

***Basifimbria spinosa* Buffin & Hennebert – PDD 126762 (= AEB 1416)** See also earlier PDD & datastore records by Ann Bell and Dan Mahoney: PDD 126760 (= AEB 1415) and PDD 126761 (= AEB 1414) from the same cow dung collection.

**Collection site:** a flat grass paddock recently grazed (2-3 weeks earlier) by young female cattle (all about to calve for the first time). During the previous month they had been fed pasture with a daily ration of grass-based silage. (39° 52' 26.96" S, 175° 40' 11.21" E – elevation of ~278m), Mangaonoho (10 km N of Hunterville)

**Collection date:** 12 August 2025; **first observations in the collection container moist chamber:** 13 August

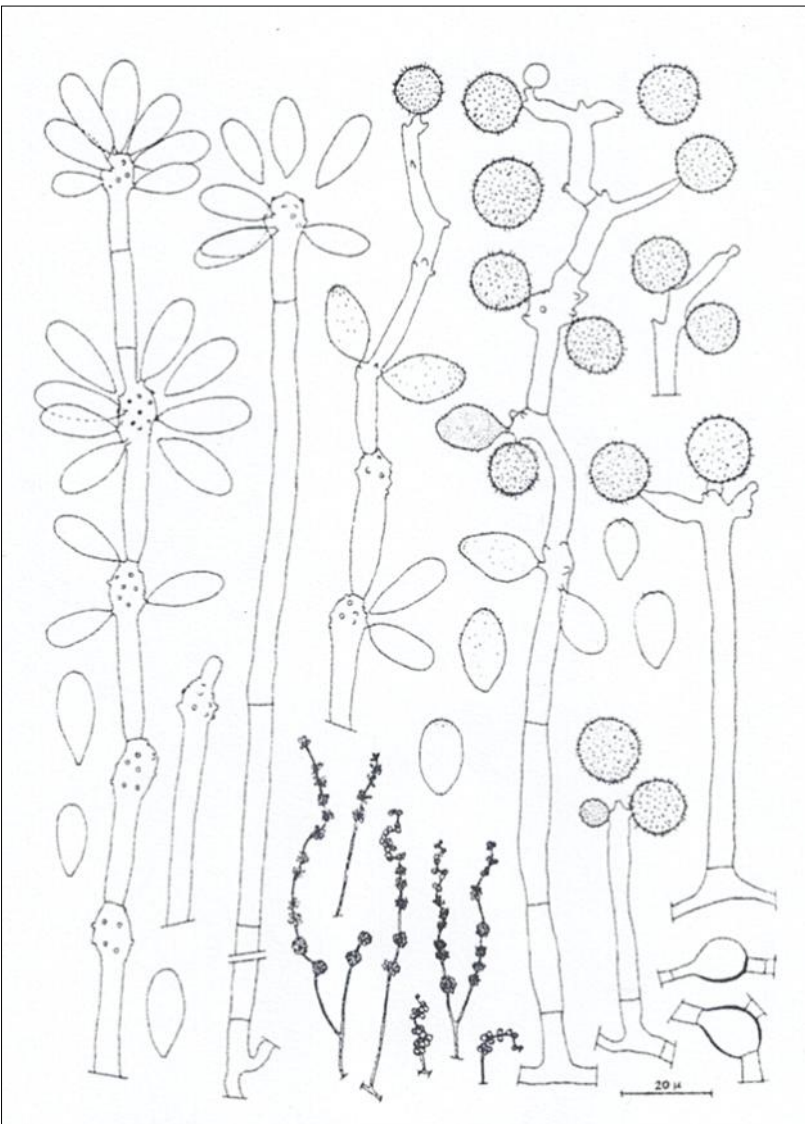
**Substrate:** cow (*Bos taurus*) dung; **Collector:** Stewart Bisset; **Identifier:** Dan Mahoney

**Voucher materials:** no dried cow dung specimen but 7 semipermanent glass slides (6 mounted in lacto-fuchsin and 1 in Shear's mounting fluid (SMF)); in-situ photos of the fruiting on cow dung using a Samsung Galaxy A70 smartphone camera and Olympus BX51 microscopic slide photos of morphological detail using a DP28 camera.

**Pertinent references:**

1. Subramanian CV & Lodha BC. 1968. Two interesting coprophilous fungi from India. *Current Science* 37: 245–248. **Created the genus *Basifimbria* with its type species *Basifimbria aurea* Subram. & Lodha.**
2. Buffin N & Hennebert GL. 1985. *Basifimbria spinosa*, a new pleoanamorphic coprophilous hyphomycete. *Proceedings of the Indian Academy of Sciences Section B.* 94: 259–267. **Abstract: A new coprophilous Hyphomycete *Basifimbria spinosa* Buffin and Hennebert is described. The fungus is characterized by sympodial conidiophores producing two intergrading types of successive blastoconidia. The ones *Arthrobotrys*-like, unseptate, elliptical and smooth, born on successive denticulate swelling apices of the conidiophore; the others are *Basifimbria*-like, sphaerical and spinose, born on irregularly denticulate zig-zag conidiophores. The whole range of the conidiogenetical variation may occur on the same conidiophore. This pleoanamorphic fungus is, however, given one binomial only. See reproduced portions of their article on the next page.**
3. Hennebert GL. 1991. Art. 59 and the problem with pleoanamorphic fungi. *Mycotaxon* 40: 479–496. **International Code of Botanical Nomenclature (ICBN) rule changes with emphasis on pleoanamorphic fungi. See pp. 485-490 for *B. spinosa*.**
4. Hennebert GL. 2005. Diagnosis and variability of coprophilous *Basifimbria aurea*. *Mycol. Res.* 109 (5): 595–602. **The variability in conidiogenesis of the coprophilous *Basifimbria aurea*, type species of the genus, is redescribed and illustrated, and is similar to that of *B. spinosa*. The distinction of the species from *Stenocephalopsis subalutaceam* (syn. *Rhinotrichum subalutaceum*) is emphasized.**
5. Zhang F, Boonmee S, Bhat JD, Xiao W & Yang XY. 2022 New *Arthrobotrys* Nematode-Trapping Species (Orbiliaceae) from Terrestrial Soils & Freshwater Sediments in China. *J Fungi (Basel)*. 8(7):671. **Includes *Arthrobotrys* key to species.**

