

***Physarum robustum* (Lister) Nann.-Bremek. SM81**

Collection site: Barton's Bush, Upper Hutt, N. Island, New Zealand

Collection date: 22 February 2017

Substrate: dead small branch of unidentified shrub – on the bark


Collector and Identifier: Dan Mahoney

Voucher material: Dried herbarium specimen SM81, including a SMF microscope slide; dissecting scope in situ colored negative film photos of the fruiting structures (digitally scanned) and compound scope digital photos of microscopic detail; Dan's brief description and comment.

Brief description and comment: Agreeing well with Steve Stephenson's 2003 description (see p. 2), especially that portion from Nannenga-Bremekamp 1991 – i.e., “the distinctive radiating capillitium and the presence of a pseudocolumella”. I have reproduced portions of Stephenson's description below, substituting measurements and observations from SM81.

“Fruiting bodies with stalked to sessile sporangia, separate to clustered in this small collection, roughly 1 mm tall. Sporotheca hemispherical to subglobose, with a more or less flattened base, roughly 550–700 μm in diameter X 475–550 μm high. Stalk relatively short, robust, not longer than the diameter of the sporotheca, grooved, very slightly tapering upward, blackish. Peridium consisting of a single layer, colourless, impregnated with distinct clustered bodies of granular lime, dehiscence irregular, usually with the basal portion remaining as a cup with a roughly petaloid rim. Capillitium radiating from the apex of the stalk, the lime nodes white, occasionally small and globular but mostly narrow and oblong – abundantly clustered at the central pseudocolumella and distinctly radiating from it. Spores dark reddish brown in mass, lilac in transmitted light, globose to sometimes slightly irregular in shape, evenly covered with fine warts, 10–12 μm in diameter.”

Information on *Physarum robustum* from the existing NZFungi website.



Manaaki Whenua
Landcare Research

Description Details

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Description for: '*Physarum robustum*' and synonyms

***Physarum robustum* (Lister) Nann.-Bremek.**

Article: [Stephenson, S.L. \(2003\). Myxomycetes of New Zealand. *Fungi of New Zealand. Nga Harore o Aotearoa* 3: xiv + 238 p. Hong Kong: Fungal Diversity Press.](#)

Article type: Description (NZ)

Description: Fruiting body a stalked or sessile sporangium (less commonly plasmodiocarpous), clustered, up to 1.5 mm tall. Sporotheca hemispherical to subglobose, with a more or less flatten base, 0.7–1.0 mm in diameter. Stalk relatively short, usually not longer than the diameter of the sporotheca, grooved, sometimes twisted, tapering upward, ochraceous, darker below. Hypothallus discoid or contiguous for a group of sporangia, brown. Peridium consisting of a single layer, colourless except for a pale brown zone around the stalk, impregnated with lime or lime scales except around the stalk, dehiscence irregular, usually with the basal portion remaining as a cup with a roughly petaloid rim. Columella absent or represented by a small flat brown basal thickening. Capillitium radiating from the apex of the stalk, the lime nodes white, small and spindle-shaped or oblong, rarely rounded and nearly as long as wide, forming a pseudocolumella at the centre of the sporotheca. Spores dark brown in mass, lilac in transmitted light, sometimes slightly irregular in shape, covered with fine warts and sometimes also with groups of warts, 9–12 µm in diameter. Plasmodium ivory, white or grey

Habitat: Decaying wood and bark.

Collections examined: None in PDD

Distribution: Widespread in Europe (Ing 1999) and also known from Asia (Yamamoto 1998). Reported (as *Physarum nutans* var. *robustum*) from New Zealand by Rawson (1937), based on a specimen from South Canterbury.

