***Chionomyces meliolicola* (Ciferri) Deighton & Pirozynski – PDD 126090 (= AEB 1405)**

Substrate: red deer (*Cervus elaphus*) dung
Collected: 9 June 2025; **Incubated in a moist chamber:** 17 June 2025
Collection site: Pureora Forest, Tunawaea, E1813236 N5748144 alt. 544m
Collectors: Ian Flux & Merryl Park; **Identifier:** Dan Mahoney
Voucher materials: No dried red deer dung pellets but one Shear's mounting fluid (SMF) slide mount; in-situ photos of conidial stage on the moist chamber incubated red deer dung taken 23 & 25 June using a Zeiss SV 11 Stereo-zoom dissecting microscope and a MC80 camera; conidium detail photos taken 23 & 25 June in water & Shear's mounting fluid (SMF) mounts using an Olympus BX51 compound scope and a DP28 camera; references consulted and Dan's brief description.

References consulted:

1. Seifert K, Morgan-Jones G, Gams W, Kendrick B. 2011. The Genera of Hyphomycetes. CBS Biodiversity Series no. 9: 1–997. CBS-KNAW Fungal Biodiversity Centre, Utrecht, Netherlands. (see pp. 137 & 714-Plate 232C).
2. Deighton F.C. & Pirozynski K.A. 1972. Microfungi. V. More hyperparasitic hyphomycetes. Mycological Papers. 128: 1–110. Portions on *Chionomyces meliolicola* (pp. 75–78) are shown on the next 2 pages.

Brief description of AEB 1405:

This conidial fungus arrived by accident. Its conidia tell most of the identification story. I was making a water mount of *Saccobolus verrucisporus* and, instead, this tiny obscure fungus appeared on the slide. Further searches revealed its occasional surface fruiting on the dung & a nearby twig. These were difficult to photograph and required the use of high magnifications on the Zeiss scope. My photos show the simple conidiophores with apical clusters of conidia. I tried to mount intact conidiophores with young conidia attached and had little success (see my one photo embedded in my 2nd phase-photo page in this pdf). The conidia retain a detachment denticle and the septation process was as Deighton & Pirozynski describe. The conidium apical cell narrows abruptly into a long narrow straight or curving beak-like projection. The conidial size of AEB 1405 was extremely variable, depending on the length of the beak. My measurements (50–105+ × 6–8 µm, n=20) fall within the full published range, some longer and narrower. Close observation under phase seemed to indicate a narrow, rounded end at the beginning of the beak but this is not mentioned or illustrated in the Deighton and Pirozynski description (see arrowed conidia in my first phase photo-page). The structural makeup and development of the narrow beak hasn't been determined.

Deighton F.C. & Pirozynski K.A. 1972. Microfungi. V. More hyperparasitic hyphomycetes. Mycological Papers. 128: 1–110.
Portions of pp. 75 & 76 on *Chionomyces meliolicola* are shown below.

Chionomyces meliolicola (Ciferri) Deighton & Pirozynski, comb. nov. (Fig. 40).

≡*Monacrosporium meliolicola* Ciferri, *Annls mycol.* **36**: 244 (1938).
=*Eriomycopsis meliolae* Hansford, *Bothalia* **4** (2): 468 (1942).
=*Eriomycopsis robusta* Hansford, *Bothalia* **4** (2): 468 (1942).

Colonies effuse, white, floccose. *Mycelium* composed of repent, colourless, undulate, much branched, septate, thin- and smooth-walled hyphae 2–3μ wide, thickly overgrowing superficial mycelium of leaf ascomycetes and bearing conidiophores as lateral branches. *Conidiophores* scattered singly or grouped into loose fascicles, more or less erect, simple, colourless, straight or flexuous, with thick, refractive walls particularly towards the base, closely and distinctly septate throughout or with the septa concentrated in the upper half, variable in length, up to 400μ long and (5–) 6–8·5 (–10)μ wide. *Conidia* produced successively, one at a time, from the tips of the conidiophores which proliferate percurrently by flipping the entire conidial scar to one side and growing through the opening to leave behind a series of pseudoannellations. Alternatively, the conidiophores at intervals resume growth some distance below the apex, break through the lateral wall, and by their proliferation displace the old conidial scars to one side: this process may be repeated several times and results in sympodial, geniculate conidiophores. Both

The continuation of the above paragraph is shown at the upper left on the next page.