Buffin N & Hennebert GL. 1985. *Basifimbria spinosa*, a new pleoanamorphic coprophilous hyphomycete. *Proceedings of the Indian Academy of Sciences Section B*. 94: 259–267. **Details of *Basifimbria spinosa* collected & isolated by G.L. Hennebert from horse dung in Belgium (24 Sept. 1976) are reproduced below from pp. 260–262**



***Basifimbria spinosa* Buffin & Hennebert:**

**Colonies** reaching 30 mm in diameter on CMA at 20°C after 5 days, submerged, translucent at the edge covered by delicate powder-like conidiation, reaching 24 mm in diameter on MYA 2% at 20°C (55 mm at 25°C; 15 mm at 30°C) after 5 days, with sparse aerial mycelium, light creamy to fulvous at sporulation. **Hyphae** hyaline, narrow, sinuose, septate at large intervals, 1.5–3.7 µm wide, thin-walled, sometimes slightly punctate. **Conidiophores** erect, rising from creeping narrow hyphae, simple or rarely branched, straight or geniculate, 100–1075 µm in length, 5.2–7.5 µm in diameter, the proliferation tapering to 3.7–4 µm in diameter, septate near the base and at regular intervals, smooth, thin-walled, producing successive terminal conidiogenous cells by axial or subaxial proliferations. **Conidiogenous cells** and **conidia** either of *Arthrotrrys* type or of *Basifimbria* type or intergrading from the former to the latter type on the same conidiophore. **Conidiogenous cell** of the *Arthrotrrys* type, sympodial, producing successive conidia acrogenously to subacrogenously in clusters at the increasingly swollen apex, proliferating axially with a septum above the original swelling and producing conidia on a denticulate swelling and so repeatedly at intervals of (25–)50–80(–125 µm. **Conidia** holoblastic, born successively on 1–1.5 µm wide denticles, at first apically then laterally on the increasingly swollen apex of the conidiogenous cell in cluster of up to 40 conidia, oboval to elliptical, rounded at the apex, (13–)15–22(–24.5) × 6–9 (–10.5) µm, smooth, hyaline, unseptate, thin-walled, seceding schizolytically, with a prominent 1–1.5 µm wide base bearing no frill, germinating apically or laterally by a long 2.5–3 µm wide germ tube. **Conidiogenous cell** of the *Basifimbria* type, sympodial, producing successive conidia acrogenously to subacrogenously, by small number or single at irregular intervals along the proliferating cell or on short branches, on denticles and without swelling, proliferating axially or often subaxially with sparse septa, giving a zig-zag pattern to the conidiophore. **Conidia** holoblastic, born successively on 1–1.5 µm wide denticles, apically or subapically irregularly grouped at the apex of the conidiogenous cell or on short lateral branches, globose (10.5–) 13–16 µm in diameter, conspicuously spinose, spines 1 µm long, thick-walled, fulvous in mass, pale luteous to bright ochraceous under the microscope, with or without separating cell, seceding schizolytically or rhexolytically mostly leaving no conspicuous frill at the conidium nor at the denticle. **Conidia** of intermediate type oboval or subglobose 15–18.5 × 11–16 µm thin to thick-walled, apically or partly and sparsely spinulose. Swollen cells, chlamydospores-like, born in hyphae often at bifurcate branching, intercalary, thin-walled, hyaline, smooth, 7–11 µm in diameter.

**Figure 1. *Basifimbria spinosa* from type material MUCL 20173, on culture of MYA 2%**

**Dan's comments:** When Stu Bisset made the collection on 12 August, he was attracted to the cow dung by the numerous yellow cup-like fungi on it. These Ann Bell and I identified as *Cheilymenia raripila* [see PDD 126760 (= AEB 1415)] which was accompanied by a numerous fruiting of *Pilobolus* sp. and, hiding in the crevices among the *Cheilymenia* & *Pilobolus*, was *Ascobolus immersus* [see PDD 126761 (= AEB 1414)]. At this point, one-half of the dung collection was dried to accompany the *Cheilymenia* PDD collection and semipermanent slides kept for the *Ascobolus* PDD. Other things then occupied my time so I left the other half of the collection alone, except for occasionally wetting as it dried and aged.