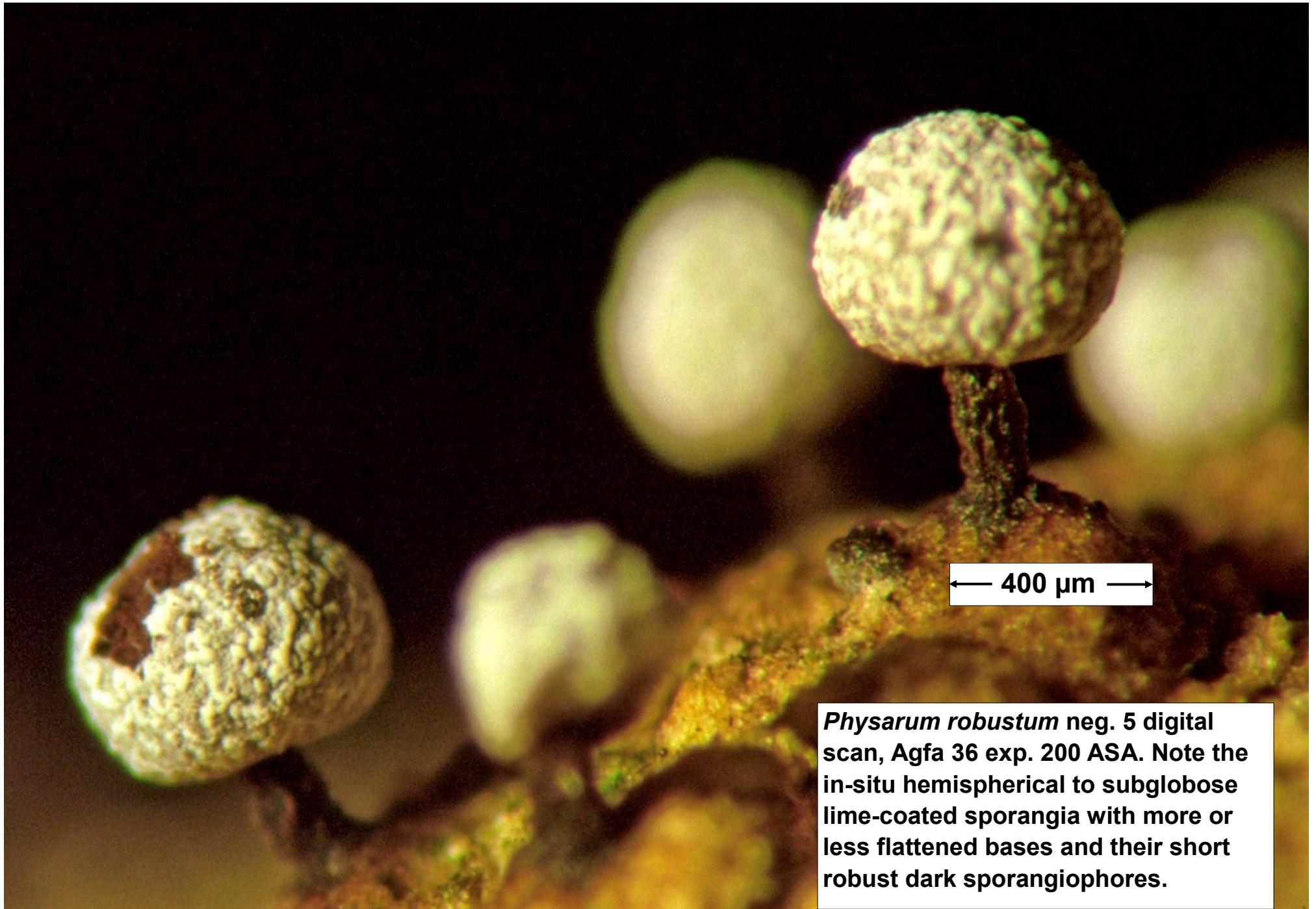
Notes: This species is most similar morphologically to *Physarum leucophaeum* but can be distinguished on the basis of the distinctive radiating capillitium and the presence of a pseudocolumella (Nannenga-Bremekamp 1991).

Illustrations: Nannenga-Bremekamp (1991), Neubert et al. (1995), Ing (1999)

The data content of the NZFUNGI website was last updated in May 2011 and will remain static as of that date.

Limited access to live data content from the national collections is now provided by a new temporary portal [NZFUNGI2](#)

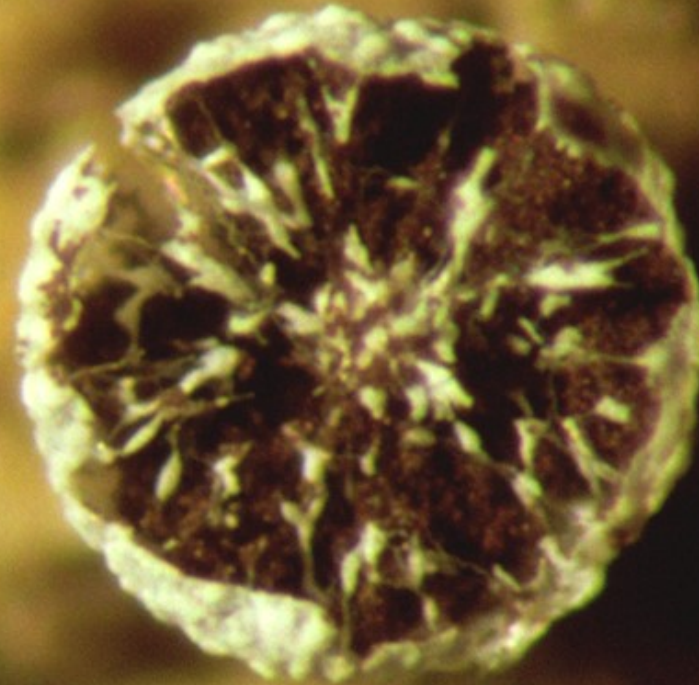
NO NEW INFORMATION on *Physarum robustum* is presently available in the new temporary portal.



