

THE MORPHOLOGY AND ANATOMY OF STRUCTURE SOMATIC AND REPRODUCTIV OF THE SPECIES OF *PHOMOPSIS* (SACC.) BUBÁK

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Abstracts: The species of *Phomopsis* have the conidiomata eustromatic, pycnidial, and two types of spores; alpha and beta. Alpha-spores are hyaline, fusiform, straight, aseptate, usually biguttulate. Beta-spores are hyaline, filiform, straight or more often hamate, aseptate, very rare with oily drops.

Key words: *Phomopsis*, mycelium, conidiomata, spores.

Introduction

The genus *Phomopsis* (Sacc.) Bubák is a sporadic kind studied in România, slightly known from taxonomic, nomenclatural, citologic and ecologic.

As per the system of classification elaborated of Sutton in the year 1973, this the kind is framed in class *Coelomycetes*, the order *Sphaeropsidales*, the family *Sphaeropsidaceae*, the group *Phyallostromatineae* [2, 5].

The genus is remarked through the abundance of the species in micobiota of the globe (across 900), pathogenetic species to an impressive number of plants hosts, the majority be spermatofite [6].

Material and methods

In our analyses of fotonic microscopy utilized classic techniques of obtain microscopic preparations.

The protocol of thing for the procurance microscopic preparations contained the following stages: the division into sections of biological tissue, colouring with bleu ton in lactophenol Amann or Sudan III and the assembling. Were întocmite drawings microscopically used the clear chamber. The examinations in the electronic microscopy with sweeping permitted the of a procurance tridimensional images, with complex emphases in what he looks structure of sporea and mycelium. The visualization of the images he achieved with a microscope of sweeping (SEM) of guy TESLA BS 301 to a tension of 15 Kv.

Results and discussions

The micoma them is of type mycelium, and conidiomele are of type picnidial, stromatic, in they formed, as a rule, two types of spores: alpha and beta.

The mycelium is endofit, intercelular, composed from furcate hife monopodial, septate, with the cells hifale at large uninucleate, the mycelium is hyalin, but to most species, after a certain time, is become darker becoming brown more or less intense, due to

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accumulation of melanins (**Fig. 1**). A special form of modify hifa are apresoria, They have the roles of fixation [3]. To the fungi from this these kinds structures were observate very rare.

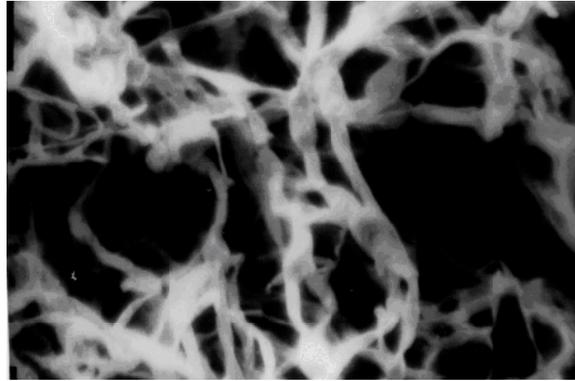


Fig. 1 *Phomopsis juglandina*: hyphae 1100x

The conidiomata are of types picnidial and is formed on the primary mycelium the haploid. Pycnidia are stromatic, units and or confluent, globulose, ampuliforme, cylindrical, elipsoidale, conical, hemisferice, aplanate, unilocular or multiloculare. Peridia is thin his thick, brown as far as brown, to most many species with the *texture angularis* (**Fig. 2**). To different species of *Phomopsis* exists differences in the stratification peridiei. Ostiole is single, or several in complex conidiomata, circular, often papillate. The size conidiomata variation between limits nice and big, depending on the average conditions, with decern the nature of the substratum, humidity, temperature etc.

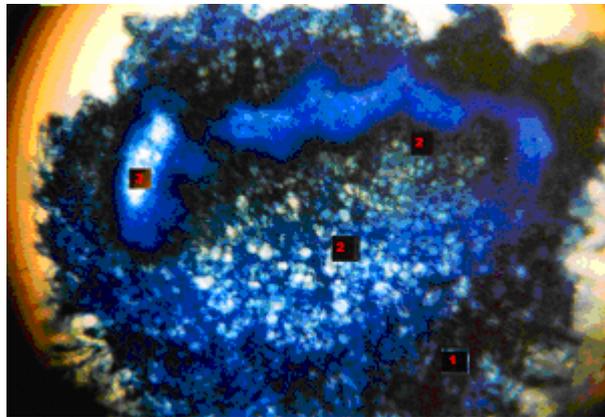


Fig. 2 *Phomopsis juglandina*: 1. stroma; 2. peridia; 3. conidiogenous cell

Conidiophores are branch out and septate at the base and above, occasionally short and only 1-2-septate, most frecvently multiseptate and filiform, hyaline, formed from the inner cells of the locular walls.