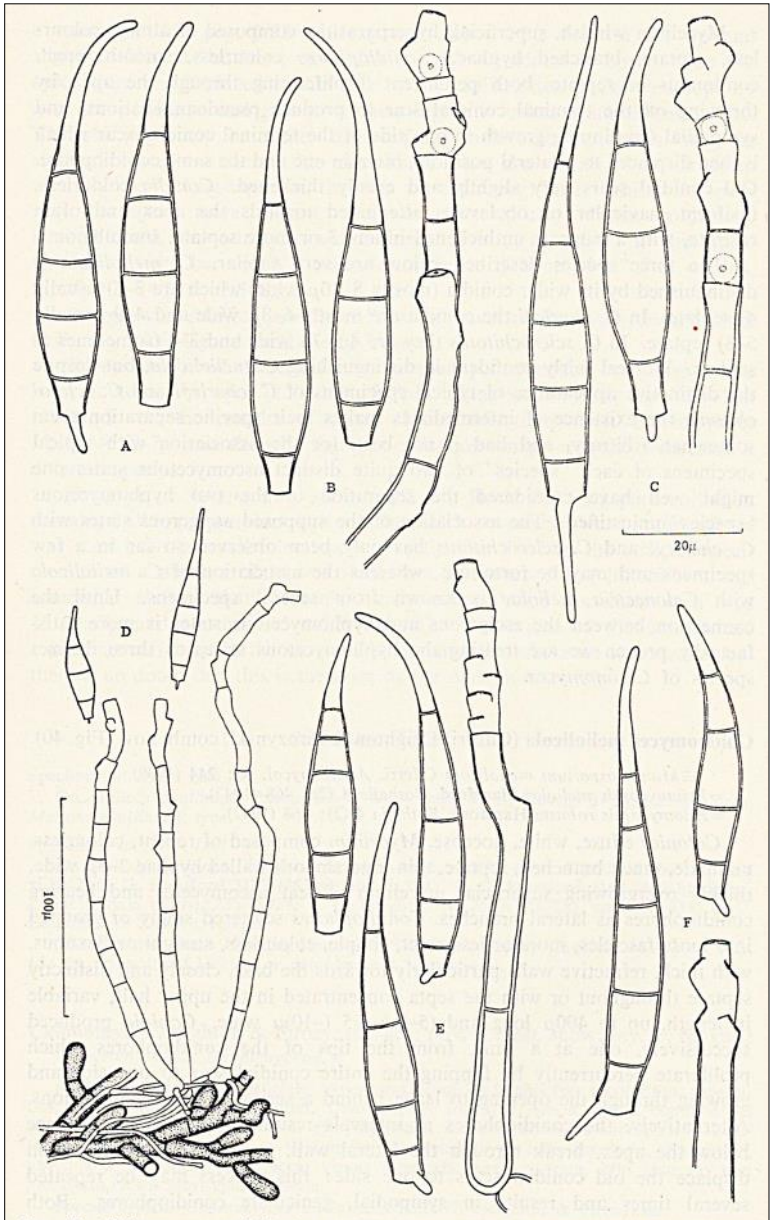


FIG. 40. *Chionomyces meliolicola*. A, from the type of *Monacrosporium meliolicola* (59425b). B, from the type of *Eriomycopsis meliolae* (18399b). C, from 4705a. D, from 5194b. E, from 37651b. F, from the type of *Eriomycopsis robusta* (8808a).