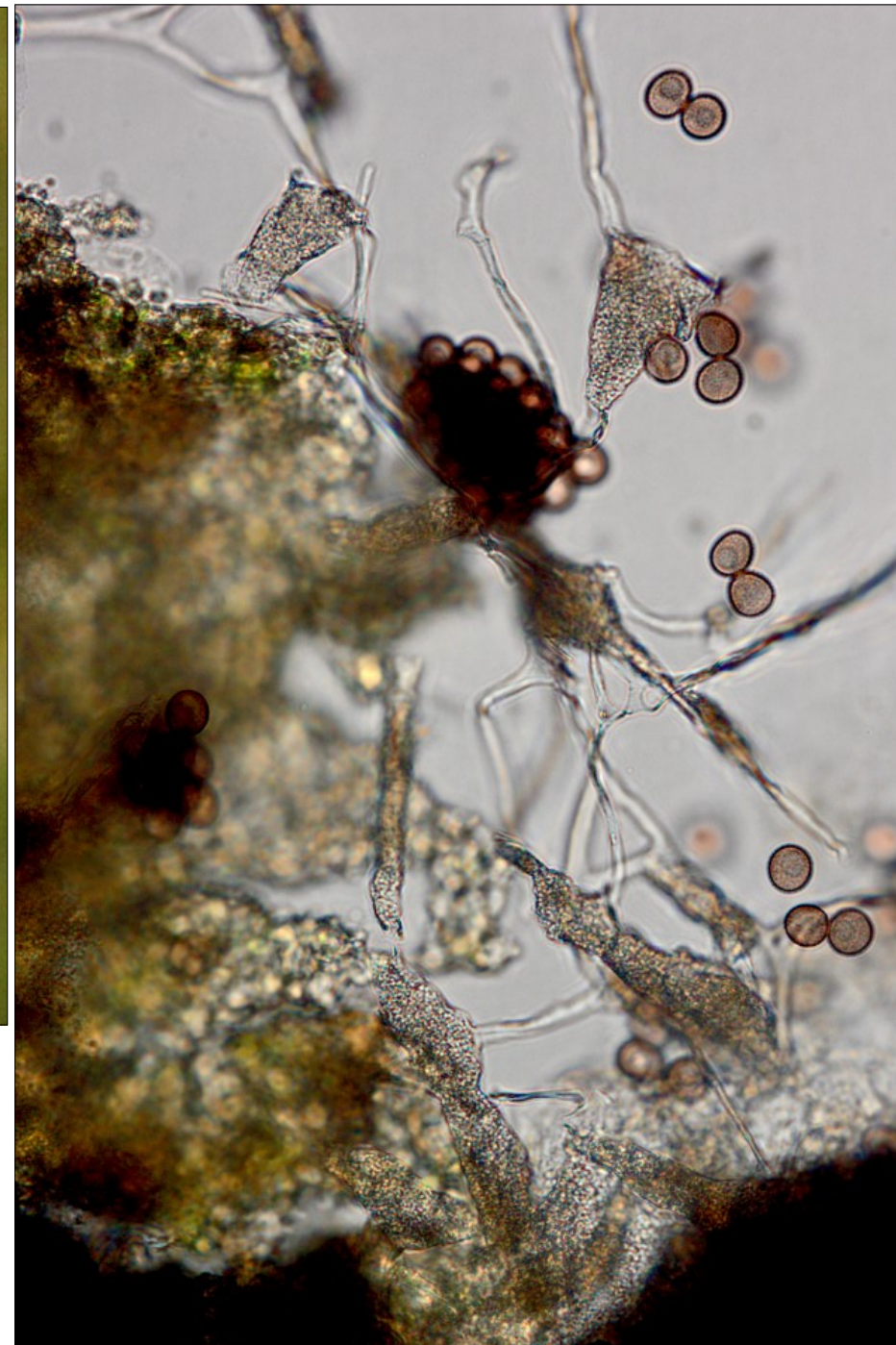
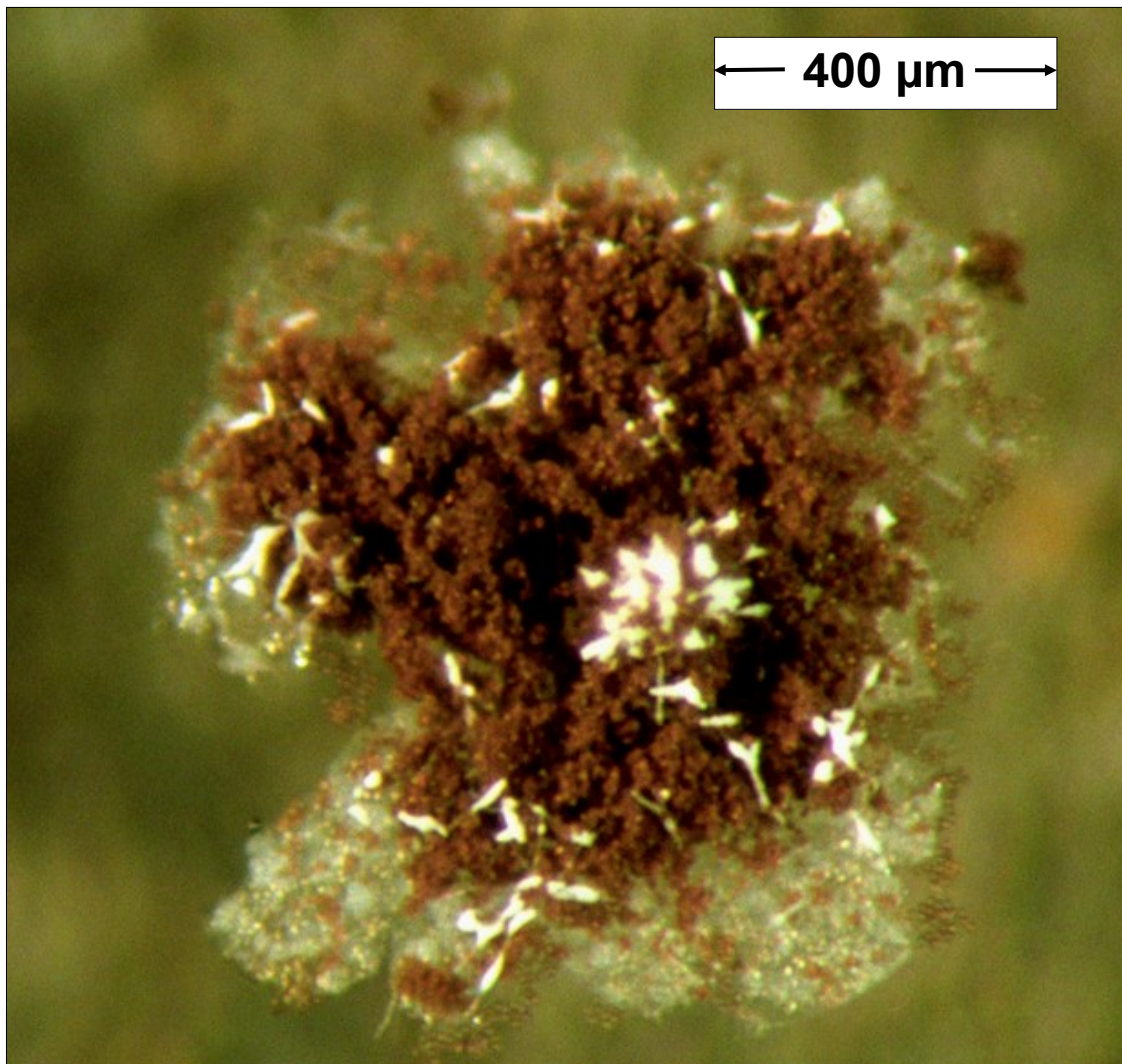
← 400 μ m →

Physarum robustum neg. 5 digital scan, Agfa 36 exp. 200 ASA. Note the in-situ hemispherical to subglobose lime-coated sporangia with more or less flattened bases and their short robust dark sporangiophores.

← 303 μm →



Physarum robustum neg. 14 digital scan, Agfa 36 exp. 200 ASA. Note the the bird's eye view of an in-situ sporangium seen with its uppermost portion dehisced, showing the narrow, oblong white lime nodes abundantly clustered at the central pseudocolu-mella and distinctly radiating from it.



Left photo. *Physarum robustum* neg. 17 digital scan, Agfa 36 exp. 200 ASA. Sporangium from the previous page mounted in 70% EtOH without a coverslip and with a dark background. Note its irregular petaloid opening. Right photo. Sporangial squash with limeless capillitial threads, elongate lime nodes and spores. 70% EtOH mount, X40 objective and brightfield microscopy.



Physarum robustum spores. Surface focus, globose to sometimes slightly irregular in shape, evenly covered with fine warts, 10–12 μm in diameter. Water mount, X100 objective, brightfield microscopy.