



## *European Workshop on Control and Eradication of Invasive Alien Plant Species*

*19-21 April 2016, Budapest, Hungary*

### *Abstracts of Presentations and Posters*

# TURJÁNVIDÉK

*The workshop is organised in the frame of the LIFE+ Nature project “Conservation of Priority Natural Values in Turjánvidék Natura 2000 Area Southern Unit”, with the financial support of the European Commission and the Ministry of Agriculture of Hungary. Project partners are the Duna-Ipoly National Park Directorate, Defence Economic Office of the Ministry of Defence of Hungary, Budapest Forestry Company and WWF Hungary. The workshop is also part of the Pannonian biogeographic seminar process as a follow-up event, and it is supported by the European Commission, ECNC and CEEWeb for Biodiversity.*



## Agenda

(final, updated on 14/04/2016)

<b>19 April 2016</b>		
<b>10:00-11:00</b>	<b>Registration &amp; Coffee break</b>	
<b>11:00-12:40</b>	<b>Session I</b>	<ul style="list-style-type: none"> <li>• Opening and welcome by Duna-Ipoly NP Directorate and WWF Hungary</li> <li>• Zoltán BOTTA-DUKÁT: Plant invasion: what can the science tell to nature conservation practice?</li> <li>• Arnaud MONTY: Monitoring the occurrence of invasive plants in different types of natural habitats</li> <li>• Mihai DOROFTEI, Silviu COVALIOV: Invasive ligneous species in Danube Delta</li> </ul> <p>5 mins discussion after each presentation Chair: Katalin SIPOS</p>
<b>12:40-13:40</b>	<b>Lunch break</b>	
<b>13:40-15:40</b>	<b>Session II</b>	<ul style="list-style-type: none"> <li>• Myriam DUMORTIER: EU Policy on Invasive Alien Species</li> <li>• Livia KISNÉ FODOR, Vera GÁSPÁR, Rozália ÉRDINÉ SZEKERES, Kinga BATA, Ildikó VARGA, Zoltán CZIRÁK &amp; Olivér VÁCZI: Opportunities of implementing the EU Regulation on combating invasive alien species in Hungary</li> <li>• Ema GOJDIČOVÁ, Marta MÚTŇANOVÁ: Invasive plants and nature conservation - current situation in Slovakia</li> <li>• Alla ALEKSANYAN: Invasive alien plant species in Armenia: main threats for natural ecosystems</li> </ul> <p>5 mins discussion after each presentation Chair: Zoltán BOTTA-DUKÁT</p>
<b>15:40-16:40</b>	<b>Poster session &amp; Coffee break</b>	
<b>16:40-18:20</b>	<b>Session III</b>	<ul style="list-style-type: none"> <li>• Sonja DESNICA: Legal framework for invasive alien species in Croatia</li> <li>• Petra KUTLESA: Control and eradication of invasive alien plant species in Croatia - measures taken and planned</li> <li>• Nejc JOGAN: Invasive alien plants and the Ljubljana Municipality</li> <li>• Csaba VASZKÓ: Invasives from floodplains to energy</li> <li>• Ágnes ZÓLYOMI: Biogeographic Seminar process of the Pannonian, Steppic and Black Sea regions</li> </ul> <p>5 mins discussion after each presentation Chair: Zoltán BOTTA-DUKÁT</p>
<b>19:30</b>	<b>Social dinner in the city centre</b>	
<b>20 April 2016</b>		
<b>9:00-11:00</b>	<b>Session I</b>	<ul style="list-style-type: none"> <li>• Eugenio GERVASINI: Presentation of the European Alien Species Information Network (EASIN)</li> <li>• Milene MATOS: Know your enemy. The influence of contact with nature in the knowledge and attitude towards invasive species</li> <li>• Ágnes CSISZÁR, Márton KORDA: Practical Experiences in Invasive Alien Plant Control in Hungary</li> <li>• Dimitar POPOV: Removal of invasive plant species at SCI Pomorie BG0000620, Bulgaria</li> </ul>



		<ul style="list-style-type: none"> <li>Alexandru Liviu CIUVAT: Valuing possibilities for <i>Amorpha fruticosa</i> populations found in Romania</li> </ul> <p>5 mins discussion after each presentation Chair: László GÁLHIDY</p>
<b>11:00-11:30</b>	<b>Coffee break</b>	
<b>11:30-12:45</b>	<b>Session II</b>	<ul style="list-style-type: none"> <li>Willem STUULEN: Managing <i>Prunus serotina</i> in the Amsterdam Dunes: LIFE+ project Source for Nature</li> <li>Ignace LEDEGEN: Removing of exotic trees and shrub (especially <i>Prunus serotina</i>)</li> <li>Bram D'HONDT: Complete invasion of <i>Impatiens glandulifera</i> in the Scheldt basin - prospects for 'hydrological control'?</li> <li>Madli LINDER: Eradication efforts of alien hogweeds in Estonia</li> </ul> <p>5 mins discussion after each presentation Chair: László GÁLHIDY</p>
<b>12:45-13:45</b>	<b>Lunch break</b>	
<b>13:45-15:45</b>	<b>Session III</b>	<ul style="list-style-type: none"> <li>László GÁLHIDY: Conservation of Priority Natural Values in Turjánvidék NATURA 2000 Site</li> <li>István SZIDONYA: Development of application technics of invasive plant eradication</li> <li>Pavol LITTERA: Removal of invasive plant species in southwestern Slovakia: results and challenges</li> <li>Monika CHRENKOVA, Milan JANAK, Libor ULRYCH: Restoration management of Pannonic sand steppes and xerothermophilous grasslands overgrown by alien wood species in Western Slovakia</li> <li>Jordi PONS: <i>Ailanthus altissima</i> strategy for removal in a park</li> <li>Jaime L. FRAILE: Multidisciplinary project on the regeneration of Mediterranean riparian forest through the fight against IAS</li> </ul> <p>5 mins discussion after each presentation Chair: Ágnes ZÓLYOMI</p>
<b>15:45-16:15</b>	<b>Coffee break</b>	
<b>16:15-18:00</b>	<b>Session IV</b>	<ul style="list-style-type: none"> <li>Richard SHAW: Weed biocontrol: an underused tool for Europe</li> <li>Vicente DELTORO: Potential use of the fortuitously-arrived parasite <i>Dactylopius opuntiae</i> (Hemiptera; Dactylopidae) as a biological control agent for the invasive cacti <i>Opuntia ficus-indica</i> in the Valencia region (East Spain)</li> </ul> <p>5 mins discussion after each presentation</p> <ul style="list-style-type: none"> <li>Discussion of the conclusions of the event – 50 mins</li> <li>Márton ÁRVAY: Introduction of Szigetmonostor site (sand habitats) for the next day field trip</li> <li>Closing remarks and logistics</li> </ul> <p>Chair: Katalin SIPOS</p>
<b>21 April 2016 – Field trip</b>		
<b>8:00-9:30</b>	<b>Travel to Szigetmonostor, HUDI20047 Natura 2000 site by bus</b> (approximate location on map: <a href="https://goo.gl/maps/5rtwPdgtgeM2">https://goo.gl/maps/5rtwPdgtgeM2</a> )	
<b>9:30-13:00</b>	<b>Walking around the habitat reconstruction site with the guidance of experts from the Duna-Ipoly National Park Directorate</b>	
<b>13:00-15:00</b>	<b>Package lunch on the site and travel back to Budapest</b>	



## *Abstracts of Presentations and Posters*

TURJÁNVIDÉK

**Title:** MULTIDISCIPLINARY PROJECT ON THE REGENERATION OF MEDITERRANEAN RIPARIAN ECOSYSTEMS AND THE FIGHT AGAINST IAS

**Authors and presenter name, organization, position/title:** MÉRIDA ABRIL, A., CONFEDERACIÓN HIDROGRÁFICA DEL SEGURA. FRAILE JIMÉNEZ DE MUÑANA, J.L., CONFEDERACIÓN HIDROGRÁFICA DEL SEGURA. TORAL PÉREZ, G, CONFEDERACIÓN HIDROGRÁFICA DEL SEGURA. FORERO, MAR, UNIVERSIDAD DE MURCIA. OLIVA PATERNA, F, UNIVERSIDAD DE MURCIA. GARCÍA, J, UNIVERSIDAD DE MURCIA. VELASCO GARCÍA, J, UNIVERSIDAD DE MURCIA. AYMERICH, F, UNIVERSIDAD DE MURCIA. BRUNO COLLADOS, D, UNIVERSIDAD DE MURCIA. PÉREZ, V.M. UNIVERSIDAD DE MURCIA. CORBALÁN MARTÍNEZ, F, COMUNIDAD AUTÓNOMA DE LA REGIÓN DE MURCIA. SÁNCHEZ BALIBREA, J, ANSE. OLIVO DEL AMO, R, TYP SA. VILLANALBA, J., TYP SA

**Presentation type:** POSTER/ORAL PRESENTATION

### Summary

LIFE+ PROJECT 'RIPISILVANATURA', TO BE EXECUTED IN 5 YEARS, HAS A 2'5 M€BUDGET, CO-FUNDED BY THE EUROPEAN COMMISSION.

THIS PROJECT, HEADED BY 'CONFEDERACIÓN HIDROGRÁFICA DEL SEGURA' (CHS, SEGURA RIVER MANAGEMENT AGENCY), HAS OFFICIALLY STARTED ITS TRIP TOWARDS THE RECOVERY OF RIPARIAN FORESTS OF THE SEGURA RIVER, FROM ITS MERGE WITH THE MUNDO RIVER DOWN TO THE CITY OF CIEZA, IN A STRIP OF 100 KM LONG ALSO COMPRISING THE TERRITORY OF THE MUNICIPALITIES OF MORATALLA AND CALASPARRA.

THE UNDERTAKING HAS A 2.454.611 €BUDGET WHICH IS CO-FUNDED AT A 50% RATE BY THE EUROPEAN UNION. ASSOCIATED BENEFICIARIES TO THE PROJECT ARE THE GENERAL DIRECTORATE OF ENVIRONMENT AT THE AUTONOMOUS COMMUNITY OF THE REGION OF MURCIA; THE UNIVERSITY OF MURCIA; THE CITY HALLS OF CALASPARRA AND CIEZA; AND ANSE (ASSOCIATION OF NATURAL SPACES OF SOUTH-EAST SPAIN).

THE INTERVENTION INTENDS TO RECOVER THE LUSTER AND HIGH ECOLOGICAL AND LANDSCAPE VALUE OF THE HIGH COURSE OF THE SEGURA RIVER, FOR WHICH ALIEN INVASIVE PLANT SPECIES AND BIODIVERSITY WILL BE CONTROLLED AND ERADICATED (NAMELIX, THE GIANT REED, THE GIGANT REED, THE DEVELOPMENT OF WILLOW AND POPLAR FORESTS AND ASSOCIATED HABITATS WILL BE PROMOTED).

