

***Hydropisphaera suffulta* (Berk. & M.A. Curtis) Rossman & Samuels – AEB 878 (= PDD 82091)** Originally recorded as *H. peziza*, but its overall morphology better places it among the AEB collections that cluster around *H. suffulta*.

**Collection site:** Eve's Valley Scenic Reserve, Brightfield, South Island, New Zealand (a 15-minute drive from the 18<sup>th</sup> Fungal Foray of New Zealand headquarters at the Teapot Valley Christian Camp on Teapot Valley Road) – a mix of totara, beech and many other plants along several small streams.

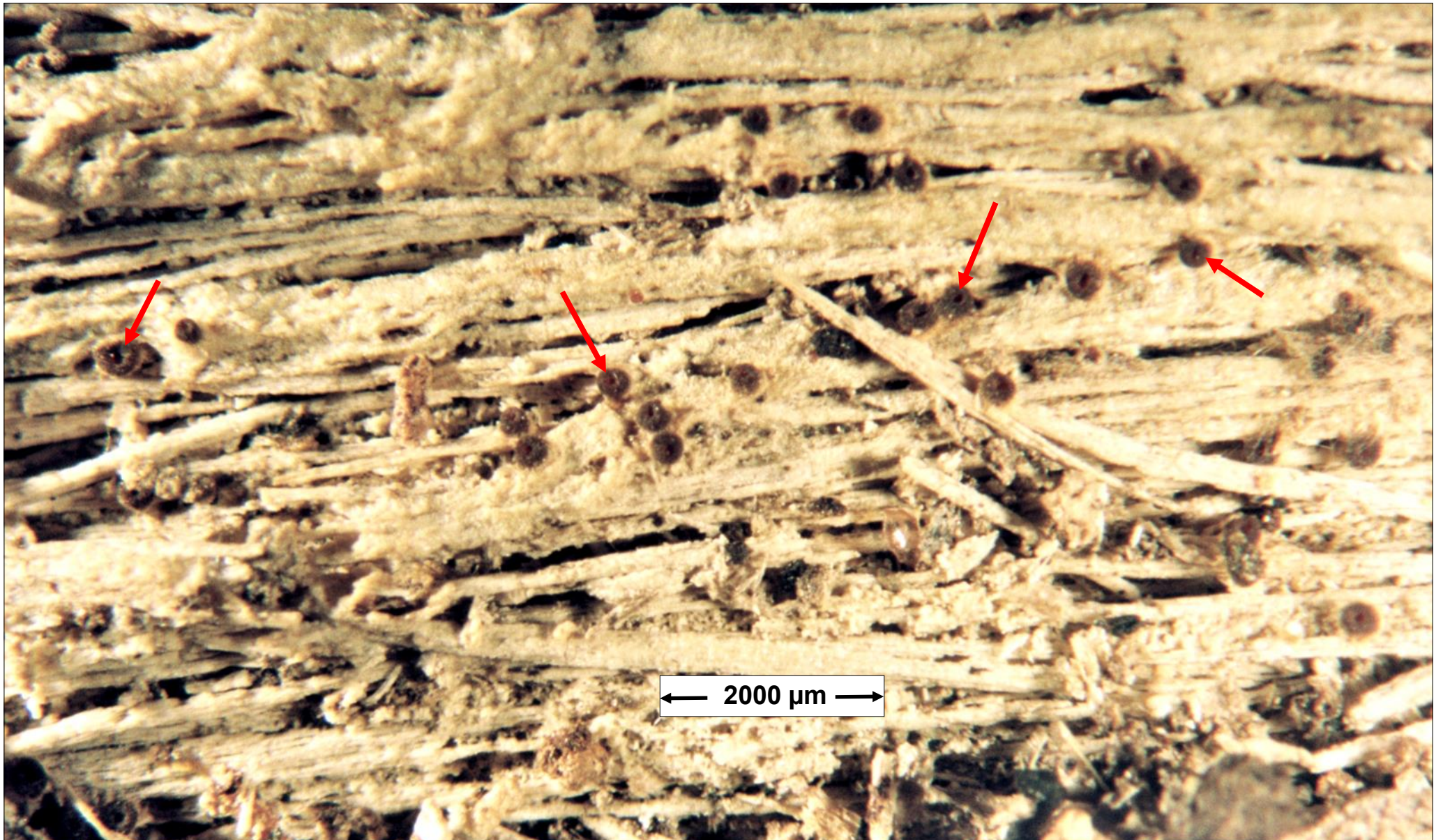
**Collection date:** 10 May 2004; **Collector:** Ann Bell; **Identifiers:** Ann Bell and Dan Mahoney

