

***Hydropisphaera suffulta* (Berk. & M.A. Curtis) Rossman & Samuels – AEB 1016 (= PDD 93153) Originally recorded as *H. peziza*, its overall morphology better places it among the AEB collections that cluster around *H. suffulta*.**

Collection site: South Island of New Zealand, E. of Takaka, Grove Scenic Reserve

Collection date: 24 April 2007

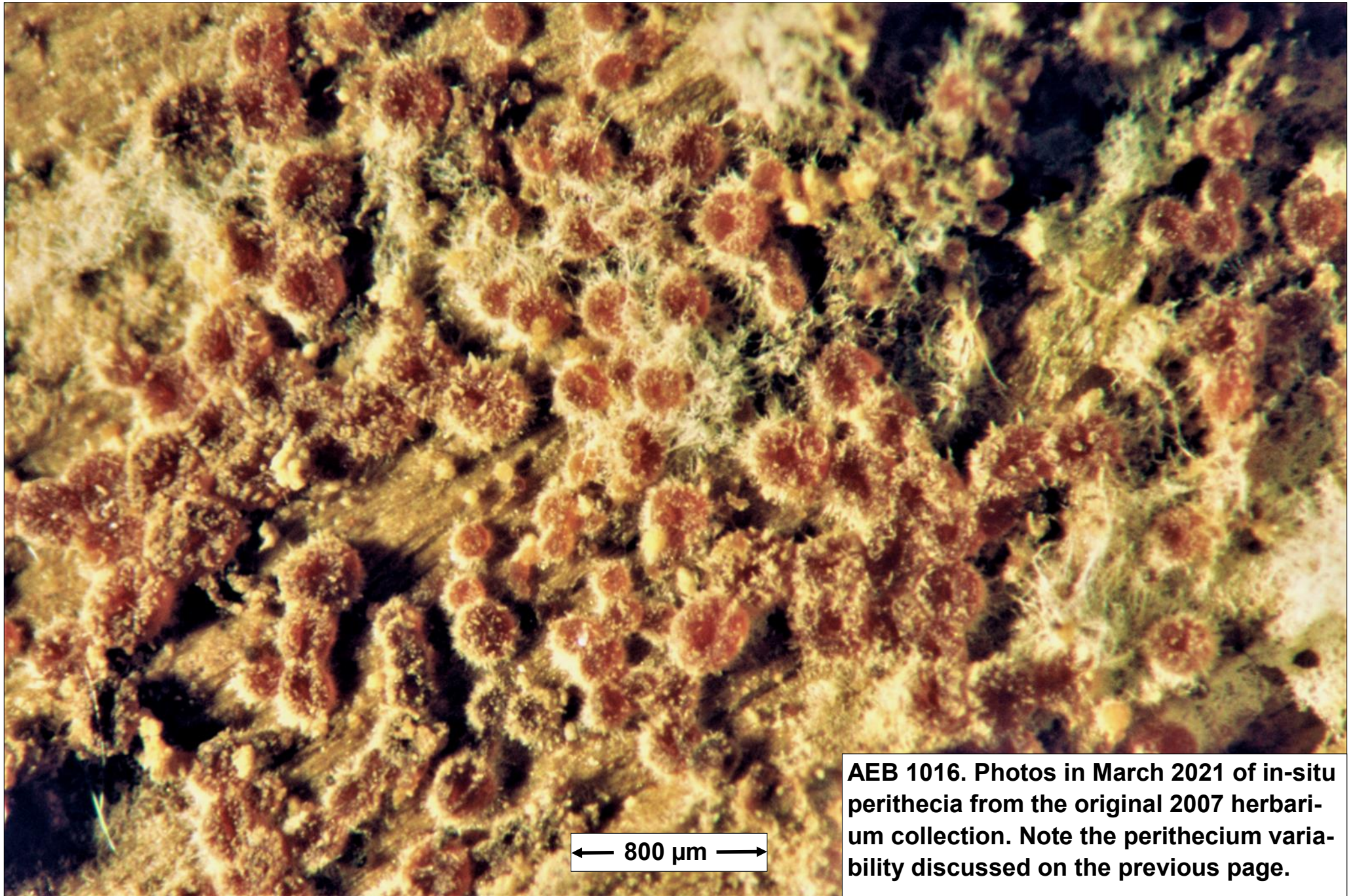
Collector & identifier: Dan Mahoney

Substrate: dead wood

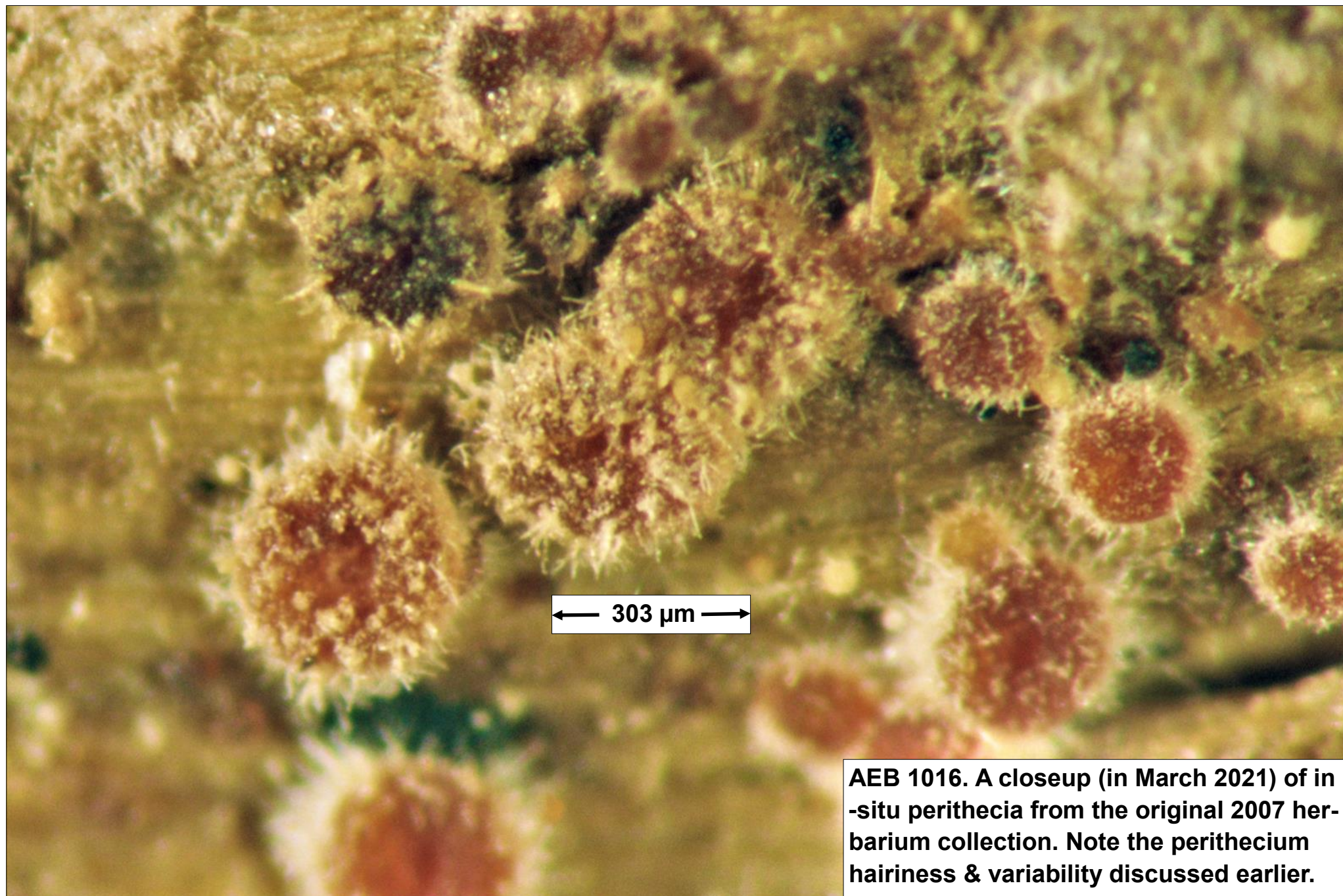
Voucher materials: dried herbarium specimen AEB 1016 (= PDD 93153) originally accompanied by a single Shear's mounting fluid (SMF) microscope slide but now including 3 more slides (lacto-fuchsin, aniline blue lactic acid and SMF) from Dan's re-examination of the original dried herbarium material in March 2021; Dan's in-situ dissecting scope photos (in March 2021) from the dried herbarium specimen and his compound scope digital photos of asci and ascospores (in March 2021); Dan's brief description and comments.

