***Coniochaeta scatigena* (Berkeley & Broome) Cain PDD 126765 (= AEB 1304)**

Collection site: Routeburn Track near Lake MacKenzie Hut (northern Fiordland National Park, New Zealand). Latitude: E1218142, N5031519. Longitude: 44°46'3.7" S, 168°10'28.3" E. Altitude: 892 m

Collection date: 30 December 2016

Substrate: Brown hare (*Lepus europaeus occidentalis*) dung

Collector: Ann Bell

Identifier: Dan Mahoney

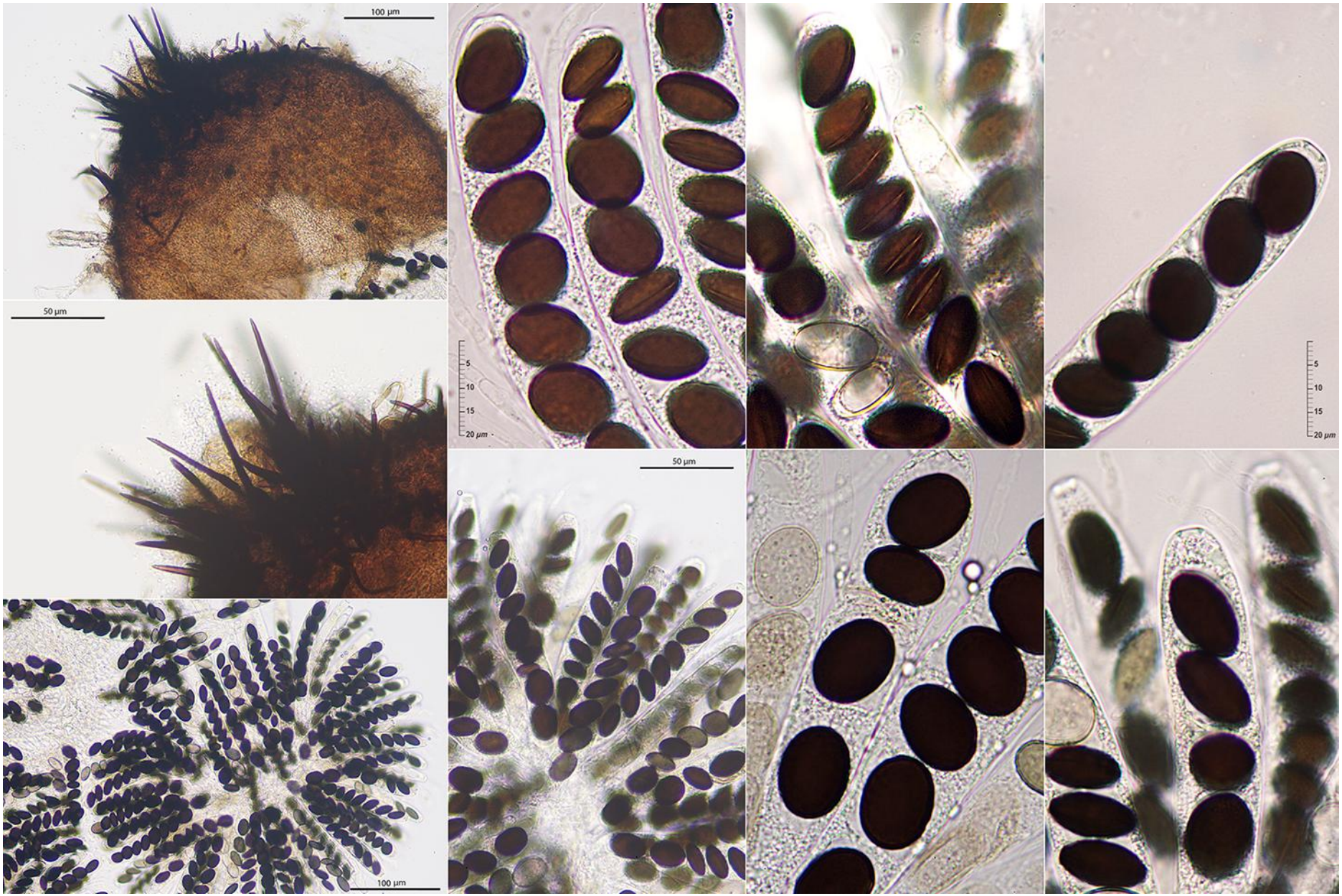
Voucher materials: dried herbarium specimen AEB 1304 (2 dung pellets) accompanied by three Shear's mounting fluid (SMF) glass slides; numerous photos of microscopic detail in water and SMF.