THE AIM IS TO RECOVER AND PROTECT THE RIPARIAN FOREST, MAINLY THE HABITAT OF GREAT INTEREST (C.I.) 92A0 AND 92D0, AS WELL AS THEIR MAIN ASSOCIATED HABITATS, IN ONE OF THE MOST DEGRADED SECTIONS OF ITS DISTRIBUTION AREA WITHIN THE SEGURA RIVER; ALTHOUGH THERE ARE SOME STRETCHES OF GREAT INTEREST INCLUDED IN THE TWO NATURAL RIPARIAN RESERVES OF CAÑAVEROSE AND ALMADENES CANYON, IT IS LOCATED DOWNSTREAM FROM THE LARGEST DAM OF THE WHOLE RIVER BASIN, THE CENAJO DAM, WHICH CAUSES A CONSIDERABLE IMPACT ON THE REMNANTS OF THE HABITAT 92A0 IN THE SEGURA RIVER (SEE FIGURE 1). IT IS THE AREA WHERE IT HAS EXPERIENCED THE MAXIMUM AFFECTION AND IT IS STILL SUFFERING AN ONGOING DEGRADATION OF THE HABITAT 92A0, CORRESPONDING TO THE VEGA ALTA OF THE SEGURA IN MURCIA, IN THE STRIP OF 100 KM BELONGING TO THE MUNICIPALITIES OF MORATALLA, CALASPARRA AND CIEZA.

THE LOSS AND DEGRADATION OF THE ORIGINAL HABITAT REPRESENTS AN ADVANTAGE FOR THE INTRODUCTION OF EXOTIC SPECIES OF BOTH FAUNA AND FLORA, WHICH ENTAILS A REDUCTION OF THE RICHNESS OF THE RIPARIAN ECOSYSTEMS WAS TRADITIONALLY BOUND TO THE RIPARIAN FOREST OR RIPISILVA (POPULUS AND SALIX) AND RIPARIAN GALLERY).

IN ORDER TO ACHIEVE THIS MAIN GOAL, IT IS NECESSARY TO FIGHT INVASIVE ALIEN SPECIES THAT THEY HAVE COLONIZED THE ORIGINAL AREA OF NATURAL RIPARIAN FOREST. THIS POINTS OUT THE CENTRAL PROBLEMS AFFECTING THE SEGURA RIVER IN THE REGION OF MURCIA, THAT

**Keywords:** INVASIVE ALIEN SPECIES, RIPARIAN FOREST, ECOLOGICAL RESTORATION, NATURAL

**Title:** REMOVAL OF INVASIVE PLANT SPECIES IN SOUTHWESTERN SLOVAKIA: RESULTS AND CHALLENGES

**Authors and presenter name, organization, position/title:** MGR. PAVOL LITTERA, PHD.;  
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**Presentation type:** ORAL PRESENTATION

### Summary

TREE OF HEAVEN (*Ailanthus altissima*), FALSE INDIGO (*Amorpha fruticosa*) AND SUMMER LILAC (*Buddleia davidii*) ARE POSING A SERIOUS THREAT BOTH FOR BIODIVERSITY AND LAND-USE IN FLOODPLAIN FORESTS. THESE SPECIES WERE REMOVED BY CHEMICAL TREATMENT METHODS IN 2015.

THE TARGET AREA COMPRISED OF SEVERAL SITES OF COMMUNITY IMPORTANCE COVERING FLOODPLAINS BETWEEN DOBRÝCHORGAZ) AND IPOLY RIVER AND THREE SALTY MARSH SITES IN SOUTHWESTERN SLOVAKIA.

THE TOTAL AREA COVERED BY TREATMENTS WAS 2 300 HA, INCLUDING A MORE THAN 95 KM<sup>2</sup> OF DANUBE FLOODPLAINS.

IN THE FIRST PHASE, FIELD MAPPING OF INVASIVE WOODY SPECIES WAS CONDUCTED IN 2013 AND FOR EACH OCCURRENCE, EXACT LOCATION, NUMBER OF SPECIMENS AND THEIR STATUS (FRUITING OR NOT FRUITING) WAS RECORDED USING A GPS DEVICE. AFTER EVALUATING THE DATA, A PLAN FOR REMOVAL WAS ADOPTED. THE HIGHEST PRIORITIES WERE TO ELIMINATE ISOLATED INFESTATIONS AS WELL AS THOSE WITH A HIGH POTENTIAL OF SPREADING (E.G. FRUITING TREES GROWING NEAR EXISTING OR PLANNED CLEAR-CUTS, OPEN FOREST ROADS, GRAVEL BANKS ETC).

FOR *Ailanthus altissima* REMOVAL, THE TRUNK-INJECTION METHOD WAS USED. SMALL CUTS WERE MADE USING AXES TO REACH FLOEM AND CONCENTRATED HERBICIDE (GLYPHOSPHATE – ROUNDUP) WAS APPLIED IMMEDIATELY INTO THE WOUNDS. THE TREATMENT WAS REALISED BETWEEN JULY AND OCTOBER, EXCLUDING RAINY DAYS. THE EFFECTIVITY OF TREATMENTS WAS 90-98 %.

FOR *Amorpha fruticosa* AND *Buddleia davidii*, SPRAYING OF DILUTED GLYPHOSPHATE (W = 1 %) WAS USED. THE EFFECTIVITY WAS 80-95 %. THE EFFECTIVITY WAS LOWER ESPECIALLY IN DENSE STANDS, WHERE IT WAS HARD TO EFFECTIVELY REACH MIDDLE BRANCHES AS WELL AS IN AREAS COVERED WITH CLIMBING PLANTS (E.G. *Vitis vitifera*). ESPECIALLY FOR *Amorpha fruticosa* AN INTENSIVE GROWTH OF SEEDLINGS WAS RECORDED UNDER SOME TREATED SHRUBS. AS HIGH SEEDLINGS WERE FOUND ALONG SHORELINE, IT IS LIKELY, THAT SEEDS ARE BEING BROUGHT THERE ALSO FROM UPPER SECTIONS OF DANUBE RIVER (HOWEVER THIS REQUIRES FURTHER MONITORING). IN ALL CASES A REPEATED ROUND OF TREATMENTS WAS APPLIED IN THE FOLLOWING YEAR. ALL THE SURVIVING INDIVIDUALS, ALSO SEEDLINGS AND SPROUTS WERE TREATED BY SPRAYING HERBICIDE.

FOR SUSTAINABLE CONTROL OF THE SUBJECTED SPECIES, THE FOLLOW-UP MONITORING OF ALL TREATMENT SITES IS REQUIRED, TO ENABLE EARLY ERADICATION OF THE EMERGING SOURCES.

IT IS ALSO PROPOSED TO INTRODUCE LAND USE PRACTICES THAT WOULD BE MORE FAVOURABLE FOR NATIVE PLANT CONTROL (E.G. GRAZING, SUSTAINABLE FORESTRY PRACTICES AND RESTORATION OF WETLANDS WHERE POSSIBLE).

**Keywords:** TREE OF HEAVEN (*Ailanthus altissima*), FALSE INDIGO (*Amorpha fruticosa*), SUMMER LILAC ( *Buddleya davidii*), TRUNK INJECTION METHOD



**Title:** INVASIVE PLANTS AND NATURE CONSERVATION – CURRENT SITUATION IN SLOVAKIA

**Authors:** EMA GOJDOVÁ, STATE NATURE CONSERVANCY OF SR / BOTANIST  
STATE NATURE CONSERVANCY OF SR, BOTANIST

**Presentation type:** PAPER

**Summary:**

INVASIVE PLANTS PRESENT SERIOUS THREAT FOR BIODIVERSITY/NATURE CONSERVATION IN SLOVAKIA. THE FIRST COMPLETE INVENTORY OF ALIEN FLORA (ALIEN VASCULAR PLANTS) IN SLOVAK REPUBLIC (SR) WAS PUBLISHED IN 2012. THERE WERE SEVERAL PAPERS PRESENTING LIST OF ALIEN AND INVASIVE PLANTS IN 2002 OR EVEN EARLIER. PROPOSALS HOW TO DEAL WITH THE THREAT CAUSED BY INVASIVE PLANTS APPEARED IN 1990S, FIRST IN THE ACADEMIC INSTITUTIONS, LATER IN PRACTICAL IMPLEMENTATION IN THE STATE NATURE CONSERVATION INSTITUTIONS (1997). AS FOR BIODIVERSITY/NATURE CONSERVATION, THE ISSUE OF INVASIVE ALIEN SPECIES IS COVERED BY THE ACT NO. 543/2002 COLL. ON NATURE AND LANDSCAPE PROTECTION. SINCE 2002 THE ACT HAS BEEN AMENDED SEVERAL TIMES AND LAST AMENDMENTS IN 2014 TACKLED ALSO IAS. ACCORDING TO ITS CURRENT PROVISIONS IT IS PROHIBITED TO IMPORT, POSSESS, GROW, REPRODUCE AND TRADE IN BOTH INVASIVE SPECIES AND THEIR PARTS OR PRODUCTS MADE OF THEM THAT CAUSE SPONTANEOUS DISSEMINATION OF THE INVASIVE SPECIES. AND MOREOVER, OWNERS (ADMINISTRATORS, TENANTS) ARE OBLIGED TO ELIMINATE INVASIVE SPECIES FROM THEIR LANDS. ACCORDING TO THE ORDER OF THE MINISTRY OF ENVIRONMENT OF SR NO. 24/2003, ANNEX 2A THESE PROVISIONS APPLY ONLY ON SELECTED (THE MOST PROBLEMATIC) INVASIVE SPECIES. THE FOLLOWING NINE HERBS *Ambrosia artemisiifolia*, *Asclepias syriaca*, *Fallopia japonica*, *F. sachalinensis*, *F. xbohemica*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *Solidago canadensis*, *Solidago gigantea*, TWO TREE SPECIES *Acer negundo* AND *Ailanthus altissima* AND TWO SHRUB SPECIES *Amorpha fruticosa* AND *Lycium barbarum* AMONG LISTED SPECIES. ANNEX 2A) ALSO RECOMMENDS PREFERABLE WAYS FOR THEIR ELIMINATION. ANNEX 2B PRESENTS THE LIST OF ALIEN PLANT SPECIES, WHICH MAY BE DISSEMINATED OUTSIDE OF MUNICIPALITIES: *Aesculus hippocastanum*, *Constancea sativa*, *Juglans regia*, *Morus alba*, *M. nigra*.

ALIEN AND ESPECIALLY INVASIVE PLANTS ARE BEING MAPPED IN SLOVAKIA SINCE 1997. THERE ARE SEVERAL DATABASES GATHERING INFORMATION ON ALIEN AND INVASIVE PLANTS. THE STATE NATURE CONSERVANCY OF SR HAS DEVELOPED THE Information and Monitoring System (KIMS) WITHIN THE STRUCTURAL EU FUNDS PROJECTS. KIMS COVERS GATHERING DATA ON IAS IN SEVERAL MODULES (OCCURRENCE DATA). IT IS PROVIDING FOR EXPERTS AS WELL AS GENERAL PUBLIC, E.G. MOBILE PHONE APPLICATION FOR SENDING THE DATA INTO THE SYSTEM. THERE ARE OPTICALLY AVAILABLE SOME INFORMATION ON IAS IN SLOVAKIA.

MORE DETAILED INFORMATION ON IAS IN SLOVAKIA AS WELL AS KIMS MOBILE APPLICATION IS AVAILABLE DOWNLOADED FROM THE HOMEPAGE OF THE STATE NATURE CONSERVANCY OF SR: [WWW.SOP.SK](http://www.sop.sk). THE REGULATION EU NO 1143/2014 ON THE PREVENTION AND MANAGEMENT OF THE INTRODUCTION AND SPREAD OF INVASIVE ALIEN SPECIES AND ITS IMPLEMENTATION IS A NEW CHALLENGE. HOW TO PROVIDE GOOD PLATFORM FOR INVOLVEMENT OF OTHER SECTORS IN SOLUTION OF INVASIVE SPECIES ISSUES. IN 2015 THE ANALYSIS OF IMPLEMENTATION OF THE REGULATION IN THE CONDITIONS OF SLOVAKIA WAS DONE. MINISTRY OF THE ENVIRONMENT OF SR LED A SERIES OF NEGOTIATIONS WITH OTHER MINISTRIES AND INSTITUTIONS IN ORDER TO SHARE DUTIES (BORDER CONTROL, INSPECTION, ANIMAL HEALTH, MONITORING, EARLY DETECTION) AND A NEW AMENDMENT OF THE ACT ON LANDSCAPE PROTECTION REFLECTING THE THE EU REGULATION IS READY FOR APPROVAL.

