PESTS OF ORNAMENTAL TREES AND SHRUBS IN THE PARKS OF PITEŞTI AND METHODS OF FIGHTING THEM

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Abstract
The observations carried-out in 2008 to ornamental trees and shrubs from parks of ADP Pitesti conducted to identified of the follows pests species: Macrosiphum rosae (L.), Aphis spiraephaga Müll., Cinara cupressi Buckton, Hyphantria cunea Drury, Oxycarenus lavaterae (F.). Cinara cupressi and Oxycarenus lavaterae are mentioned for the first time in Romania. Cinara cupressi was noticed on an imported Abies nordmanniana specimen in a park from this city. O. lavaterae, a Mediterranean species from Tilia sp., currently it is expanding his area in northern regions. We recommend carefully monitoring of imported ornamental plants, because they can be infested and open ways to invasion for the pests with devastated potential.

Keywords: Oxycarenus lavaterae, Cinara sp., park, control pest

1. INTRODUCTION

Ornamental plants as trees, shrubs, and flowers are an important elements of our life, present in our houses, institutions and parks.
These are often infested with many pests, someone local, while another was introduced accidentally via transport of infested plant material. Thus, the fall webworm, *Hyphantria cunea* Drury (Lepidoptera: Arctiidae), an insect native in North America has become an invasive pest throughout Europe and Asia (Săvulescu, 1961; Teodorescu et al., 2003). In Romania, most of the dendrologic species on the market are imported, and after the adhesion of our country to United Europe, the Phyto-Sanitary quarantine controls are restricted. This situation allows pervasion in our country of floricolous and dendrologic species infested with many pests.

2. MATERIAL AND METHOD

The researches were carried out on the ornamental shrubs and trees from the central parks establishment by ADP (Administration of Public Domain) Pitești, in 2008. It achieved visual control in different periods of vegetation, and the pests were collected and identified in Entomology laboratory. The pests control was made with chemical treatments. It had been used a manual pump or an atomizer with a 15 liter volume.

3. RESULTS AND DISCUSSIONS

The studies conducted on the ornamental shrubs and trees in parks found out the occurrence of some pest species with large populations.
Macrosiphum rosae (Linnaeus 1758), rose aphid
Class: Insecta; Order: Hemiptera; Family: Aphididae
M. rose, a ubiquitous pest of roses, lives in colonies in gardens, parks, and in greenhouses, considerably decreasing their ornamental value. It colonises tender flower buds, young shoots and surface of young leaves, so at strong infestations to get damaged as the deformation of stems, leaves and flowers (Jaskiewicz, 1997).
We found the pest on the roses from all parks in city.
The pest control

We applied a single foliage treatment with Diazol 60 EC – conc.0.15 % to the observation of first aphid's colonies, for limiting the damage.

Aphis spiraephaga Muller 1961, brown aphid of spirea
Class: Insecta; Order: Hemiptera; Family: Aphididae
The aphid of Central Asian origin dispersed west-wards and reached Central Europe probably before 1956 (Stary, 1995). The species is frequently encountered live fences as grown by Spirea. It is a related resistant to low temperatures generating attacks at the beginning of April till the half of May.
Jaśkiewicz B. (2000) observed it on three spirea species: *S. vanhouttei* Zabel, *S. arguta* Zabel and *S. salicifolia* L., with a highest degree of attack on *S. vanhouttei*. The harmful parasite forms colonies crowded on young and dispersed young branches, on leaves and flowers. The damage caused by the feeding of that aphid was often reduced by the plant itself, because those shrubs grew intensively, after the aphids flew away.
The pest control
We applied three foliage treatments alternatively with Mospilan 20 SP – conc.0.06 %, Actara 25 WG – 0.04 %, Actellic 50 EC – 0.15 %, to the observation of the first colonies pest.

Cinara cupressi Buckton 1881, conifer aphid
Class: Insecta; Order: Hemiptera; Family: Aphididae
This species is one of the giant of aphids, spreading in Africa, Asia, Europa, North and South America. It is known on *Cupressus, Juniperus, Thuja, Callitris, Widdringtonia, Chamaecyparis, Austrocedrus* genus and *Cupressocyparis* hybrid.
In Romania, this species is mentioned for the first time.
In according with Watson et al. (1999), the apparent region of origin for that species is spreading from Eastern Greece to South of Caspian Sea.
This species is being found on the catalogue with the most dangerous species with invasive potential.
The saliva inoculate in the feeding act is phytotoxic and produce tissues necrosis, who leads to the drying of the trees and to considerable affected forestry areas (Eskiviski et al., 2003).
The aphid was found in the summer of the year 2009 on an *Abies nordmanniana* specimen from a park situated in Prundu district. This conifer imported from Holand was probably infested in the moment of his purchase.
The pest control
We applied a single treatment with Mospilan 20 SP – conc.0.06 % to the observation of the first colonies pest.
Currently, the species is being monitoring to stop its spreading.