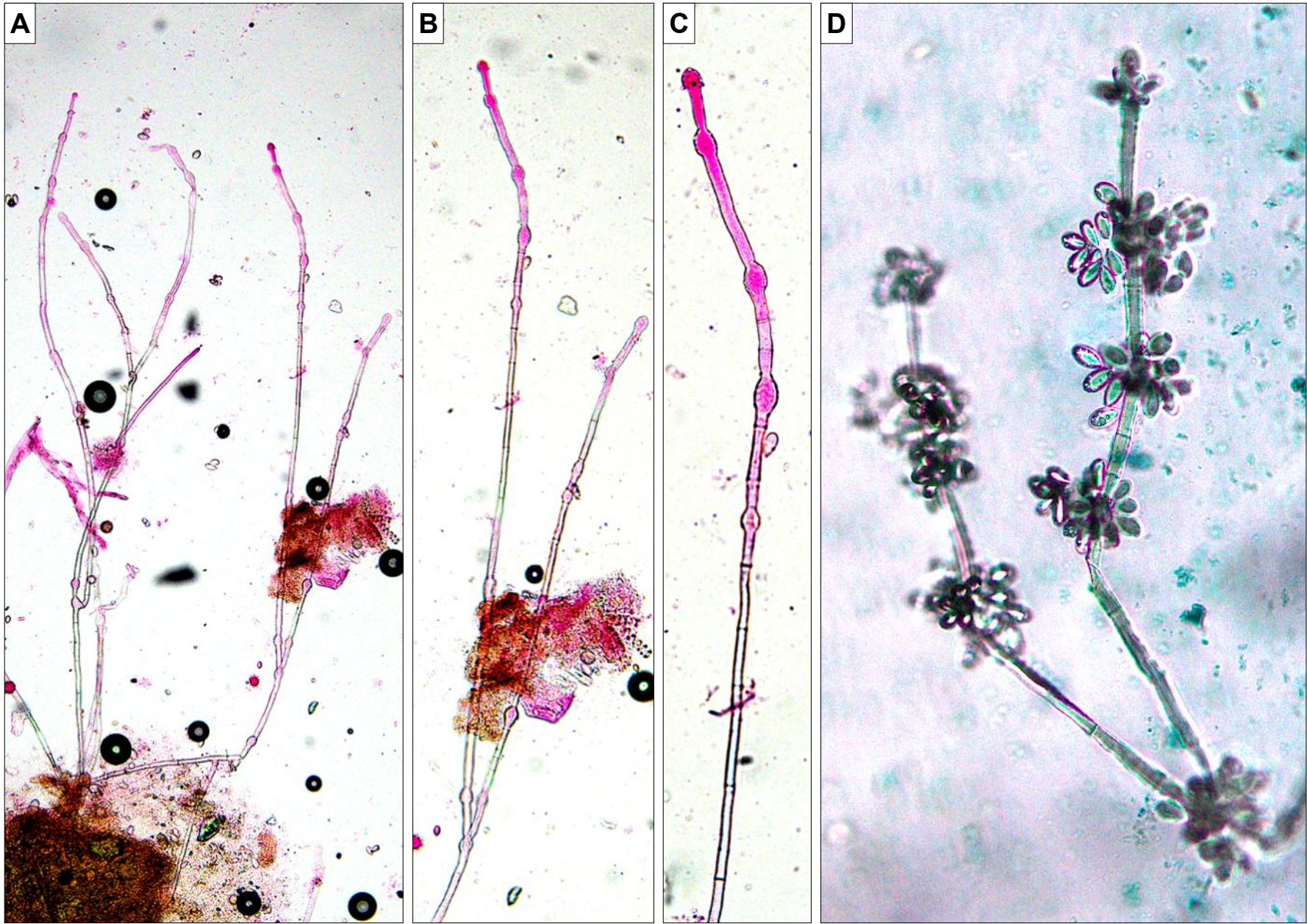
Returning to it on 10 September, the *Cheilymenia* and *Ascobolus* had dried but the *Pilobolus* was still evident. Closer observation, however, revealed an abundant tiny hyphomycete especially on the flanks of the dung. With my Zeiss dissecting scope MC80 camera not functional, I managed some photos with my Samsung Galaxy A70 smartphone camera and then worked on slide-mounted fruiting views periodically until 20 September. These at first revealed the short to longish (1mm±) conidiophores of an *Arthrotrys*-like species and then, nearer the dung surface, the simple and zig-zag conidiophores of the *Basifimbria* type. Both conidial types closely matched the illustrations and descriptions provided by Buffin and Hennebert in their 1985 publication.

On 10 September, and especially as the dung aged further, I noted larger 1-septate *Arthrotrys*-like conidia sometimes produced among the smaller aseptate conidia at conidiogenous swellings on the *Arthrotrys* conidiophores. These larger septate *Arthrotrys*-like cells seem to be a variation not described by Buffin & Hennebert. The following pages illustrate and describe my Samsung camera and slide preparations: first for the typical narrow *Arthrotrys*-like conidia at swellings along the straight to occasionally branching conidiophores, next the occasional larger, septate conidia at the same conidiophore swellings and finally the conidiogeny of *Basifimbria* spinose conidia.

