***Bactridium clavatum* Berk. & Broome AEB 1074 (= PDD 97370) – a good match using Hughes, S.J. 1966. New Zealand Fungi. 8. *Bactridium* Kunze. New Zealand Journal of Botany 4: 522–532.**

Substrate: wet decaying decorticated wood from a stream bed

Collection site: a bush gulley in a residential property, Kelson, Lower Hutt, New Zealand

Collector and identifier: Ann Bell

Collection date: 14 February 2009

Voucher materials: dried herbarium specimen AEB 1074 (= PDD 97370) accompanied by one Shear's mounting fluid (SMF) microscope slide; Dan Mahoney's in-situ photos of sporodochia taken in March 2022 from the 2009 herbarium specimen using a Samsung smartphone mounted on a Zeiss MC80 dissecting microscope and digital photos from Ann's original 2009 SMF slide using an Olympus BX51 compound microscope (with a DP25 camera). The SMF slide conidia have lost much of their yellow to orange-brown pigmentation but the ontogeny and other conidial details are still obvious.

Pertinent references:

1) Berch S.M. 1982. *Bactridium xathertum* anam sp. nov. from the West Indies. Mycotaxon 14(1): 227–232. Table 1, p.231.

Table 1: *Bactridium* in the literature.

Species	Conidial Septa	Conidial Dimensions (µm)	Reference
acutum	1 - 3	?	6
americanum	6	140–220 x 40–45	7
atrovirens	1 - 2	?	6
bonaerense (= *fulvellum*)	6 - 9	138–185 x 33–41	3
candidum	?	?	6
carneum	?	?	6
clavatum	10 - 12	up to 415 x 28–48	3
effusum	?	?	6
ellisii	3	?	6
flavum	4	160–200 x 35–44	9
fulvellum	up to 10	up to 277 x 33–46	3
helminthosporum	5 - 7	35–40 x 4–6	8
helvellae	6 - 7	60–65 x ?	6
magnum (= *clavatum*)	5 - 9	300 x ?	3
minutum	6	78–84 x 5–5.5	7
novae-zelandiae	5	125–257 x 39–59	3
versicolor	?	?	5
xathertum	5 - 13	13–60 x 4–6	

Berch uses the measurements for *B. clavatum* given in Hughes S.J. 1966. New Zealand Fungi: 8. *Bactridium* Kunze. New Zealand Journal of Botany 4(4): 522–532.

No keys – to these or to other species among the 30 species and varieties presently recorded (September, 2023) in Index Fungorum – have been published.

2) As of September 2023

PDD online website: 19 records – 18 from New Zealand and 1 from Papua New Guinea.

Mycoportal online website: 43 records – 31 from New Zealand (including the 19 PDD records from New Zealand) with the other 12 from the USA, Indonesia, Sri Lanka, Venezuela, Panama and Ecuador.

3) Hughes S.J. 1966. New Zealand Fungi: 8. *Bactridium* Kunze. New Zealand Journal of Botany 4(4): 522–532.(see below)

Bactridium clavatum Berk. and Br. (Fig. I)

J. Linn. Soc. 14: 90. 1873.
≡ *Podobactridium clavatum* (Berk. & Br.) Petch. Ann. R. bot. Gdns Peradeniya 6: 180. 1916.
= *Bactridium magnum* Cooke. Grevillea 8: 60. 1879.
= *Arthrosporium chrysocephalum* Penz. and Sacc.. Malpighia 15: 253. 1901.

Fructifications are scattered or in groups, composed of sessile, hemispherical or subspherical sporodochia, or simple or branched stalks bearing subspherical heads of conidia. Conidial heads are up to I mm in diameter and pale yellow to orange-brown. Stalks are somewhat swollen at the base, then cylindrical or slightly tapered toward the apex, 200–800 µ wide, pale brown, roughened with hyphal ends, and up to 4 mm long. Stalks are occasionally irregularly branched and almost coralloid in appearance; they are composed of compactly interwoven, branched, hyaline, distantly septate, frequently anastomosing, more or less cylindrical, smooth hyphae which are 7–11 (–14) µ wide. These taper gently to 5.5–8.0 µ toward the apex; here they are looser with fewer anastomoses, frequently branched, and function as conidiophores.

