***Coniochaeta velutina* (Fuckel) Cooke – PDD 103352 (= AEB 1207)**

<u>Substrate:</u> dead wood
<u>Collected:</u> 17 January 2013
<u>Collection site:</u> along road to Dawson Falls in Mt. Taranaki National Park
<u>Collectors:</u> Dan Mahoney, Ann Bell, Andy & Jan Miller; **<u>Identifier:</u>** Dan Mahoney

<u>Voucher materials:</u> numerous dried perithecia on dead wood and 1 Shear's mounting fluid (SMF) microscope slide; in-situ photos of fresh perithecia on the dead wood taken 4 February 2013 using a Zeiss SV 11 Stereo-zoom dissecting microscope and a MC80 camera; perithecium, asci and ascospore photos taken using an Olympus BX51 compound scope and a DP25 camera ; references consulted & brief description.

<u>References consulted in chronological order:</u>
1. Mahoney D.P. & LaFavre J.S. 1981. *Coniochaeta extramundana*, with a synopsis of other *Coniochaeta* species. Mycologia 73: 931–952.
2. Taylor L.D. 1970. *Coniochaeta velutina* and its synonyms. Can. J. Bot. 48(1): 81–83. See the next page.
3. Weber E., Görke C. & Begerow D. 2002. The *Lecythophora-Coniochaeta* complex. II. Molecular studies based on sequences of the large subunit of ribosomal DNA. Nova Hedwigia 74(1–2): 187–200.
4. Asgari B., Zare R., & Gams W. 2007. *Coniochaeta ershadii*, a new species from Iran, and a key to well-documented *Coniochaeta* species. Nova Hedwigia 84(1–2): 175–187. Includes a dichotomous key to 54 species.
5. Damm U., Fourie P.H. & Crous P.W. 2010. *Coniochaeta* (*Lecythophora*), *Collophora* gen. nov. and *Phaeomoniella* species associated with wood necroses of *Prunus* trees. Persoonia 24: 60–80.

<u>Brief description:</u> **Perithecia** numerous, crowded to scattered (usually the former), blackish, broadly ovoid to broadly pyriform but without any well-defined neck**,** minutely roughened with younger smaller perithecia spinose – **spines** 10-25 µm very dark, septa couldn't be seen, usually tapering from a broad base to a pointed apex. Older perithecia seeming to lose many of their spines. **Peridium** pseudoparenchymatous – dark in outer layers, light in inner. **Paraphyses** not clearly seen in mature perithecia. The speckled threads (with apical rings) appear to be discharged asci. **Asci** 8-spored, uniseriate to obliquely uniseriate, apical ring inconspicuous but present, nonamyloid. **Ascospores** oblong, oblong-ellipsoid to sl. ovoid, smooth (mostly 7-7.5 X 4.5-5 µm), light brown to brown, 1-celled sl. discoid with 1-2 guttules (guttules best seen in fresh water mounts) and with an inconspicuous longitudinal germ slit**.**

Taylor's 1970 description of *C. velutina*: *Coniochaeta velutina* and its synonyms. Taylor, L.D. 1970. Can. J. Bot. 48: 81–83.