**Substrate:** fibrillar inner bark of a downed dead totara trunk

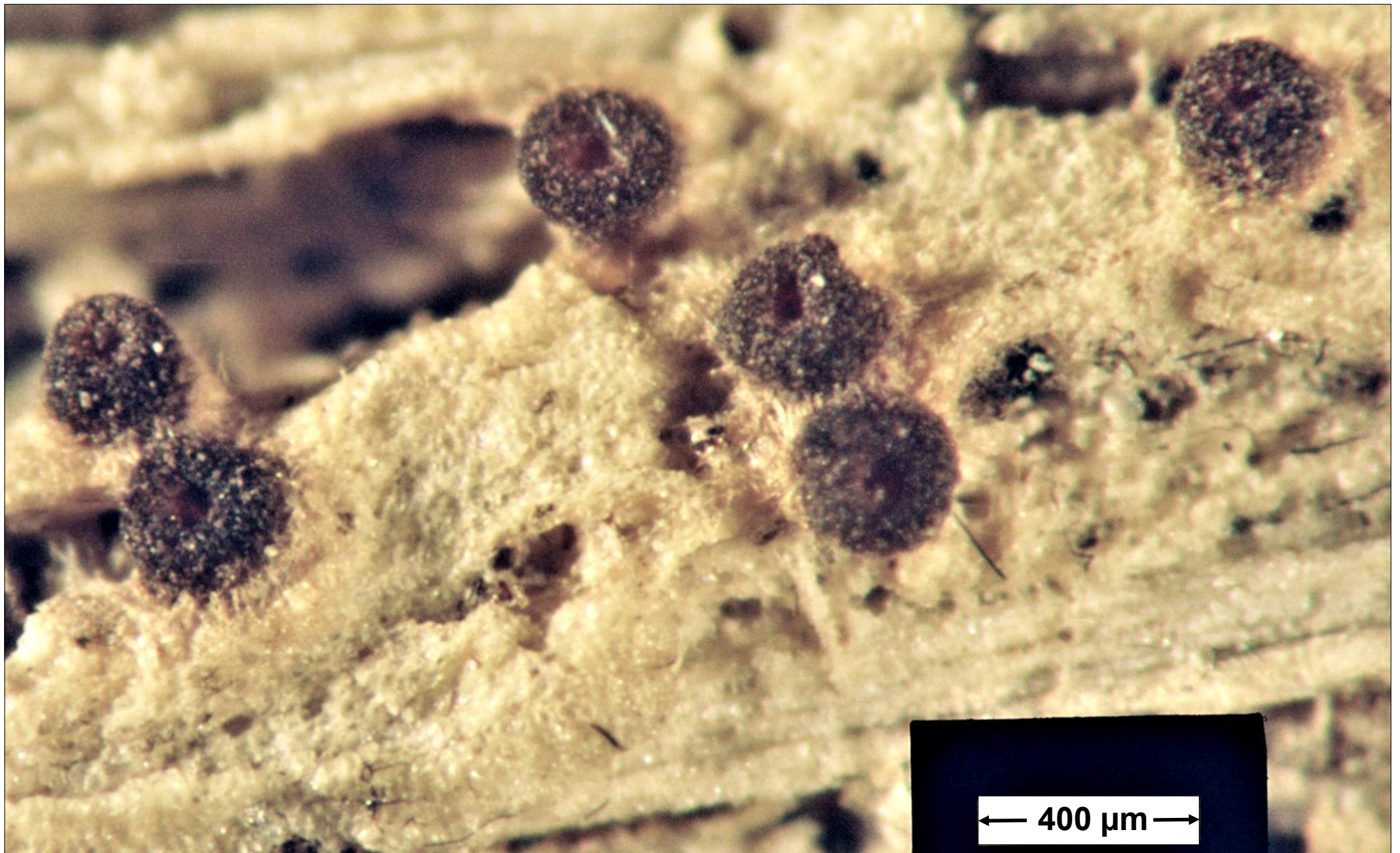
**Voucher materials:** dried herbarium specimen AEB 878 (= PDD 82091) accompanied by an original (May 2004) Shear's mounting fluid (SMF) microscope slide and 2 slides (lacto-fuchsin and aniline blue lactic acid) prepared in March 2021 from the dried herbarium material; Dan Mahoney's in-situ dissecting scope photos and his compound scope digital photos of microscopic detail; Dan's and Ann's brief description and comments.

