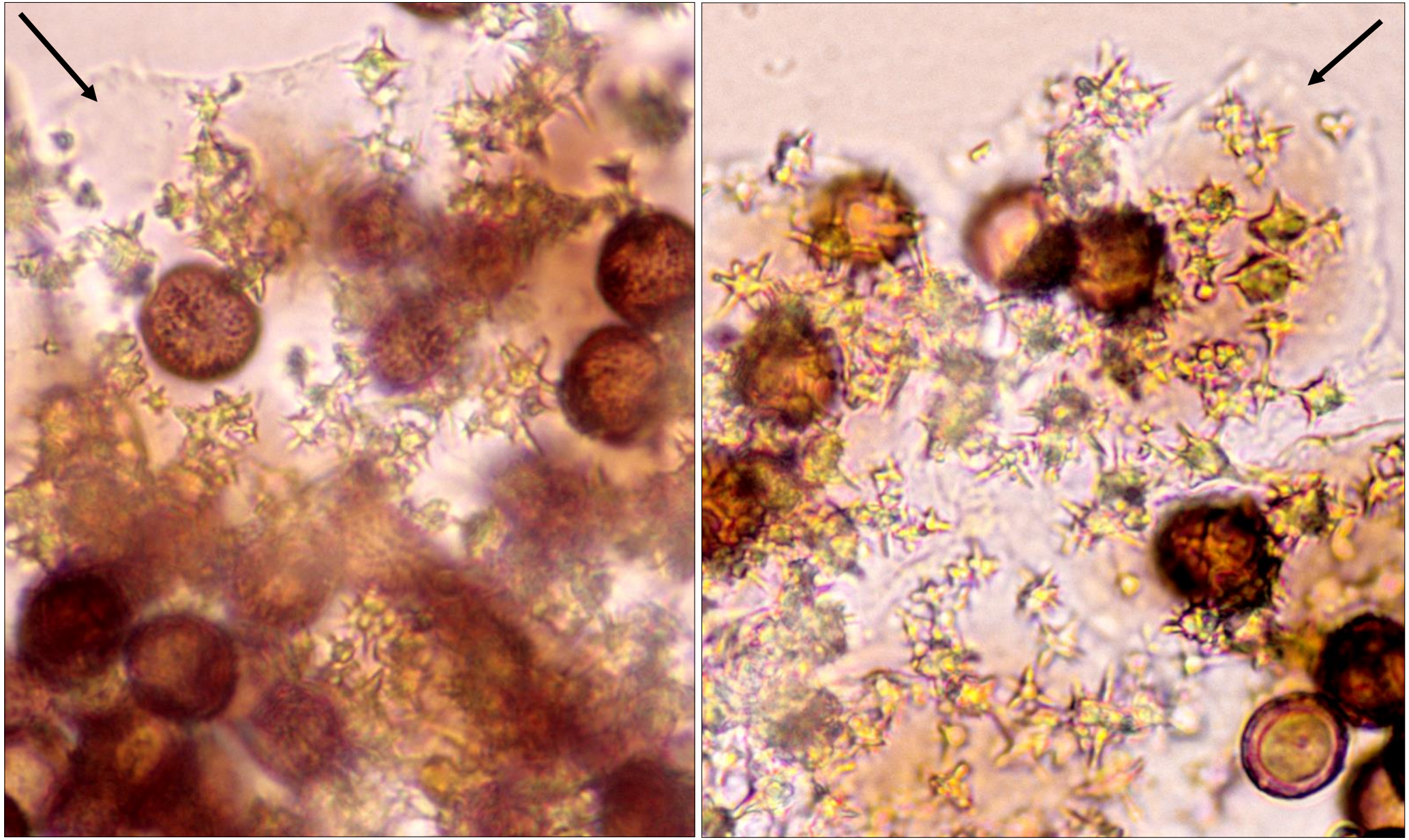
This photo by Sarah Lloyd is the best I've seen of a morphological feature most clearly seen in an older collection where most of the spores have been dispersed, leaving a clear view of the white pseudocolumella at the tip of the stalk (arrowed). My 2 collections of this species (SM42 & SM92) include mature fruiting bodies but none that have dispersed their spores. Although I've tried to demonstrate this feature in my photos, none show the pseudocolumella as clearly as Sarah's. Her photo can be reached online here:
Identification – Tasmanian Myxomycetes
sarahlloydmyxos.wordpress.com › identification



SM42. Spores and zig-zag capillitial threads with occasional small nodes (arrowed). SMF mount (heated), X40 objective and brightfield microscopy.



SM42. Both photos with spores and non-calcareous capillitial threads. 70% EtOH mount irrigated with water, X100 oil immersion objective, brightfield microscopy.



SM42. Both photos with stellate calcareous crystals on the hyaline peridium (peridium arrowed) plus a few spores. 70% EtOH mount irrigated with water, X100 oil immersion objective, brightfield microscopy. The stellate crystals are yellowish here although white on the peridium surface. I am at a loss to explain the chromatic aberration.