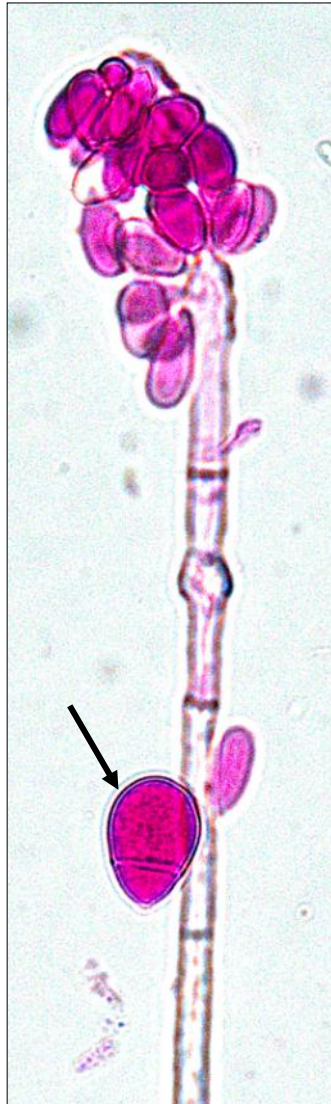
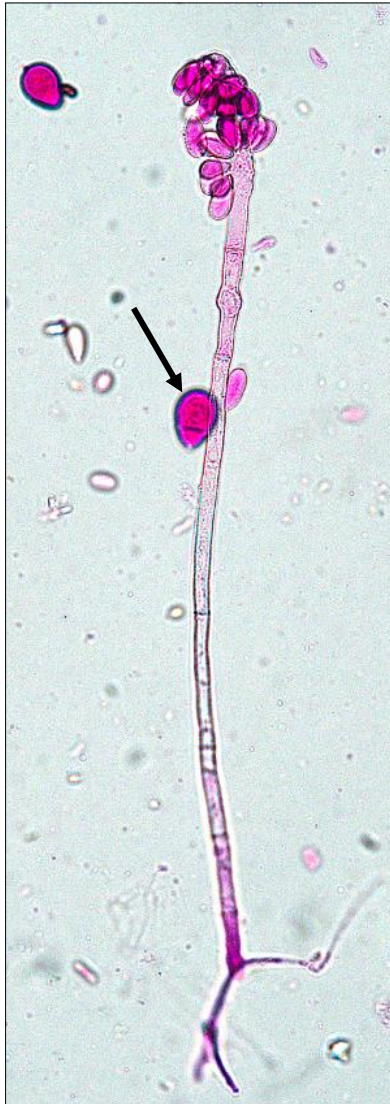
During final observations, I also observed *Basifimbria* type conidia and their zig-zag growth along the same conidiophore bearing typical and septate *Arthrotrys*-like conidia. This variation was also illustrated by Buffin and Hennebert. In short, the pleioanamorphic growth was seen as first described but with an additional variation. To be sure, the rarely seen *Basifimbria spinosa* deserves further work.



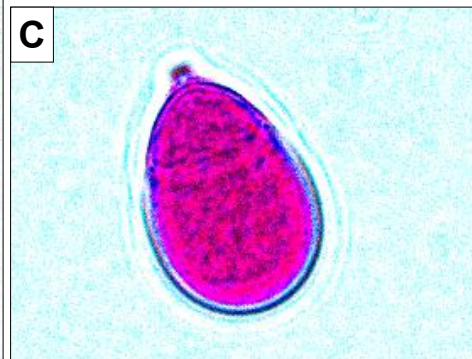
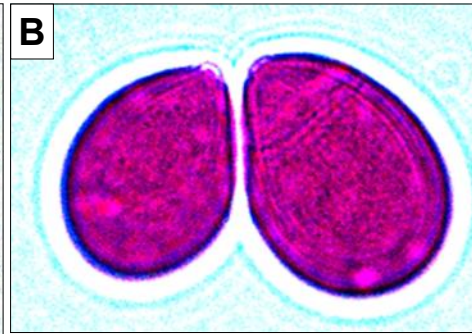
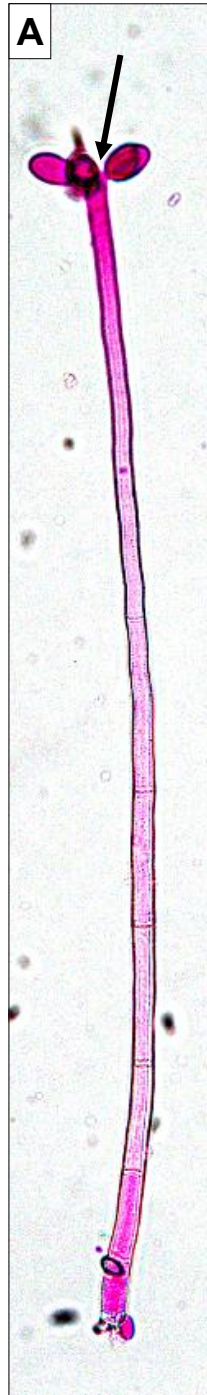
**AEB 1416. In-situ views of *Arthrobotrys*-like conidial clusters along the aerial conidiophores on cow dung.**



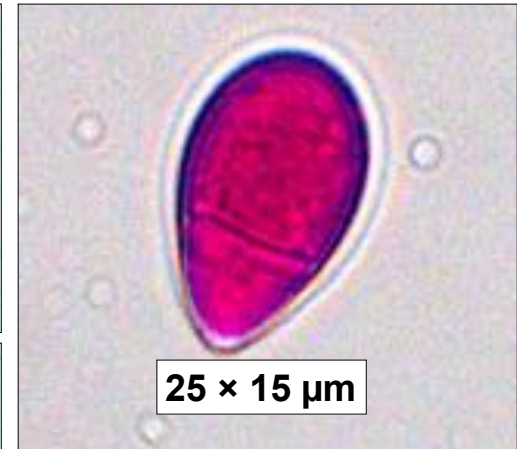
**AEB 1416. A–D. *Arthrobotrys*-like conidiophores. A–C. Lacto-fuchsin slide mount (15 Sept.) showing long (1mm±) conidiophores with conidiogenous swellings (conidia washed away). D. Aniline blue lactic acid slide mount but no coverslip (15 Sept.) with clusters of typical hyaline, narrow, aseptate conidia at each conidiogenous swelling.**