**Brief description of AEB 878:** **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 in the mid to lower venter (these occasionally fasciculate); **perithecia variable** -- with younger perithecia lighter yellowish-orange, reasonably smooth and without fasciculate hairs. Older perithecia with upper portions becoming blackish (distinctly so in the herbarium material) and the ostiolar portion enlarged and sunken (perithecia overall not appearing cupulate). All perithecia examined in March 2021 exhibited numerous fertile asci. **Asci** mostly cylindrical with 8 uniseriately to uniseriately overlapping ascospores, less often cylindrically clavate and biseriate apically. Measurements difficult with the basal portion indistinct when broken free or among other asci in the hymenium – ascospore portion mostly 75–85 × 6–10 µm. **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, 11–14(–17) × 5–6(–7) µm.

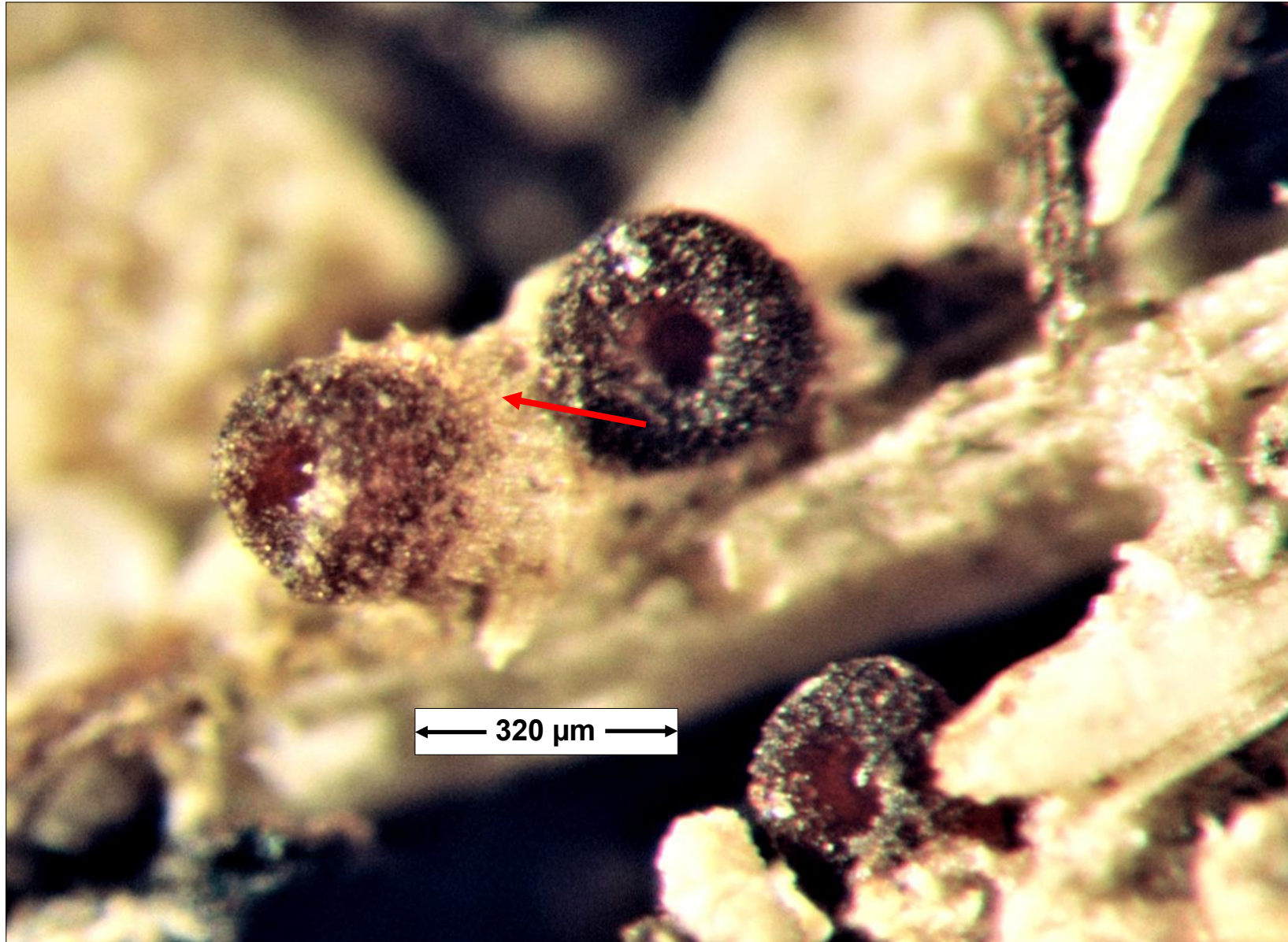
**Comments:** See the pdf for the AEB 874 collection which was also collected during the visit to Eve's Scenic Reserve. See also the pdf for *Hydropisphaera suffulta* AEB1294 (= PDD 117254). That collection provided the most complete view of what appears to be *H. suffulta* in New Zealand. As such, other 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 878. In-situ superficial perithecia (arrowed) on the dried inner bark of the herbarium specimen (dead *Totara*). Note the blackish upper portions surrounding the large collapsed ostioles. Photo of the 10 May 2004 specimen was taken on 23 March 2021.**