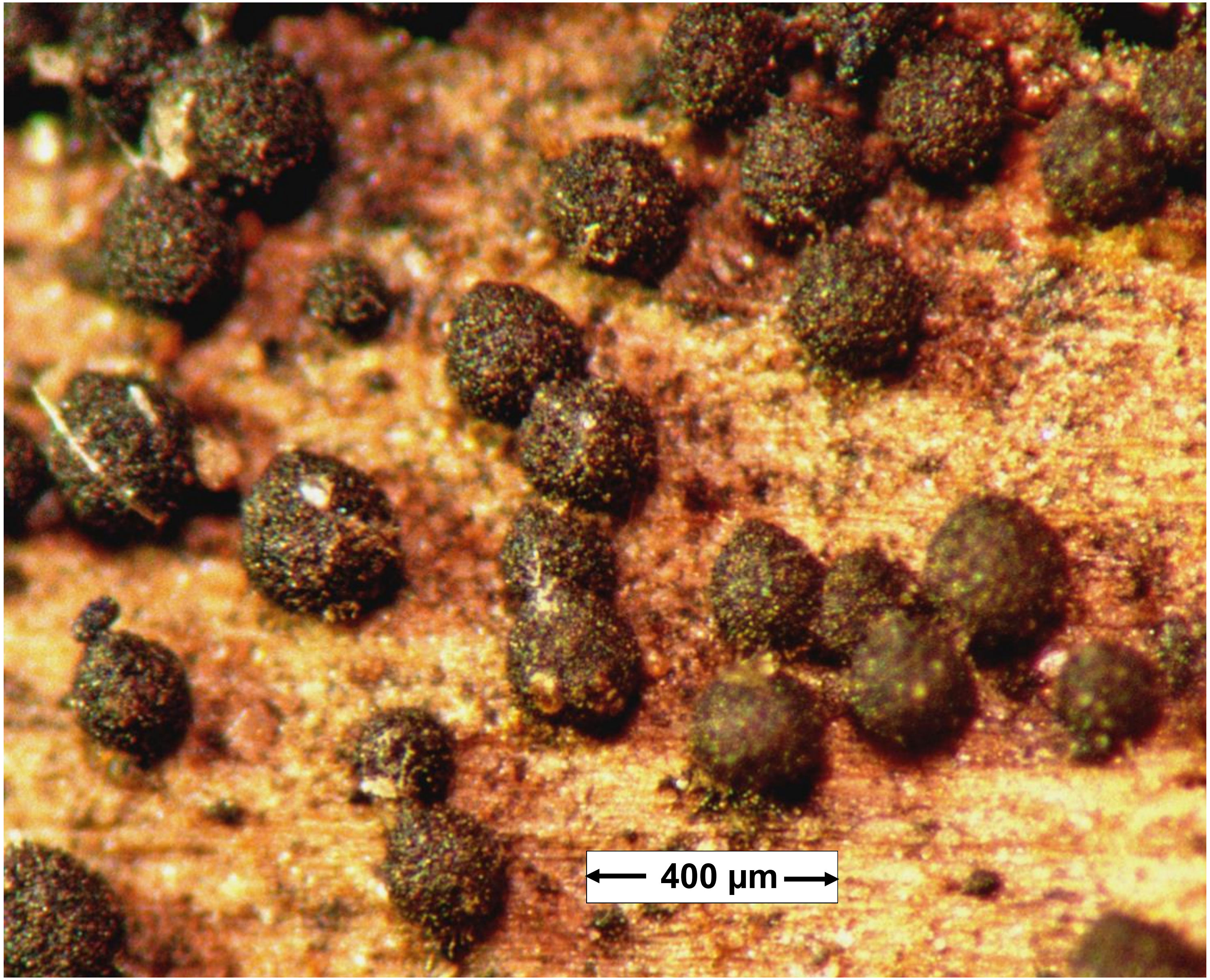
Description of Species

Coniochaeta velutina (Fuckel) Munk.