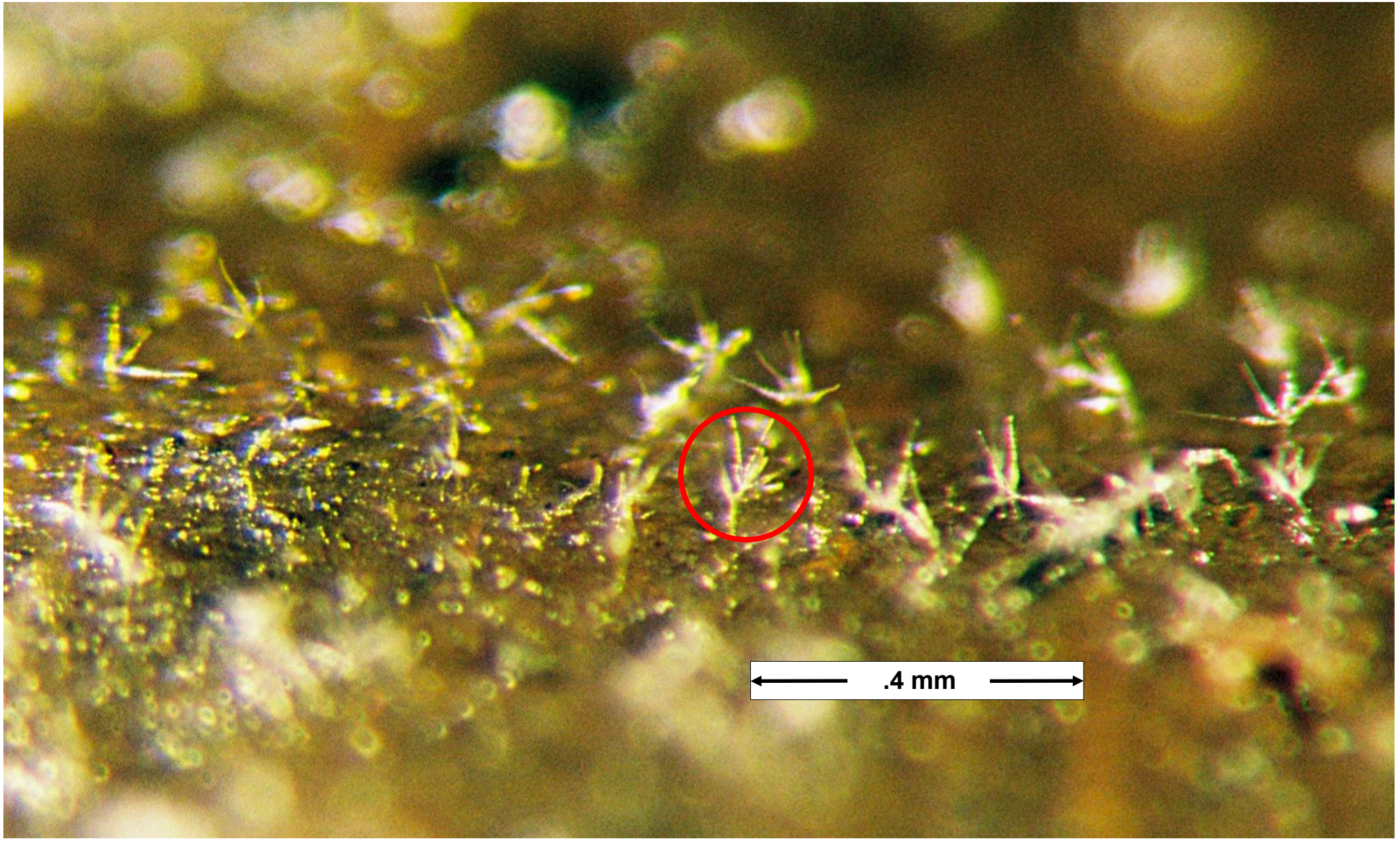
Deighton F.C. & Pirozynski K.A. 1972. Microfungi. V. More hyperparasitic hyphomycetes. Mycological Papers. 128: 1–110.
Portions of pp. 77 & 78 on *Chionomyces meliolicola* are shown below.

percurrent and sympodial proliferation often occurs in the one and the same conidiophore. The conidia are at first ovoid but soon elongate to produce a papillate apex. A septum appears near the base to cut off a short, truncate, basal cell 5–12μ long, and is soon followed by a second, more or less median septum. The distal end of the conidium elongates further to produce a sharply attenuated beak, and two or three additional septa are laid down. When mature the conidia secede by the splitting of the basal septum with most of it remaining on the conidiophore in the form of a very slightly thickened scar. The frill-like fragments of lateral walls remain attached both to the conidiophores and the conidia. Mature conidia are spindle-shaped, colourless, thin- and smooth-walled, 3–5 (usually 4) septate, (40–) 50–80 (–95) × (7·5–) 8–10 (–12)μ, with a wide, truncate base and the apical cell narrowing abruptly into a beak-like projection which is frequently curved and 1·5–2·8μ wide at the apex. The conidia germinate by producing a germ tube from the centre or the periphery of the hilum, and later also from the tip of the rostrum.