**Keywords:** INVASIVE PLANTS, NATURE CONSERVATION, NATIONAL LEGISLATION, SPECIES  
IMPLEMENTATION OF EU REGULATION, SLOVAK REPUBLIC

**Title:** POTENTIAL USE OF THE FORTUITOUSLY-ARRIVED PARASITE *Dacnusa opuntiae* (Hemiptera; Dactylopidae) as a biological control agent for the invasive cacti *Opuntia ficus-indica* IN THE VALENCIA REGION (EAST SPAIN).

**Authors and presenter name, organization, position/title:** V. DEITORO, C. TORRES, MA GÓMEZ-SERRANO, P. PÉREZ, J. JIMÉNEZ / IERSA-GENERALITAT VALENCIANA / WILDLIFE SERVICE

**Presentation type:** ORAL PRESENTATION

### Summary

WE REPORT ON THE OCCURRENCE OF *Dacnusa opuntiae* OVER A 7.681 KM<sup>2</sup> AREA IN THE VALENCIA REGION (EAST SPAIN) IN WHAT REPRESENTS ITS FIRST WIDESPREAD DISTRIBUTION IN THE WESTERN PALEARCTIC. WITHIN THIS AREA *Opuntia ficus-indica* PLANTS, RANGING FROM SINGLE ISOLATED INDIVIDUALS THROUGH TO LARGE CLUMPS, HAVE EITHER BEEN KILLED OR SEVERELY DAMAGED. TRANSLOCATION EXPERIENCES OF THE INSECT TO NEW POPULATIONS AS WELL AS OBSERVATIONAL EVIDENCE HAVE REVEALED A REMARKABLE DISPERSAL RATE OF 7 KM YEAR<sup>-1</sup> AS WELL AS THE INSECT'S ABILITY TO CAUSE MASSIVE INJURIES TO PLANTS WITHIN A YEAR OF INFESTATION. MONITORING AT INVADDED SITES HAS CONFIRMED A COMPLETE ABSOLUTE SIDE EFFECTS TO OTHER PLANTS, INCLUDING ORNAMENTAL CACTI, IN ACCORDANCE WITH THE ESTABLISHED OLIPHAGOUS NATURE OF THE INSECT. OUR RESULTS REPRESENT ONE OF THE EXAMPLES OF SUCCESSFUL BIOLOGICAL CONTROL OF A HIGHLY INVASIVE PLANT SPECIES IN EUROPE AND SUGGEST THAT THE INSECT MAY BRING ABOUT A DRAMATIC REDUCTION IN THE DENSITY AND SPREAD OF *O. ficus-indica* POPULATIONS IN SPAIN IN THE SHORT-TERM.

**Title:** IS *Ambrosia artemisiifolia* L. ABLE TO EXPAND ITS INVADED RANGE NORTHWARD IN WESTERN EUROPE?

**Authors and presenter name, organization, position/title:** ORTMANS WILLIAM, UNIVERSITY OF LIÈGE / PHD STUDENT. GREGORY MAHY, UNIVERSITY OF LIÈGE / ~~FIRST ASSISTANT~~. UNIVERSITY OF LIÈGE / PROFESSOR

**Presentation type:** ORAL PRESENTATION

### **Summary**

*Ambrosia artemisiifolia* L. (COMMON RAGWEED, ASTERACEAE) IS AN INVASIVE WEED CAUSING A HEALTH CRISIS IN EUROPE, DUE TO ITS HIGHLY ALLERGENIC POLLEN. IN WESTERN EUROPE, ITS RANGE COVERS MOST OF CENTRAL AND SOUTHERN FRANCE, AND NORTHERN ITALY. NORTH OF THE EDGE OF THIS RANGE, OCCURRENCE OF CASUAL POPULATIONS HAVE BEEN DESCRIBED FOR YEARS, BUT THESE POPULATIONS DO NOT APPEAR TO BECOME INVASIVE, AND THE SPECIES DOES NOT SEEM TO STOP AT THE RANGE EDGE. THIS SITUATION RAISES THE FOLLOWING QUESTION: HAS THE INVADED RANGE REACHED A LIMIT? CAN THE SPECIES CONTINUE ITS INVASION NORTHWARDS?

TO ANSWER THIS QUESTION, WE FOLLOWED TWO COMPLEMENTARY APPROACHES. FIRST, WE SET UP AN EXPERIMENTAL GARDEN IN BELGIUM, 250 KM NORTH TO THE CURRENT INVADED RANGE, TO CHECK IF THE CLIMATE ALLOWS THE COMPLETION OF THE SPECIES REPRODUCTION CYCLE. SECOND, WE PERFORMED A FIELD MEASUREMENT CAMPAIGN IN 12 POPULATIONS LOCATED BEYOND THE EDGE, WITHIN THE RANGE, NEAR THE MARGIN, AND IN THE CENTER OF THE INVADED RANGE. THE AIM OF THIS CAMPAIGN WAS TO CHECK WHETHER THE SPECIES HAD REDUCED PLANT PERFORMANCE TOWARDS RANGE MARGINS.

THE RESULTS SHOWED THAT THE SPECIES IS ABLE TO ESTABLISH POPULATIONS WITH HIGH PERFORMANCE IN BELGIUM. FURTHERMORE, THE SPECIES EXPRESSED SIMILAR PERFORMANCE ACROSS THE COAST OF BELGIUM, EVEN BEYOND THE CURRENT INVASION FRONT. NO EVIDENCE OF PROCESSES CONSTRAINING THE INVASION WAS FOUND, WHICH SUGGESTS A GREAT POTENTIAL FOR INVASION NORTH TO THE CURRENT RANGE. IN THIS UNCERTAIN SITUATION, AWARENESS ACTIONS SHOULD BE CONSIDERED IN THE NORTH.

**Keywords:** RANGE EDGE EQUILIBRIUM, COLONIZATION, NORTHWARD EXPANSION; INVASION FRONT; LIFE HISTORY TRAITS

**Title:** LEGAL FRAMEWORK FOR INVASIVE ALIEN SPECIES IN CROATIA

**Authors and presenter name, organization, position/title:**

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MS. PETRA KUTLEŠA, CROATIAN AGENCY FOR THE ENVIRONMENT AND NATURE, DEPARTMENT OF ENVIRONMENTAL IMPACT ASSESSMENT, INTRODUCTION AND REINTRODUCTION SECTION, RADNI  
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MS. SANDRA SLIVAR, CROATIAN AGENCY FOR THE ENVIRONMENT AND NATURE, DEPARTMENT OF ENVIRONMENTAL IMPACT ASSESSMENT, INTRODUCTION AND REINTRODUCTION SECTION, RADNI  
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**Presentation type:** ORAL PRESENTATION

### **Summary**

THE ISSUE OF ALIEN SPECIES IN THE LEGISLATION OF THE REPUBLIC OF CROATIA, DUE TO ITS COMPLEX NATURE IS UNDER THE COMPETENCE OF SEVERAL SECTORS AND IS GOVERNED BY DIFFERENT REGULATIONS OF ENVIRONMENTAL AND NATURE PROTECTION, FORESTRY, AGRICULTURE, HUNTING, FISHERY, WILDLIFE MANAGEMENT, MARITIME AFFAIRS. ALTHOUGH THERE IS NO LEGISLATIVE FRAMEWORK FOR INVASIVE SPECIES COMPREHENSIVELY, THE IMPORTANT LEGISLATION DEALING WITH IAS IN CROATIA IS NATURE PROTECTION ACT (OFFICIAL GAZETTE NO. 80/2013) WHICH IS THE MAIN ACT RELATED TO THE INTRODUCTION OF ALIEN SPECIES INTO THE NATURE AND THEIR POSSIBLE IMPACT ON BIODIVERSITY. THE ACT PREScribes A PREVENTIVE MEASURE THAT BANS IMPORT, PLACING ON THE MARKET, BREEDING/CULTIVATION AND INTRODUCTION INTO THE NATURE OF ALIEN SPECIES THAT POSE ECOLOGICAL RISK AND ARE CONSIDERED AS INVASIVE. ACCORDING TO THE ACT THE LIST OF ALIEN SPECIES WHOSE IMPORT AND PLACING ON THE MARKET WILL BE PROHIBITED ("BLACK LIST") AND THE LIST OF SPECIES WHOSE IMPORT AND PLACING ON THE MARKET WILL BE PERMITTED WITHOUT RESTRICTIONS ("WHITE LIST") ARE BEING DEVELOPED. THE NEW REGULATION WILL BE PRESCRIBED BY THE NEW ORDINANCE. IN CASE OF ACCIDENTAL INTRODUCTION OF ALIEN SPECIES, THE ACT ENVISIONS THAT THE COMPETENT AUTHORITY CAN ORDER MEASURES FOR CONTROL OR PREVENTION OF FURTHER SPREAD OF INTRODUCED ALIEN SPECIES.

SINCE THE NEW REGULATION ON IAS AT EU LEVEL (NO 1143/2014) ENTERED INTO THE FORCE OF LAW AT THE BEGINNING OF THE YEAR 2015, IN ORDER TO INCORPORATE THE PROVISIONS OF THE REGULATION INTO CROATIAN LEGISLATION AND TO COMPREHENSIVELY REGULATE EXTENSIVE AND SPECIFIC LEGISLATION DECIDED TO SINGLE OUT THE ISSUE OF IAS FROM THE EXISTING NATURE PROTECTION

SEPARATE ACT ON IAS. THE NEW ACT, WHOSE DRAFT IS ALREADY PREPARED, WILL, A REGULATION OF PLACING ON THE MARKET, BREEDING/CULTIVATION AND INTRODUCTION THE NATURE, ALSO REGULATE THE ISSUE OF RISK ASSESSMENTS, DETERMINE THE ALIEN FOR THE REPUBLIC OF CROATIA, DEFINE DETAILED MANAGEMENT SYSTEM OF IAS, D COMPETENT AUTHORITIES AND THEIR TASKS, PRESCRIBE ADEQUATE PENALTY PROVISIONS

**Keywords:** INVASIVE ALIEN SPECIES, LEGISLATION, NATURE PROTECTION, EU REGULATION

**Title:** INVASIVE IIGNEOUS PLANT SPECIES IN DANUBE DELTA

**Authors and presenter name, organization, position/title:** DOROFTEI MIHAI, COVALIOV  
SIIMU, DANUBE DELTA NATIONAL INSTITUTE

**Presentation type:** ORAL PRESENTATION

**Summary**

WE CHOSE EIGHT ALIEN IIGNEOUS PLANT SPECIES: *Elaeagnus angustifolia*; *Acer negundo*; *Ailanthus altissima*; *Amorpha fruticosa*; *Robinia pseudoacacia*; *Lycium barbarum*; *Fraxinus pennsylvanica* AND *Gleditsia triacanthos* IN ORDER TO IDENTIFY THEIR WAY OF ADAPTATION IN DANUBE DELTA THE S.W.O.T. ATTEMPTS A COMPREHENSIVE ANALYSIS OF 375 G.P.S. POINTS CORRELATED WITH DIFFERENT MAPS. THE RESULTS REVEAL THAT THERE ARE NOT SIGNIFICANT DIFFERENCES AMONG SPECIES WITH CONCERN TO PH, SOIL SALINITY OR ALKALINITY. HOWEVER, THERE ARE CERTAIN DIFFERENCES IN THE FREQUENCY AND THE SPREADING OF THESE SPECIES IN DANUBE DELTA, NAMELY SPECIES SUCH AS *Amorpha fruticosa*, *Ailanthus altissima* AND *Robinia pseudoacacia* ARE PREDOMINANTLY FOUND IN THE HUMAL DELTA AND, ON THE OTHER HAND, *Lycium barbarum* AND *Elaeagnus angustifolia* ARE FREQUENTLY FOUND IN THE HUMAL MARITIME DELTA

**Keywords:** INVASIVE SPECIES, PLANT ECOLOGY, DANUBE DELTA

**Title:** KNOW YOUR ENEMY. THE INFLUENCE OF CONTACT WITH NATURE IN THE KNOWLEDGE AND ATTITUDE TOWARDS ALIEN INVASIVE SPECIES.

