Latvia – Lithuania Cross Border Cooperation Programme 2007-2013

Project LLIV-250 TEAMWORK
"Joint resistance to bioinvasions for sustainable agriculture and management of natural resources "

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EXPEDITIONS REPORT

For the year 2013

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CONTENT

INTRODUCTION

Latvia has no national database on alien species, just individual databases on individual species. Only one species is indicated as *economical important invasive* species in Latvia – Sosnowsky hogweed (*Heracleum sosnowsky*). Due to the widespread distribution of species in the wild, the risks of natural habitats and human health, *Heracleum sosnowskyi* is currently the only invasive plant species in Latvia, who developed a national spread awareness and control program.

Approximately 1000 alien species are known in Latvia and part of these species may be invasive. The aim of the reporting period is to clarify composition, spread and the frequency of invasive species in the project territory.

In 2006 the non - native species comprise approximately one third of the flora in Latvia (totally 633). 293 of them are considered as intentionally introduced gadred escapes, and 340 as unitentionally introdeuced species (Priede 2006). Most Latvian naturally occurring, local flora uncharacteristic alien plant species are not invasive. They are mostly rare, do not stand or life is short and cannot long compete with native plants.

In the vicinity of twenty species of all known mollusc species are of non-native origin. Half of known alien molluscs have been recorded only during the last 30 years. In the reporting period special attention was given to 5 alien mollusc species – *Arion lusitanicus, Dreissena polymorpha*, *Krynickillus melanocephalus*, *Limax maximus* and *Xerolenta obvia*. These species are present in the project area.

The aim of the reporting period – to clarify alien species frequency and ditribution.
Target:
To inspect the known alien species localities;
To find new alien species localities;
To take stock of the situation.

DESCRIPTIVE PART OF THE REPORT

For species detection of the territory under the survey was based on the route method - mainly moving on the roads, watercourses, as well as in urban areas, walking along a variety of habitats, in many cases, outside of urban areas, especially in potentially infested areas, such as river valleys. Has been assessed area (m²) and abundance.

Description of molluscs species and methodology.

***Arion lusitanicus*.**
Extended length 7-14cm. Very variable in colour: mainly dirty grey-green, but often one dark lateral bend on each side of the body, forming a lyre shape on the mantle. Common variants are brown, orange or grey in color, but never black. The bands are not always present in the adults. Sole whitish, mucus colourless. Tuberculus are large, elongate and well visable.
Habitat: various habitats – woodland, grassland, gardens, hedgers, wetland.

Limax maximus.
Extended length 10-20 cm. Usually pale greyish-brown to grey, with 2 or 3 darker longitudinal bands on each side, sometimes broken up into spots. Mantle usually darker, spotted or marbled, but not banded, with darker pigment. Tentacles uniform reddish-brown. Sole white. Slime colourless and very sticky.
Habitat: very different – woodland, gardens, hedgerows, basements.

Krynickillus melanocephalus
Extended length 3.5-5 cm. Body usually dirty white, grey or grey-blue. Mantle and back darker. Head and tentacles black, the same colour continues under the mantle. Slime colourless. Sole light. Adults can be foundstarting from August.
Habitat: different habitats.

Xerolenta obvia
Size of shell: lenght 7-10mm and height 14-20 mm. Shell depressed conical, with 5-6 tumid whorls, suture shallow. Umbilicus width is quarter of the shell width. Shell white with spiral bands that are very variable: from few very fine to many wide and dark bands. Shell glossy, with very fine and regular striation.
Habitat: open habitats, dry grassy slopes, also dunes, vineyeards, sunny walls of ruins, railway dams, road margins, estivating often in large numbers in the vegetation.

Dreissena polymorpha
Size of shell: 20-50 x 10-25 x 15-30 mm. Schell elongate and triangle-like, thin. Shell colour polymorphic, often with zigzag lines.
Attached to a solid substrate with an aid of byssal threads.
Habitat: lakes, larger rivers, ponds.

Methodology.

100 m long transects marked in a homogeneous habitat. 10 sampling plots (1m²) marked by every 10 m along the whole length of each transect. Performs habitat description. The juvenile and addult snails are counted in 10 sampling plots and in litter samples. Litter samples are taken using the soil sieve. Samples are taken to the laboratory where they are dried at room temperature and afterwards sieved with the soil sieve (meshes of 5 mm, 3 mm, 2 mm, 1 mm). Juvenile molluscs are picked out with pincers by looking through the laboratory magnifying glass.
The slugs are collected from each sampling plot and taken to the laboratory.
Equipment: soil sievs, sieve shaker, sample containers.
Mussels record kept by 100 m along the watercourse coast. 10 sampling plots (1m²) marked by every 10 m along the whole length of each transect. Performs habitat description. The juvenile and addult mussels are counted in 10 sampling plots with bathyscope.
Equipment: gumboots, bathyscope.
In 2013th was made 9 expedition:

1. **The 23rd September route was Rīga - Kalnciems - Dobele - Rīga**; the total lenght of the route was 227 km. The journey was undertaken 5 stopping: Glūda, Šķibe, Dobele, Jaunbērze, Nākotne. Overall, during the trip were found 8 alien species and was marked 8 localities (App 1-6);

2. **The 26th September route was Rīga – Jelgava- Glūda – Rīga**; the total lenght of the route was 240 km. The journey was undertaken 4 stopping: Jelgava, Glūda, Kalnciems, Tīreļi. Overall, during the trip were found 5 alien species and was marked 8 localities (App 7-10);

3. **The 27th September route was Rīga – Bauska district - Bauska – Rīga**; the total lenght of the route was 234 km. The journey was undertaken 4 stopping: Code, Bauska, Mežotne, Pilsrundāle. Overall, during the trip were found 4 alien species and was marked 7 localities (App 11-14).