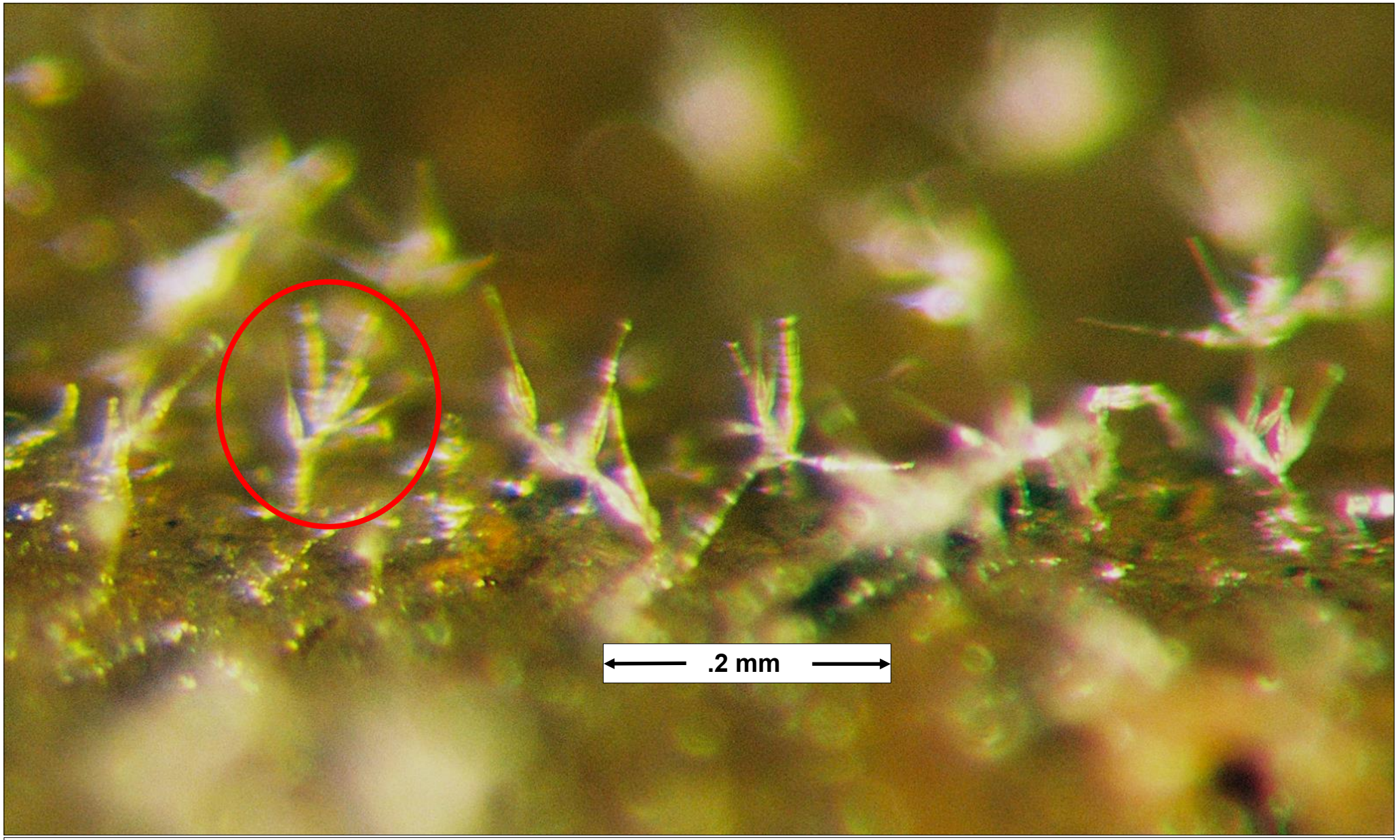
On *Amazonia*, *Irenopsis* and *Meliola* spp. in tropical East and West Africa and in the Dominican Republic.

The *pseudothecia*, which vary greatly in size and colour, are scattered among conidiophores on luxuriously growing colonies. They are at first small, about 100μ diam., sessile, globose, greyish white to cream-coloured or yellowish, and sparsely clothed with white, sterile hairs. Later they increase to 250–350μ diam., become broadly obovoid to turbinate, eventually subcupulate, yellowish orange or cream coloured but with distinct pinkish hue particularly around the ostiole, glabrous or nearly so, with the few remaining hairs confined to the base and sides. The wall is 4–5 cells thick, and the cells are rounded, 10–20μ across. Pseudothecial hairs 40–100μ long, 4–5μ wide, colourless, with thick, refractive walls, continuous, tapering slightly towards a blunt apex. *Asci* bitunicate, sessile to shortly nodose-stipulate, 120–180 × 15–20μ. *Pseudoparaphyses* filiform, branched. *Ascospores* 2-seriate, colourless, at first continuous becoming 3 septate (up to 5 septate in the original description), not or slightly constricted at one or more septa, fusiform, straight to somewhat unequal or curved, attenuated towards both extremities, or rounded above and attenuated below, varying in size from 25–30 × 6–8μ to 40–55 × 7–10μ in different specimens.