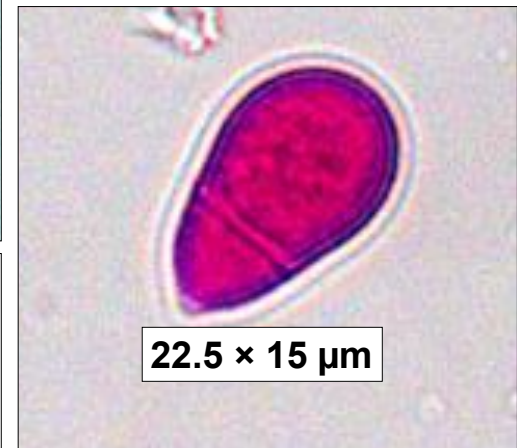
AEB 1416. Two photos above showing an *Athrobotrys*-like conidiophore producing conidia on an apical denticulate swelling. Compare these narrow aseptate conidia with the larger septate conidia (arrowed). The latter are shown in other photos on this page.



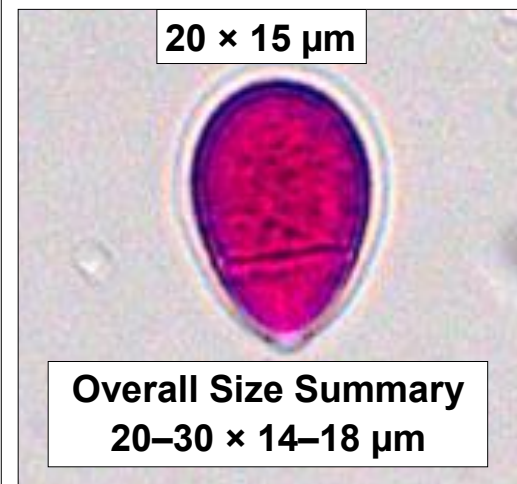
AEB 1416. A. Photo 10 Sept. 2025 from a lacto-fuchsin slide mount. Note the first apical conidiogenous swelling (arrowed) from which *Athrobotrys*-like conidia arise & its narrow most apical extension which will grow further to form another apical swelling, and so on. B,C. Larger, broader, ultimately septate conidia, which often form sporadically among clusters of smaller, narrower, aseptate conidia. See these in the left photos on this page.