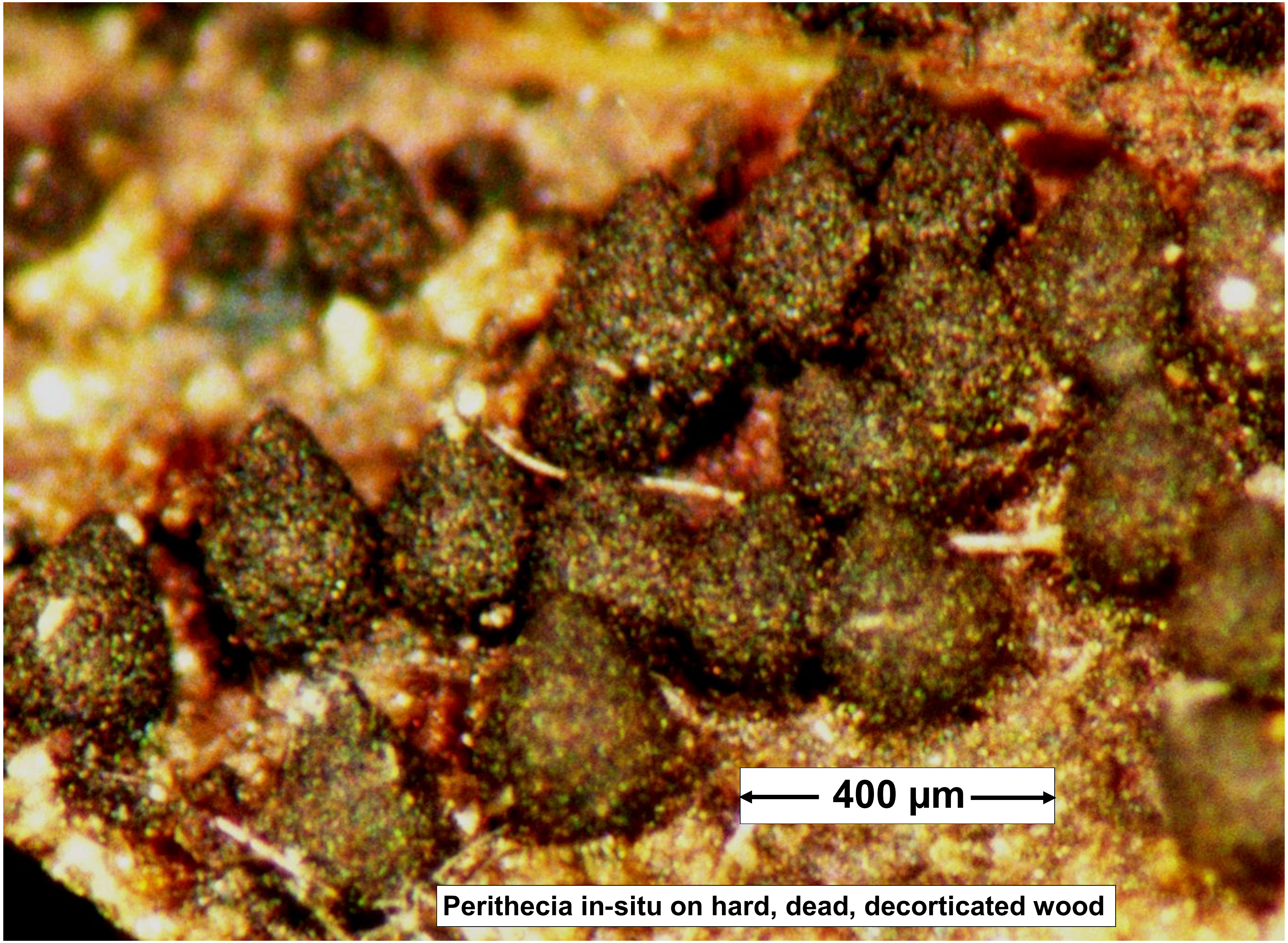
syn. *Rosellinia velutina* Fuckel Dansk Bot. Arkiv, 12(11):9. 1948 (8, p. 149) 1870.

? *Rosellinia sordaria* (Fr.) de Not.[1] Sylloge Fungorum I. 1882.

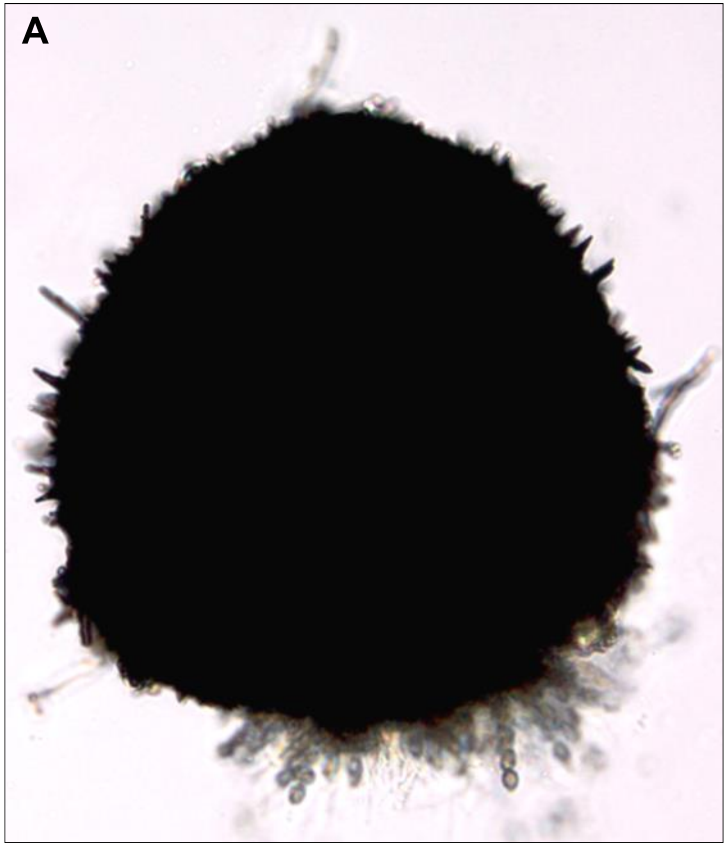
Perithecia gregarious, globose-ovoid, up to 400 μ diam, black, with setae-like hairs up to 40 × 3.5 μ. In older perithecia, setae seem to disappear, probably because of decay or breaking off. Peridium up to 25 μ thick. Beak of perithecium small, mildly conical, with periphyses. Asci clavate, broadest near apex, 45–60 × 6 μ, no distinct apical ring, bearing eight obliquely uniseriate ascospores. Asci on extrusion from perithecia in squash mounts become narrower and longer, the spores losing their oblique orientation. Paraphyses common in younger perithecia, colorless, filamentous. Ascospores dark-brown, 1- to 2-guttulate 7–9 (10) × (4) 5–7 μ, occasionally with elongate germ slits, ovoid, with a tendency towards being discoid but not enough to warrant three-dimensional measurements.