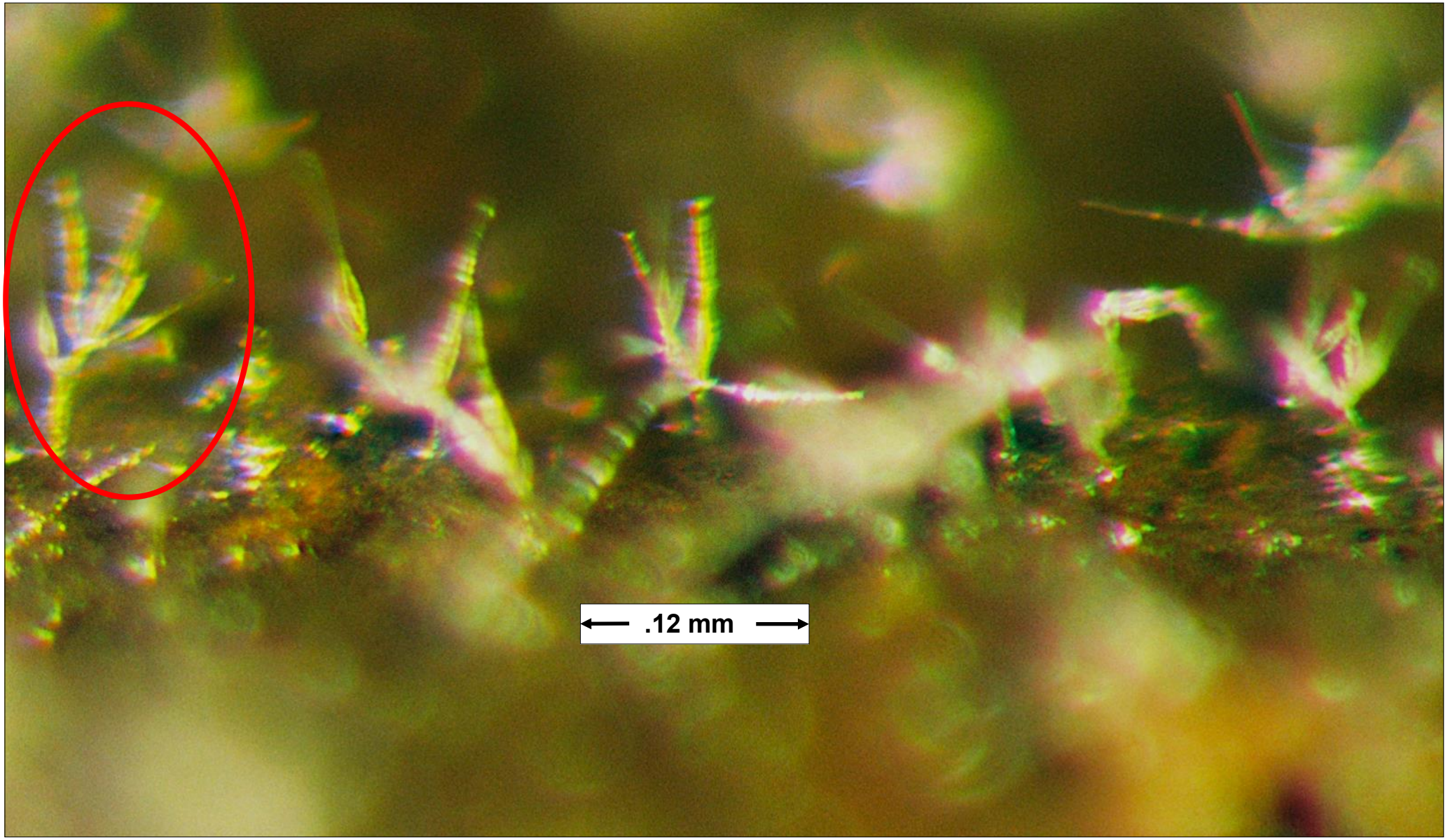
Chionomyces meliolicola is often associated with a pseudothecial fungus which Hansford considered to be its perfect state and described, *Proc. Linn. Soc. Lond.* **153**: 33 (1941), as *Calonectria meliolae* and which was found on the following specimens of those listed above: Hansford 1908 (25605b), Hansford 1909 (18399b) type of *Calonectria meliolae*, Hansford 3304 (4799a), Hansford 2834 (8803a), Hansford 2866 (8804a), Hansford 2874 (8805a), Hansford 3081 (5192a), Hansford 2029 (18407a) and Hansford 3083 (5194c).



