

***Hemitrichia serpula* (Scop.) Rostaf. ex Lister SM54 (= PDD 110427)** – a good fit but note the cream to dull yellowish color of the plasmodiocarp which is the result, I believe, of its position on the substrate.

Substrate: very moist, completely dark undersurface of an old moss-covered log

Collection site: Kaitoke Regional Park north of Upper Hutt off Highway Two

Collection date: 17 January 2007

Collector and identifier: Dan Mahoney

Voucher materials: dried herbarium material SM54 (= PDD 110427), accompanied by three Shear's mounting fluid (SMF) heated semi-permanent slide mounts; colored projection slides (best scanned) from dissecting and compound scope microscopy

Brief description: I was fortunate to view the good-sized **plasmodiocarp reticulum** in its original and drying stages. As first viewed, the plasmodiocarp (rounded and somewhat less than 1 mm in diameter) was wet and flesh to dull cream-colored or dull yellowish with a **flesh-colored hypothallus** beneath the entire plasmodiocarp (see photo). Parts of it were broken open but most of it was closed with a blackish line running longitudinally along its upper center. As it dried in the heat of the observation light, the peridium broke at the black line and folded back on either side exposing a **dark yellow spore/capillitial mass** (see photo). The **capillitium** was dark yellow to yellowish orange and composed of long occasionally branched spirally ornamented threads (to 8 μm in width) bearing conspicuous spines (to 3 μm long). As I watched, these threads began to expand and the spores 'popped' away like popcorn. The **spores** were globose and ornamented with a widely spaced, prominent reticulate ridging. Spores plus reticulate ridges were light yellow (dark yellow in mass) and 13–15 μm in diameter.



All plasmodiocarp photos are from this field of view. Note here that 1) the peridium is mostly still intact and 2) the capillitium and spores aren't exposed. Other photos show the gradual splitting of the peridium at its dark mid-line to expose the capillitium and spore mass. Once this has occurred the capillitium expands greatly and the spores are shed (often 'popping' free).



Fresh plasmodiocarp in situ on the substrate. Note that 1) the peridium is opening to expose the capillitium and spore mass but 2) the capillitium hasn't expanded yet.



Fresh plasmodiocarp in situ on the substrate. Note that 1) the peridium is opening, or has opened, to expose the capillitium and spore mass and 2) in the uppermost portion the capillitium has expanded.



Fresh plasmodiocarp in situ on the substrate. A closeup to show the gradual expansion of the exposed capillitium.



Fresh plasmodiocarp in situ on the substrate. Note here that 1) the peridium is mostly still intact and 2) the capillitium and spores aren't exposed. This photo and photos on the next two pages show the same field of view as the peridium splits open and the capillitium expands.



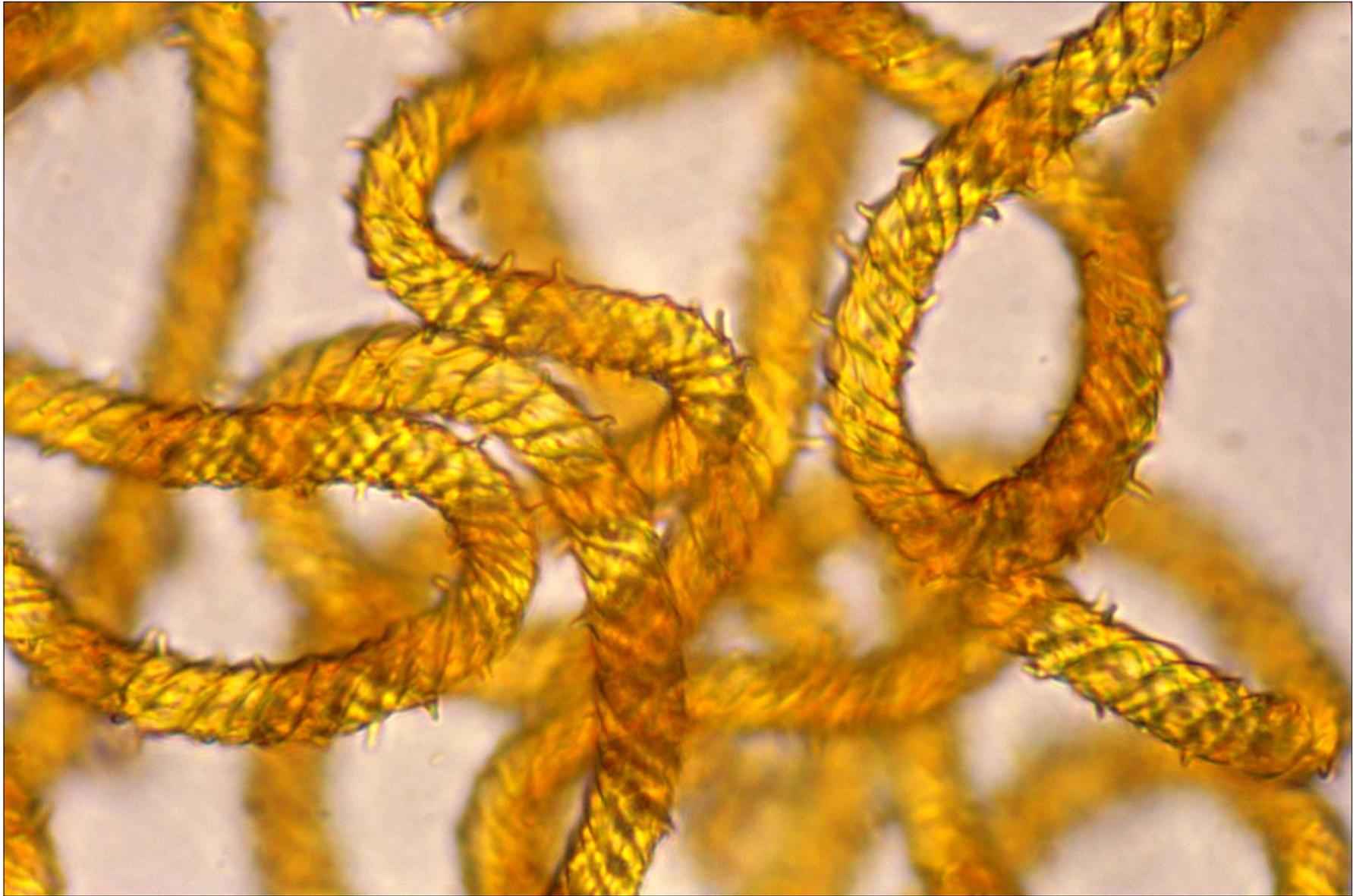
Fresh plasmodiocarp in situ on the substrate. Somewhat later view of the previous photo as the peridium has split on several fruiting bodies and the capillitium has expanded.