Other fungi and myxobacteria also present on other hare pellets from this collection (some of which also appear on the pellets in the herbarium specimen): *Iodophanus carneus, Pilaira sp., Podospora appendiculata, P. pleiospora, P. tetraspora, Pseudorobillarda phragmitis, Sordaria fimicola, S. superba, Sporormiella intermedia, Thelebolus sp., Trichoderma viride* and an unidentified myxobacterium.

Dan's comments: This distinctive species is characterized by prominent black, apically-pointed chaetae on the neck and uppermost portions of the venter. Chaetae on some perithecia are diminutive while those on others are much larger. Asci are 8-spored with a Melzer's negative apical ring, sometimes with what appears to be a subapical globulus and a stubby base. Ascospores are arranged uniseriately. They are very dark (blackish), broadly ellipsoid to subglobular in face view but narrowly fusoid in side view where a centrally positioned full-length longitudinal germ slit is located. The germ slit is difficult to see in fully mature blackish spores but is easier to observe in partially mature less-pigmented spores. The measurements of discus-shaped ascospores are dependent upon which view is being observed. Overall variation measurements in water mounts yielded the following: 15–20 × 10–13 × 7.5–10 µm.

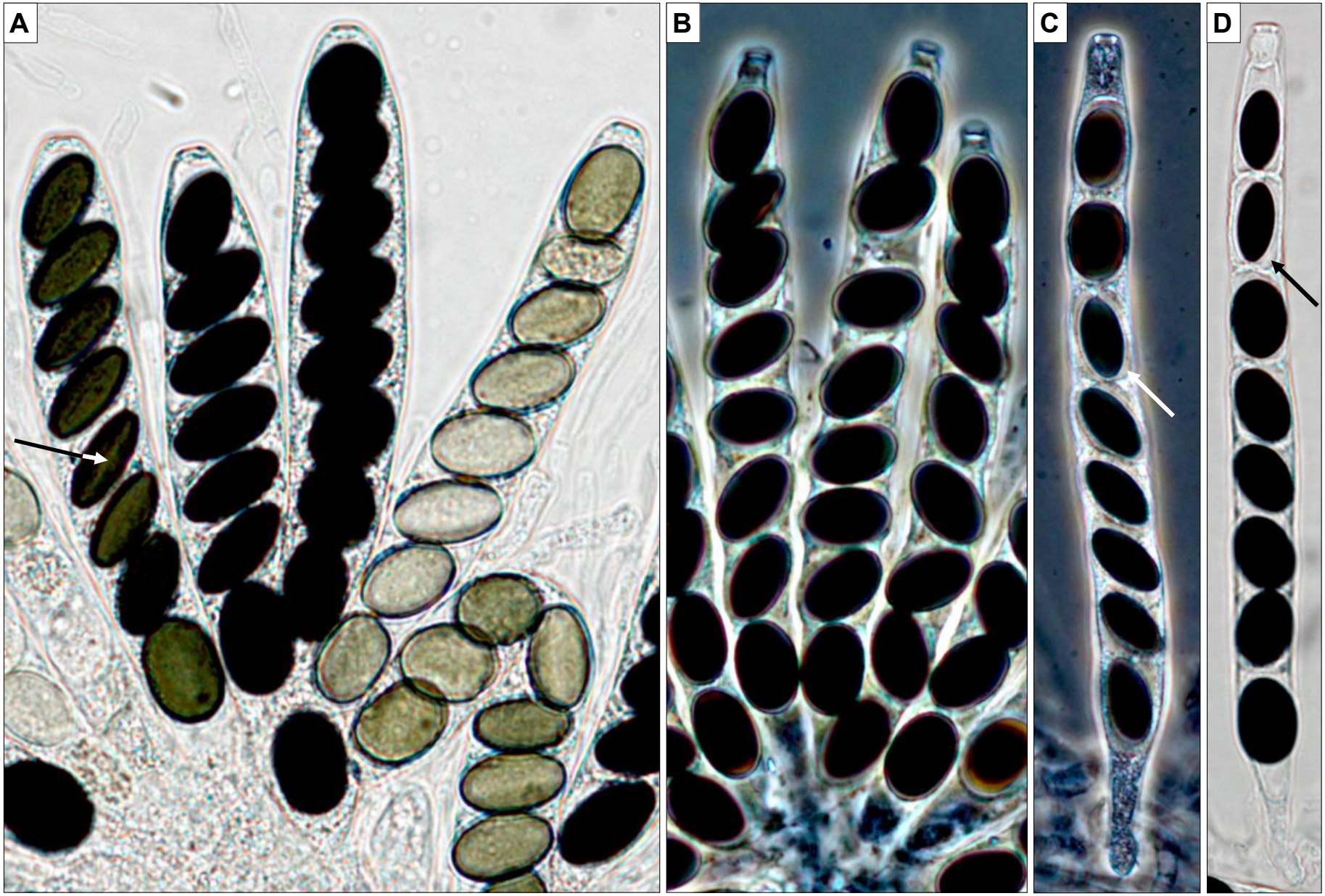
Worth noting: As noted for other fungi I have examined online, the photographs of *Coniochaeta scatigena* by Enrique Rubio Domínguez are excellent. See the next page for his photos online.

