

In 1994, the species was identified on the Haute Saone region Belfore (France) and in 1995 the species was found in Moselle (France).

In 2003, the species found in the Czech Republic in the Biosphere Reserve Trebonsko, colonies of this species occurred annually until 2011. The bryozoan colonies were found for the first time in Ukraine in 2005, the Polludionniy channel which is part of the Danube Delta Biosphere Reserve.

In 2009, the species was identified in a fish farm in Austria, which is on the border with the Czech Republic, near the Trebonsk Biosphere Reserve and in 2011, the colonies of *P. magnifica* were found on a channel of the Danube, near Budapest.

In September 2012, colony sizes between 10 cm and 50 cm were identified in the Danube port of Galati at coordinates 45° 26 , 35.5 „North latitude and 28° 05 , 39.4” East longitude. It is the first report of this species form colonies in our country.

It can be seen that the spread of *Pectinatella magnifica* species in Europe has not had a local character, it being reported along the time, simultaneously in different locations, that seemingly have no connection with each other.

It is assumed that anthropogenic factors such as transport, construction of dams, canals, linking water basins, water resources exploitation (sand, gravel) associated with drilling equipment, transport contributed significantly to the spread of this species. To all these you can add activities in tourism, leisure and water sports. The main natural dispersion of the species is at hidrohor. At the stage of statoblaste species may be widespread anemohor, when dry, water basins or zoohor when you catch the waterfowl feathers which carry out feeding migrations or nesting sites.

## **OBOLODIPLYSIS ROBINIAE (DIPTERA: CECIDOMYIIDAE) AND ITS PARASITOID PLATYGASTER ROBINIAE (HYMENOPTERA: PLATYGASTRIDAE) ON ROBINIA PSEUDOACACIA – NEW INVASIVE SPECIES IN THE REPUBLIC OF MOLDOVA**

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Black locust *Robinia pseudoacacia* L. in the Republic of Moldova has artificial origin and occupies more than 84 thousand ha, and as is the fourth cultural dominance from the forest fund of our republic. The Black locust is itself an alien species in Europe. *R. pseudoacacia*, are ornamentally attractive, drought-tolerant, and fast-growing. Also, this tree species provides a large amount of nectar (fundamental for apiculture); fixes nitrogen; have durable wood; is adaptable to various climates and soils and also is considered a stand-deteriorating contributor.

This species was introduced in 1601 from North America to Europe in order to consolidate soils and to reforest devastated areas, or as an ornamental tree (Beat

Wermelinger & Marcela Skuhrava, 2007). It was introduced to Europe at the beginning of the 17th century, and first planted in France around 1601 and Italy in 1622.

In the Republic of Moldova all plantations of black locust have artificial origin. Cultures of *R. pseudoacacia* are located on inconvenience in dry forest types.

First dates about presence of black locust trees on the territory of our republic dates at the beginning of the 20th century.

At present moment black locust woods took about 84.6 thousand ha or 29 % from the forest fund of the Republic of Moldova. All the black locust cultures are located in the south of the country – about 38 thousand hectares (45.6 % from the black locust cultures of country) and in the centre 29.5 thousand hectares (34.9%).

The pests of *R. pseudoacacia* and their importance in forest economy of the Republic of Moldova weren't studied enough and unpublished. In the last 10 years on the black locust were observed three phytophagous invasive leaf miners species which also are the most important insect pests: are Black Locust Leaf Miner – *Macrosaccus robiniella* (Clemens, 1859) and Locust Digitate Leafminer – *Parectopa robiniella* Clemens, 1863 (Lepidoptera: Gracillariidae) (Timuş, Derjanschi, 2012; Olteanu I. et al, 2013). But, in 2010 the things changed, through of a new invasive pest: *Obolodiplosis robinia* (Haldeman 1847) (Diptera: Cecidomyiidae).

*O. robiniae* was for the first time described in Pennsylvania (USA) as *Cecidomyia robiniae* (by Haldeman 1847). It was restricted to North America until the beginning of this century when it was found in South Korea, Japan (Kodoi et al. 2003) and Europe – the first finding was in the Veneto region in Italy (Duso & Skuhravá, 2003). During the following years *O. robiniae* spread thorough Europe and was observed in e.g. South Tyrol, Slovenia, the Czech Republic, Hungary (Csóka, 2006), Slovakia, Serbia and Germany (2006), and England, Montenegro and Switzerland (Wermelinger & Skuhravá, 2007).