4. **The 30th September route was Rīga-Aizkraukle –Rīga**; the total lenght of the route was 257 km. The journey was undertaken 4 stopping: Aizkraukle, protected area „Daugavas ieleja", Lipši, Aizkraukle. Overall, during the trip were found 5 alien species and was marked 18 localities (App 15-18).

5. **The 15th October route was Jēkabpils district-Aizkraukle-Jēkabpils**; the total lenght of the route was 280 km. The journey was undertaken 15 stopping: Jēkabpils (16 localities), Jēkabpils district (Vandāni, Dunava, Jedvigova, Tadenava, Rubeņi, Slate, Liepas, Zasa, Leimaņi), Pļaviņas district (Gostiņi, Pļaviņas, Rīteri) un Koknese district (Žagatas, Koknese). Overall, during the trip were found in 10 alien species and was marked 48 localities (App 84-99).

6. **The 17th October route was Jēkabpils- Daugavpils district -Jēkabpils**; the total lenght of the route was 350 km. The journey was undertaken 24 stopping: Daugavpils district (Nīcgale, Ruži, Kalupe, Vabole, Svente, lake Svente, Buras, Medumi, Demene, Kumbuļi, Silene, Ilgas, Skrudaliena, Červonka, Jaunborne, Vecsīķele, Rozališķi, Elerne), Daugavpils, Līksna, Jersika. Overall, during the trip were found 14 alien species and was marked 95 localities (App 19; 30-53).

7. **The 18th October route was Daugavpils- Daugavpils district - Preiļi - Daugavpils**; the total lenght of the route was 125 km. The journey was undertaken 11 stopping: Daugavpils-Daugavpils district (Krauja, Juzefova, Naujene, Biķernieki, Višķi, Špoģi)- Preiļi district (Pelēči, Aizkalne, Preiļi) – Daugavpils district (Maļinova, Lociki). Overall, during the trip were found 6 alien species and was marked 35 localities (App 54-64).

8. **The 21st October route was Jēkabpils- Krāslava district -Jēkabpils**; the total lenght of the route was 283 km. The journey was undertaken 19 stopping: Krustpils district, Trepmuiža – Līvāni district (Veiguri, Līvāni, Mucenieki, Rožupe) – Preiļi county (Preiļi, Mūrnieki) – Riebiņi district (Kastīre, lake Jaša, Bašķi, lake Eikša) – Aglona district (Aglona, Grāveri) – Krāslava district (Kombuļi, Augstkalne, Krāslava, Izvalta, Drīdzis, Auleja). Overall, during the trip were found 9 alien species and was marked 50 localities (App 65-83).

9. **The 24st October route was Rīga-Jelgava district- Bauska -Rīga**; the total lenght of the route was 312.5 km. The journey was undertaken 10 stopping: Jelgava district (Kaigu bog surroundings, protected area „Līvbērzes liekņa", Līvbērze surroundings, Mūrmuiža surroundings, Eleja surroundings), Rundāle district (Puszābaki, Bērstele surroundings, Galzemji surroundings, Saulaine), Bauska. Overall, during the trip were found 6 alien species and was marked 17 localities (App 20-29).

During expedition in 2013 were found the following species (total 19):

Animals:

1. *Xerolenta obvia* (5 localities);
2. *Arion lusitanicus* (1 locality);
3. *Krinichillus melanocephalus* (8 localities);
4. *Dreissena polymorpha*(5 localities);
5. *Limax maximus* (1 locality).

Plants:

1. *Solidago canadensis* (80 localities);
2. *Echinocytis lobata* (24 localities);
3. *Heracleum sosnowskyi* (38 localities);
4. *Acer negundo* (11 localities);
5. *Impatiens parviflora* (43 localities);
6. *Rosa rugosa* (9 localities);
7. *Lupinus polyophyllus* (14 localities);
8. *Rumex confertus* (51 localities);
9. *Gypsophyla paniculata* (2 localities);
10. *Elodea canadensis* (16 localities);
11. *Robinia pseudoacacia* (4 localities);
12. *Amelanchier spicata* (4 localities);
13. *Sarothamnus scoparius* (1 locality);
14. *Bidens frondosa* (1 locality).

CONCLUSIONS AND RECOMMENDATIONS

During the observation of the alien species in different localities in targeted area in Latvia, was found that the invader is present in all surveyed sites. The presence of these organisms is

dependent on the intensity of economic activity in local area. There are not observed large fields overgrown with invasive plants in areas with high agricultural activity. Most part of invasive plants was found on roadsides and unmanaged fields. One of the most widely distributed invasive organisms in TEAMWORK project territory is *Heracleum sosnowsky, Solidago*, *Dreissena polymorpha* and *Krynickillus melanocephalus.*
All non-native molluscs have stable populations. *Dreissena polymorpha*, *Lithoglyphus naticoides* and *Potamopyrgus antipodarum* can be treated as an invasive species in Lithuania but *Dreissena polymorpha* can be treated as an invasive species in Latvia. It is possible that *Krynickillus melanocephalus* is invasive species, because it is known that it distributes rapidly and is presented in large numbers in natural habitats. The two species, *Arion lusitanicus* and *Limax maximus* can be treated as a potentially invasive species. For the time being *Xerolenta obvia* in almost all localities of its distribution is in highly dense populations, the species is associated only with typical anthropogenic habitats. However, the species can distribute in natural habitats and become invasive, as it has occurred elsewhere.

ABSTRACT
This part of the report should contain the information that may be published (about 2000 characters).

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APPENDICES

1. Collected research data.
2. Visual material from expeditions.
3. ....