

NEW OR RARELY MICROMYCETES SIGNALIZE ON CULTIVATED OR SPONTANEOUS PLANTS FROM MOLDAVIA

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The results of the mycological research during 2005 – 2007 made by the authors on different cultivated plants, pointed out the appearance of new micromycetes for Romania, or new host-plants for already known micromycetes or rarely described micromycetes in Moldavia.

The authors studied the frequency of the pathogenicall agents on cultivated or spontaneous plants reporting the presence of some parasitic and saprophytic micromycetes. Generally these signalized micromycetes does't represent an immediately danger for host-plants, but them can suffer some transformers so that in some conditions those can became aggressive.

Key words: (new, micromycetes, parasitic, saprophytic, host-plants).

Contemporary with climatic changes registered on Earth, at the microorganism level are producing some changes which can create the transfers of some saprophytic micromycetes in parasitical ones.

In the same time those can past from spontaneous to cultivated plants, phenomenon signalized to the plants from the same botanical family but also to the plants which belongs to different botanical family.

The researches from this scientifically paper were made during 2005 – 2007 and there goal is to signalize the presence of some new or rarely mentioned micromycetes on cultivated or spontaneous plants from Moldavia, and also the signalized of the new host-plants for micromycetes already known.

MATERIAL AND METHOD

During 2005 – 2007 it has been gather some cultivated and spontaneous plants with symptoms of morbidity.

The samples were brought in the lab, being specifically tested, until it comes to the correct determination of species and subspecies of micromycetes found on morbidity plants.

The material which were identified the micromycetes presented on this scientifically paper it was packed and kipped in Fitopathological herbarium of discipline.

Also, we made macroscopically and microscopically pictures in view of presented them in scientifically session.

RESULTS AND DISCUSSION

1. *Scopulariopsis brumptii* Salvanet – Duval, 1933, These.Fac. Pharm., XXIII, p.58.

Sin.: *Marsoniella grisea* (G.Smith.) G. Smith (1952, Trans. Br. Myc. Soc. XXXV, p. 237; Ellis, Dematiaceous Hyphomycetes, p. 327, fig. 224 B (1971).

The potatoes which had come from Butea, Iași County, analyzed on 6. XII 2006, were covered with brown-olive mycelium. From the mycelia hyphae had raised the conidia's chain ovoid, plane with grey-olive color. The conidia's dimensions were between 5-7 x 2.5-3 μm.

The micromycetes signaled on *Solanum tuberosum* L. – is new for Romanian micoflores.

2. *Puccinia obscura* Schröter, Nuov. Giorn. Bot. Ital., IX, p.256(1877); Schröter, Kr. Fl. Schles, p.330 (1887); Winter, Rabenh. Kr. Fl. Deutsch., I (1884); Sacc., Syll. Fung., VII, p.629 (1888); Săvulescu Tr., Monografia Uredinalelor din R.P.R., vol II, p. 810 (1953).

Sin.: *Aecidium Bellidis* Lagh.

The rust on *Bellis perennis* L. plants got it from Iași on 15.04.2007, represent the aecidia forms of *Puccinia obscura* Schröter fungus which present uredospores and teliospores stadium on *Luzula* subspecies.

The fungus is known in Europe, boreal America and North of Africa. In Romania were found *Luzula* species with uredospores and teliospores by Al. Negru in Recea township from Făgăraș.

In Iași we signaled the aecidia form on *Bellis perennis* L. Since before flowering, the attacked leaves become yellow because of the manifold aecidia's which are opened on both size of the limb. Those dimensions are variable: 300 μm in deep, 230 – 280 μm latitude, peritecia having 20 μm thicknesses. The aecidia spores which appear in short chains are polyhedral, yellow and on maturity they are measuring 12.5 – 15 μm.

The aecidium form of these micromycete, on *Bellis perennis* L. is new for Romanian micoflores.

