

**A NOTE ON TWO INTERESTING FUNGI:
BOTRYTIS PYRAMIDALIS Sacc. AND
SPHÆRONÆMA CORNUTUM Pr.**

By Marie E. M. Johnson, M.Sc.

**BOTRYTIS PYRAMIDALIS Sacc.*
(=PHYMATOTRICHUM PYRAMIDALE Bon.†)**

During an investigation upon *Panus stypticus*, in October 1915, some wood block cultures of the basidiospores produced small round white tufts, of about one to three millimetres in diameter. On examination these tufts proved to be a Hyphomycete, identified as *Botrytis pyramidalis*, which up to the present has only been recorded for Westphalia and France.

Botrytis pyramidalis appears on dead wood, as little round white tufts about 3 millimetres across. Later on, these tufts become more or less flattened in the centre, and as they often arise near to each other they become confluent, but the outline of each tiny tuft can usually be determined. When first formed the tuft is shining, but later it has a tendency to dry up a little, and to have a slight powdery appearance. Sometimes the tufts turn a deep blue green, due to a change in colour of the hyphae, conidiophores, and conidia.

The description by Saccardo is incomplete, the two following characteristics, namely, that the hyphae are curling and that the conidiophores fall with the ripe conidia, having been omitted, although these two points were recorded by Bonorden. Also both Saccardo and Bonorden make no mention of the frequent change of colour referred to above, and they give the number of conidiophores as being from 2-5; in my specimens the number sometimes exceeded five.

Amended Specific Description.

In white or green tufts, woolly; with radiating hyphae, septate, snow white or green, dendroid, curled, with pyramidal branching; lateral branches short, with one septum giving

* Saccardo, *Sylloge Fungorum*, Vol. IV., p. 135.

† Bonorden, *Handbuch*, p. 116, Fig. 181.

off 2.5 or more swollen cells, conidiophores, which fall with the mature conidia; conidia $3.3.1\mu \times 1.7-1.8\mu$, elliptical, colourless or green, inserted in large numbers around the conidiophores.

In culture experiments the conidia germinated quite readily in rain water and other media, but the subsequent growth was always more rapid when a piece of wood was introduced into the culture.

Within twelve days a white tuft appeared on the wood, showing all the characteristics of *Botrytis pyramidalis*. Sometimes the whole tuft became pale green, and gradually passed into a deep bluish green colour, in other cases the whole tuft was green except the outside edge, which remained white for a short time. This change in colour does not seem to depend upon the amount of moisture present, since cultures kept in similar atmospheres with respect to moisture, sometimes remained white, while others turned green. Neither was this change in colour due to temperature, nor yet to the acidity or alkalinity of the medium, but certain observations point to light determining the change.

When cultures had been left to grow in front of a window in the laboratory, the tufts on the side of the piece of wood facing the light turned a deep green, while the tufts on the opposite side of the wood which received less light remained white. Also cultures kept in large glass vessels lined with blotting paper remained white. But the tufts on cultures kept out of doors gradually turned green, except in cases where they were produced on the under side of a horizontal piece of wood, when they always remained white.

On the other hand certain cultures bearing white tufts were removed to a dark room, while other similar cultures were placed in the lightest spot of the laboratory, the cultures being in similar atmospheres with respect to moisture; all remained white. It may be that light determines this change in colour, but unless a sufficient amount is present when the tufts first appear, they will remain white.

SPHÆRONÆMA CORNUTUM Pr.*

During the same investigation of *Panus stypticus*, I found in January, 1916, the fungus *Sphæronæma cornutum*, a member of the Sphærospidales, which was first recorded by Preuss and Saccardo,† and up to the present has only been

* Preuss, *Fungi Hoyerswerda*, No. 144.

† Saccardo *Sylloge Fungorum*, Vol. 3, p. 195.

seen on two other occasions. It appeared on a piece of dead wood from an old log, on which were growing the sporophores of *Panus stypticus*.

The species is gregarious, and can be recognised by the black, hairy, sub-globose pycnidium, which has a long cylindrical neck of the same colour (Fig. 6), the mouth of which is fringed with a number of distinct filaments (Fig. 8), by the oval spores (Figs. 9 and 8), and by the characteristic exudation of the spores from the ostiolum (Fig. 7).