25 × 15 μm

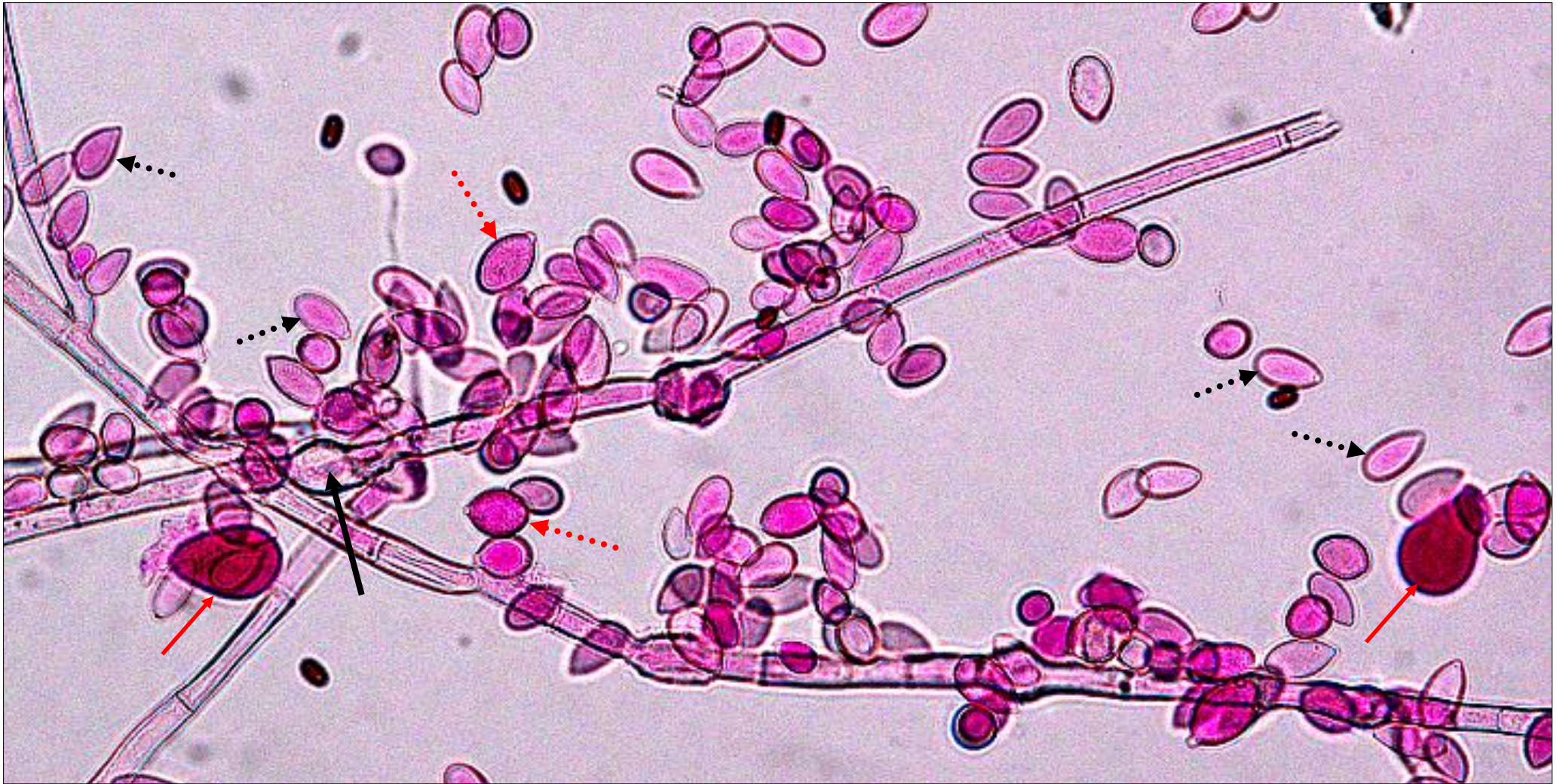


22.5 × 15 μm

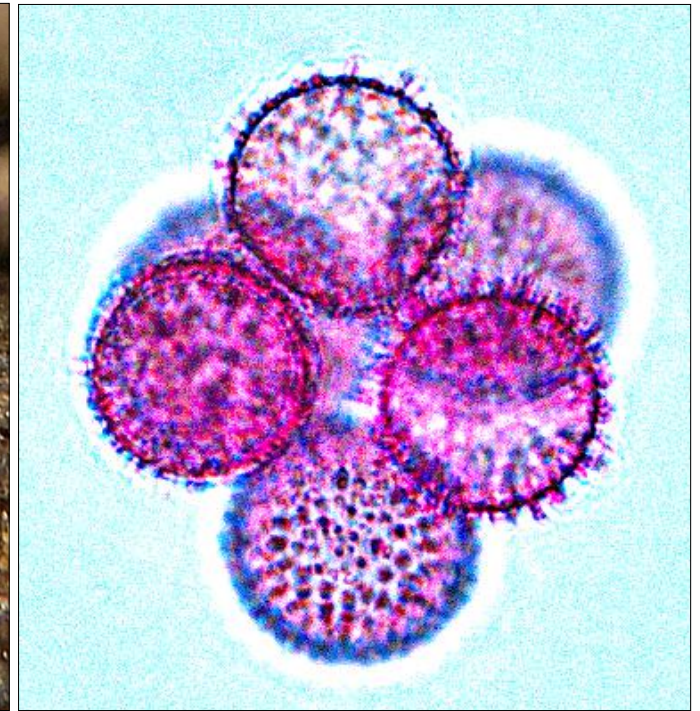


20 × 15 μm

Overall Size Summary  
20–30 × 14–18 μm



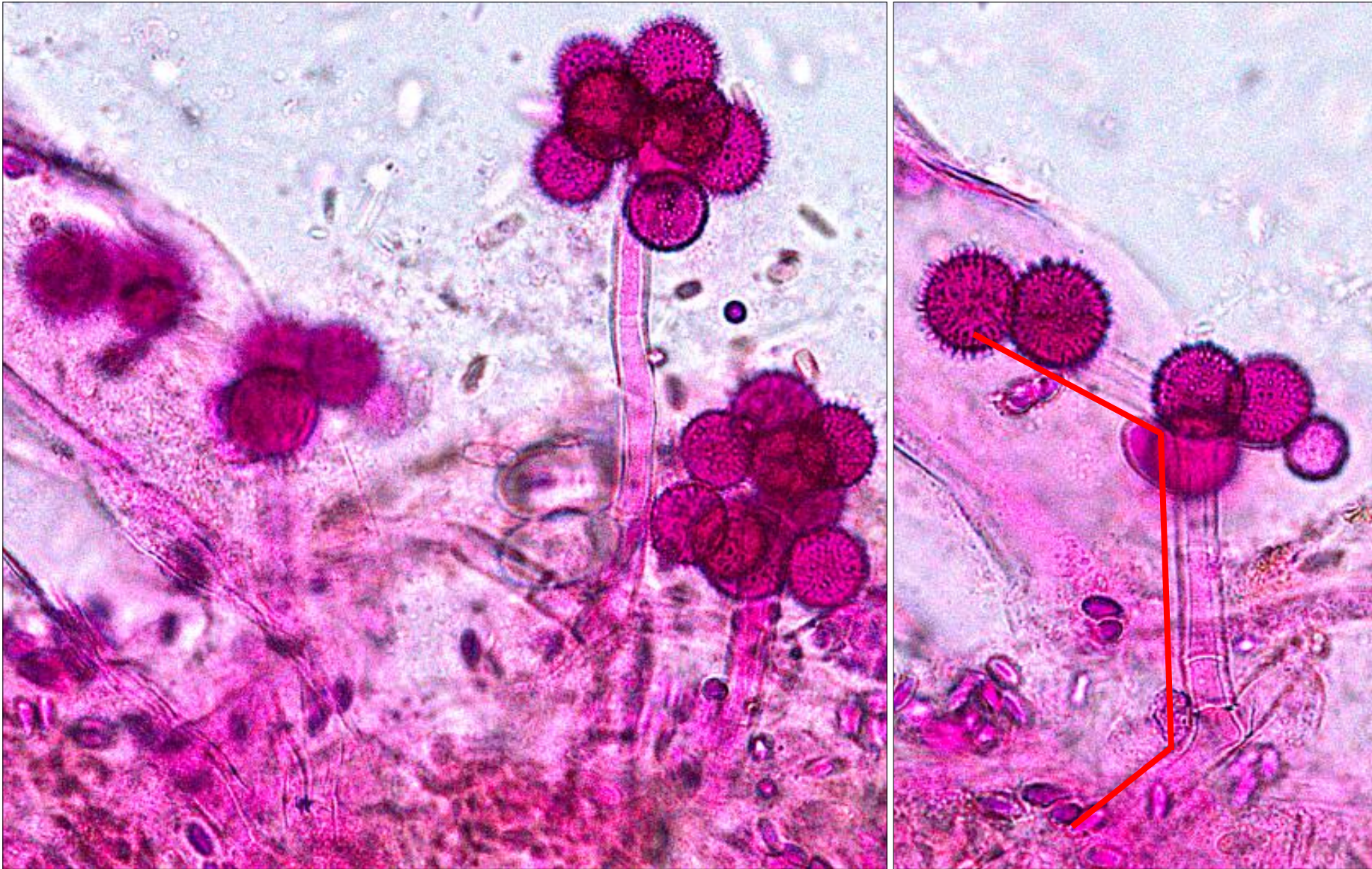
AEB 1416. A lacto-fuchsin slide mount showing the variety of *Arthrobotrys*-like types of conidia scattered near conidiophores where they originated at periodic swellings – (see black-arrowed swellings here and the right-hand photo on the page before last). All such conidia are rounded apically and narrowed basally at their attachment denticle. Most typical and numerous are the smooth conidia with black-dotted arrows (see also the Buffin & Hennebert size range in their description on p. 2 of this pdf). Sparingly represented here are two large dark-stained conidia (red-arrowed here but see also the previous page). These variants are not mentioned by Buffin & Hennebert but often appear at the *Arthrobotrys* conidiophore swellings alongside the numerous smaller, narrower more typical conidia. Note what appear to be immature representatives of the larger conidia, shown here with red-dotted arrows. In addition to their broader appearance, they (& their full-sized counterparts) also have a finely speckled-warted surface lacking in typical conidia.