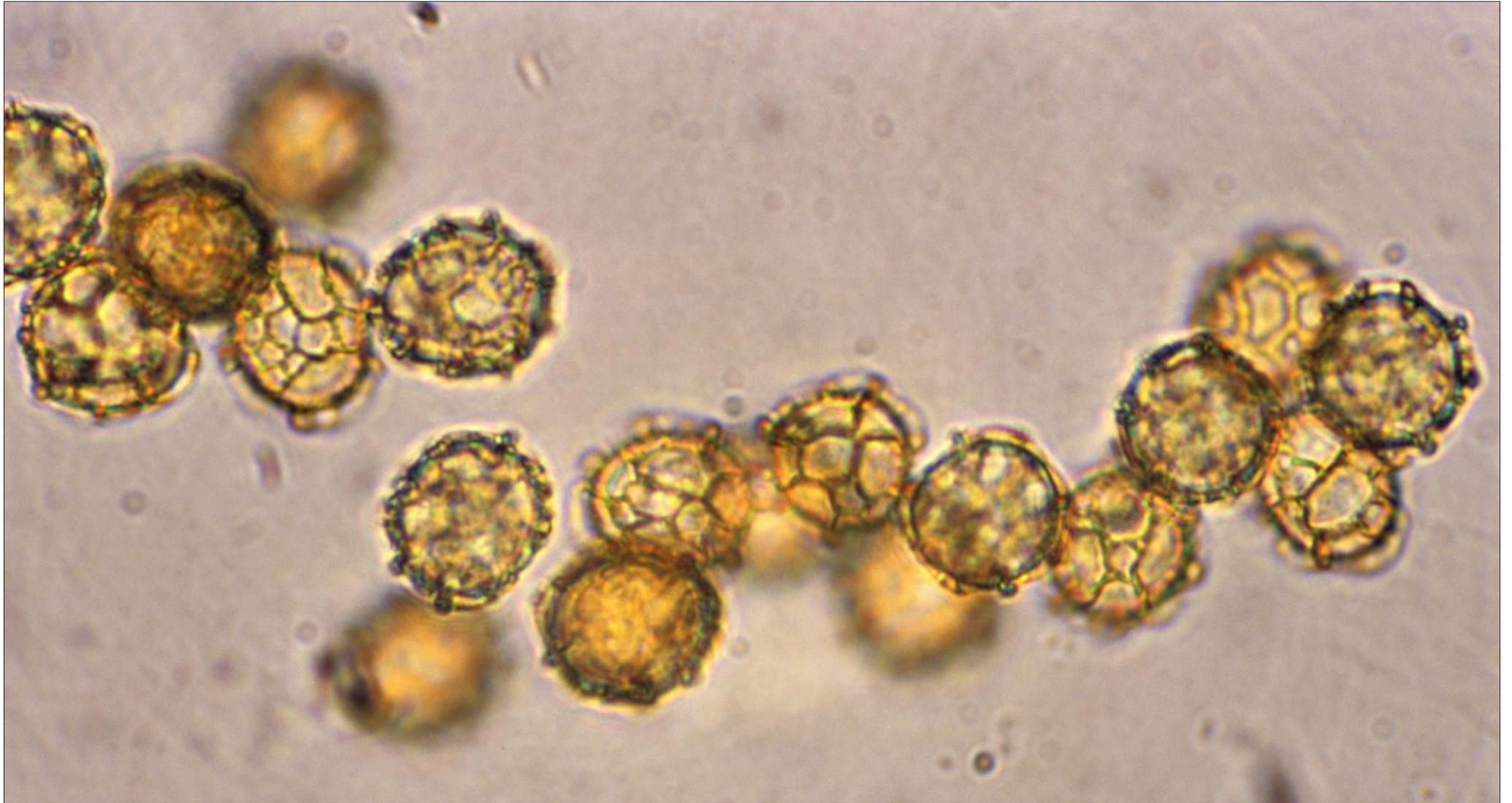
View of the opened, dry, in situ plasmodiocarp that was shown gradually opening in the past two pages. Note that the capillitium is fully expanded in most fruiting bodies.



Compare this field of view with its opened, dry, in situ plasmodiocarp with that of the same field of view presented in the first photo at the same magnification, but 8 days later. In this photo note that the capillitium is fully expanded in most fruiting bodies.



Capillitial threads in a water mount, photographed under the $\times 100$ oil immersion objective using brightfield microscopy. Note the characteristic spines and spiral ornamentation.



Spores in a water mount, photographed under the $\times 100$ oil immersion objective using brightfield microscopy. Note the reticulate ridges on the spore surfaces.