Hyphantria cunea Drury 1773, fall webworm
Class Insecta, Order Lepidoptera, Family Arctiidae
The fall armyworm is a polyphagous pest of many ornamental trees and shrubs as well as of several agricultural crops. Worldwide, it has been recorded from 636 species (Warren and Tadic, 1970). It is presently distributed in many areas in the northern hemisphere, with the northern range limit at the latitude of 50–55° (Morris 1963). In our regions climate, the species has two generations in a year.
The pest control
If it comes to a large area like that of the city of Pitesti, then it is necessary, in order to fight this pest, to have an analysis bulletin issued by the Phyto-Sanitary Department of the Arges county, a programme where there should be a clear specification of the quarters and neighbourhoods, the day

and hour of the beginning and ending the treatment, and a warning for the population and the beekeepers.
In 2008, the attack of that pest was reduced so that, in order to fight the caterpillars only one treatment was applied, using Cipertrin 10 EC – conc. 0.02. Likewise, an important part in reducing the biologic reserve of the pest is also played by the measures of cultural hygiene, which consist in collecting and destroying the accessible caterpillar nests. These measures were taken before the pesticide treatment was applied.

Oxycarenus lavaterae (Fabricius, 1787)
Class: Insecta; Order: Hemiptera; Suborder: Heteroptera; Family: Lygaeidae
A new species, *Oxycarenus lavaterae*, was observed in the 2008/2009 winter on specimens of *Tilia* sp. in the parks of the city Piteşti. Up to the present, in Romania are mentioned two species in the same genus: *Oxycarenus* (*Euoxycarenus*) *pallens* (Herrich-Schäffer 1850), and *O. modestus* (Fallén 1829). *O. lavaterae* is also known by the name of Mediterranean bug, due to its preferring the areas of a Mediterranean climate.
The insect is spread in many European countries, including those neighbouring Romania: Bulgaria, Serbia and Hungary (Protić and Stojanović, 2001; Kalushkov et al., 2007). Global warming causes this gregarious species to gradually extend its habitat from the Southern regions of Europe towards the central ones; over the past few years, it has been mentioned in Austria and Switzerland. Considering the current spreading of this species, it is highly probable that its migration has taken place through the western or southern part of this country. In the literature, such host species have been cited as *Tiliaceae* and *Malvaceae*.
The bug winters in the form of larger or smaller agglomerations, usually taking shelter in the creaks of the tree bark, at the level of the trunk, and on the branches. All the colonies observed were located on the sun-exposed part of the bark. Although they winter in the adult stage, a few larvae were noticed, as well, among the hundreds of individuals (Figure 1).
Thanks to the milder temperatures during the 2008/2009 winter, only few dead individuals were observed at the base of the wintering aggregates made up of thousands of individuals.
In the spring of the year 2009, in the parks situated in the centre of the city a frequency of the attack of 7.27% was found.
In Romania, this species is mentioned for the first time.
The pest control
At the observation of the first colonies pest there was applied a single treatment with Cipertrin 10 EC, 0.04 % concentration.

Figure 1. Oxycarenus lavaterae aggregations on Tilia sp., 2008, Pitesti

4. CONCLUSIONS

Five pests species for ornamental trees and shrubs were identified, in 2008, in the parks of ADP Pitesti: *Macrosiphum rosae* (L.), *Aphis spiraephaga* Müll., *Cinara cupressi* Buckton, *Hyphantria cunea* Drury and *Oxycarenus lavaterae* (F.).

Cinara cupressi Buckton and *Oxycarenus lavaterae* (F.) are mentioned for the first time in Romania.

For the pest control, we applied measures of cultural hygiene and pesticide treatments with Cipertrin 10 EC – conc. 0.02, Mospilan 20 SP – conc.0.06 %, Diazol 60 EC – conc.0.15 %. With exception of *Aphis spiraephaga* species, a single pesticide treatment was made.

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