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OCCURRENCE AND SIGNIFICANCE OF *Pyrenophora tritici-repentis* IN SERBIA

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S u m m a r y

The occurrence, significance and incidence of *P. tritici-repentis* and disease symptoms in Serbia from 1993 to 1997 have been discussed in this paper for the first time.

In 1993, in our country, this species was determined for the first time in the locality of Nikinci, and later in the following localities Rimski Šančevi, Užice, Žednik, Đurđin, Tavankut, Bajmok, Ečka, Erdevik, Vajska and Sombor.

Key words: wheat, *Pyrenophora tritici-repentis*.

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VERTICILLIUM WILT OF HOP IN VOIVODINASTEVAN JASNIĆ¹, TATJANA ĐURIĆ², JAN SABO¹¹Institute of Field and Vegetable Crops, Novi Sad²Faculty of Agriculture, Novi Sad**S u m m a r y**

During a health control of hop crops in Voivodina in 1995, the presence of hop wilt was observed in several locations. Laboratory tests of cultural and morphological characteristics and the examination of the isolate's pathogenicity showed that the fungus *Verticillium albo-atrum* Reinke et Berth was the causal agent of this disease.

Plants infected by this fungus exhibited symptoms such as stem thickening first and necrosis, upward rolling at the margins of the leaflets, chlorosis and reddish discoloration. Later on, they were followed by leaf necrosis. A cross-section of the thickened stem revealed necrosis of the vessel elements. On the basal part of the stem there occurred shoot thickening and the formation of adventitious roots. The head and root of diseased plants were necrotic to a lesser or greater extent.

On a potato dextrose agar medium (PDA), the fungus formed a white mycelium, which later turned into yellowish to cream. Hyphae of arial mycelium were hyaline septate and branched. Its width ranged from 3 to 5 μm , 4.0 μm on average. The conidiophores were long, erect, and verticillately branched. One whorl borne 2-4 phialides that are 24-30 μm long. The conidia were hyaline and either round, ovoid, or cylindrical in shape. Their length varied from 3 to 12 μm . The mature hyphae included bubble-like thickenings, 5-20 μm in diameter.

With hop cuttings, shoot and pepper plants inoculated with *Verticillium albo-atrum*, we managed to induce symptoms of vessel necrosis and plant wilt, similar to those produced by infection under natural conditions.

Based on all aforementioned, it may be concluded that the causal agent of hop wilt was the fungus *Verticillium albo-atrum* Reinke et Berth.

Key words: hop, wilt, *Verticillium albo-atrum*, Voivodina.

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MORPHOLOGICAL AND ANATOMICAL ALTERATIONS OF COMMON WALNUT LEAVES CAUSED BY ERIOPHYIDS

Aceria erinea AND *A. tristriata*

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Summary

Eriophyoid mites (Acari: Eriophyoidea) are considered to be one of the most important cecidogenic groups of animals. *Aceria erinea* Nal. and *Aceria tristriata* Nal. appeared to be the most important and detrimental eriophyoids among 16 species registered on Common walnut in the world of fauna. Until recently, in the literature, the alterations of leaves and /or fruits, induced by these mites, i.e. *erinea* and galls have been described only superficially. Morphology of galls and the drawings, based on cross sections (of leaves), were presented mostly in earlier papers (Canestrini, 1892; Kuster, 1911; Ross, 1932; Mani, 1964; Jeppson et al., 1975).

The aim of these investigations was to emphasize the level of reorganization of plant tissues, complexity of galls and the mechanism of its formation.

Morphological and anatomical analyses of healthy leaves and the leaves with visible alterations were made on cross-sections comparatively. The cross-section slides were prepared by standard methods of light microscope, whereas the leaf surface and peripheral structures were studied by scanning electron microscope (SEM). In addition, various leaf parameters, such as thickness of upper and lower epidermal cells, as well as thickness of mesophyll of normal and infested leaves were measured.

The results of the current investigations have determined two eriophyoid walnut leaf mites: complex erineum and blister gall. They have caused two types of damages induced by the mite's feeding. Anatomical analysis have established that blister galls were of intermediate type – between pouch and typical blister gall in their histological structure and by their origin. The morphologies of erineum and gall, peripheral structures and their anatomy have been compared with the normal leaves of walnut.

Key words: *Aceria erinea*, *Aceria tristriata*, Common walnut, eriophyoids.

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BIODIVERSITY AND SIGNIFICANCE OF THE PARASITIDS *Scolytus rugulosus*

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The parasitoid complex of *Scolytus rugulosus* Müller includes 11 species of six families of Hymenoptera: *Doryctes pomarius* Reinhard, *Dendrosoter protuberans* Ness., *Spathius brevicaudis* Ratzeburg, *Ecphylyus silesiacus* Ratzeburg (Braconidae), *Eurytoma morio* Boheman (Eurytomidae), *Cheiopachus quadrum* F., *Rhaphitelus maculatus* Walker (Pteromalidae), *Calosota aestivalis* Curtis (Eupelmidae), *Tetrastichus ulmi* Erdős, *Entedon ergias* Walker (Eulophidae), *Scleroderma domesticus* Klug (Bethylinidae).

Among the abovementioned parasitoids, the species *Rhaphitelus maculatus* had the greatest influence on *S. rugulosus* abundance. It was identified in 73.7 % of examined samples, its average domination was 53.7 %, and average percent of *S. rugulosus* parasitism was 23.9 %. Besides, the species *Ecphylyus silesiacus*, *Cheiopachus quadrum*, *Entedon ergias* and *Eurytoma morio* had a strong effect on *S. rugulosus* abundance. The significance of other parasitoids was low.

Parasitoids have a great influence on the abundance of *S. rugulosus* because they reduce the abundance of their host 44.5 % on average.

Key words: *Scolytus rugulosus*, parasitoids, shot-hole borer.

INTRODUCTION

Shot-hole borer *Scolytus rugulosus* Müller (Coleoptera, Scolytidae) is a polyphagous species distributed in Europe, Asia Minor, Siberia, Turkestan, North Africa, North America (where it was introduced in 1834), Argentina, Chile and Peru (Balaschowsky, 1949; Stark, 1952; Nunberg, 1954; Lekander et al., 1977). It develops on physiologically weakened and freshly cut branches *Amelanchier ovalis* Med., *Crataegus oxyacantha* L., *C. melanocarpa* M. Bieb., *C. orientalis* Pall., *Cydonia oblonga* Mill., *Malus* spp., *Mespilus germanica* L., *Persica vulga-*