**Authors and presenter name, organization, position/title:** MILENE MATOS, UNIVERSITY OF AVEIRO / DEPARTMENT OF BIOLOGY & CESAM. PORTUGAL

**Presentation type:** ORAL PRESENTATION

### Summary

ALIEN INVASIVE SPECIES ARE A WORLDWIDE LEADING CAUSE OF BIODIVERSITY DECLINE, SECOND ONLY TO HABITAT LOSS. THE SERIOUSNESS OF THIS ISSUE LED THE EUROPEAN COMMISSION TO ENTITLE A WHOLE TARGET ON IT, WITHIN THE EU BIODIVERSITY STRATEGY. THE NEGATIVE CONSEQUENCES OF INVASIVE SPECIES EXTEND BEYOND ENVIRONMENT TO ECOSYSTEM SERVICES, PUBLIC HEALTH, ECONOMY, LANDSCAPE AESTHETICS, ETC., REPRESENTING A MAIN CONCEPT OF THE AGENDA 2030. THEAT TO ALL ASPECTS OF SUSTAINABILITY. ONCE ESTABLISHED, INVASIVE SPECIES ARE DIFFICULT AND COSTLY TO CONTROL AND ERADICATE, AND THEIR ECOLOGICAL EFFECTS ARE IRREVERSIBLE.

THUS, PRODUCING EFFECTIVE INVASIVE SPECIES MANAGEMENT PLANS IS A CENTRAL ISSUE IN CONSERVATION, AND INCREASING AWARENESS AND UNDERSTANDING OF THE RISKS AND ISSUES INVOLVED IN DEALING WITH INVASIVE ALIEN SPECIES IS AN OVERARCHING MATTER IN CONSERVATION COMMUNICATION. WHEN IT COMES TO CHARMATIC SPECIES, ETHICAL QUESTIONS ALSO ARISE. TACKLING CONSERVATION THROUGH THEIR CONTROL IS A VERY COMPLEX ISSUE.

THIS STUDY TOOK PLACE IN NATURAL AREAS OF SPAIN AND PORTUGAL. SURVEYS WERE DISTRIBUTED TO ASSESS THE PUBLIC PERCEPTION, KNOWLEDGE AND ATTITUDE TOWARDS INVASIVE SPECIES.

THE MAIN CONCLUSIONS OF THE STUDY WERE:

- CHILDREN/YOUNGSTERS ARE LESS CONCERNED AND AWARE OF ENVIRONMENTAL ISSUES THAN ADULTS.
- SOME OCCUPATIONAL HELDS ARE MORE CONCERNED/AWARE OF ENVIRONMENTAL ISSUES THAN OTHERS. NATURE-RELATED PROFESSIONALS ARE THE MORE ENGAGED PEOPLE, FOR INSTANCE TO MARKETEERS, ADVERTISERS, ARCHITECTS AND CONSTRUCTORS.
- THE OCCUPATIONAL HELD HAS AN INFLUENCE ON THE KNOWLEDGE ON INVASIVE SPECIES BUT NOT ON THE ATTITUDE TOWARDS THE TOPIC.
- INFORMATION AND ENGAGEMENT LEVELS SEEM TO INCREASE ON PAR WITH THE PEOPLE WHO GO OUTDOORS AND VISIT NATURAL AREAS.
- THE CONTROL OF INVASIVE ANIMAL SPECIES RAISES MORE ETHICAL CONCERNS THAN THE CONTROL OF PLANTS, BUT A CERTAIN “DESENSITIZATION” SEEMS TO OCCUR WHEN THERE IS REGULARLY CONTACT WITH INVASIVE ANIMAL SPECIES CONTROL PROGRAMS.
- IN GENERAL, THE PUBLIC UNDERSTANDS THAT INVASIVE SPECIES POSE AN ISSUE FOR BIODIVERSITY, ECOSYSTEMS AND HISTORICAL VALUES, BUT THE EFFECTS ON THE ENVIRONMENT, CLIMATE CHANGE, PUBLIC HEALTH AND AESTHETICS OF THE LANDSCAPE ARE NOT PERCEIVED.



COMMUNICATION ON INVASIVE SPECIES HAS STILL A LONGWAY TO GO, BUT THESE RES PRESENT SOME INSIGHTS AND DIRECTIONS TO FULHL REAL GAPS AND ACHIEVE MORE EFF COMMUNICATION. IT ALSO GIVES A POSITIVE FEEDBACK ON THE HARD WORK PROTECTED AND CONSERVATION PRACTITIONERS HAVE BEEN DOING NAMELY THROUGH LIFE AND OTHER CONSERVATION PROJECTS.

**Title:** MANAGING PRUNUS SEROTINA IN THE AMSTERDAM DUNES: LIFE+ PROJECT SOURCE FORNATU

**Authors and presenter name, organization, position/title:** WILLEM STULEN, WATERNET /  
NATURE MANAGER & LUC GEELLEN, WATERNET / POLICY OFFICER

**Presentation type:** ORAL PRESENTATION + POSTER

### **Summary**

IN THE COASTAL DUNES OF AMSTERDAM BLACK CHERRY (PRUNUS SEROTINA) IS AN INVASIVE  
INDIGENOUS SPECIES. BLACK CHERRY WAS FIRST INTRODUCED ON A LARGER SCALE IN THE  
ESPECIALLY IN PLANTATIONS OF PINUS NIGRA AS A WINDBREAKER AND SOIL IMPROVER. IT IS  
EXPANDING AT AN ALARMING RATE, ESPECIALLY DURING THE LAST 20 YEARS. THE INVASIVE  
IS THREATENING NATURA 2000 DUNE HABITATS (H2130, H2160, H2180, H2190), AND THEREFORE  
URGENT TO FIND EFFECTIVE MANAGEMENT PRACTICES.

FROM BLACK CHERRY MAPPING IN 2004 AND 2006, AN INCREASE OF 25% IN COVER WAS FOUND  
ESPECIALLY IN SEA BUCKTHORN (HIPPOPHAE RHAMNOIDES) SCRUB (H2160) AND GREY PINUS  
(H2130). A SURVEY IN 2008 REVEALED THAT MANAGEMENT OF BLACK CHERRY FROM 2005 ONWARDS  
HAS BEEN EFFECTIVE: INCREASE IN COVER IS NOW TURNED INTO A DECLINE IN COVER OF 4.5%  
NEVERTHELESS THERE WERE STILL MORE GRID CELLS WITH NO MANAGEMENT AND AN INCREASE  
DECREASE IN COVER OF BLACK CHERRY, SO THE MANAGEMENT WAS INTENSIFIED LATE 2010.  
BLACK CHERRY HAS ESTABLISHED, MANAGEMENT IS LABOUR INTENSIVE, COSTLY AND NEEDS TO  
OVER MANY YEARS. THE AWD ARE A CATCHMENT AREA FOR DRINKING WATER, THEREFORE THE USE OF  
HERBICIDES IS NO OPTION. IN THE AWD SAWING, REMOVING OF SHRUBS AND ROOTS, AND  
GRAZING WITH SHEEP AND CATTLE IS APPLIED ON A LARGE SCALE. IN 2011 MANAGEMENT COSTS  
OVER 250.000 € PER YEAR WITH HELP OF LIFE+ PROJECT AMSTERDAM DUNES, SOURCE FORNATU  
(LIFE11 NAT/NL/776) WE WERE ABLE TO CONTROL THIS INVASION.

IT IS OF THE UTMOST IMPORTANCE THAT EFFECTIVE MANAGEMENT PRACTICES ARE APPLIED AS  
POSSIBLE AFTER FIRST OBSERVATIONS OF BLACK CHERRY!

**Keywords:** INVASIVE ALIEN SPECIES, PRUNUS SEROTINA, FIELD EXPERIENCE, BEST PRACTICES,  
MANAGEMENT

**Title:** MONITORING THE OCCURRENCE OF INVASIVE PLANTS IN DIFFERENT TYPES OF NATURAL

**Authors and presenter name, organization, position/title:** ARNAUD MONTY, UNIVERSITY OF LIEGE, GEMBLoux AGRO-BIO TECH, BIODIVERSITY AND LANDSCAPE UNIT. PASSAGE DES DÉBATS, B-5030 GEMBLoux, BELGIUM.

**Presentation type:** ORAL PRESENTATION

### **Summary**

PROTECTED AREAS AND THE NATURA 2000 NETWORK ARE KEYSTONES OF THE EU NATURE POLICY. HOWEVER, ALIEN PLANTS DO NOT STOP THEIR SPREAD AT THE BORDER OF PROTECTED AREAS. INVASIVE PLANTS ARE REPORTED TO THREATEN MANY ECOSYSTEMS, FROM AQUATIC AND RIVER ECOSYSTEMS TO DRY AND XERIC SITES.

THE PRESENTATION SUMMARIZES THREE LARGE-SCALE QUANTITATIVE ASSESSMENTS OF THE PREVALENCE OF EXOTIC PLANTS IN WALLONIA, I.E. THE SOUTHERN PART OF BELGIUM. THREE TYPES OF NATURAL ECOSYSTEMS WERE THE FOCUS OF THE ASSESSMENTS: I) PONDS AND LAKES (400 SITES); II) RIVER BANKS (100 SITES) AND III) XERIC ECOSYSTEMS SUCH AS DRY GRASSLANDS, ROCKY HABITATS AND SCREES (86 SITES). IN ALL STUDIES, SITES WERE SELECTED THROUGH A STRATIFIED SAMPLING THEN VISITED. EXOTIC PLANTS WERE RECORDED AND THEIR ABUNDANCE ASSESSED. ADDITIONAL INFORMATION ABOUT POPULATION DENSITY, ENVIRONMENTAL CONDITIONS AND VISIBLE IMPACTS WAS RECORDED.

ELODEA SPP. WERE THE MOST COMMON SPECIES IN WATER BODIES, WITH OCCURRENCE RATES OF 2.7%. OTHER AQUATIC ALIEN SPECIES WERE FOUND, BUT WITH AN OCCURRENCE RATE BELOW 1%. IN RIVERS, 51 ALIEN SPECIES WERE OBSERVED. SOME WERE WIDESPREAD (E.G. IMPATIENS GLABERRIMA WITH 17% OF LINEAR BANKS INVADDED) WHEREAS OTHERS WERE EITHER RARE OR CONSIDERED AS RARE ALIEN SPECIES. ANALYSES SHOWED THAT TYPICAL RIPARIAN SPECIES' OCCURRENCE INCREASED WITH THE SIZE OF THE WATERSHED, INDICATING PROPAGULE PRESSURE WITHIN PROTECTED AREAS THROUGH HYDROCHORY. IN XERIC SITES, THE MOST COMMON SPECIES WERE EITHER CULTIVATED OR INTRODUCED ONES SUCH AS JUGLANS REGIA, COTONEASTER HORIZONTALIS, PRUNUS SEROTINA, ROBINIA PSEUDOACACIA AND BUDDLEJA DAVIDII. THE FORMER WAS FOUND IN 15.1% OF THE VISITED SITES.

