New Structures in the Basidiomycete, *Coniophora cerebella*

FINN LANGVAD

Institute for General Microbiology, University of Bergen, Bergen, Norway

Received for publication 20 January 1971

Previously undescribed structures found in *Coniophora cerebella* are described. They appear like spherical bodies, about 0.5 μm in diameter, situated along the wall and septa of the hyphae. They are not membrane bound and seem to be composed of ribosomes.

Since 1961, several new structures occurring in fungi have been reported. Most of these have been vesicles or membranous structures. As an example, lomasomes, described and named by Moore and McAlear (1), can be mentioned.

This article deals with a new structure, quite different from the type mentioned above, found in the basidiomycete, *Coniophora cerebella*.

The strain of *C. cerebella* (Pers.) Duby used was isolated from decaying wood in a cellar. Stock cultures were maintained on a 2% malt-extract agar medium. For electron microscopy studies, colonies were grown on strips of cellophane resting on plates of 2% malt-extract agar.

After 2 to 3 days, cellophane strips bearing the outgrown colonies were fixed in glutaraldehyde-cacodylate buffer (pH 7.5) for 2 hr, followed by 2% OsO₄ in the same buffer for 2 hr. Temperature during fixation was 4 C. In the first case, the fungus was fixed in 3% glutaraldehyde in cacodylate buffer (pH 7.5) for 2 hr, followed by 2% OsO₄ in the same buffer for 2 hr. The fixed material was embedded in Epon A:B (4:1) and sectioned on a microtome (LKB Ultrotome III). Sections were collected on Formvar-coated copper grids and stained with 2% uranyl acetate for 20 min followed by Reynold's lead citrate for 5 min. The grids were examined in a Siemens Elmiscope 101 electron microscope.

The new structures and their location in the hyphae of *C. cerebella* are shown in Fig. 1. At low magnification, they appear like spherical bodies, varying in size from 0.45 to 0.60 μm. They were situated along the wall of the hyphae and were never found in the interior parts. The bodies were lacking in roughly 50% of the hyphae examined.

When present in a hypha, the bodies also occurred along the septa. Figure 2 shows a typical basidiomycete type of septum (2), sectioned slightly above or below the central pore. We see the bodies on both sides of the septum, but outside of the parenthesome.

Figure 2 also shows that the bodies are built up of particles, resembling ribosomes and about the same size. The particles are, however, more electron dense than the surrounding ribosomes. At still higher magnification (Fig. 3), this is more clearly seen. Areas in the central parts are less densely packed. The picture also shows that the bodies are not membrane bound.

When fixed in KMnO₄, the bodies disappear, as do the ribosomes. No membrane structures can be seen along the wall, as would be expected if the bodies were membrane bound.

I have found no report or description in the literature of these or similar structures.

**LITERATURE CITED**

Fig. 1. Longitudinal section of a hypha of C. cerebella showing the described bodies situated along the hyphal wall. Marker represents 1 μm.
FIG. 2. Section through a septum of a hypha. Note bodies apparently composed of ribosomes, on both sides of the septum. Pa refers to parenthesome. Marker represents 1 μm.
FIG. 3. Electronmicrograph of two of the described bodies at high magnification. Note less densely packed areas in central parts of the bodies. Note also less electron-dense particles (ribosomes) outside of the particles. CW refers to cell wall and CM to cell membrane. Marker represents 0.1 μm.