Conidia are formed as blown-out ends at the apices of conidiophores; they are long-ellipsoidal to subcylindrical to narrowly clavate, rounded at the distal end, truncate at the base, with the peripheral wall 1.5–2.0 µ thick; they are up to 10-septate, occasionally 11- or 12-septate, very variable in length, up to 415 µ long, and 28–48 µ wide.

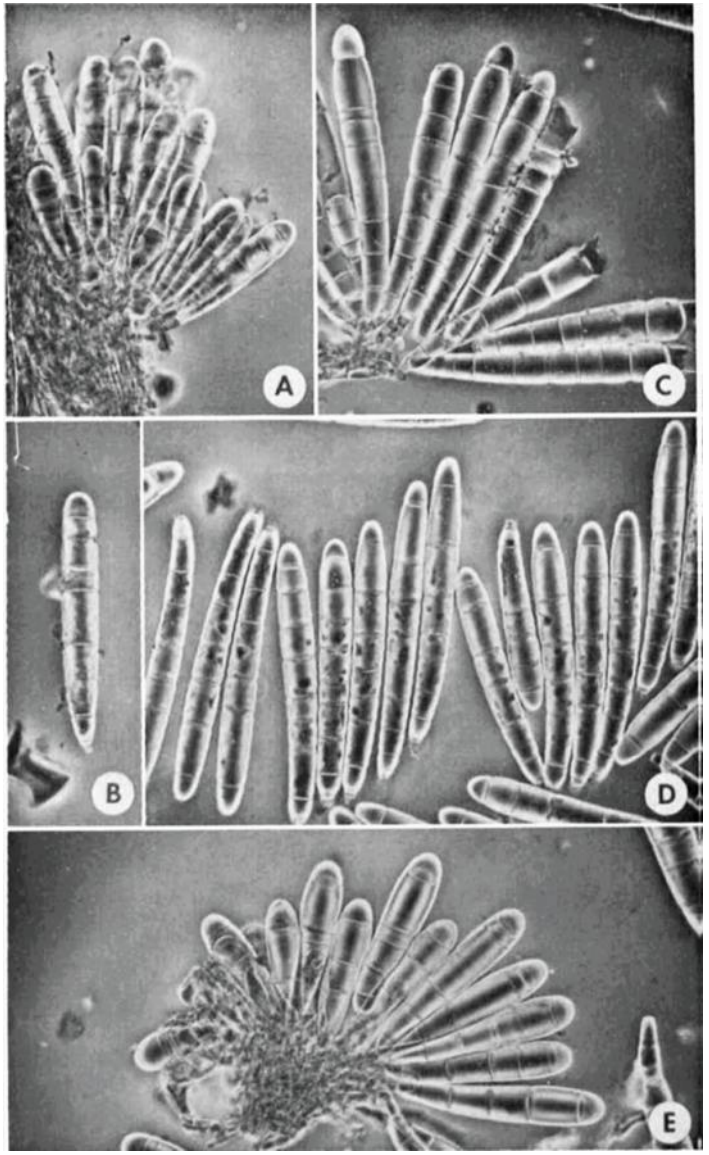
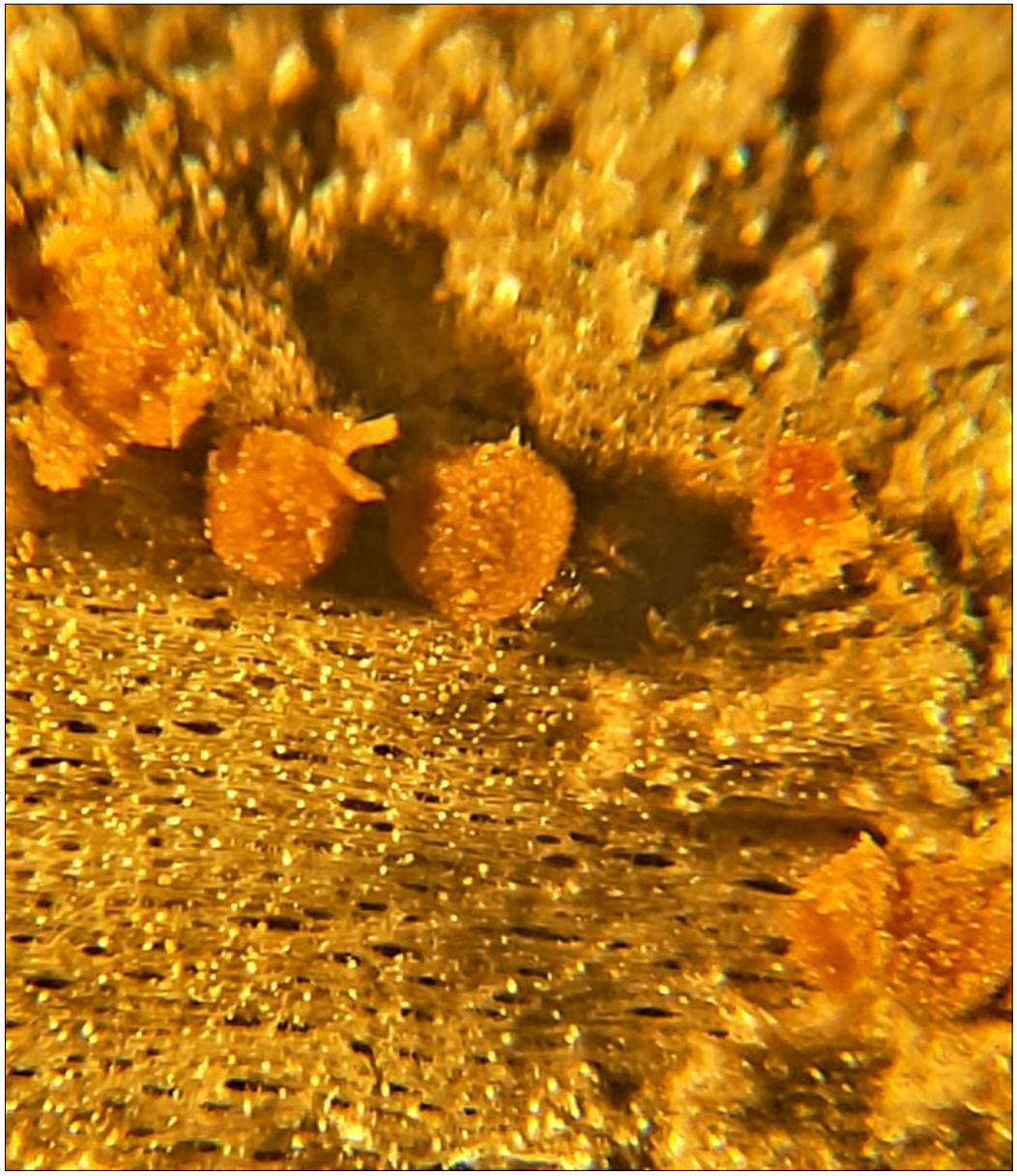
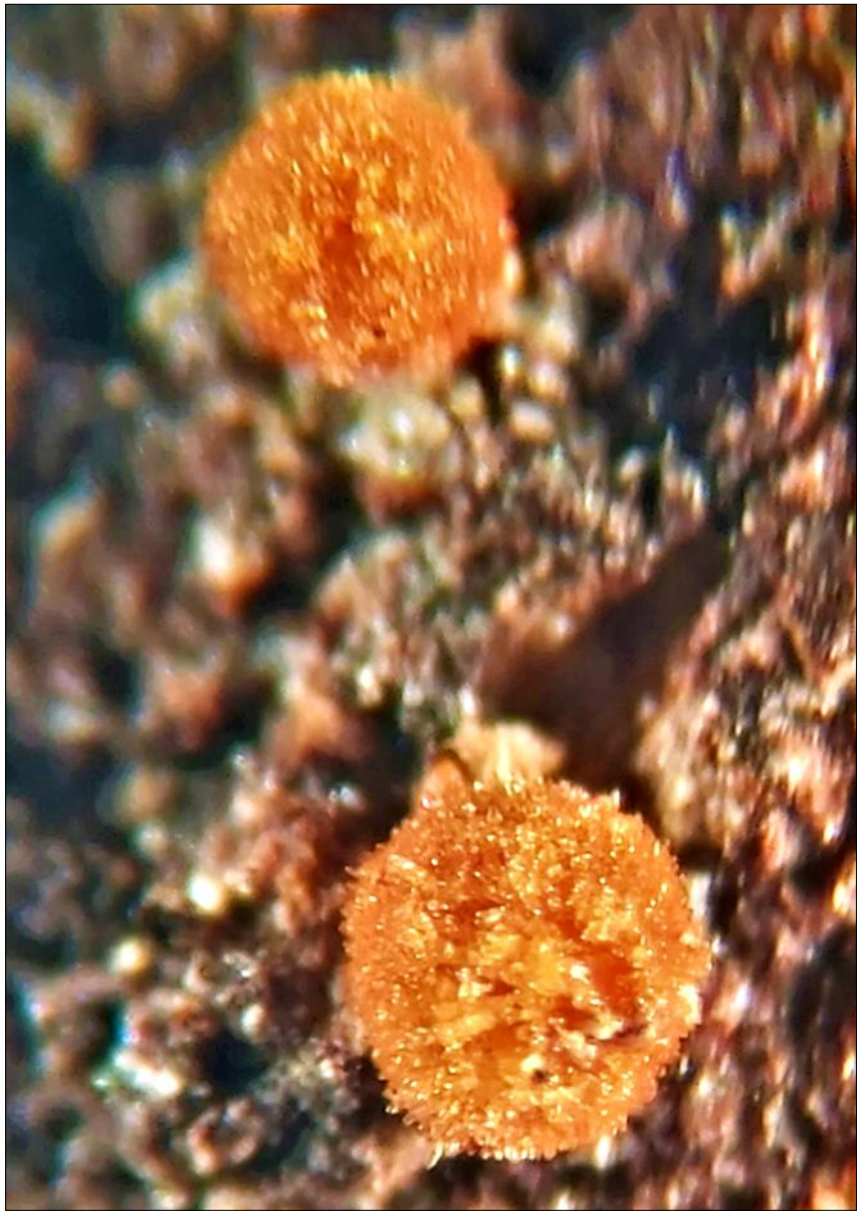