Preuss described the pycnidia as being superficial, but they seem to be partly embedded, about two-thirds of the pycnidium protruding above the wood upon which it is growing (Fig. 6).

A rather interesting point which may be mentioned here was the presence of *Haplographium olivaceum* growing along with the *Sphaeronæma*, in some cases even the *Haplographium* seemed to be springing from the pycnidia. The frequent occurrence of these two fungi so closely associated suggests that there may be some connection between them.

In conclusion, I wish to thank Prof. West, Dr. J. S. Bayliss Elliott, and Mr. W. B. Grove, M.A., for help during the study of these two fungi.

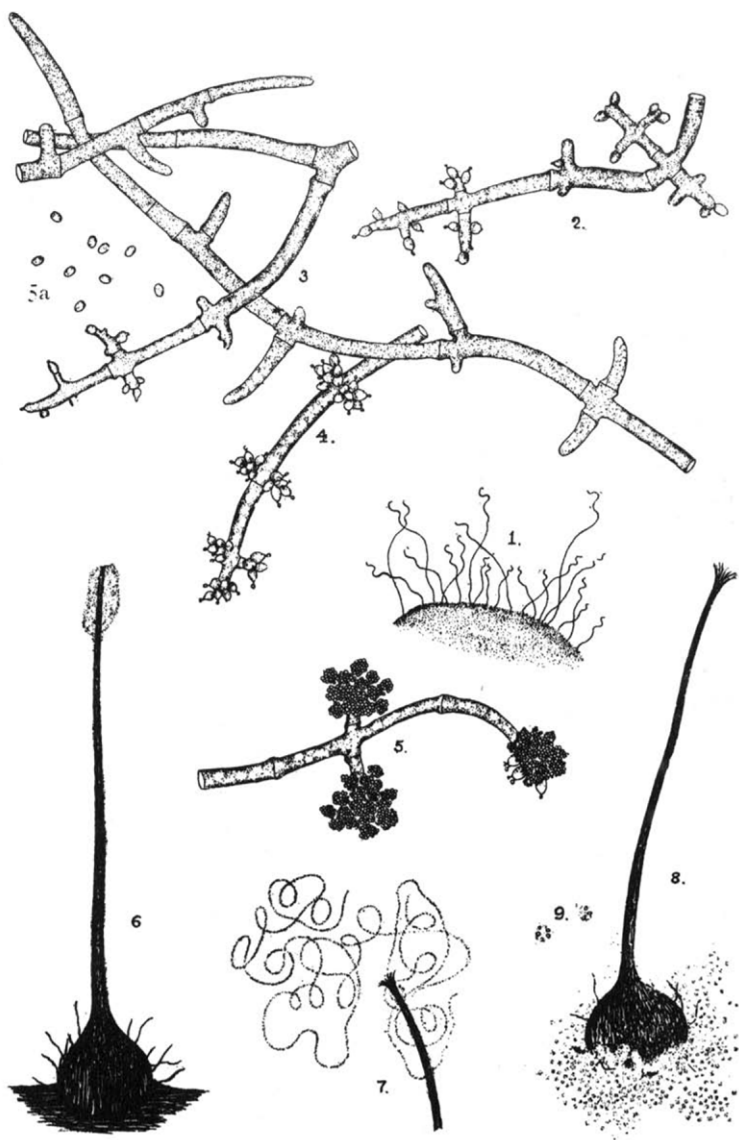
EXPLANATION OF PLATE VI.

BOTRYTIS PYRAMIDALIS.

- Fig. 1.—Erect hyphæ with curling extremities, as seen when a young white tuft is examined microscopically. $\times 96$.
 „ 2.—Young lateral branch with a few conidiophores which have just commenced to bud off conidia. $\times 600$.
 „ 3.—Very young lateral branches. $\times 600$.
 „ 4.—Older lateral branch. $\times 600$.
 „ 5.—Portion of fully-developed branch with conidiophores crowded with conidia. $\times 600$.
 „ 5a.—Freshly fallen conidia seen in water. $\times 600$.

SPHÆRONÆMA CORNUTUM.

- Fig. 6.—Pycnidium with exuded mucilaginous globule. $\times 80$.
 „ 7.—Exudation of the contents of the pycnidium. $\times 60$.
 „ 8.—Crushed pycnidium. $\times 60$.
 „ 9.—Spores in mucilage. $\times 600$.



M. E. M. Johnson del.