THE IMPLICATIONS OF THE DIFFERENT RESULTS, NOTABLY ABOUT EMERGENT SPECIES, ARE DISCUSSED. THERE IS A NEED FOR AN EFFECTIVE EARLY DETECTION SYSTEM.

**Keywords:** ALIEN FLORA; NEOPHYTES; EARLY DETECTION; RIVER BANK; WATER BODIES; NATURAL ECOSYSTEMS

**Title:** COMPLETE INVASION OF IMPATIENS GLANDULIFERA IN THE SCHELDT BASIN - P  
'HYDROLOGICAL CONTROL'?

**Authors and presenter name, organization, position/title:** BRAMD'HONDT, GHENT  
UNIVERSITY, K.L. LEDEGANCKSTRAAT 35, 9000 GHENT, BELGIUM/ BIOLOGYDEPARTMENT. B  
VANDEVOORDE. RALF GYSELINGS. ALEXANDER VAN BRAECKEL & ERIKA VAN DEN BERGH /  
INSTITUTE FOR NATURE AND FOREST INBO, KLINIEKSTRAAT 25, 1070 BRUSSELS, BELGIUM

**Presentation type:** ORAL PRESENTATION.

### **Summary**

HIMALAYAN BALSAM (IMPATIENS GLANDULIFERA) WAS INTRODUCED FROM EASTERN ASIA  
A GARDEN ORNAMENTAL, BUT HAS EASILY ESCAPED CULTIVATION. FOR BELGIUM, THE F  
BACK AS FAR AS THE 19TH CENTURY, YET THE SPECIES BECAME WIDESPREAD ONLY SINCE  
CENTURY. WE HERE REPORT ON THE OCCURRENCE OF HIMALAYAN BALSAM ALONG THE L  
MAIN RIVER OF FLANDERS (BELGIUM). FOR THIS, WE DISPOSE OF AN EXTENSIVE SERIES O  
DATA FROM PERMANENT PLOTS SPANNING THE PAST TWO DECADES. THESE DATA SHO  
SPECIES HAS BECOME EVER MORE UBIQUITOUS, NOW OCCURRING IN OVER 90% OF THE PL  
THE SINGLE MOST REPORTED SPECIES. IT COLONIZES REED BEDS AND DOMINATES THE  
WILLOW SHRUBS AND WOODLANDS, AND THE ASSOCIATED NATURA2000 HABITATS ARE N  
IN A BAD ECOLOGICAL STATUS.

WHEN TESTING FOR THE IMPORTANCE OF HYDROLOGICAL VARIABLES, THE VEGETATION C  
APPEARED TO BE BEST EXPLAINED BY THE FREQUENCY OF INUNDATION. HOWEVER, THE I  
THAT HIMALAYAN BALSAM IN PARTICULAR PERFORMS BEST IN SOILS THAT DRAIN R  
FOLLOWING SUCH INUNDATION.

THE LOWER SCHELDT IS UNDER TIDAL INFLUENCE FROM THE RIVER MOUTH UP TO 160  
RECENTLY, HUNDREDS OF HECTARES OF NEW INUNDATION AREAS HAVE BEEN CREATED A  
RISKS ALONG ITS COURSE (SIGMA PLAN). THESE PARTICULAR AREAS HAVE A CONTROLLE  
AN ECOLOGICAL MEASURE TO THE BENEFIT OF FRESHWATER TIDAL HABITATS. HIMALAYA  
TO BE LOCALLY DOMINANT IN THESE AREAS, AND THIS CORROBORATES OUR OBSERVAT  
NICHE; I.E., THE REDUCED TIDES LEAD TO LESS EXTREME DRAINAGE CONDITIONS. THI  
PROSPECTS FOR LANDSCAPE-WIDE SUPPRESSION OF HIMALAYAN BALSAM IN FRESHWATER

**Keywords:** HIMALAYAN BALSAM, RIVERINE HABITATS, FLANDERS, BELGIUM, FUZZY ORDINAT

**Title:** AILANTHUS ALTISSIMA STRATEGY REMOVAL IN A PARK

**Authors and presenter name, organization, position/title:** JORDI PONS FERNANDEZ, DEPANA, SAN SALVADOR, BARCELONA, SPAIN.

**Presentation Type:** ORAL PRESENTATION

### Summary

#### STRATEGY

WITH CURRENT SYSTEMIC HERBICIDES CAN REMOVE ANY ITEM OF *Ailanthus altissima*. EVEN KILL THE SYSTEM. BUT DEFINITELY ELIMINATE THOUSANDS OF TREES IS VERY DIFFICULT. DESPITE EFFORTS TO GO BACK TO WHERE HE HAD MADE A CAREFUL ACTION THAT AILANTHUS HAD DIED. ['ACTION ATILA'] ONE CAUSE OF THIS INEFFICIENCY IS WHEN ROTATE NEED MORE THAN FOUR YEARS IN ELIMINATING THE AFFECTED AREAS. DUE TO THE LARGE AMOUNT OF SEEDS THAT LEAVE TO THE GROUND IN AILANTHUS IMMATURE INDIVIDUALS OF BOTH SEXES, WHO EXTENDED ASEXUAL FORM IN THE AREA. IN FOUR YEARS BEGIN TO MATURE AND NEW SEEDS. IF YOU REMOVE AILANTHUS OF PARK BETWEEN 2016 AND 2020, THE AREAS TO BE REMOVED WILL HAVE FERTILE FEMALES IN 2021.

#### TIMING

WE PROPOSE THE FOLLOWING PHASES: 1) CONCENTRATE EFFORTS ON KILLING ALL THE FERTILE FEMALES IN THE FOCUS OF THE PARK 2) CONTROL AND ELIMINATION OF ANNUAL NEW FERTILE FEMALES. 3) ELIMINATION OF AILANTHUS, MALES, FEMALES, IMMATURE FOCUS OF EVERY PARK 4) ELIMINATION OF THE NEWBORN FEMALES IN SEPTEMBER, OCTOBER AND NOVEMBER IN AILANTHUS AREAS. [ACTION 'HEROD']. 5) SUMMER FOLLOWING MONITORING BY VOLUNTEER GROUPS FROM AILANTHUS SOURCES. ELIMINATION OF POSSIBLE SURVIVORS.

#### CONSIDERATIONS

IN THE FIRST THREE PHASES AND IN THE FIFTH IS ADVISABLE TO COUNT ON VOLUNTEERS TO HELP ELIMINATE BY RANGERS OF THE PARK, SAVING HIS TIME. IF YOU CAN KILL THE FEMALES BEFORE THE SEEDS OF THE TREE DOES NOT BECOME VIABLE. AS THE VIABILITY OF THE SEEDS IN THE SOIL IS ABOUT 3 YEARS, THE MINIMUM TIME TO ERADICATE THE AILANTHUS IS ABOUT 4 YEARS. IF PHASE 1 AND 3 TAKE ONE YEAR, WILL ADD THIS TIME IN THE CALCULATION ABOVE.

**Keywords:** *Ailanthus altissima*, STRATEGY, PHASES, FEMALE, SEEDS, VIABLE SEEDS, VOLUNTEERS, SC

**Title:** INVASIVE ALIEN PLANTS SPECIES IN ARMENIA: MAIN THREATS FOR NATURAL ECOSYSTEMS

**Authors and presenter name, organization, position/title:** AILA AIEKSANYAN, FAYUSHG, INSTITUTE OF BOTANY OF NATIONAL ACADEMY OF SCIENCES OF ARMENIA.

**Presentation type:** ORAL PRESENTATION

### Summary

THE PROBLEM OF ANTHROPOGENIC TRANSFORMATION OF NATURAL ECOSYSTEMS IS CLOSELY LINKED TO THE POLITICAL, ECONOMIC AND CULTURAL PROCESSES: EVEN SPEAK ABOUT THE HUMAN EVOLUTION OF ECOSYSTEMS AND OF BIODIVERSITY CALLED KENO BIODIVERSITY FORMED BY ALIEN SPECIES.

THE EXPANSION OF INVASIVE ALIEN SPECIES (IAS) IS CONSIDERED TO BE THE SECOND MOST SIGNIFICANT BIODIVERSITY; IN MANY CASES IT IS LINKED TO THE TRANSFORMATION OF THE NATURAL ECOSYSTEMS DUE TO HUMAN ACTIVITIES. FROM THE OTHER HAND THE SUSTAINABILITY OF NATURAL ECOSYSTEMS WILL BE DISTURBED UNDER CLIMATE CHANGE WHICH IMPACTS ARE VISIBLE NOWADAYS AND WHICH ALSO CREATES SUITABLE CONDITIONS FOR ESTABLISHMENT OF IAS.

FOR THE COUNTRY LIKE ARMENIA WITH SMALL TERRITORY BUT HIGH SPECIES RICHNESS AND HABITAT DIVERSITY ESTABLISHMENT AND SPREAD OF INVASIVE PLANT SPECIES REMAINS A THREAT TO NATIVE ECOLOGICAL BIODIVERSITY. DISTURBANCE OF THE NATURAL ECOSYSTEMS TRIGGERS INTENSIFICATION OF THE EXPANSION OF IAS WHICH RESULTS IN CHANGE OF THOSE ECOSYSTEMS. FREEDOM FROM NATURAL PREDATORS, HIGH SEED PRODUCTION, AND AFFINITY TO SUITABLE HABITAT SITES WILL CONTRIBUTE TO THE SUCCESS OF INVASIVE SPECIES, LEAVING NATIVE SPECIES TO STRUGGLE FOR RESOURCES.

IN RECENT DECADES, IAS IN ARMENIA MUCH PROGRESS. A VARIETY OF NATURAL CONDITIONS AND HABITAT DIVERSITY VEGETATION MOSAIC EXTEND THE CAPABILITIES OF THE INVASION AND SPREAD OF ALIEN SPECIES IN THE COUNTRY. THE RATE OF IAS IN ARMENIA IS SEVERAL TIMES LARGER THAN IN LOWLAND COUNTRIES. OUR RESEARCH HAS SHOWN THAT IAS CANNOT OCCUPY LARGE TERRITORIES IN ARMENIA. ACTUALLY, LARGE NUMBERS OF IAS SPREAD IN SUITABLE HABITATS, OCCUPYING RELATIVELY SMALL AREAS BUT AS A WHOLE, THE PICTURE IS RATHER CONCERNING.

PRELIMINARY ESTIMATION OF THE RESULTS OF THE THREAT OF INVASIVE PLANT SPECIES TO THE NATURAL BIODIVERSITY IN ARMENIA HAS ALLOWED US TO PREPARE A LIST OF MORE THAN 100 SPECIES REQUIRING IMMEDIATE ACTION WHICH IS APPROXIMATELY 25% OF ALL ALIEN PLANTS OF ARMENIA. SHOULD BE MENTIONED THAT INVASIVE ALIEN SPECIES HAVE EXPANDED THEIR AREAS IN ARMENIA. ESTIMATION OF THREATS FROM IAS TO SOME ECOSYSTEMS HAS SHOWN THAT IN THEIR DISTRIBUTION OVER THE LAST 40-50 YEARS ARE BEING EVALUATED AND FORECASTS FOR THEIR FUTURE DISTRIBUTION ARE BEING PROCESSED.