A Google search for '*Coniochaeta scatigena* by Enrique Rubio Domínguez' will yield the photos copied below

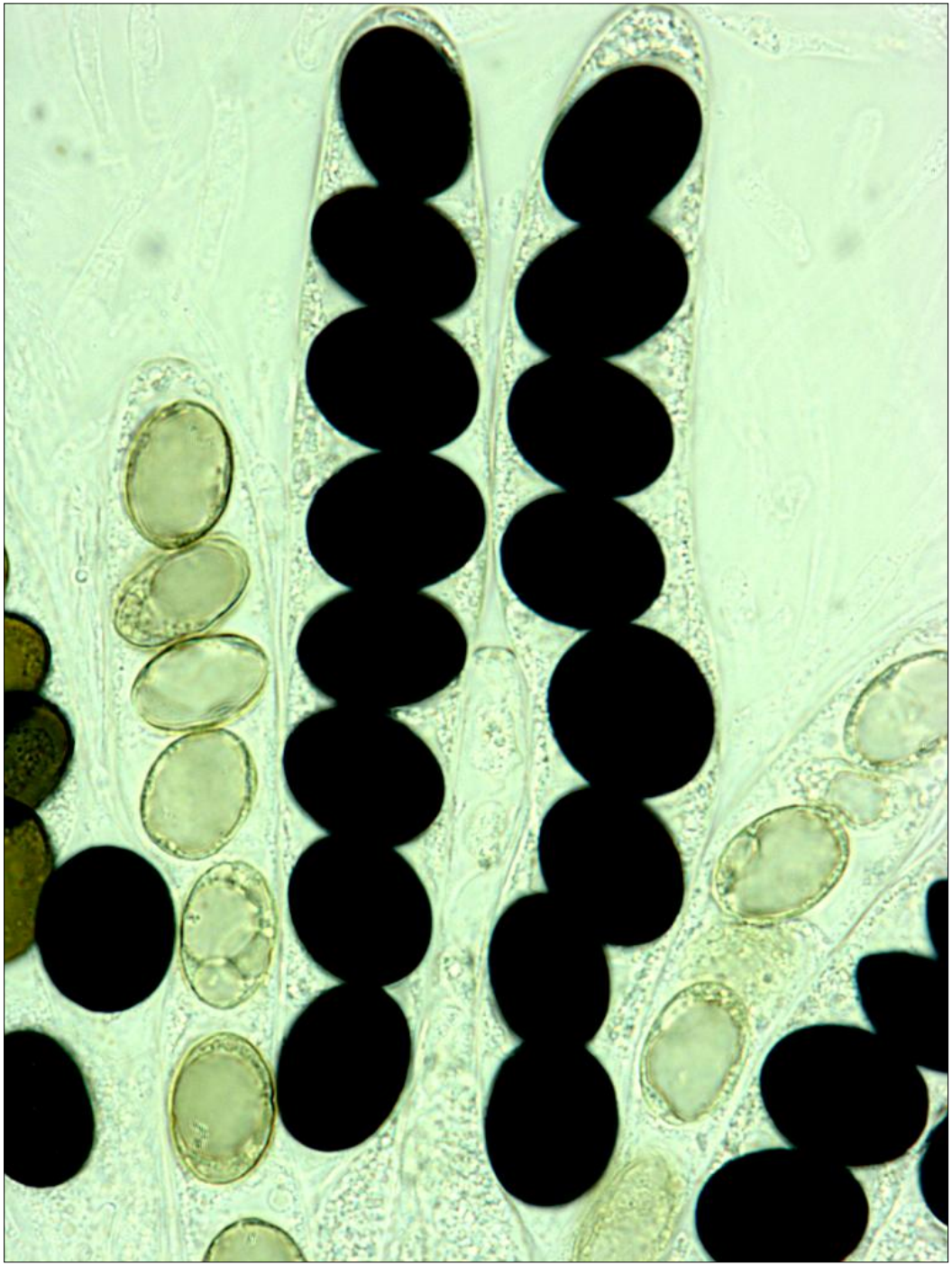


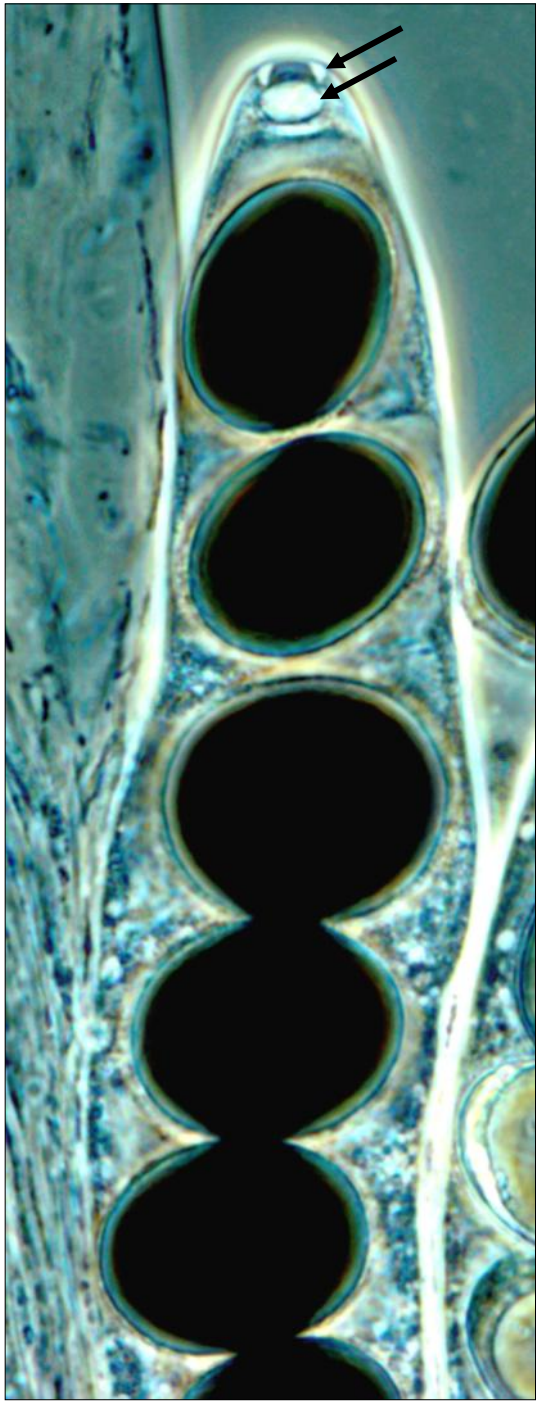
Coniochaeta scatigena **AEB 1304. Samsung Galaxy A70 smartphone camera photos of dried herbarium perithecia on hare dung through the eyepiece of a Zeiss dissecting scope. Note two perithecia with obvious chaetae – one in an overhead view and also showing the ostiole (solid white arrow), the other in a side view (dotted white arrow).**