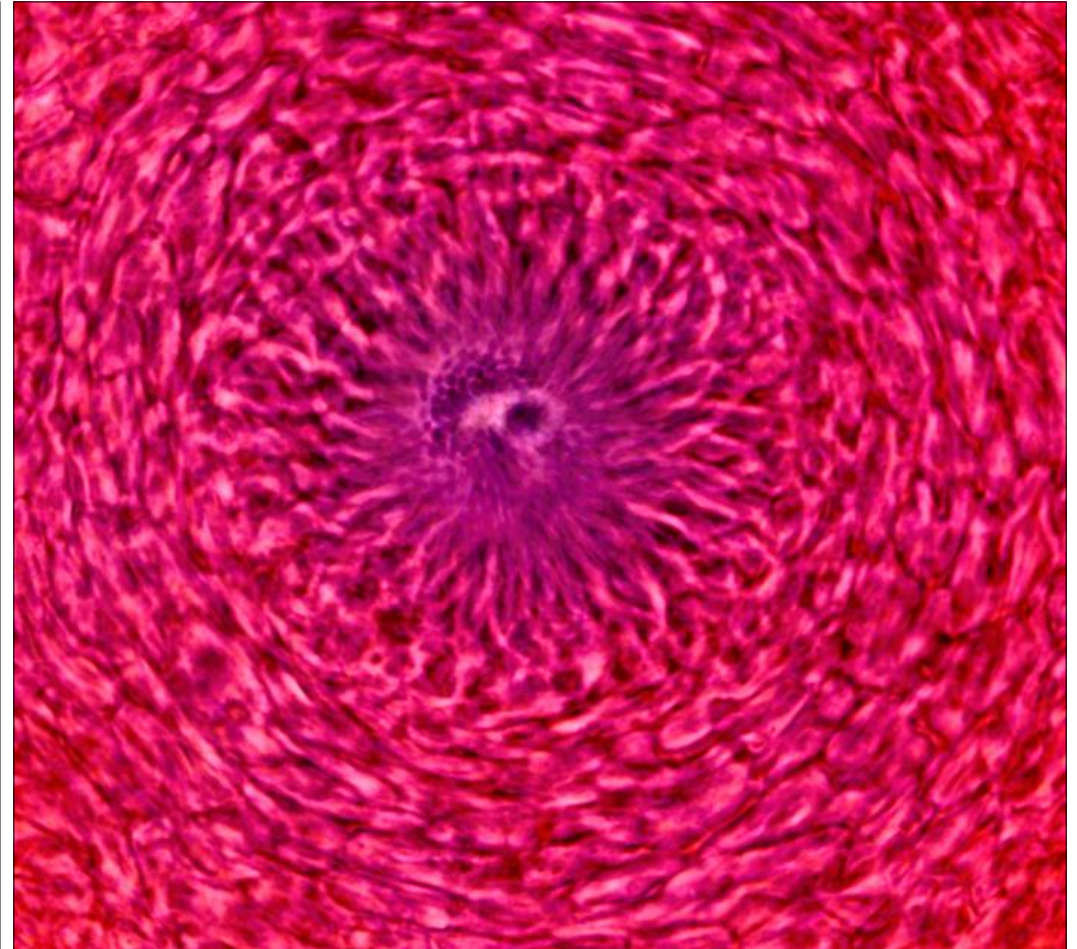
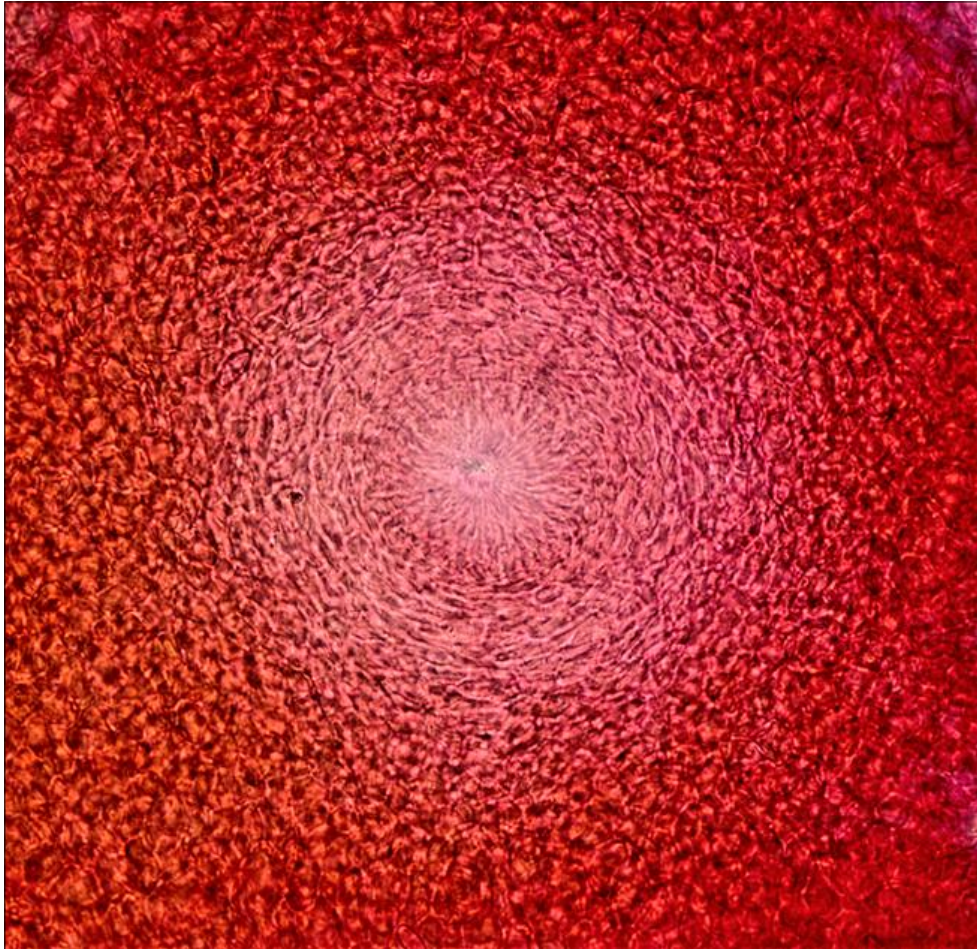
**AEB 878. In-situ superficial perithecia on the dried inner bark of the herbarium specimen. Note the blackish upper portions surrounding the collapsed ostioles. Photo of the 2004 specimen was taken on 23 March 2021.**