In Republic of Moldova in 2010 near Vadul-lui-Isac village, Cahul district for the first time on leaves of *R. pseudoacacia* were observed some galls which are 7-16 mm long. In the result of identification were established that these galls are caused by the larvae of black locust gall midge (*O. robinia*). For this gall midge of North American origin from 2010 till 2013 the specialist hadn't gave much attention. All things were disturb in 2013, when cultures of *R. pseudoacacia* from the centre of the republic were very affected. In summer of 2013 in robinia woods of Calarash district were observed a huge attack on black locust leaves, especially those young. In this galls were founded 2 - 6 larvae of *O. robinia*, but maximum of larvae in one gal was 11 larvae and in the galls from one leaf 16-18 (depending of leaf size). In the result of investigation were established that maximum galls per leaflet was 5 galls and medium 1-2. According to our observations the attack is bringing by larval feeding. The gregariously feeding larvae induce the margins of the leaflets to thicken and to bend downwards, forming the characteristic leaf margin roll galls (Hoffmann et al. 2007). The galls are green at the beginning of the larval development, but become yellow or pink, and may turn to dark brown when the larvae reach the third instar and begin pupation (Skuhravá et al., 2007).

Also, were observed that more than 70 % of larvae were infested by some parasite. In the result of determination of parasite was established his taxonomical affiliation – *Platygaster robiniae* Buhl & Duso, 2007 (Hymenoptera: Platygastridae). The first recorders of parasite cocoons in the host body were done in the beginning of June. The *P. robiniae* is also an invasive species and witch keeps the population of *O. robinia*.

The larvae of the third instar (fully grown larvae) are pale yellow, with a long spatula sternalis on the ventral side of the prothoracic segment (Duso & Skuhrová, 2003). At the beginning pupae is white, then becoming reddish-yellow. The adults of *O. robiniae* are yellowish brown in colour, male 2.6-2.8 mm, female 3-3.2 mm long. Also, adults have bright wings and are capable of active flights.

In the conditions of the republic of Moldova *O. robinia* has 3 and if weather conditions are favourable then was remarked and the fourth generation (in 2013), but population are in numerical diminutions. Duty our investigation during of 2013-2014 we observe that the first and the second generation have increase population what we can not say about the last two generation. The diminution of the last generation is duty of parasite *P. robiniae*.

The development of parasitoid stages especially pupal and adult in individual cocoons formed by the larvae can be seen through translucent larval integuments of the *O. robiniae* carcass. The number of cocoons per host larva varied from 5 to 25. As a rule, adult parasitoids soon emerged from the cocoons. However, was observed that beginning with last decades of July, several adult parasitoids remained inside the *O. robiniae* larval integument and fall in hibernation.

We would like to extend our appreciation to Supreme Council for Sciences and Technological Development of Academy of Sciences of Moldova for providing funding for this study (project 11.817.08.15A).

## **INFLUENȚA FACTORILOR DETERMINATIVI ASUPRA APOIDELOR (HYMENOPTERA, APOIDAE) ÎN CONDIȚIILE REPUBLICII MOLDOVA**

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Din multitudinea speciilor de insecte folositoare, care asigură obținerea roadelor înalte de semințe, fructe și legume, pe prim plan se situează speciile din suprafamilia Apoidea, polenizatoare ale plantelor entomofile cultivate.

Specialiștii entomologi consideră că pînă în prezent s-au înregistrat aproape un milion de specii de insecte. Din acestea circa 99% sunt specii folositoare sau neutre pentru om.

Pentru utilizarea speciilor de albine sălbatice ca polenizatori ai plantelor entomofile cultivate e necesar să se țină cont de capacitatea multor din aceste specii de a forma colonii. Apariția coloniilor de apoide în diferite locuri și terenuri din ecosistemele R. Moldova este strict determinată de influența unui ansamblu de factori abiotici, biotici și antropici.

Din factorii abiotici fac parte: factorii edafici, fizici, hidrologici și orografici (geomorfologici, fiziografici). *Factorii edafici*: pentru construirea cuiburilor albinelor sălbatice sunt favorabile solurile cu reacție bazică slabă sau neutră, cu componența mecanică ușoară, în care particulele de argilă nu depășesc 8-10%. În R. Moldova acestea sunt terenurile cu soluri nisipo-lutoase, solurile cenușii-închise, cenușii-deschise și ciornoziomurile cu conținut nesemnificativ de particule argiloase. Pentru cuibărirea apoidelor sunt favorabile și terenurile neproductive (hîrtoapele, ponoarele, malurile lin înclinate ale râpilor). Aceste terenuri pot fi păstrate și înțelenite intermitent timp de mai mulți ani în sir.