Coniochaeta scatigena **AEB 1304. Chaetose perithecium, asci & ascospores. Water, X20 objective, brightfield microscopy.**

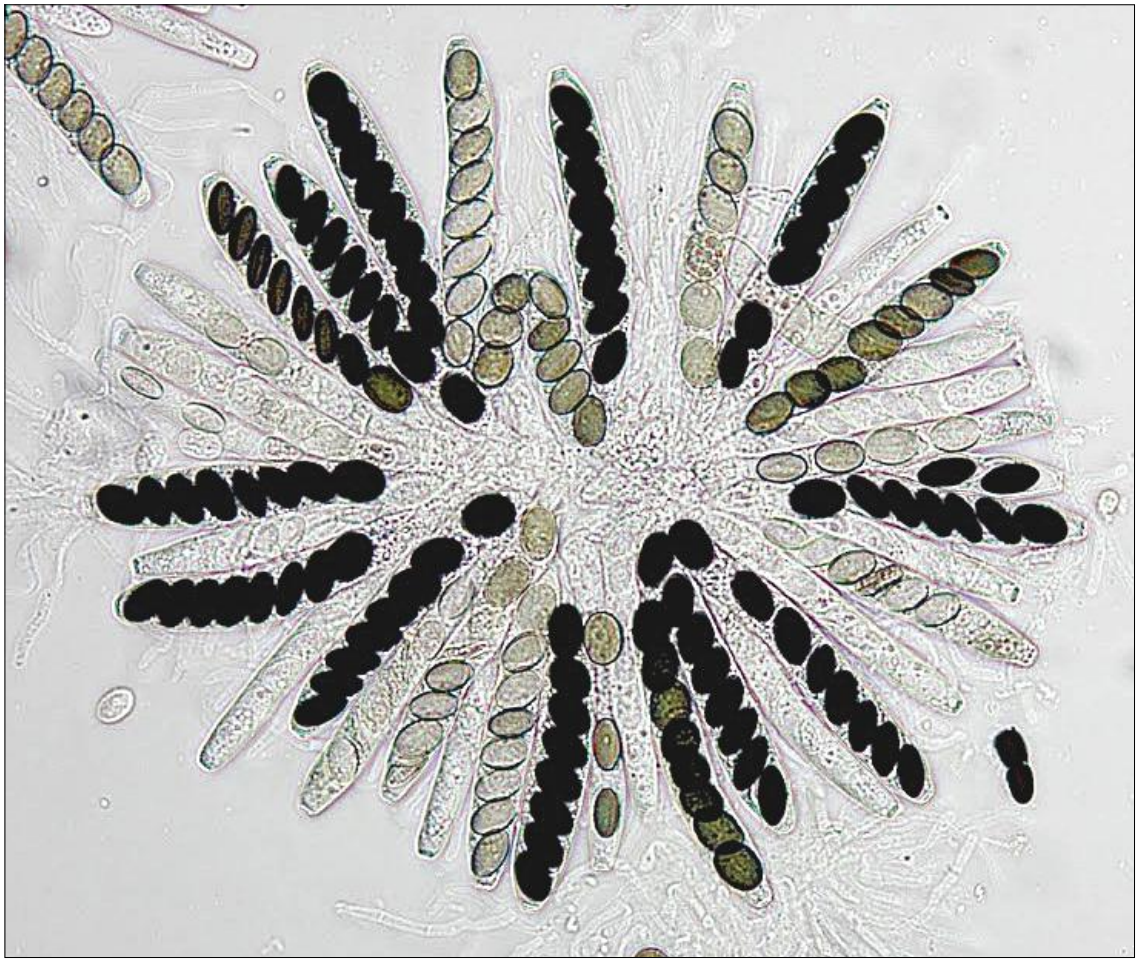


Coniochaeta scatigena **AEB 1304. Asci and ascospores X40 objective. A, C. Water. B, D. SMF. A, D. Brightfield. B, C. Phase. A. Arrow, longitudinal germ slit. C, D. Asci 190 × 15 µm, ascospores 18–20 × 13 × 7.5–8 µm, gelatinous sheaths arrowed.**

