UDK 632.9

YU ISSN 0372-7866

INSTITUT ZA ZAŠTITU BILJA I ŽIVOTNU SREDINU –BEOGRAD
INSTITUTE FOR PLANT PROTECTION AND ENVIRONMENT-BELGRADE

ZAŠTITA BILJA
PLANT PROTECTION

VOL. 52 (3), N° 237, 2001.

Zaštita bilja, Vol. 52 (3), N° 237: 135-207, 2001, Beograd

CONTENTS

Review papers

Scientific papers

Book Reviews

SPREAD OF *Erwinia amylovora* IN YUGOSLAVIA (1989 – 2000) AND CONTROL MEASURES

VELJKO GAVRILOVIĆ[1], MOMČILO ARSENIJEVIĆ[2], MILAN PANIĆ[3], GORDANA JOVANOVIĆ[4]

[1]Institute for Plant Protection and Environment, Belgrade
[2]University of Agriculture, Novi Sad
[3]University of Agriculture, Belgrade-Zemun
[4]Centre of Agriculture, Leskovac

Summary

Erwinia amylovora (Burill) Winslow was experimentally confirmed as a parasite of quince in Yugoslavia, in the vicinity of Šabac, 1989. During 1989-2000, the pathogen dispersed considerably embracing all of important orchard regions.

Over this period, the pathogen was experimentally established on apple, pear, quince, medlar in all orchard regions of central Serbia. *E. amylovora* was registered as a parasite of pear, field ach, medlar, quince and apple in southern Serbia. In this region, various pomaceaous trees have been eradicated on about 150 ha.

The pathogen was determined as a pathogen of apple, pear and quince in Vojvodina, and pear in Montenegro.

Fire blight was registered in the following pear cultivars: William, Kaluđerka, Passe Crassane, Saint Maria, Moretini, Packham's triumph, June Beauty.

Severe infection occurred on the following apple cultivars: Idared, Jonathan, Gloster and slightly weaker in the cultivars such as: Ionagold, Melrose, Mantet, Granny Smith, Fuji.

The quince cultivars Leskovačka and Vranjska as well as domestic medlar were highly susceptible to *E. amylovora*.

In southern Serbia, *E. amylovora* was registered on parent trees and seedlings of various pear and apple cultivars.

Pyracantha coccinea (fire thorn), *Cotoneaster horisontalis* (cotoneaster), *Chaenomeles japonica* (Japanese flowering quince) proved to be host to *E. amylovora* among ornamental plants in Yugoslavia.

E. amylovora was also isolated from the diseased plants as a pathogen of hawthorn (*Crataegus sp.*) in Banat and Šumadija region.

Control measures involve law regulatives and mechanical ones with obligatory pruning tool desinfection with ethil-alcohol, Na hypochloride or formalin, It

is desirable to eradicate ornamental and spontaneous plants near the fruit tree orchards and to remove indivudual, diseased fruit trees in home gardens.

The application of bactericide for the control of *E. amylovora* was of no importance up to now. One should pay a special attention to the utilization of compounds on the basis of copper, antibiotics and synthetic bactericides.

(Received: 9.05.2001)
(Accepted:21.01.2003)

Plant Protection: Vol. 52 (3), N° 237: 141-158, 2001, Belgrade

BUG FAUNA ON WINTER WHEAT AND SOYA BEAN FIELDS IN THE VICINITY OF NOVI SAD

TATJANA KEREŠI

Faculty of Agriculture, Institute for Plant Protection and Environment "Dr P. Vukasovic", Novi Sad

Summary

The bug fauna (Heteroptera) was studied on winter wheat and soya bean, grown in different cropping systems at the locality of Rimski Šančevi (near Novi Sad). In 1993-1994, five wheat fields and two soya bean fields were inspected in 8-14 day intervals from April to August.

Over 21,300 insects were collected by sweep-net method (100 sweeps per plot), out of which 8% or 1,685 specimens belonged to order Heteroptera. Among 11 registered families in total, Miridae, Nabidae and Scutelleridae were dominant on wheat and Miridae, Nabidae and Pentatomidae on soya bean. A total of 48 species were identified, out of which 44 on wheat, 27 on soya bean, while 23 were common for both crops. Abundance and dominance were calculated for each species, as well as faunistical similarity indexes among crops. The qualitative composition of bugs was similar between crops, while the quantitative composition was different. The dominant and subdominant species represented majority (94-95%) of Heteroptera associations on winter wheat and soya bean.

Six dominant bug species (over 5%) on winter wheat are as follows: *Nabis feroides* Rem. (16.3%), *Trigonotylus ruficornis* Geofrr. (14.6%), *Exolygus pratensis* L. (14.6%), *Eurygaster maura* L. (12.8%), *E. austriaca* Schrk. (9.0%) and *Nabis pseudoferus* Rem. (5.2%). Subdominants (1.1-5%) were eight species: *Plagiognathus bipunctatus* Reut. (4.5%), *Nabis ferus* L. (3.6%), *Brachyplax palliata* Costa. (3.6%), *Orius niger* Wolf. (2.5%), *Exolygus rugulipennis* Popp. (2.0%), *E. gemellatus* H.-S. (1.8%), *Adelphocoris lineolatus* Goeze. (1.7%) and *Apolygus spinolai* M.-D. (1.5%).