Brief description of AEB 1016: **Perithecia** clustered to scattered, globose with the uppermost portion somewhat flattened, ostiole small, surrounded by **periphyses**, **peridium** a textura angularis with a clothing of short simple undulating dull -yellow hairs (fasciculate hairs not clearly seen, but suspected); **perithecia variable** -- with smaller younger perithecia lighter yellowish-orange, older larger perithecia becoming darker orangish. 'Elderly' perithecia with upper portions becoming blackish and the ostiolar portion (of both larger darker orangish & blackish perithecia) enlarged and sunken (perithecia overall not appearing cupulate). Herbarium specimen perithecia re-examined in March 2021: depending on their maturity when fumigated in 2007 they exhibited everything from young asci without ascospores to mature fertile asci to those without asci and only residual ascospores. **Fertile asci** mostly cylindrical with 8 uniseriately to uniseriately overlapping ascospores, less often cylindrically clavate and biseriately apically. Measurements difficult with the basal portion indistinct when broken free or among other asci in the hymenium. Apical ring tiny and only visible in younger asci under the highest magnification. **Ascospores** equally 2-celled and usually without any indentation at the median transverse septum, hyaline to faintly yellowish, ellipsoidal (elongate with slightly tapering rounded apices), longitudinally striate, 11–12.5(–14) × 5–5.5(–7) µm. Ascospores from older perithecia where only ascospores were seen, but no asci, usually had one cell swollen up to 7 µm with the other cell remaining 5–5.5 µm.