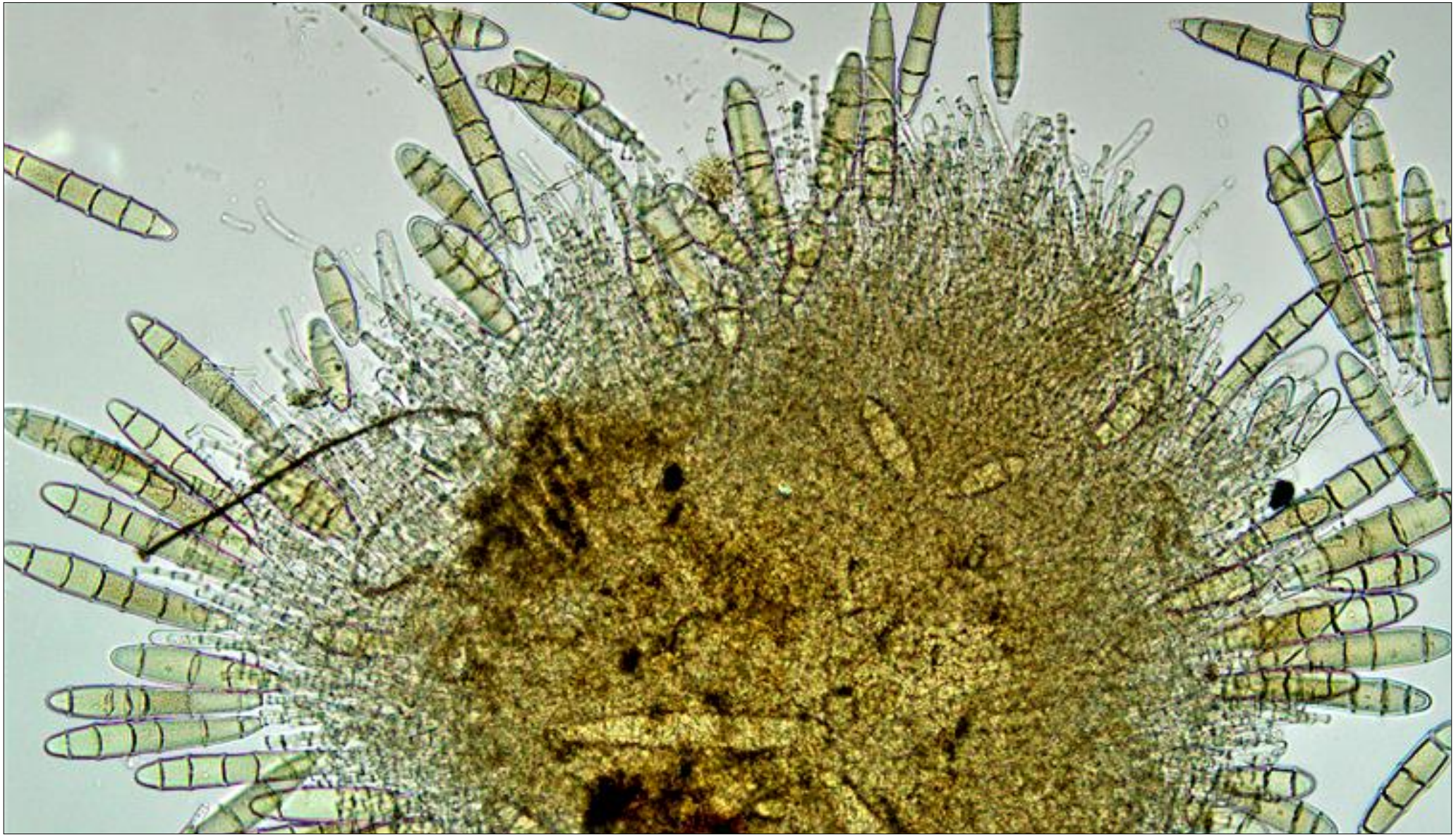
FIG. 1–*Bactridium clavatum.* Conidia, loose or attached to the pseudostroma. A, B--From the type collection of *B. clavatum.* C-From the lectotype collection of *B. magnum.* D-From PDD 21209 (DAOM 110266). E-From an authenticated collection of *Arthrosporium chrysocephalum.* X 160.