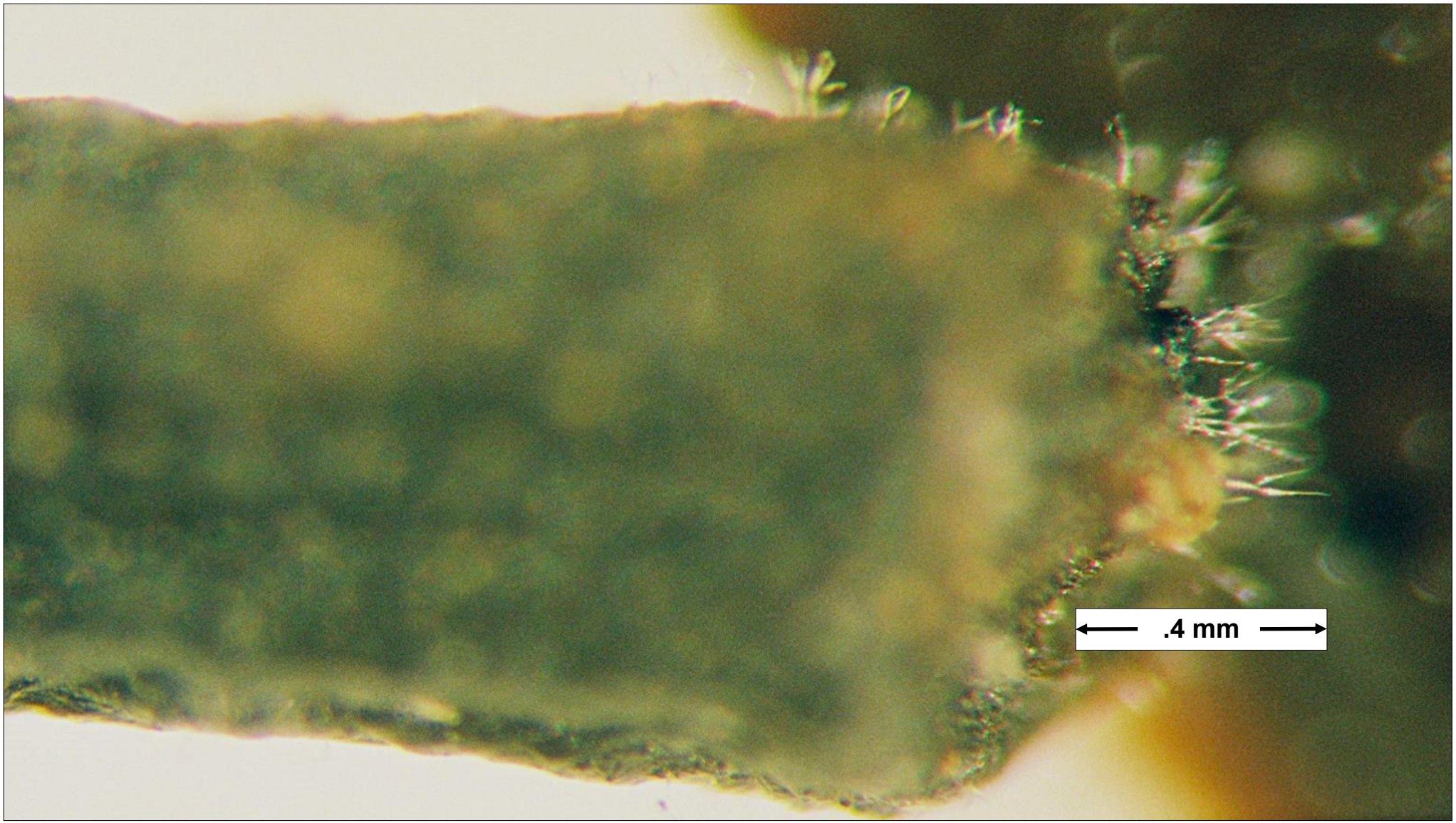
AEB 1405. In-situ view of fruiting structures on the surface of moist-chamber-incubated red deer dung. See the next 2 pages for higher magnifications from this field of view. Note the conidia produced in the apical portion of simple conidiophores – one red-circled conidiophore with conidia is shown here and on the next 2 pages.