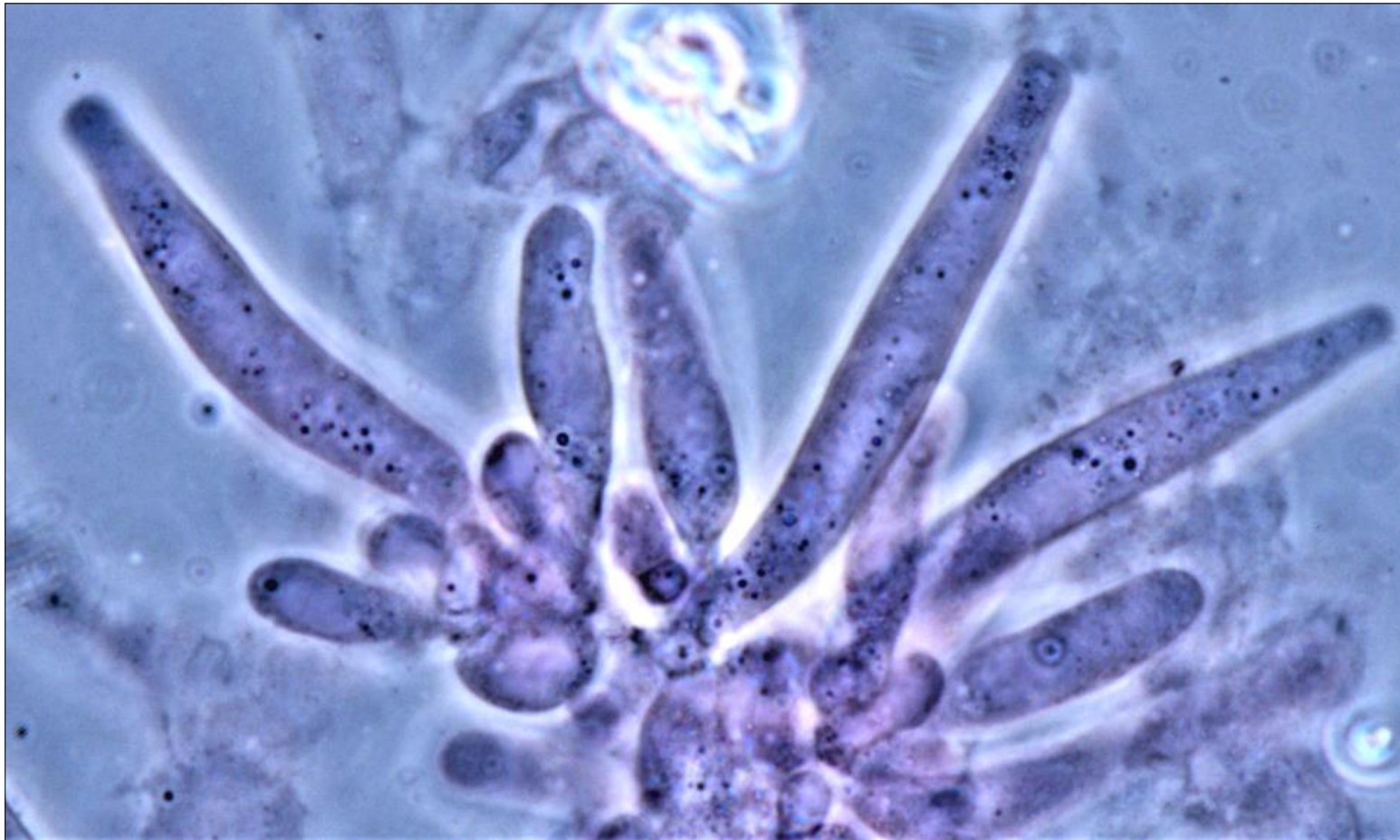
Comments: See the pdf for the AEB 1018 collection which was also collected in a limestone area near Takaka. The pdf for *Hydropisphaera suffulta* AEB1294 (= PDD 117254) provides the most complete view of what appears to be *H. suffulta* in New Zealand. As such, other AEB collections are compared to it. This species is common in more tropical climates worldwide but recent publications by Lechat & Fournier [see the PDD datastore pdf for AEB1294 (= PDD 117254)] may indicate that the NZ collections represent a related 'new variant' or 'new species'.



AEB 1016. Photos in March 2021 of in-situ perithecia from the original 2007 herbarium collection. Note the perithecium variability discussed on the previous page.