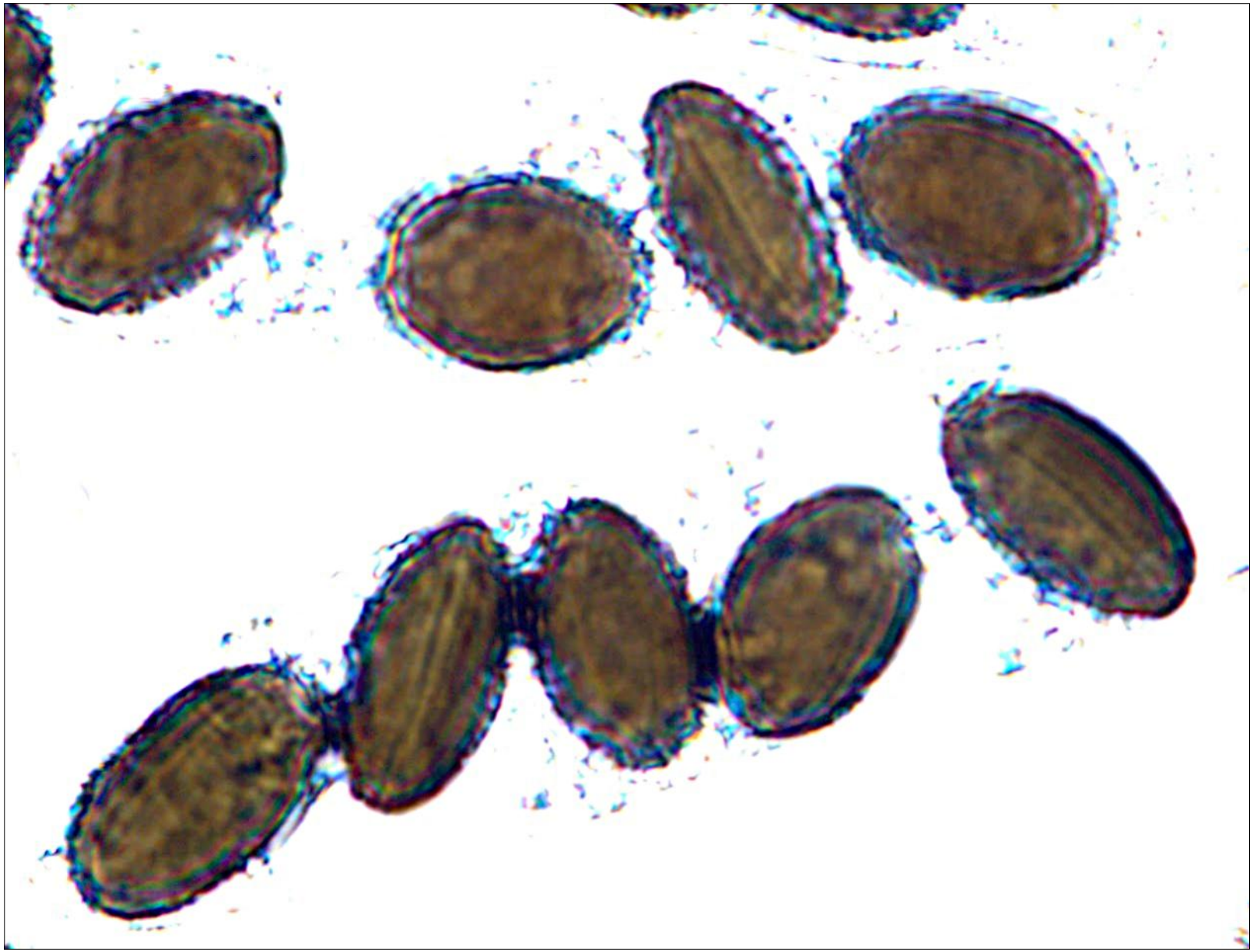




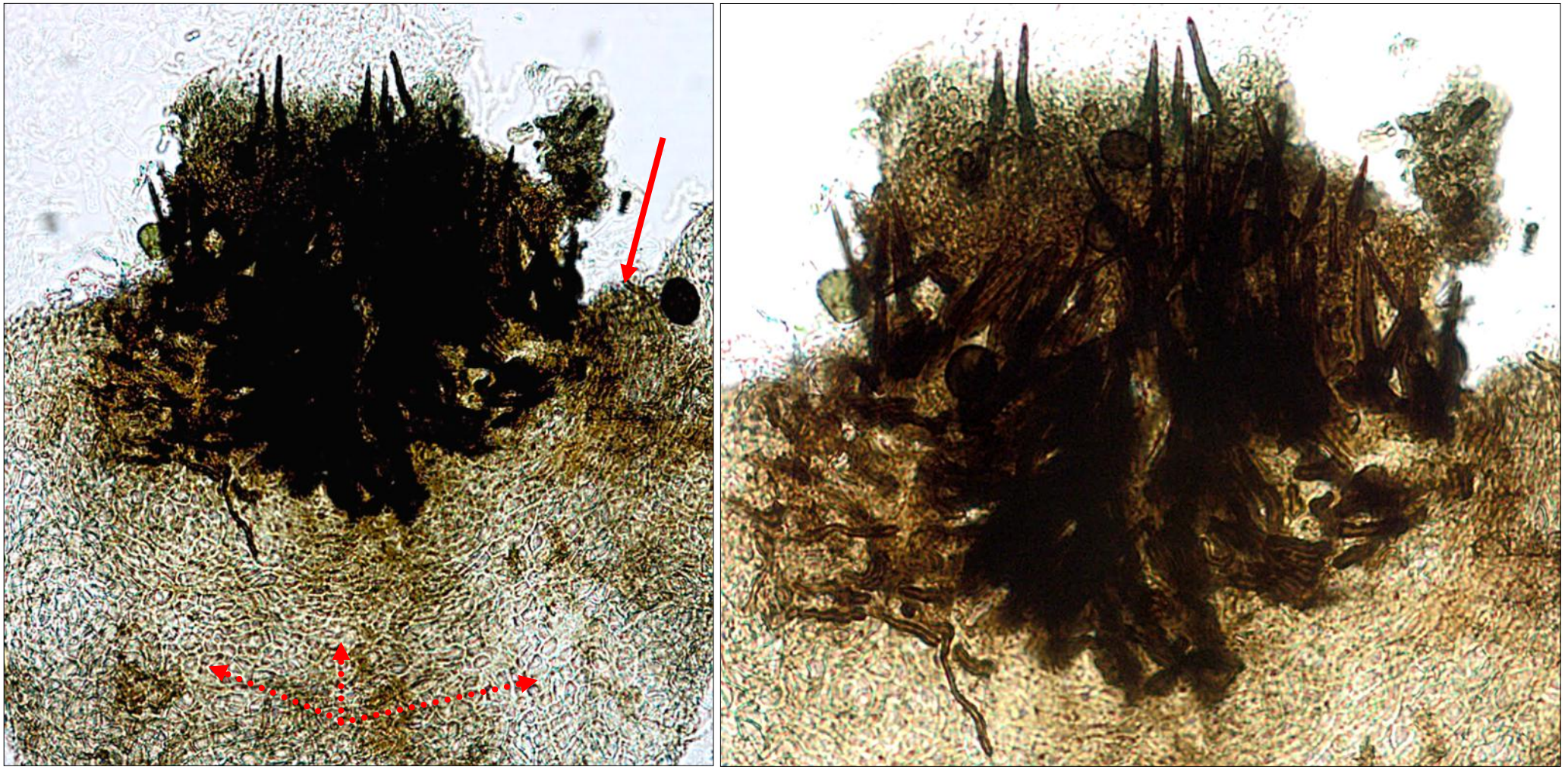
Coniochaeta scatigena **AEB 1304. Asci and ascospores, water mount, X100 objective. Left: Bright-field. Right: Phase. Upper arrow apical ring, lower arrow subapical globulus.**