**AEB 878. In-situ superficial perithecia on the dried herbarium specimen. Note the blackish upper portions surrounding the large collapsed ostioles and the dull yellowish hairs on the lower portion. Although difficult to see, the hairs seem decidedly fasciculate (arrowed). Photo of the 10 May 2004 specimen was taken on 23 March 2021.**



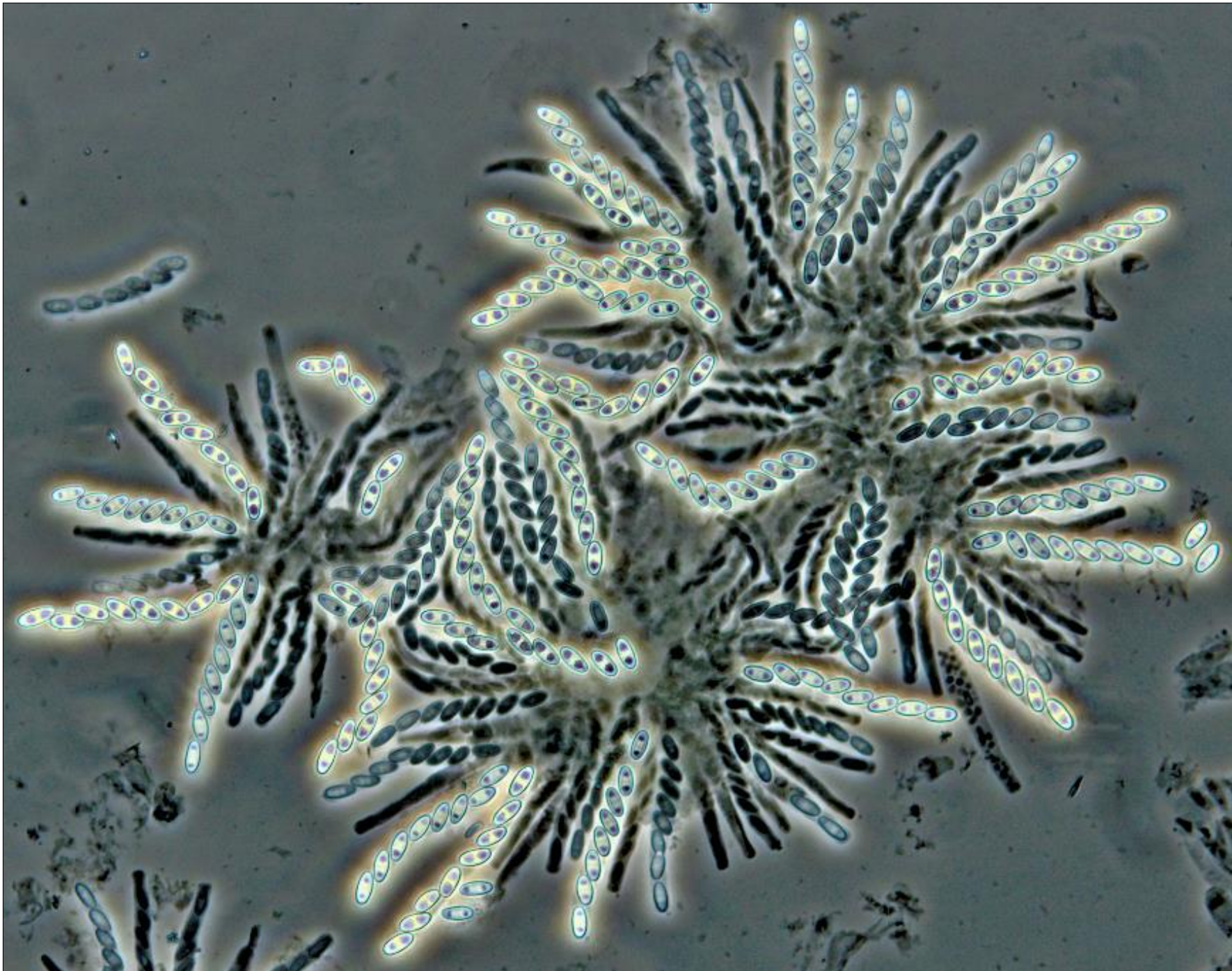
**Ironically, after finishing my March 2021 dissecting-scope film roll, I saw something among the inner bark fibers, added a drop of water and carefully teased deeper among them. There I found some yellow to yellow-orange perithecia. Unfortunately, I was out of film because these perithecia looked similar to those I had photographed in 2004. The 2004 photo had been attached to the PDD online record in Feb. 2005 [then recorded as *Hydropisphaera peziza* PDD 82091 (= AEB 878)]. That photo is reproduced here. The similar 2021 perithecia had short fuzzy non-fasciculate hairs while those in 2004 had few hairs. Photographs from a lacto-fuchsin slide mount of the 2021 yellow-orange perithecia revealed the contents of the squashed ascomata. Those results are shown on the following pages.**



**AEB 878. Photographs from a lacto-fuchsin slide mount of the 2021 squashed yellow-orange perithecia described on the previous page. Both photos represent the same field of view, showing closeup views