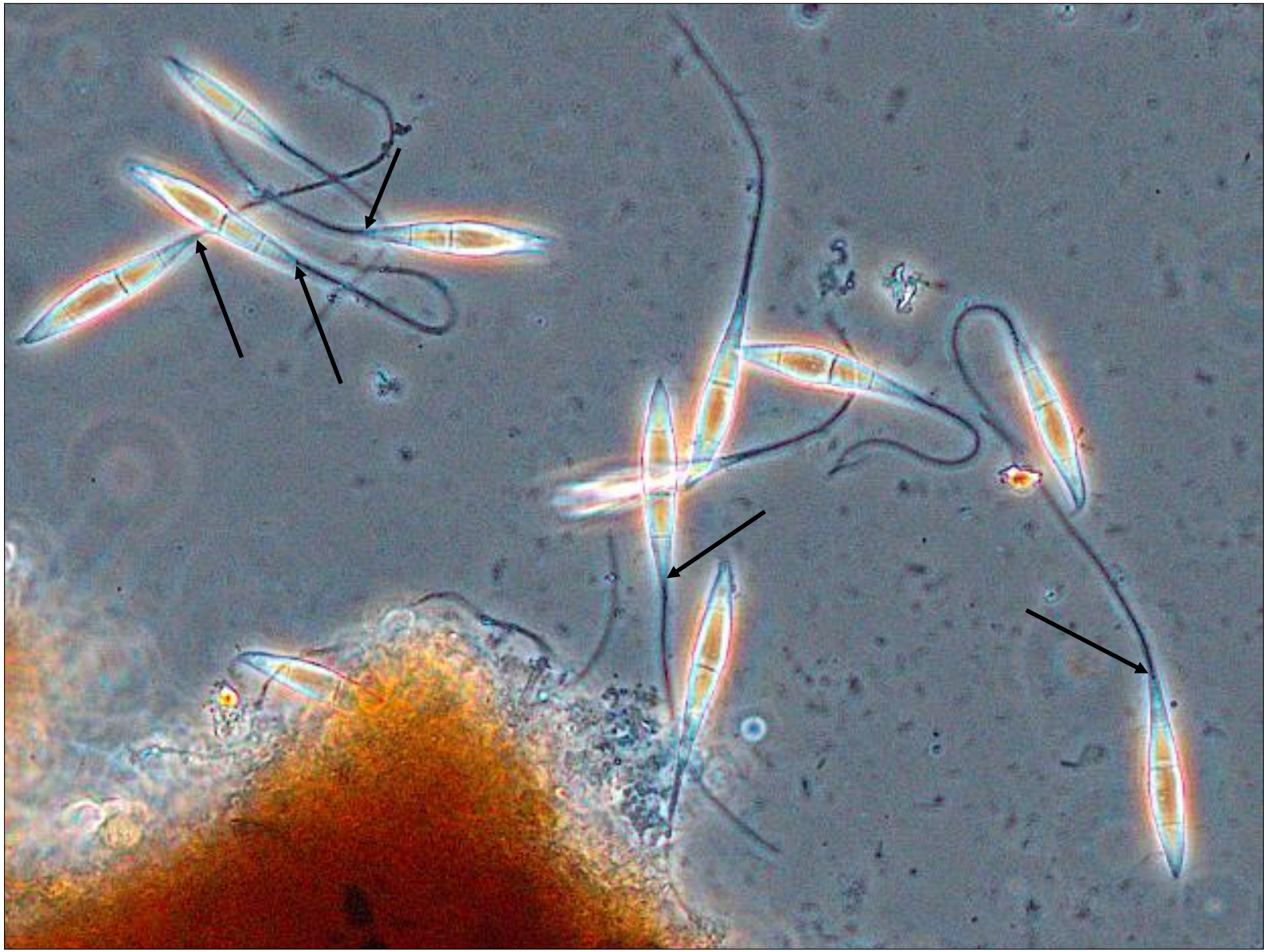
AEB 1405. In-situ view of fruiting structures on the surface of moist-chamber-incubated red deer dung. See the previous page for a lower magnification. Note the conidia produced in the apical portion of simple conidiophores – the same red-circled conidiophore with conidia shown on the previous page is also shown here.