WE CAN ASSUME THAT THE PRESENT PERIOD OF THE STUDY SHOULD BE DESCRIBED AS A TRANSITION FROM A SIMPLE DESCRIPTION OF THE FACTS OF INTRODUCTION OF SPECIES INTO NEW AREAS TO ANALYZE THE CAUSES AND CONSEQUENCES OF INVASION. AS A CASE STUDY DURING LAST 3 YEARS WE INVESTIGATE AND MONITOR DISTRIBUTION AND MAIN TRAITS, POPULATION GENETICS AND POPULATION DYNAMICS, IMPACT ON HUMAN HEALTH AND ENVIRONMENT IN ARMENIA, WHICH NEEDS SPECIAL ATTENTION AND IS LISTED AS A QUARANTINE WEED AND ONE OF THE MAIN ALIEN SPECIES.

THE INVASIVE PLANT SPECIES PROBLEM IN ARMENIA IS NOT ESTIMATED AND HAS NOT ENOUGH ATTENTION. OVER THE LAST 10 YEARS RESEARCHERS FROM INSTITUTE OF BOTANY OF NAS ARMENIA ARE DOING DIFFERENT SCIENTIFIC RESEARCH IN ARMENIA, BUT WE HAVE NO ANY LEGISLATION, REGULATION, PREVENTION AND CONTROL MEASURES FOR ANY INVASIVE PLANT SPECIES. A BOOK WHICH INCLUDES LIST OF IAS OF ARMENIA IN 2014 WAS PUBLISHED MANUSCRIPT G. FAYUSH, K. TAMANIAN.

“INVASIVE AND EXPANDING PLANT SPECIES OF ARMENIA”. NOW WE HAVE SEVERAL ONGOING SMALL PROJECTS TO PROBLEMS OF INVASION AND PUBLIC AWARENESS.

THE NATIONAL STRATEGY AND NATIONAL PROGRAM ON THE IAS HAVE TO BE ELABORATED. AS EACH COUNTRY IN BIODIVERSITY CONSERVATION AND SUSTAINABLE USE OF NATURAL RESOURCES, ARMENIA ALSO SHOULD DEVELOP AND IMPLEMENT A NATIONAL PLAN OF ACTION FOR IAS AND THE ECOLOGICAL IMPACT OF THE INVASIVE PLANT MUST BE CONSIDERED IN THE CONTEXT OF CONSERVATION GOALS. WE CONSIDER THAT THE NATIONAL PROGRAM ON INVASIVE PLANT SPECIES HAS TO BE ELABORATED AND REGIONAL SYSTEM OF OBSERVATIONS, MONITORING, DATA EXCHANGE AND RAPID RESPONSE CREATED.

STRATEGICALLY INVESTING IN PROGRAMS AND PROJECTS TO ADDRESS IAS THREATS WILL HELP REDUCE THE ENVIRONMENTAL IMPACTS OF IAS ON ALLIANTS. BUT NOWADAYS IN ARMENIA THERE ARE NOW BIG PROJECTS AND PROGRAMS FOR INVASIVE PLANT SPECIES MONITORING, MANAGEMENT, PREVENTION AND CONTROL.

AT THE SAME TIME WE SHOULD REMEMBER THAT IAS ARE OF GLOBAL IMPORTANCE AND THE NEED TO SOLVE THIS PROBLEM AT THE INTERNATIONAL LEVEL, AT LEAST AT THE LEVEL OF A LARGE REGION THAT IS ABSOLUTELY NECESSARY REQUIRES COOPERATION.

**Keywords:** ARMENIA, INVASIVE ALIEN SPECIES, CLIMATE CHANGE, MOUNTAINOUS ECOSYSTEMS

**Title:** INVASIVE ALIEN PLANTS AND THE LJUBLJANA MUNICIPALITY

**Authors and presenter name, organisation, position/title:** NEJC JOGAN, UNIVERSITY OF LJUBLJANA, BIOTECHNICAL FACULTY/ PROF. ~~DR. DOCTORIA B. SIMONA~~ STRGULC KRAJŠEK (DOC. DR.)

**Presentation type:** ORAL PRESENTATION

### Summary

MUNICIPALITY OF LJUBLJANA (MOL) HAS BEEN INTERESTED IN IAS ISSUES FOR ABOUT 10 YEARS. AN EXAMPLE OF GOOD COOPERATION BETWEEN LOCAL GOVERNMENT AND EXPERTS. COOPERATION IN THE FRAME OF PROJECT THUJA (2008-9, EEA GRANTS) AND WENT ON IN 2011, 2012 AND 2013. FURTHER 3 PROJECTS, FINANCED BY MOL.

IN 2011 AND 2012 THE FOCUS WAS RAGWEED. THE AIM OF THE 2011 PROJECT WAS TO MAKE A MAP FOR RECORDING LOCALITIES OF *Ambrosia* IN THE URBAN AREA OF MOL IN ORDER TO PLAN THE CONTROL OF THE PLANTS. FIELD WORK WAS CARRIED IN 3 SELECTED KM<sup>2</sup> PLOTS, ONE IN THE CENTER OF MOSTE-POLJE (RAILWAY, HIGHWAY) AND ONE ON THE NORTHERN EDGE (RIVER SAVA, HIGHWAY, FARMLAND). THE 3 QUADRANTS WERE SCREENED FOR *Ambrosia* LOCALITIES THAT WERE DRAWN AT A SCALE OF 1:5000. THE EXPERIENCES FROM THE FIELD WORK IN THE QUADRANTS ALSO SERVED FOR ESTIMATING THE TIME, NEEDED FOR THE FOLLOWING LARGE-SCALE SCREENING OF THE WHOLE MOL TERRITORY. ON AVERAGE, 1 KM<sup>2</sup> QUADRANT TOOK 1-3 DAYS OF FIELD WORK. THE ESTIMATED EXPENSE FOR SCREENING AND RECORDING THE PLANTS IN THE WIDER URBAN AREA OF LJUBLJANA (200 KM<sup>2</sup>) WAS ESTIMATED AT 35.000 EUR.

AFTER SUCCESSFUL PILOT STUDY IN SUMMER AND AUTUMN 2012 THE WHOLE URBAN TERRITORY WAS MAPPED. EACH OF THE 1 KM<sup>2</sup> SAMPLING PLOTS WAS EXPLORED FOR THE PRESENCE OF *Ambrosia* POPULATIONS IN 0.5 TO 22 FIELD WORKING HOURS (REGARDING THE PRESENCE OF POTENTIAL HABITATS). TOTAL FIELD WORK WAS CLOSE TO 1900 HOURS CONDUCTED BY A GROUP OF 28 STUDENTS. ALL RECORDS WERE ENTERED ALSO IN WEB APPLICATION. 1414 POPULATIONS WERE FOUND, SCATTERED ALL OVER THE TERRITORY RECOGNIZING 3 SIZE LEVELS: 1-10, 10-100 OR OVER 100 INDIVIDUALS OF RAGWEED. BIGGEST DENSITY WAS MOSTLY LINKED TO THE RAILWAY AND HIGHWAY NETWORK. IN MAJORITY OF OTHER SAMPLING PLOTS AT LEAST ONE SMALL POPULATION WAS OBSERVED. IN VERY FEW SMALL PATCHES OF THE URBAN AREA OF LJUBLJANA WITH VIRTUALLY NO RAGWEED POPULATIONS WERE ERADICATED ALREADY DURING THE FIELD MAPPING WORK, BUT MOST OF THE CONTROL AND ERADICATION HAD BEEN LATER COORDINATED BY THE MOL.

IN 2015 THE PROJECT, WE CARRIED OUT THREE ACTIVITIES: 1) CHECK THE OCCURRENCE OF THE RAGWEED AFTER MAPPING IN 2012 AND SUBSEQUENT REMOVING, 2) EXACTLY MAP 10 SELECTED LOCALITIES OF INVASIVE ALIEN PLANTS (*Ranunculus japonica*, *Lonicera japonica*, *Physocarpus opulifolius*, *Buddleja davidii*, *Amorpha fruticosa*, *Heracleum mantegazzianum*, *Cuscuta campestris*, *Fallopia sachalinensis*, *Asclepias syriaca* AND *Thuja orientalis*) WHICH ARE STILL IN THE INITIAL STAGE OF SPREAD AND SO STILL POSSIBLE TO REMOVE EFFICIENTLY AND 3) MAP COMPLETE FLORA OF LJUBLJANA, WITH SPECIAL EMPHASIS ON NEW INVASIVE SPECIES. THIS TIME IN THE AREA OF THE CITY RING ROAD, WHICH IS AN AREA OF ABOUT 70 KM<sup>2</sup>. THE TEAM OF COLLABORATORS CONSISTED OF APPROXIMATELY 25 STUDENTS OF BIOLOGY WITH GOOD FLORISTIC KNOWLEDGE, ASSISTED BY TWO COORDINATORS. FIELD WORK TOOK PLACE FROM LATE APRIL UNTIL NOVEMBER.

IN 70 KM<sup>2</sup> INVENTORIED TOGETHER OVER 1,000 SPECIES OF FERNS AND FLOWERING PLANTS WERE RECORDED, IN EACH OF THE 70 MAPPING UNITS, ON AVERAGE, 265 SPECIES WERE COLLECTED.



OVER 38,000 RECORDS. FROM 10 SEARCHED INVASIVE SPECIES 9 WERE FOUND. CHECKING THE RAGWEED SHOWED THAT IN SOME AREAS, ERADICATION IN RECENT YEARS HAVE ACTUALLY BUT UNFORTUNATELY, SEVERAL NEW SITES WERE FOUND. RESULTS WILL SERVE AS AN IMP PLANING HOW AND WHERE TO COMBAT INVASIVE ALIEN SPECIES IN THE AREA OF LJUBLJANA. IMPORTANT RESULT OF OUR WORK IS THAT WE HAVE DISCOVERED SEVERAL ADDITIONAL N THAT HAD NOT BEEN REPORTED YET. SOME OF THEM HAVE PROVED TO BE INVASIVE (EG. *Corn* IN WETLAND HABITATS). WE RECOMMENDED IMMEDIATE ACTION.

**Keywords:** INVASIVE ALIEN PLANTS, LJUBLJANA, AMBROSIA ARTEMISIIFOLIA, FALLOPIA JAP

**Title:** ERADICATION EFFORTS OF ALIEN HOGWEEDS IN ESTONIA

**Authors and presenter name, organization, position/title:** MADLI LINDER, ENVIRONMENTAL BOARD OF ESTONIA / NATURE CONSERVATION DEPARTMENT, CHIEF SPECIALIST FOR SPECIES PROTECTION

**Presentation type:** POSTER

**Summary**

GIANT HOGWEED (*Heracleum mantegazzianum*) AND SOSNOWSKY'S HOGWEED (*Heracleum sosnowskyi*) ARE LISTED AS INVASIVE SPECIES LIKELY TO DISRUPT NATURAL BALANCE ACCORDING TO THE REGULATION OF THE MINISTER OF THE ENVIRONMENT OF ESTONIA. A NOTEWORTHY INCREASE OF THE AREA INVADDED BY THESE PHOTOTOXIC AND NOXIOUS ALIEN HOGWEEDS, HAS OCCURRED SINCE THE MID-20<sup>TH</sup> CENTURY IN ESTONIA. SINCE 2005, OVER 99% OF THE MAPPED AREA OCCUPIED BY ALIEN HOGWEED COLONIES (APPROXIMATELY 2300 HECTARES IN 2016) HAS BEEN UNDER STATE-CONTROLLED ERADICATION EFFORT EACH YEAR. DUE TO THE PERSISTENT SEED BANK (THE HOGWEED SEEDS CAN GERMINATE FOR SEVERAL YEARS), THE ERADICATION WORKS MUST BE CONSISTENT AND SOUND, AS ONE YEAR OF REGENERATION OF SEED PRODUCTION GIVES A SETBACK FOR SEVERAL YEARS. THE ANNUAL ESTIMATIONS OF THE EFFECTIVENESS OF THE ERADICATION WORKS HAVE SHOWN THAT THE DENSITY OF HOGWEED STANDS THAT HAVE BEEN ERADICATED FOR AT LEAST 4–5 YEARS, HAS DECREASED SIGNIFICANTLY.