of the periphyses and peridium surrounding the small ostiolar opening. The left photo was taken using the X40 objective and bright-field microscopy; the right photo using the X100 objective and phase microscopy. Short fuzzy hairs were absent from this apical portion of the perithecia.**



**AEB 878. Photographs of asci and longitudinally striate ascospores from a lacto-fuchsin slide mount of the 2021 squashed yellow-orange perithecia described on the page before last. Left photo: X40 objective, brightfield microscopy; right 3 photos X100 obj., brightfield. Ascospore portion of ascus  $75\text{--}85 \times 6\text{--}10 \mu\text{m}$  ( $n = 10$ ); ascospores  $12\text{--}12.5 \times 5\text{--}5.5 \mu\text{m}$  ( $n =$  those shown).**



**AEB 878. Several ascus clusters from a Melzer's reagent mount – X20 objective, phase microscopy. The perithecium squashed was one with a blackish upper portion that I observed during my observations of the dried herbarium specimen in March 2021 (see photos on the first 3 photo pages of this pdf).**





**AEB 878. Combined upper & lower portions of an ascus cluster from a Melzer's reagent mount – X100 objective, DIC edited. The perithecium squashed was one with a blackish upper portion that I observed during my observations of the dried herbarium specimen in March 2021 (see photos on the first 3 photo pages of this pdf).**