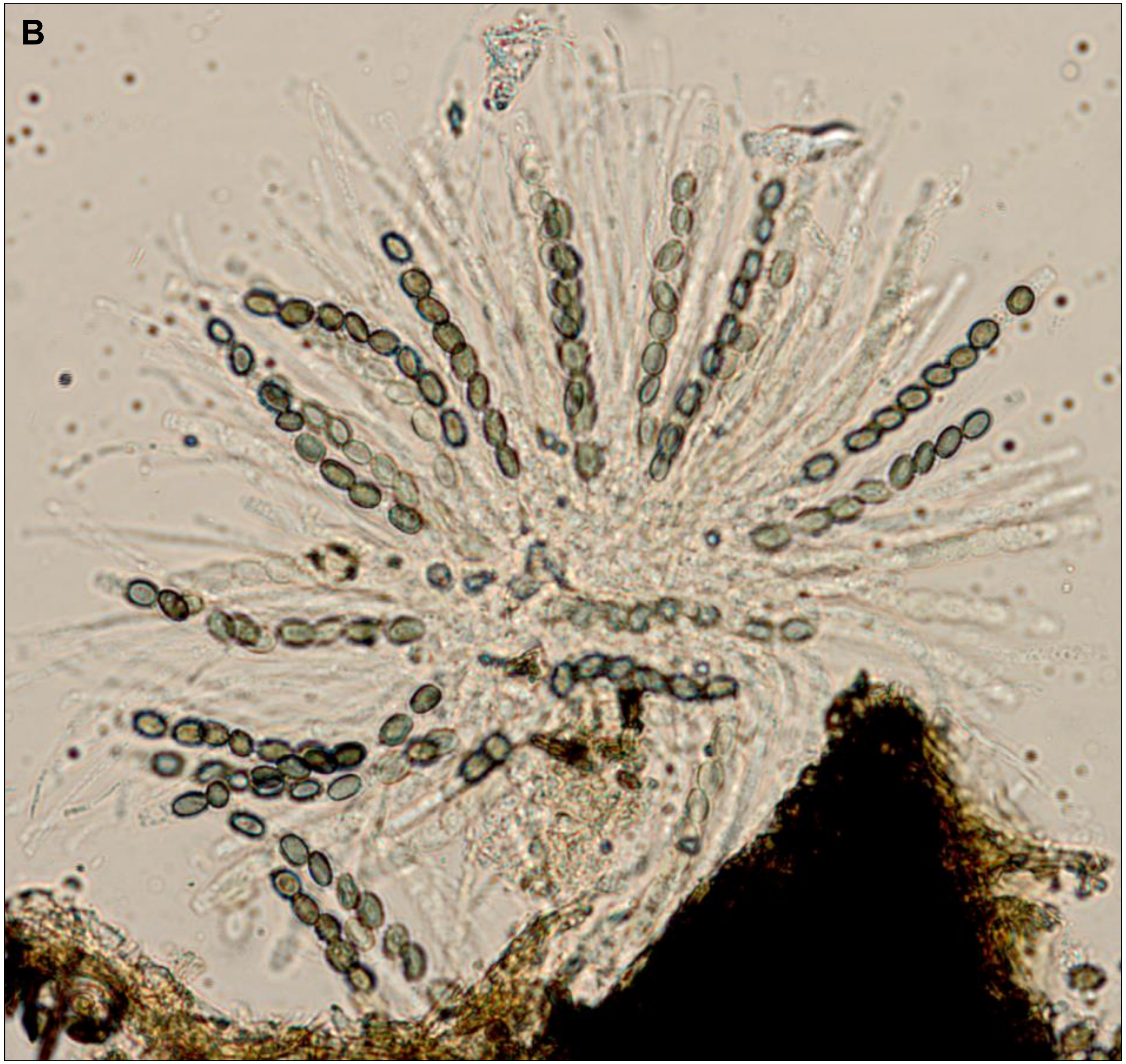


Perithecia in-situ on hard, dead, decorticated wood

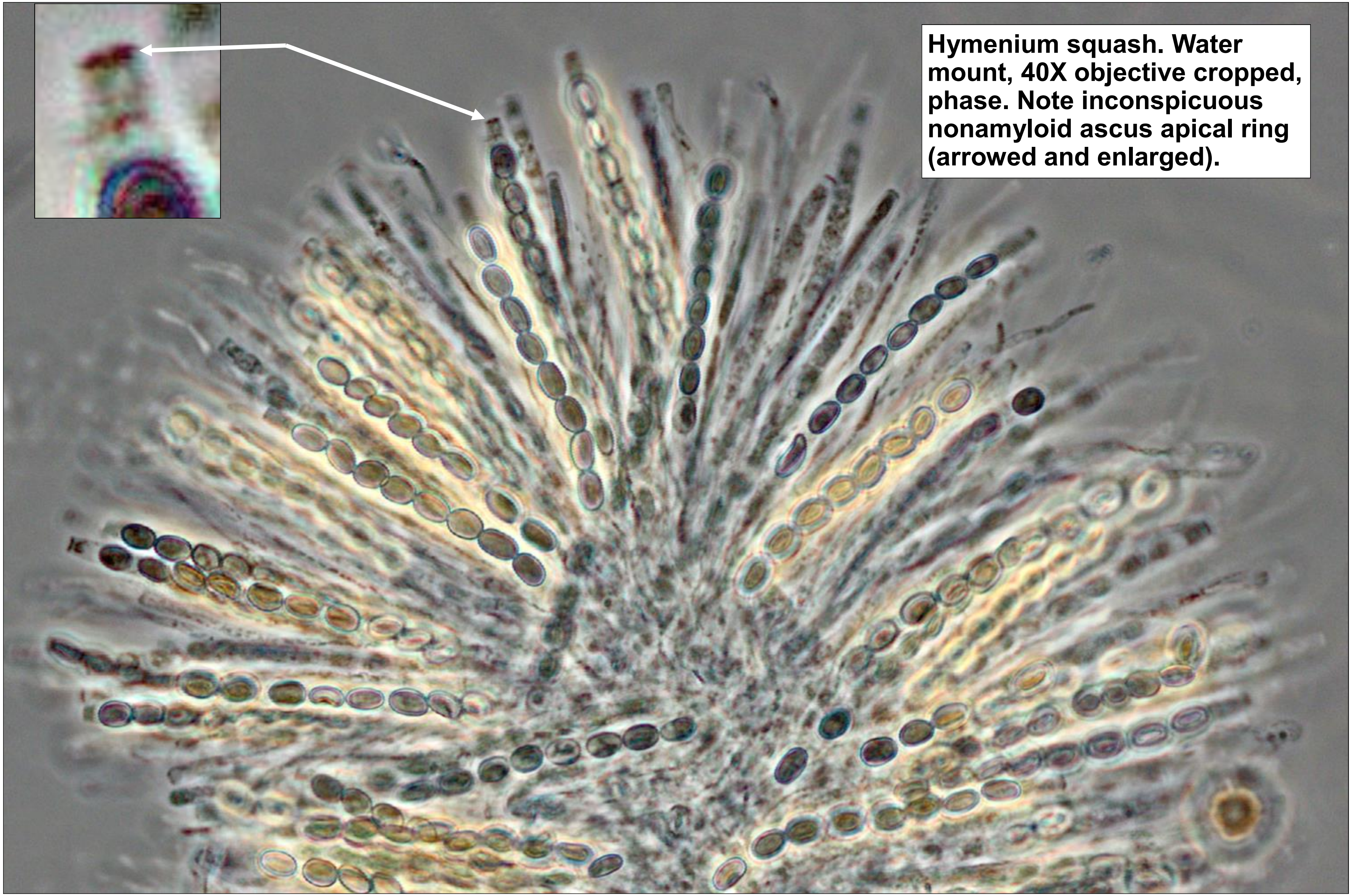


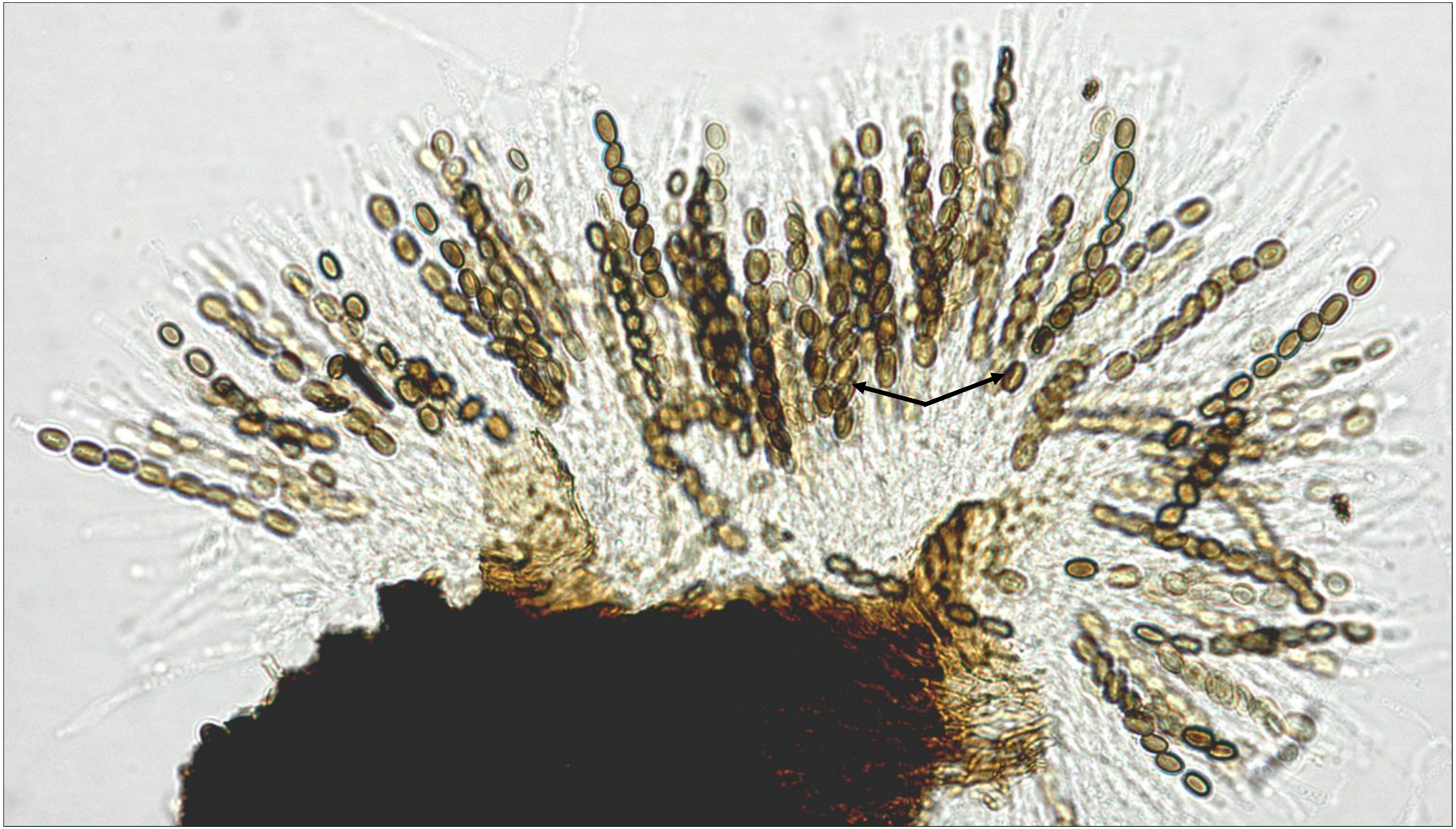
Perithecia in-situ on hard, dead, decorticated wood





A. Perithecium 215 X 215 µm, young, small, with short setae (10-25 µm long). Water mount, 20X objective, brightfield.
B. Hymenium squash. Water mount, 40X objective, brightfield.


Hymenium squash. Water mount, 40X objective cropped, phase. Note inconspicuous nonamyloid ascus apical ring (arrowed and enlarged).



Hymenium squash. Water then SMF heated mount, 40X objective cropped, brightfield. Note ascospores with longitudinal germ slit (arrowed).

Hymenium squash emphasizing ascospore guttules (arrowed). Water mount, 100X objective edited & cropped, brightfield.