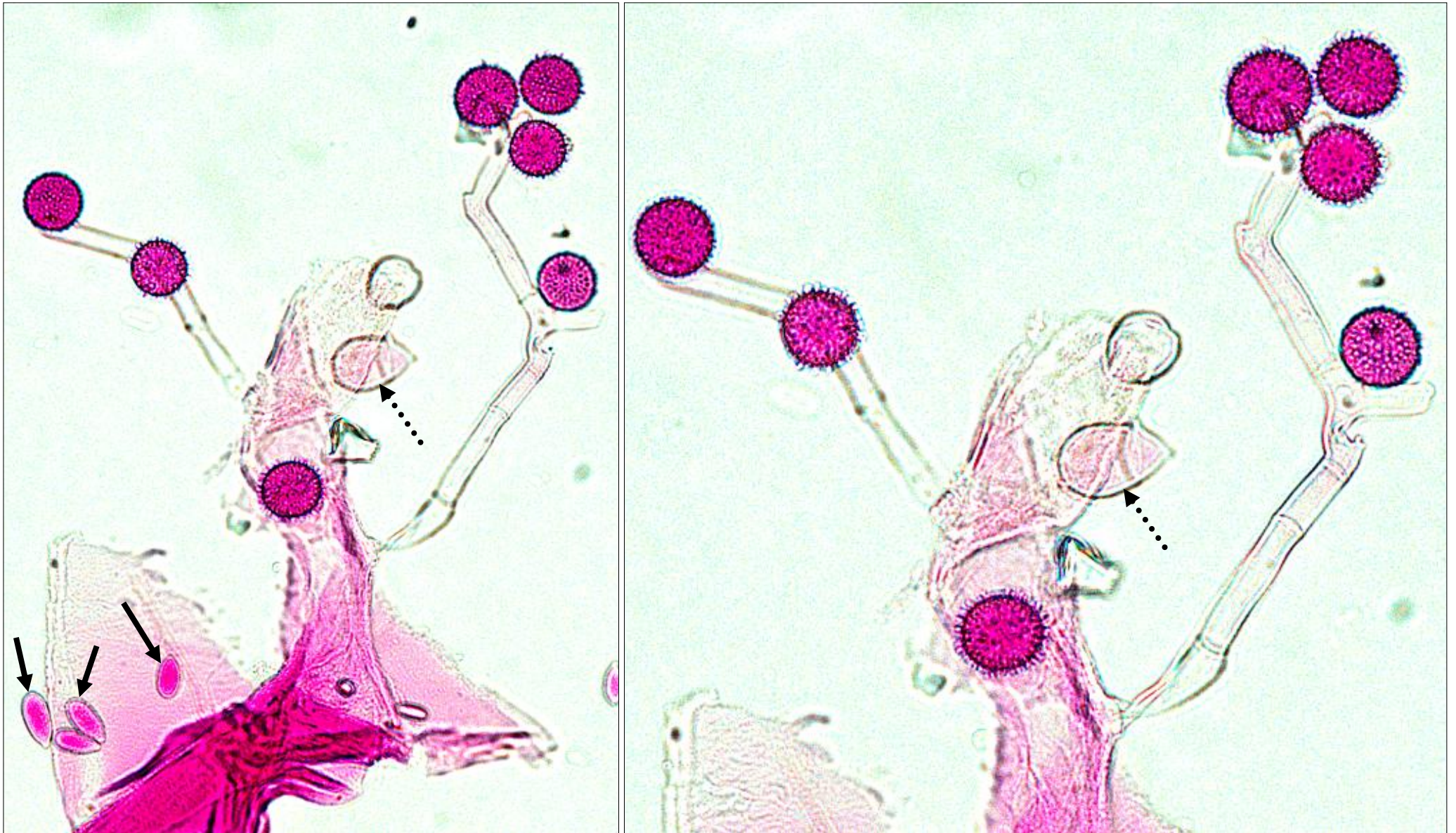
**AEB 1416. Photo above a cluster of *Basifimbria*-like spores seen in a lacto-fuchsin slide mount (10 Sept.). Spores were globose and mostly 15–18  $\mu\text{m}$  in diameter. Note the numerous evenly spaced spines ( $\approx 1 \mu\text{m}$  long). The 3 upper row in-situ Samsung photos of these clusters (arrowed) are pale yellowish to nearly hyaline. They are mostly hyaline in the 3 lower row photos. Lighting influences the difference.**