Conidiogenous cells is enteroblastic, phialidic, determinate, integrated [1]. The mechanism for form's sake conidia be in progress thus: conidia is elongated and is swollen were separate of a sept of the conidiogenous cell, between the internal wall of this from trace existing a structural continuity with the external wall of conidia.

The typical species of *Phomopsis* presents two types of spores: alpha and beta. The terms alpha and beta were used first of Diedicke in the year 1911 [4].

Alpha-spores are hyaline, fusiform, straight, aseptate, with the round acute heads and or round, membranous smooth. To her maturity presents most frequently two oily drops, sometimes still more many, these number be inducted of different physiological factors (Fig. 3 & 4).

Beta-spores are hyaline, filiform, straight or more often hamate, aseptate, membranous smooth his fine ornate, very rare with oily drops (Fig. 4).

Five species were described as having and of third types of gamma-spores: *Phomopsis hordei* from *Hordeum vulgare*, *Phomopsis oryzae* from *Oryza sativa*, *Phomopsis phyllanthi* from *Phyllanthus* sp., *Phomopsis amaranticola* from *Amaranthus* sp. and *Phomopsis viticola* from *Vitis vinifera*. These are fusiform up to subcylindrical, with acute his round apex, base sometimes truncated, multiguttulate, hyaline.

A taxonomic important character, seldom met to the species of *Phomopsis* are present the dead hyphae, freely to apex, among conidiofori or the cells conidiogenous, named paraphyses. These structures were observed merely to *Phomopsis theae* Petch., *Phomopsis javanica* Uecker et D. Johnson and *Phomopsis longiparaphysata* Uecker.

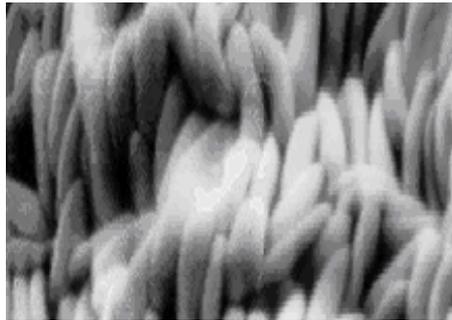


Fig. 3 *Phomopsis brachyceras* alpha-spores 2850x

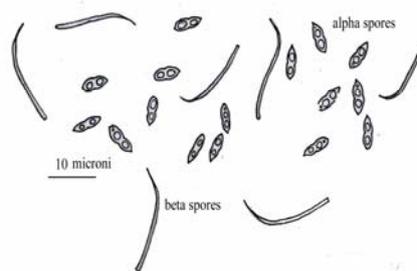


Fig. 4 *Phomopsis vaccinii*

Conclusions

- The genus *Phomopsis* (Sacc.) Bubák is a sporadic kind studied in România.
- The micoma them is of tyes mycelium, and conidiomas are of type picnidial.
- The typical species of *Phomopsis* presents two tyes of spores: alpha and beta.
- Alpha-spores are hyaline, fusiform, straight, aseptate, with the oily drops.
- Beta-spores are hyaline, filiform, hamate, aseptate, very rare with oily drops.

References

1. AINSWORTH G.C., 1973 – *The Fungi*, **IVA**, Academic Press, New York, San Francisco, London.
2. AINSWORTH G.C., 1995 – *Dictionary of the Fungi*, Ed.8th. Commonwealth Mycological Institute, Kew., 350 pp.
3. ALEXOPOULOS C. J., MIMS C. W., BLACKWELL M., 1996 – *Introductory mycology*, ed. 4th, J. Wiley & Sons. Inc., New York, Chichester, Brisbane, Singapore, 135 pp.
4. DIEDICKE H., 1911 – *Die Gattung Phomopsis*. Ann. Mycol., **9**: 8-35.
5. SUTTON B.C., 1980 – *The Coelomycetes*, Commonwealth Mycological Institute, Kew, England: 569-585.
6. UECKER, F. A., 1988 – *A world list of Phomopsis with notes on nomenclature, morphology and biology*, Mycologia Memoir no. 13., J. Cramer. Berlin-Stuttgart.