On soya bean, the next four dominant bug species are as follows: *Nabis feroides* (28.7%), *N. pseudoferus* (10.8%), *Trigonotylus ruficornis* (9.2%) and *Adelphocoris lineolatus* Goeze. (7.2%). Among the 14 subdominant species, more abundant were *Exolygus pratensis, Plagiognathus bipunctatus* and *Dolycoris baccarum* L. (4.8% each), *Exolygus rugulipennis* (4.4%), *Nabis ferus* (4.0%), *Orius niger* (3.2%) and *Exolygus gemellatus* (2.8).

Key words: fauna, bugs, winter wheat, soya bean.

(Received: 14.05.2001)
(Accepted:21.01.2003)

Plant Protection;Vol. 52 (3), N°237: 159-174, 2001, Belgrade

IDENTIFICATION OF THE CAUSAL AGENT OF PARSLEY POWDERY MILDEW

MIROSLAV IVANOVIĆ[1], BRANISLAV RANKOVIĆ[2], MIRKO IVANOVIĆ[3]

[1]Agricultural Research Institute "Serbia", Centre for Vegetable Crops, Smed. Palanka
[2]Faculty of Sciences, Institute of Biology, University of Kragujevac
[3]Faculty of Agriculture, Belgrade-Zemun

Summary

Over last several years, incidence of powdery mildew of parsley (*Petroselinum hortense* L.) was noticed on growing areas in Serbia. The parasite occurred on leaves and petioles. Infected plants were covered with a whitish fungal mycelium, conidiophores and conidia. Younger and inner leaves were spotted at first with epiphytic mycelium; these spots soon coalesced, forming larger areas, and finally covered the entire matured leaf. Slight chlorosis but with no necrosis occurred even though plants were severely affected.

Microscopic examination revealed that conidiophores were short, erect, cylindrical, with basal cell 20-32(-40) x 8-10 μm in size. Conidia were individual, cylindrical to oviform, blunt-ended and measured 33-47 x 16-21μm. On leaves and stems, the cleistothecia were found to be spherical, gregarious in shape, measuring 90 do 115 μm in diameter. Appendages were myceloid with branched tips, brown to black-coloured. Each cleistothecium contained 3-8(-10) round to oviform asci measuring 50-74 x 30-50 μm. An ascus contained (2)-3-5-(6) ellipsoid to oviform ascospores 19-30 x 10-15 μm.

Based on the morphological characteristics of sexual an asexual structures, the causal agent of parsley powdery mildew was identified as *Erysiphe heraclei* DC.

Key words: parsley, powdery mildew, *Erysiphe heraclei* DC.

(Received: 19.04.2001)
(Accepted: 21.01.2003)

Plant Protection: Vol. 52 (3), N° 237: 175-182, 2001, Belgrade

Plant Protection
Vol. 52 (3), N° 237: 183-197, 2001
Belgrade

UDK: 632.4(497.11)
Scientific paper

BIONOMICS OF *Scolytus intricatus* IN SERBIA

ČEDOMIR MARKOVIĆ[1], ALEKSANDAR STOJANOVIĆ[2]

[1]Faculty of Forestry, Belgrade University, Belgrade
[2]Natural History Museum, Belgrade

Scolytus intricatus is a secondary species present in oak forests throughout Serbia. It is identified on *Quercus cerris* L., *Q. trojana* Webb., *Q. frainetto* Ten., *Q. petraea* (Matt) Liebl., *Q. daleschampii* Ten., *Q. pubescens* Willd., *Q. virgiliana* Ten., *Q. robur* L., *Q. rubra* L. and *Fagus moesiaca* (Domin, Maly) Czeczott. in the insectarium it has been also reared on: *Q. coccifera* L., *Q. ilex* L., *Castanea sativa* Mill. and *Corylus colurna* L. It develops on the material of smaller diametres (1 – 10 cm), although it can infest also the trunks of older trees (25 – 30 cm). It has got two generations. The commence of the flight of the second, overwintering generation in the field is in mid April, early May and flight duration is till mid August. The adults of the first, summer generation, emerge in mid July and their flight lasts till late September or early October. However, in mountanious regions *S. intricatus* has got only one generation. Under such conditions, they begin and keep swarming from mid May till mid August.

The adults of both sexes start flying simultaneously of equal intensity in the course of swarming. Sex index is 0.5. The insect overwinters in different larval instars. Since the age differences of overwintering larvae are great, there are no specific limits in the time when the adults of the first and the second generations are about to emerge. Consequently under field conditions, all larval instars are represented over the vegetative period, from April to October. However, only larvae are present in winter. The winter interruption of larval development is conditioned solely by low temperatures.

Key words: *Scolytus intricatus*, oak bark beetle, Serbia.