3. *Alternaria alternata* (Fr.) Keissler, Beih. Bot. Zbl., 29, p. 434 (1912); Ellis, Dematiaceous Hyphomycetes, p. 465, fig. 330 (1971).

Sin: *Torula alternata* Fr.

Alternaria tenuis C. G. Nees.

The leaves of *Sinningia speciosa* Hiern. got it from Iași on 10.05.2006, appear with brown-ashen zone which have concentric blurry particularity for this micromycetes attack. In this ashen zone appear an efflorescence composed from brown conidiophores which have 75 μm height and 5 μm latitude. The conidiophores support brown conidia's which have 30 - 42 x 12 μm with a short pedicel of 3 μm.

The micromycete is common, but *Sinningia speciosa* Hiern., is new-host for this fungus in Romania.

4. *Botrytis cinerea* Pers. ex Pers., Tent. Disp. Meth., Fung. p. 46 (1797) et Syn. Method. Fung., p. 690 (1801); Symb. Mycol p. 330 (1870); Lindau, Rabenh. Kr. Fl., Deutschl. VIII, p. 284 (1907); Migula, Kr. Fl. Deutschl., Pilze III, 4/2, p. 97, Tab. CVII, Fig. 1 (1934); Ellis, Dematiaceous Hyphomycetes, p. 179, fig. 121 A (1971).

The common micromycetes is signalize outside and inside of the country on different cultivated or spontaneous plants.

On the leaves of *Gerbera hybrida* Hort. get it from Iași on 4.06.2007 appear big brown blurry which have 2,5 – 3 cm and are expand concentric. The middle zone of the blurry become necrotic is breaking and firstly appear whitish points, than grey composed from conidiophores which have 740 – 750 μm height and 17 - 18 μm latitude. The conidiophores are ramify in superior part, supporting groups of oval conidia's brown on maturity, smooth of 8 – 9 x 6 μm .

Regarding the presence of this micromycetes on the floral plants from Composite family, Olga Săvulescu and co. in the monografy of the pathogenic agents on the ornamental plants, mention the micromycetes on different host-plants, but *Gerbera hybrida* Hort., is a new host-plant for Romania.

Botrytis cinerea Pers. ex Pers.

The micromycetes is signalized on the leaves of *Sinningia tubiflora* Hooh. in Iași on 10.05.2006.

On the brown withering leaves appear concentric zone which present conidiophores of 700 μm height and 18 μm latitude. The conidiophores are ramify in the superior part, supporting groups of oval conidia's brown on maturity, smooth of 9 x 6 μm .

Sinningia tubiflora Hooh. is a new host-plant for Romania for this common micromycetes.

5. *Acrostalamus cinnabarinus* Corda, Ic. Fg. II, p. 15 (1837); Sacc. Syll. Fung., IV, P. 163 (1886) and XIII, p. 827 (1898); Migula, Kr., Fl. Deutsch., p. 118, taf.110, fig. 9-10 (1934); Gilman, A Manual of Soil Fungi, p.306 (1959).

Sin: *Botrytis cinnabarina* Fr.

The potatoes grow in Butea, Iași County, analyzed on 6 XII 2006, having on surface mycelium, colonies of orange color, composed from septet hyphen. On the mycelium is rising a multitude of conidiophores which have 300-350 x 3 μm . On the conidiophores appear branches, each one sustaining 3 phialides of 15 x 2 μm , which sustain groups of conidia's of 5-6 x 3 μm .

The micromycete has been mentioned by Moesz in 1929 on macromycetes, by C.C. Georgescu on acorn and by A. Racoviță în 1969 on bread, so that *Solanum tuberosum* L. represent a new host-plant for this micromycetes in Romania.

6. *Rizophus nigricans* Ehrenb., Nova Acta Acad. Leop. X, p. 198 (1820); Sacc.,Syll. Fung. VII, p. 212 (1888); Lendner, Les Mucorinées de la Suisse, p. 115 (1908); Gilman J.C., A Manual of Soil Fungi, p. 21 (1957).

