

STUDY OF ECOLOGY AND DISTRIBUTION OF THE *SAPERDA OCTOPUNCTATA* (SCOPOLI, 1772) IN THE BASIN OF GOVORA RIVER

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ABSTRACT

The territory under research is located in the Govora river basin (Valcea County) part of the Subcarpathian area of Oltenia and Capatanii Mountains. The forests from this area is represented by: *Quercus patraeae*, *Fagus sylvatica*, *Carpinus betulus*, *Tilia* sp. and *Picea abies*. This species edified the next forest habitats: 91E0* - Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*), 9110 - *Luzulo-Fagetum* beech forests, 9170 - *Galio-Carpinetum* oak hornbeam forests, 9410 - Acidophilous *Picea* forests of the montane to alpine levels (*Vaccinio Piceetea*).

Following research in this forest habitats, we identified the species *Saperda octopunctata* (Scopoli, 1772), saproxylic Coleoptera showing a particular interest. This species is distributed throughout much of Europe, in central Europe, from Pyrenees to the Black Sea (Bense 1995) including some of the Nordic and Scandinavian countries and it is common in the Carpathian forests. In Romania we found tis species in the low mountainous areas, where there exist large deciduous forests. This species prefers lime wood *Tilia* sp. It is a nocturnal species and in the basin of Govora river we found on the very fresh cut trunks of *Tilia* sp. in the Jgheaburi Forest. In the forest stands of this area the population of this species is relatively small, just 10 individuals have been identified. *Saperda octopunctata* (Scopoli, 1772) is also in the list of “The IUCN Red List of Threatened Species” and it fits in the LC category.

INTRODUCTION

The forests from this area is . The forests from this area is represented by: *Quercus patraeae*, *Fagus sylvatica*, *Carpinus betulus*, *Tilia* sp. and *Picea abies*. This species edified the next forest habitats: 91E0* - Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*), 9110 - *Luzulo-Fagetum* beech forests, 9170 - *Galio-Carpinetum* oak hornbeam forests, 9410 -Acidophilous

Picea forests of the montane to alpine levels (*Vaccinio Piceetea*).

Saperda (*Lopezcolonia*) *octopunctata* (Scopoli, 1772) is a nocturnal species and saproxylic beetles meet in the forest habitats. The Larvae develop under bark on dead branches and pupate in the wood, under or in the bark. Adults are found on the foliage or branches, or flying nearby (Sama 2002). Life cycle two to three years. Adults emerge in V-VIII, found on leaves,

branches and stems of the host plant; they feed on leaves and will eat aspen leaves as well as lime. In Hungary it lives in forests where various species of lime occur, especially in ravine and slope forests (O. Merkl pers. comm. 2009).

World distribution.

This species is distributed throughout much of Europe, in central Europe, from Pyrenees to the Black Sea (Bense 1995) including some of the Nordic and Scandinavian countries and it is common in the Carpathian forests. We meet in: Albania, Austria, Belarus, Armenia, Azerbaijan, Lithuania, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Crimea, Slovenia, Spain, Italy, Moldova, Montenegro, Netherlands, Poland, Romania, Serbia, Kosovo, Slovakia, Malta, Transcaucasia, Sweden, Switzerland, Turkey, Algeria, Iran, Ukraine (<https://www.cerambycoidea.com/foto.asp?id=1546>)

In Romania we found this species in the low mountainous areas, where there exist large deciduous forests. It is mentioned in the following areas: Brașov, Sibiu, Petroșani, Zimnicea, Reghin, București (S. Panin and N. Savulescu, 1961), Iași (Bârnova Forest) (M. M. Dascălu, 2006), Caras-Severin (Băile Herculane, Domogled) (T. Kovács, G. Hegyessy, M. Medvegy, 1998-99).