In-situ orange-colored sporodochia on dead wood. Photographed in March 2022 using the 2009 herbarium specimen. These in-situ photos were taken directly by using my Samsung Galaxy A70 smartphone camera. The Zeiss MC80 X10 eyepiece was replaced with a X10 Gosky microscope eyepiece whose adaptor held my smartphone.

Photos taken in March 2022 using the 2009 herbarium specimen, as described on the previous page. Left photo: intact sporodochium. Right photo: a sporodochium broken apart. Note the multi-septate conidia.



AEB 1074. Digital photo of a sporodochial squash from Ann's original 2009 SMF slide. Note the narrow, septate conidiophores, with conidia attached or detached, at the periphery of the squash. Increasingly magnified conidia are shown in the next 3 pages.

AEB 1074. Digital photo of conidia from Ann's original 2009 SMF slide. Note the variety of sizes and the number of transverse septa per conidium. Younger (fewer septa) and older (more septa) conidia are shown.

AEB 1074. Digital photo of conidia from Ann's original 2009 SMF slide. Note the variety of sizes and the number of transverse septa per conidium. Conidia shown here are mostly more mature than seen on the previous page.

AEB 1074. Digital photos of conidia, conidiophores and conidiophore remnants from Ann's original 2009 SMF slide. Note the 5–7 septate, fully pigmented conidia in the left & right photos and their non-pigmented conidiophore apex remnants (black-arrowed). The middle photo shows both 6- and fewer-septate conidia still attached to their septate conidiophores.