On *Vitis vinifera* L. get it from Iași on 27.04.2007 were presents the siphonoplast of the fungus which are rising from every node, the 3- 4 sporangiophores hold together, having 0.5 - 3 mm height and 24-30 μm latitude.

The hemispherical columella have 70 μm diameter and the spores which are sustaining are ovals striated of 9 – 11 X 7.5 μm.

The micromycete is frequent on different substratum, but *Vitis vinifera* L. is a new host-plant for Romania.

7. *Blumeria graminis* (DC.) Speer, Sydowia XXVII (1973); Eugenia Eliade, Monografia Erysiphaceelor din România, p. 403 (1990).

Sin.: *Erysiphe graminis* DC.

The leaves of *Festuca valesiaca* Schleich. get it from Iași on 15.04.2007 were cover by the white color fungus mycelium. The mycelium looks powdery because of the presence of conidia's form *Oidium monilioides* (Nees) Link. The filamentous thallus of fungus, have 4 -7 μm latitude and the mature conidia's have 24 – 30 x 15 μm.

Blumeria graminis is the only species from Erysiphaceae which is parasite on *Monocotyledon* Cls. plants.

Festuca valesiaca Schleich is a new host-plant in Romania for this micromycetes.

8. *Peronospora thlaspeos perfoliati* Gäumann, Bot. Centralbl., p. 530 (1918); Tr. Săvulescu et Olga Săvulescu, Peronosporaceele din R.P.R, p. 65 (1963);

Sin: *Peronospora parasitica* De Bary *f. thlaspeos perfoliati* Thüm.

The basic leaves of *Thlaspi perfoliatum* L. plants get it from Iași on 27.04.2005 present classic downy mildew. The sporangiophores are dichotomy ramified with the last termination sterigma – which sustains spherical sporangiums of 15 - 17 μm.

The micromycete is rarely met in Romania, being mention in Moldavia only once by C. Oescu and I. Rădulescu in 1932 and by Maria Bechet in 1970 from Cluj.

Microscopically aspects with signalized micromycetes:



Fig. 1 - *Scopulariopsis brumptii*



Fig. 2 - *Puccinia obscura*



Fig. 3 – *Alternaria alternata* conidia's



Fig. 4 – *Botrytis cinerea*

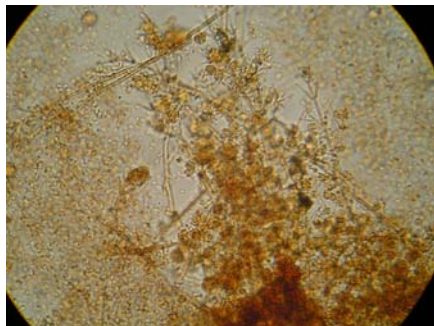


Fig. 5 - *Acrostalamus cinnabarinus*



Fig. 6 - *Rizophus nigricans*



Fig. 7 - *Blumeria graminis*

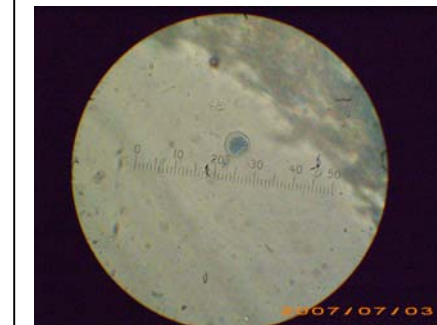


Fig. 8 - *Peronospora thlaspeos perfoliati*
– oospore

CONCLUSIONS

As a result of mycological researches during 2005 – 2007 micromycetes flower of country has been richen with a new micromycetes (*Scopulariopsis brumptii* Salvanet), an aecidian form, new for Romania (*Aecidium Bellidis* Lagh of *Puccinia obscura* Schröter fungus), 6 new host plants for micromycetes already known and one rarely mention fungus in Romania (*Peronospora thlaspeos perfoliati* Gäumann).

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