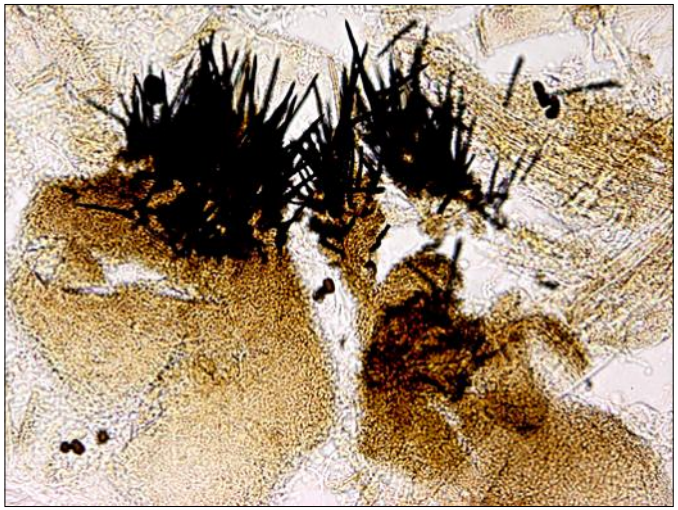
Coniochaeta scatigena **AEB 1304. Asci & ascospores. Both photos the same field of view using water mounts and bright-field microscopy. Left X20 objective, right X40. Note that the right photo was also used on the page before last but this photo has a clearer view, especially for the spore germ slits.**



***Coniochaeta scatigena* AEB 1304. Ascospores in a water mount using the X100 objective & brightfield microscopy. Emphasis on spore shapes & the position of the longitudinal germ slit.**



Coniochaeta scatigena **AEB 1304. Emphasis neck chaetae (ca 25 × 3 µm), the elongated cells of the venter peridium just below the neck that encircle the uppermost venter (left photo, solid arrow) and the pseudoparenchymatous venter peridium below that (dotted arrows). Both photos the same field of view using water mounts, X40 objectives and brightfield microscopy but with different lighting & editing. The right photo better shows the chaetae.**



Coniochaeta scatigena **AEB 1304. Emphasis neck chaetae. Both photos the same field of view using SMF mounts, X20 & X40 objectives resp. and brightfield microscopy. Note the variation in the size of chaetae from those shown on the previous page. Gradations were observed although those seen here were more frequent.**