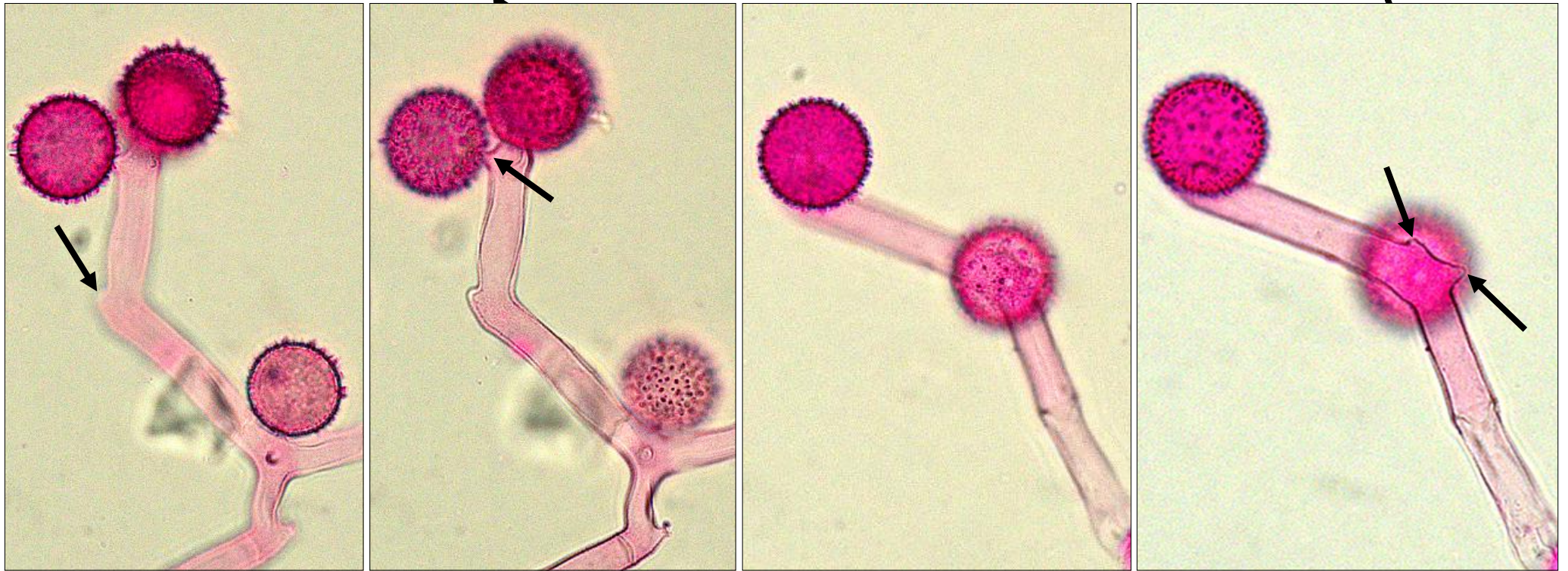
**AEB 1416. *Basifimbria* type globose, conspicuously spinose conidia grouped at the apex of short septate conidiophores – on short broad denticles rather than on conidiophore swellings as seen in *Arthrobotrys*-like conidia. Left photo from a lacto-fuchsin slide mount. Right 2 photos from a Shear's mounting fluid (SMF) slide – the same field of view but slightly different focuses and magnifications.**



AEB 1416. *Basifimbria* type globose, conspicuously spinose conidia viewed in a lacto-fuchsin slide. Left photo: its right-hand portion focused on similar apical clusters described on the previous page. Right photo: focused on the left-hand portion of the left photo. This sympodial growth pattern (characteristic of the *Basifimbria* type) produces successive conidia acrogenously to subacrogenously, by small number or single at irregular intervals along the proliferating cell, proliferating subaxially gives a zig-zag pattern to the conidiophore. Note my red line. Spinose conidia seen in these photos are 15–17.5  $\mu\text{m}$  in diameter.



AEB 1416. Another example of the zig-zag conidiophore growth characteristic of the *Basifimbria* type described by Buffin & Hennebert on p. 2 & shown on the previous page. See also several typical narrow aseptate *Arthrobotrys* type conidia (black arrowed in left photo) and a larger septate *Arthrobotrys* type conidium (dotted black arrows).



**AEB 1416. More examples of the zig-zag conidiophore growth seen on the previous 2 pages with emphasis on the conidium denticle. Left 2 photos: same field of view but different focuses. Right 2 photos: another field of view but also different focuses. Black arrows point to the conidium denticle.**