**Keywords:** ALIEN HOGWEEDS, GIANT HOGWEED, SOSNOWSKY'S HOGWEED, EFFECTIVENESS OF ERADICATION EFFORT

**Title:** REMOVAL OF INVASIVE PLANT SPECIES AT SCI POMORIE, BG0000620, BULGARIA

**Authors (and presenter) name, organisation, position/title:** DIMITAR POPOV, GREEN BALKANS NGO / PROJECT COORDINATOR

**Presentation type:** ORAL PRESENTATION

**Summary:**

POMORIE LAKE IS A NATURAL HYPER-SALINE LAGOON, PART OF THE MOST IMPORTANT WETLANDS ALONG THE BULGARIAN BLACKSEA COAST – BOURGAS WETLANDS. LAGOON'S HIGH SALINITY AND THE BLACKSEA (MORE THAN 48‰) HAS LED TO THE DEVELOPMENT OF UNIQUE ULTRA-HALOPHYTE WETLANDS WITH SPECIFIC FLORA AND FAUNA. PART OF THE LAKE IS

TURNED INTO SALT PANS FOR PRODUCTION OF SEA SALT THROUGH EVAPORATION. DUE TO ITS GLOBAL IMPORTANCE FOR BIODIVERSITY THE WETLAND IS PROTECTED BY NATIONAL AND INTERNATIONAL LEGISLATION - PROTECTED SITE ACCORDING NATIONAL LEGISLATION IN 2001, RAMSAR SITE 1229 IN 2002, BIRD AREA (IBA) IN 1997 AND NATURA 2000 SITE (SPA AND PSCI) SINCE 2007.

WITHIN THE MANAGEMENT PLAN DRAWN FOR THE SITE ONE OF THE MAIN IDENTIFIED THREATS IS THE SHIFTING DUNES ALONG THE SHORELINE WITH *Spartium junceum* AND *Amorpha fruticosa*. THE EXISTENCE AND DISPERSAL OF INVASIVE PLANT SPECIES AND ESPECIALLY *Spartium junceum* AND *Amorpha fruticosa* ARE DEVELOPING RAPIDLY TAKING OVER LOTS OF AREA AND SUPPRESSING THE PLANT SPECIES ASSOCIATED TO THESE HABITATS LIKE *Elymus maritimus*, *Cakile maritima*, *Medicago marina*, *Silene thymifolia*, *Stachys maritima* AND *Trachomitum venetum*

WITHIN PROJECT LIFE10/NAT/IT/000256 MC SALT ACTIVITY FOR REMOVAL OF IAS AT THE SHORELINE DUNES HAS BEEN EXECUTED. DUE TO THE EXISTENCE OF MANY PROTECTED PLANT SPECIES NEXT TO THE IAS IT WAS DECIDED TO TRY MECHANICAL ERADICATION. ACTIVITIES OF UPROOTING THE IAS WERE EXECUTED WITH SUPPORT OF VOLUNTEERS. THE RESULTS HAVE SHOWN THAT MECHANICAL ERADICATION PROVIDING POSITIVE RESULTS WITH *Spartium junceum* BUT NOT WITH *Amorpha fruticosa*.

**Keywords:** *Amorpha fruticosa*, *Spartium junceum*, DUNE HABITATS

**Title:** CONTROL AND ERADICATION OF INVASIVE ALIEN PLANT SPECIES IN CROATIA – MEASURES PLANNED

**Authors (and presenter) name, organization, position/title:**

MS. PETRA KUTLEŠA, CROATIAN AGENCY FOR THE ENVIRONMENT AND NATURE / DEPARTMENT FOR IMPACT ASSESSMENT, INTRODUCTION AND REINTRODUCTION OF SPECIES, SECTION 7, RADDOVI  
ZAGREB, CROATIA; EXTERNAL EXPERT ON ESENIAS-TOOLS PROJECT (PRESENTER)

MR. IGOR BOGRIC, CROATIAN AGENCY FOR THE ENVIRONMENT AND NATURE FOR WILD AND DOMESTICATED TAXA AND HABITATS, FLORA & ECOSYSTEMS, SECTION 7, NI0000 ZAGREB, CROATIA;  
HEAD OF THE SECTION

MS. SONJA DESNICA, CROATIAN AGENCY FOR THE ENVIRONMENT AND NATURE, DEPARTMENT FOR IMPACT ASSESSMENT, INTRODUCTION AND REINTRODUCTION OF SPECIES, SECTION 7, RADDOVI  
ZAGREB, CROATIA; EXPERT ADVISOR

MS. SANDRA SLIVAR, CROATIAN AGENCY FOR THE ENVIRONMENT AND NATURE, DEPARTMENT FOR IMPACT ASSESSMENT, INTRODUCTION AND REINTRODUCTION OF SPECIES, SECTION 7, RADDOVI  
ZAGREB, CROATIA; TRAINEE

**Presentation type:** ORAL PRESENTATION

### **Summary**

INVASIVE ALIEN SPECIES HAVE BECOME MORE WIDESPREAD IN THE TERRITORY OF CROATIA. CONSEQUENTLY BECOME IMPORTANT ISSUE IN CROATIAN NATURE PROTECTION ACT SINCE 2014. ORGANIZED ERADICATION MEASURES WERE TAKEN ON ALIEN PLANT SPECIES WHICH HAVE NEGATIVE IMPACT ON HUMAN HEALTH. ORDER ON MEASURES FOR COMPULSORY REMOVAL OF RAGWEED (*artemisiifolia* L. FROM AGRICULTURAL LAND (CULTIVATED AND UNCULTIVATED), FORESTS, PUBLIC ROUTES AND PUBLIC GREEN AREAS IS IN FORCE SINCE 2007. AS IAS REPRESENT ONE OF THE MAJOR THREATS TO BIODIVERSITY OF CROATIA, CROATIAN AGENCY FOR THE ENVIRONMENT AND NATURE HAS STARTED TO IMPLEMENT CONTROL AND ERADICATION PROGRAMS ON IAS. CONTROL AND ERADICATION OF SPECIES *Heracleum mantegazzianum* IN GORNJA ŠEMNICA (RADOBOJ, KRAPINA-ZAGORJE COUNTY) HAS ALREADY SUCCESSFULLY BEEN TAKEN DURING 2014 AND 2015 IN COLLABORATION WITH THE INSTITUTION FOR MANAGEMENT OF PROTECTED NATURAL VALUES OF KRAPINA-ZAGORJE COUNTY. MOREOVER, THERE IS “PROGRAM FOR MAINTENANCE WORKS FOR PROTECTION AGAINST FLOODING AND WATER IN CROATIA NATURE” FROM 2011 WITH GUIDANCE ON PROTECTION MEASURES TO CONTROL AND ERADICATE IAS PLANT SPECIES (SPECIFICALLY *Amorpha fruticosa* AND *Ambrosia artemisiifolia*) IN STREAMS AND CANALS AND ADJOINING AREAS. FURTHER ERADICATION PROGRAMS ARE PLANNED FOR OTHER INVASIVE ALIEN PLANT SPECIES IN PROTECTED AREAS AND ISLANDS (PREFERABLY NATURAL). IN THE PILOT PROJECT IN PREPARATION, SPECIES *Ailanthus altissima* AND *Solanum elaeagnifolium* ARE PLANNED TO BE REMOVED FROM THE SELECTED LOCALITIES USING BEST PRACTICES. BESIDES NEGATIVE ECOLOGICAL IMPACT, IAS ALSO CAUSE NEGATIVE SOCIOECONOMIC EFFECTS. TO MANAGE THE SPREAD OF INVASIVE ALIEN PLANT SPECIES ON AGRICULTURAL LAND, ERADICATION MEASURES FOR IAS SPECIES HAVE BEEN INTEGRATED IN CROATIAN RURAL DEVELOPMENT PROGRAMME FOR THE PERIOD 2014-2020 (MEASURE 4). SPECIES *Ailanthus altissima*, *Amorpha fruticosa*, *Reynoutria japonica*,

*Reynoutria sachalinensis* and *Robinia pseudacacia* WILL BE PROPOSED FOR ERADICATION IN THE ORDINANCE FOR THIS MEASURE.

**Keywords:** INVASIVE ALIEN SPECIES, CONTROL METHODS, ERADICATION, NATURE PROTECT

**Title:** Removing of exotic trees and shrub (especially *Prunus Serotina*)

**Authors and presenter name, organization, position/title:** Ignace Ledegen,  
Benego/Grenspark de Zoom – Kalmthoutse Heide / *Coördinator HELVEX- LIFE13  
NAT/BE/000074*

**Presentation type:** Oral presentation

**Summary:**

2005: start of the monitoring of *Prunus Serotina* in the entire ‘ Cross Borderpark’

2005: start of removing *Prunus Serotina* and follow up.

2006-2011: HELA-Life project LIFE06 NAT/BE/000085 with removal of *Prunus Serotina* and follow up.

2011-2014: Follow up from the sites where the *Prunus* has been removed.

2014-2019: HELVEX-Life project LIFE13 NAT/BE/000074 with removal of *Prunus Serotina* and follow up.

Concrete actions: Start with removal of big trees which produce a lot of seeds every year. Therefore we used glyphosate to avoid regrowing. We used the product until 2015. Since then it's no longer allowed to use it anymore. From 2016 on the trees are being pulled out.

The follow up: With volunteers and students the seedlings are being pulled out two years after the removal and a second time 6 years after the removal. From 2015 we started an experiment to do the follow up by sheep grazing with good results. This will be repeated in 2016.

**Title:** RESTORATION MANAGEMENT OF PANNONIC SAND STEPPES AND XEROTHERMOPHILOUS OVERGROWN BY ALIEN WOOD SPECIES IN WESTERN SLOVAKIA

**Authors (and presenter) name, organisation, position/title:** ING LIBOR ULRYCH PH.D., STATE NATURE CONSERVANCY OF THE SLOVAK REPUBLIC / BOTANIST.  
MGR. MONIKA CHRENKOVÁ DAPHNE – INSTITUTE OF APPLIED ECOLOGY, MANAGEMENT PLAN EXPERT / PROJECT MANAGER.  
MGR. MILAN JANÁK, DAPHNE – INSTITUTE OF APPLIED ECOLOGY, BIODIVERSITY EXPERT / PROJECT MANAGER

**Presentation type:** ORAL PRESENTATION

### Summary

THE PRESENTATION SUMMARIZES EXPERIENCE WITH ERADICATION OF INVASIVE TREE SPECIES HEAVENLY ANTHUS (*Alnanthus altissima*) AND BLACK LOCUST (*Robusta pseudoaccacia*) ON TWO SITES OF COMMUNITY INTEREST IN WESTERN SLOVAKIA, IMPLEMENTED THROUGH TWO EU LIFE+ PROJECTS.