Taxonomy

Phylum: Arthropoda Latreille, 1829
Sous-Phylum: Pancrustacea Zrzavý & Štys, 1997
Infra-Phylum: Altocrustacea Regier, Schultz, Zwick, Hussey, Ball, Wetzer, Martin & Cunningham, 2010
Classe: Hexapoda Blainville, 1816
Sous-Classe: Insecta Linnaeus, 1758
Infra-classe: Pterygota Brauer, 1885
Cladus: Neoptera Martynov, 1923
Ordre: Coleoptera Linnaeus, 1758
Sous-Ordre: Polyphaga
Infra-Ordre: Cucujiformia
Super-Famille: Chrysomeloidea Latreille,

1802

Famille: Cerambycidae Latreille, 1802

Sous-Famille: Lamiinae Latreille, 1825

Tribu: Saperdini Mulsant, 1839

Genre: Saperda Fabricius, 1775

MATERIAL AND METHODS

These studies were conducted during May to September in the period 2017-2018. As a result of landslides was collected entomological material, were made brush sampling by age, consistency, cardinal position, the edge area and isolated secular trees. The collected material was determined using the following works: Forest Entomology (I. Mircea Ene, 1971) and Fauna R. P. R. (S. Panin and N. Savulescu, 1961).

We followed the nomenclature and systematic proposed by Althoff & Danilevsky (1997) and Brustel et al. (2002).

RESULTS AND DISCUSSIONS

During our study in the basin of Govora River, we identified in the forest habitats the species *Saperda (Lopezcolonia) octopunctata* (Scopoli, 1772) (fig. 1, 2) saproxylic Coleoptera showing a particular interest. Material examined: Jgheaburi Forest (11♀, 5♂; 01.06.2017, leg. Niculescu Laurențiu), Schitul Jheaburi (caught by light bulb at night, 9♂, 14♀; 15-18.05.2018, leg. Niculescu Laurențiu).

From Govora River basin area and also from Oltenia was not cited before. We identified for the first time this species in this area, in the Jheaburi Forest, Vâlcea County.

Habitat and Ecology.

This species prefers lime wood *Tilia* sp. It is a nocturnal species and in the basin of Govora river we found on the fresh cut trunks of *Tilia* sp. in the Jgheaburi Forest.

In the forest stands of this area the population of this species is relatively small, just 39 individuals have been identified. *Saperda octopunctata* (Scopoli, 1772) is also a protected species

according to -The IUCN Red List of Threatened Species and it fits in the LC category(<http://www.iucnredlist.org/initiatives/europe>).

Very rare this species is found on the trunks and branches of *Ulm* sp. and *Populus* sp.

Conservation status and human impact

In the investigated area this species and forest habitats is characterized by the following data on the conservation status and human impact:

Conservation status of this species and forest habitats: from favorable up to unfavorably-inappropriate;

Development trend of species and forest habitats: from stable up to decreasing;

Human impact and current pressures: B02 - forest and Plantation management & use; B03 - forest exploitation without replanting or natural regrowth; D01.02 - roads, motorways; G05.07- missing or wrongly directed conservation measures; E01 - Urbanised areas, human habitation; K02- Biocenotic evolution, succession; M01 - Changes in abiotic conditions (*List Threats, Pressures and Activities*).

Future threats: E01 - Urbanised areas, human habitation; K02- Biocenotic evolution, succession; M02.01- habitat shifting and alteration, M02.04 - migration of species (natural newcomers); M02.03 - decline or extinction of species (*List Threats, Pressures and Activities*).



Fig.1. *Saperda punctata*, Jgheaburi Forest



Fig.2. *S. punctata* on the *Tilia cordata* trunks in the Govora river basin

CONCLUSIONS

Following research in this forest habitats, we identified the species *Saperda octopunctata* (Scopoli, 1772), saproxylic Coleoptera showing a particular interest.

In conclusion, it could be noted that the results of this study contribute to an increase of the biodiversity of the Romania fauna and discovery of new ecological relationships between insects in forest habitats.

This species prefers lime wood *Tilia* sp. and it is first time cited from Vâlcea County, Govora river basin. It is a nocturnal species and in the basin of Govora river we found on the fresh cut trunks of *Tilia* sp. in the Jgheaburi Forest. In the forest stands of this area the population of this species is relatively small, just 39 individuals have been identified. Very rare this species is found on the trunks and branches of *Ulm* sp. and *Populus* sp. For this species it is First record from the Vâlcea County, Jgheaburi Forest and Europe, is considered a protected and rare species according to - The IUCN Red List of Threatened Species and it fits in the LC category.

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