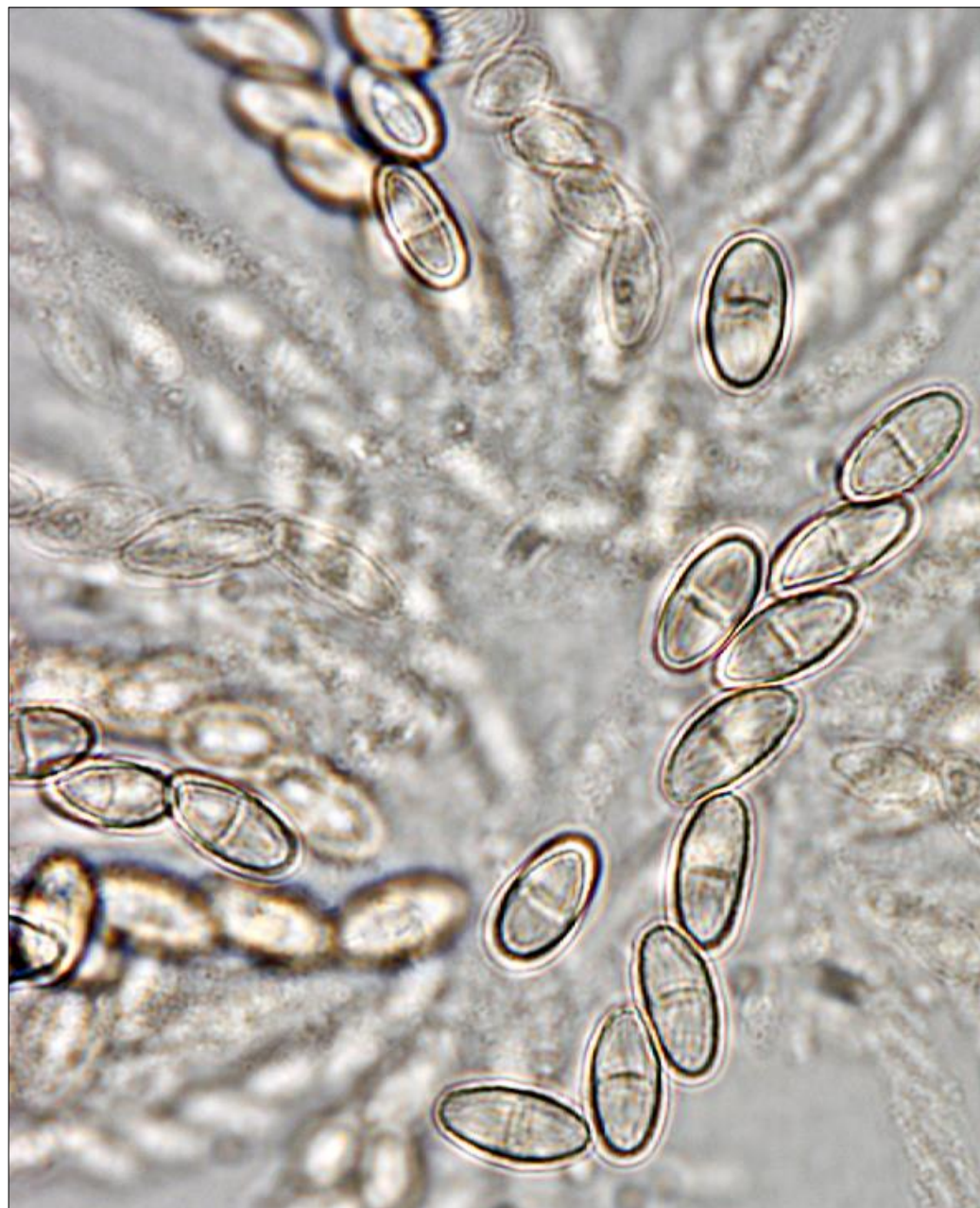
AEB 1016. A closeup (in March 2021) of in-situ perithecia from the original 2007 herbarium collection. Note the perithecium hairiness & variability discussed earlier.



AEB 1016. Photos prepared in March 2021 from perithecium squashes using the original 2007 herbarium collection. All photos X100 objective: upper photo a lacto-fuchsin mount using phase microscopy; lower photos a water mount using DIC. All photos of young asci. The upper photo features early ascus ontogeny while the lower photo emphasizes the tiny, nearly indistinguishable, apical ring (arrowed).



AEB 1016. Photos prepared in March 2021 from a perithecium squash using the original 2007 herbarium collection. The perithecium selected was medium-to large-sized, orangish (no black areas), clothed with hairs & filled with typical asci and 2-celled longitudinally striate ascospores. Both photos taken under a X40 objective from an aniline blue lactic acid mount using brightfield microscopy.



Photos taken in March 2021 from the SMF slide prepared in 2007. The slide was in good shape with asci, mature ascospores and fragments of the squashed perithecia. Both photos taken using the X100 objective and brightfield microscopy. Spores $11-12 \times 5-5.5 \mu\text{m}$.



AEB 1016. Photos prepared in March 2021 from a perithecium squash using the original 2007 herbarium collection. The perithecium selected was black-topped, clothed with hairs & containing clusters of free ascospores (no asci). Worth noting in this mount are the especially prominent ascospore longitudinal striations. Also noteworthy among these older spores is the swelling of one cell further exaggerating the slight difference in cell equality often seen normally. Photo taken under a X100 objective from a water mount using DIC microscopy.