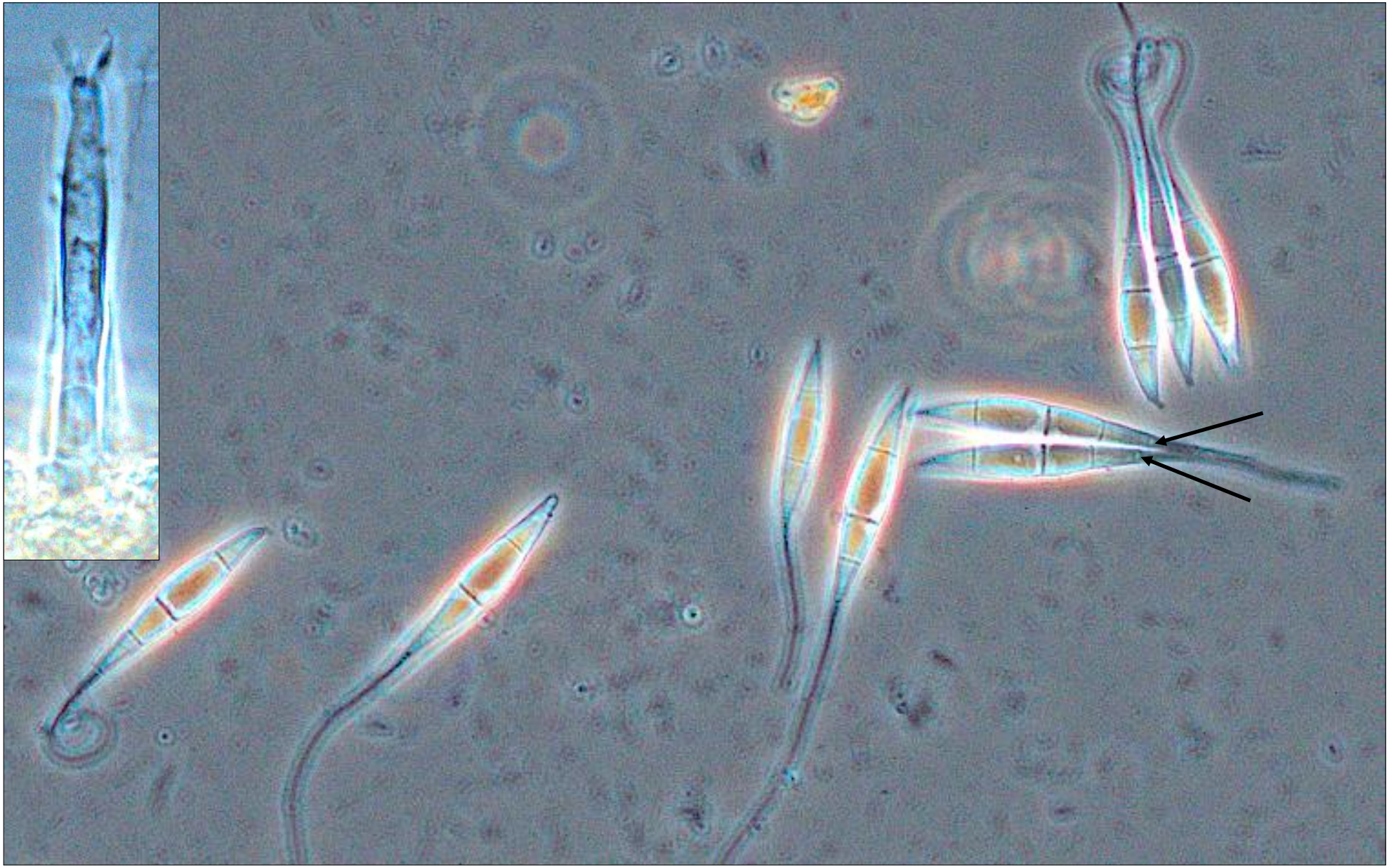
AEB 1405. In-situ view of fruiting structures on the surface of moist-chamber-incubated red deer dung. See the previous 2 pages for lower magnifications. Note the conidia produced in the apical portion of simple conidiophores – the same red-circled conidiophore with conidia shown on the previous 2 pages is also shown here.



AEB 1405. In-situ view of *Chionomyces meliolicola* fruiting structures on the surface of a small twig near the red deer dung in the same moist incubation chamber shown on the previous pages.



AEB 1405. Conidia in a water mount using the X40 objective and phase microscopy. All have 3 prominent septa & larger ones have a 4th less distinctive smaller septum near the base of the apical beak-like thread (see the next page for those with a 4th septum). Beyond the most apical septum & at the base of the thread is what appears to be a narrow, rounded end of the septate portion of the conidium – arrowed (see description on p. 1).



AEB 1405. A different more enlarged field of view (X40 objective) from the same slide used on the previous page. Here a less distinctive 4th septum can be seen (arrowed). Also embedded in this photo-page is my SMF X100 objective phase photo of a young conidiophore 40×5 µm with apically located immature conidia.

Both photos: AEB 1405. Conidia in a SMF mount using the X100 objective and brightfield microscopy. Top photo conidia are those from the previous page but reoriented. Arrows point to the 5 septa in adjoining conidia.