SCI ČENKOV IS SITUATED IN DANUBIAN LOWLAND INLAND SAND DUNE AND REPRESENTS MOST SIGNIFICANT LOCALITY OF PSAMOPHYTES IN THE COUNTRY. THREE PRIORITY HABITATS OF IMPORTANCE ARE PRESENT ON THE SITE: 6120\* XERIC SAND CALCAREOUS GRASSLANDS, 6110\* SAND STEPPES AND UNIQUE FORESTS COMMUNITY OF 91N0\* PANNONIC INLAND SAND DUNE (*Junipero-Populetum albae*). IT IS THE ONLY LOCALITY IN SLOVAKIA FOR FOUR CRITICALLY ENDANGERED PLANTS SPECIES: *Humilis subsparenaria*, *Colchicum arenarium*, *Ephedra distachya* AND *Alkanna tinctoria*, THE FIRST TWO ARE CONSIDERED TO BE SPECIES OF COMMUNITY INTEREST DUE TO UNSUITABLE FOREST MANAGEMENT AND STRICT PROTECTION REGIME INTRODUCED IN THE PAST. SPECIES INFESTED MOST OF THE LOCALITY WITHIN LAST 20 YEARS. THE MOST SIGNIFICANT TREE OF HEAVENLY ANTHUS (*Alnanthus altissima*) BUT OTHER WOOD SPECIES WITH HIGH OR MEDIUM INVASIVE POTENTIAL ARE PRESENT TOO: *Pseudoaccacia*, *Celtis occidentalis*, *Gleditschia triacanthos*, *Padus serotina*. FOLLOWING DETAILED FIELD MAPPING PLANNING AND DESIGNING OF RESTORATION REMOVAL OF *Alnanthus altissima* AS AN INVASIVE SPECIES OF HIGHEST PRIORITY HAD STARTED IN SUMMER OF 2015 WITHIN THE FRAMEWORK OF THE PROJECT LIFE10 NAT/SK/083 PANNONIC RESTORATION OF ENDEMIC PANNONIC SALT MARSHES AND SAND DUNES IN SOUTHERN SLOVAKIA. COMBINED METHOD OF DRILLING HATCHING AND INJECTION OF HERBICIDE (GLYPHOSATE) WAS APPLIED. THE RESTORATION WILL BE IMPLEMENTED ON 60 HA OF LAND IN TOTAL. THE EXPERIENCE OF THE FIRST YEAR OF RESTORATION HAS PROVEN THE METHOD TO BE EFFECTIVE FOR ERADICATION OF HEAVENLY ANTHUS. THE SUCCESS OF THE RESTORATION IS GOING TO BE MONITORED ON 4 MONITORING PLOTS. WHICH PHYTOCOENOLOGICAL RECORDS AND COUNTING OF VITAL INDIVIDUALS OF TREE OF HEAVENLY ANTHUS WILL BE MADE.

THE ELIMINATION OF BLACK LOCUST (*Robusta pseudoaccacia*) TREES WAS IMPLEMENTED IN SCI DEVÍNSKA KOBÝLA, SW SLOVAKIA IN THE FRAME OF THE PROJECT LIFE10 NAT/SK/080 NATURA 2000 BA - RESTORATION OF NATURA 2000 SITES IN CROSS-BORDER BRATISLAVA CAUCASUS REGION. THE SITE IS TYPICAL FOR FRAGMENTS OF NATIVE ROCKY STEPPES, SECONDARY GRASSLANDS, FOREST STEPPE COMMUNITIES ON CARBONATE SUBSTRATE WITH HIGH BIODIVERSITY. IT IS A LOCALITY FOR ORCHIDS, WITH OCCURRENCE OF RARE THERMOPHILOUS AND XEROPHILOUS SPECIES OF PANNONIC, PONTIC AND SUBMEDITERRANEAN ORIGIN. FOUR PRIORITY HABITATS OF IMPORTANCE ARE PRESENT ON THE SITE: 6210\* SEMI-NATURAL DRY GRASSLANDS AND SCRUB ON CALCAREOUS SUBSTRATES (*Cometalia*) (\*IMPORTANT ORCHID SITES), 6110\* RUPICOLOUS CALCAREOUS OR BASOPHILIC GRASSLANDS OF THE 4240\* SUB-PANNONIC STEPPIC GRASSLANDS AND 40A0\* SUBCONTINENTAL PERI-PANNONIC SCRUB. THE BLACK LOCUST TREE

WITH NATIVE SHRUBS AND TREES ARE OVERGROWING THE VALUABLE GRASSLAND VEGETATION. RESTORATION OF XEROTHERMIC GRASSLANDS IS THEREFORE ONE OF THE MAIN PROJECT GOALS. IN PREPARATION, ALL THE BLACK LOCUST TREES WERE MAPPED IN 2014-2015 ON THE TOTAL AREA OF 70 HA AND THE MOST VALUABLE AREAS WITH HIGH POTENTIAL FOR RESTORATION OF XEROTHERMIC GRASSLANDS HAD BEEN CAREFULLY SELECTED. SIMILARLY AS ON THE PREVIOUS SITE COMING FROM THE PREVIOUS DRILLING AND INJECTION OF HERBICIDE (GLYPHOSATE) WAS SELECTED FOR ERADICATION OF BLACK LOCUST TREES. THE HERBICIDE WAS INJECTED INTO DRILLED HOLES OF 0.6 CM DIAMETER, ONE DRILLING HOLE PER TREE OF TREE PERIMETER AT BREAST HEIGHT WAS MADE WITH DRILLING MACHINE. THE TREATMENT WAS COMPLETED IN JUNE 2015 ON FIRST INDIVIDUALS OF BLACK LOCUST AND SUBSEQUENTLY THE METHOD WAS APPLIED TO MORE THAN 3500 SPECIMENS WITH DIAMETER ABOVE 5 CM BETWEEN JULY AND OCTOBER 2015. MONITORING PLOTS WERE SET TO MONITOR THE EFFECTIVENESS OF THE APPLIED METHOD ON LONG TERM.

**Keywords:** SAND STEPPES, XEROTHERMOPHILOUS GRASSLANDS, MANAGEMENT, RESTORATION, SPECIES, TREE OF HEAVEN, BLACK LOCUST



**Title:** WEED BIOCONTROL: AN UNDERUSED TOOL FOR EUROPE

**Authors and presenter name, organization, position/title:** DICK SHAW, CABI UK / DIRECTOR

**Presentation type:** ORAL PRESENTATION

**Summary**

CLASSICAL WEED BIOCONTROL INVOLVES THE IDENTIFICATION, SAFETY TESTING AND RELEASE OF NATURAL ENEMIES FROM THE AREA OF ORIGIN OF THE TARGET WEED. IT HAS BEEN APPLIED WORLDWIDE FOR OVER 100 YEARS BUT HAS UNTIL VERY RECENTLY, BEEN LARGELY IGNORED IN EUROPE. THE PRINCIPLES AND PRACTICE OF THIS TECHNIQUE ARE WELL ESTABLISHED AND HAVE BEEN FURTHER REFINED BY COUNTRIES LIKE AUSTRALIA, NEW ZEALAND, AMERICA AND CANADA OVER THE YEARS AND ARE SUBJECT TO INTERNATIONAL PROTOCOLS. THESE WILL BE PRESENTED USING CASE STUDIES OF RELEVANCE TO EUROPE INCLUDING THE JAPANESE KNOTWEED *PSYLLA AND THE *Alalara itadori** HIMALAYAN BALSAM *MURRESIA komovarii* VAR *glandulifera*. OTHER CURRENT AND FUTURE TARGETS ARE REVIEWED AND THE CASE IS MADE THAT MANAGEMENT DECISIONS MADE WITHOUT CONSIDERING BIOCONTROL FOR EXTENSIVE INVASIONS ARE NOT TAKING INTO ACCOUNT ALL THE FACTS. RELEASES IN THE UK AND PORTUGAL HAVE SHOWN THAT THE USE OF THIS TECHNIQUE IS POSSIBLE IN EUROPE AND THIS SHOULD OPEN THE DOOR TO MORE EXTENSIVE IMPLEMENTATION IN EUROPEAN STATES. CURRENT SUCCESS STORIES IN EUROPE ARE LIMITED TO SPECIES WHOSE ARRIVAL HAS BEEN ACCOMPANIED BY EFFECTIVE CONTROL OF *Azolla filix-ferae* AND *Ambrosia artemisiifolia*. THESE, AND EXAMPLES FROM ALL OVER THE WORLD SHOW THAT BIOCONTROL HAS THE POTENTIAL TO ADDRESS PLANT INVASIONS THAT ARE CURRENTLY CONSIDERED COMPLETELY UNMANAGEABLE AND IT SHOULD NO LONGER BE IGNORED.

**Keywords:** BIOLOGICAL CONTROL, BIOCONTROL, NATURAL ENEMIES, FALLOPIA, IMPATIENS, CRASSULA, AZOLLA, LUDWIGIA, OPUNTIA, AMBROSIA, EICHORNIA.

**Title:** VALUING POSSIBILITIES FOR *fruticosa* POPULATIONS FOUND IN ROMANIA

**Authors:** ALEXANDRU LIVIU ȚIWIŢIONAL RESEARCH INSTITUTE FOR RESEARCH AND DEVELOPMENT IN FORESTRY "MARIN DRACEA" - INCDS, EROILOR BLVD. 128, 077190 VOLUNTARI, ILFOV, ROMANIA  
RESPONSIBLE OF TULCEA RESEARCH STATION, INCDS. DIANA VASILE, ANA-MARY PETRITAN, CRISTIANA DINU

**Presentation type:** ORAL PRESENTATION

### Summary

*Amorpha fruticosa* (FALSE INDIGO BUSH OR SMALL LOCUST) IS ONE OF THE MOST IMPORTANT INVASIVE TERRESTRIAL PLANT SPECIES (ITPS) FOUND IN ROMANIA ALONG WITH *Acer Negundo*, *Fraxinus americana*. IN ROMANIA, GIVEN ITS ECOLOGICAL REQUIREMENTS AND INITIAL USE (LAND RECLAMATION), IT'S FOUND ESPECIALLY IN THE FLOODPLAINS OF THE MAIN RIVERS AND MOST ABUNDANTLY IN THE DANUBE DELTA. IT HAS A NEGATIVE IMPACT ON NATIVE WETLANDS. CONTROL MEASURES HAVE BEEN APPLIED EXCLUSIVELY IN PROTECTED AREAS.

TAKING INTO CONSIDERATION THE NEED TO DIMINISH THE AGGRESSIVE SPREAD OF THIS ITPS, AN ECONOMICALLY VIABLE SOLUTION WOULD BE TO VALUE ITS BIOLOGICAL POTENTIAL. IN THIS REGARD, IN ROMANIA, BEEKEEPERS HAVE LEARNED TO TAKE ADVANTAGE OF THE MELLIFEROUS PROPERTIES (I.E. HONEY). YET IN THE LAST DECADES INTERNATIONAL SCIENTIFIC RESEARCH HAS DISCOVERED A NUMBER OF POTENTIAL USES FOR THE SMALL LOCUST, AMONG WHICH BIOMASS PRODUCTION FOR OBTAINING DIFFERENT MEDICINAL AND PHARMACOLOGICAL PRODUCTS (I.E. MAMMALIAN CELL CULTURE FORMULATION) RANKS AS THE MOST IMPORTANT.

THROUGH THIS PAPER THE AUTHORS TRY TO RAISE AWARENESS TO THE VALUING POSSIBILITIES OF *Amorpha fruticosa* AS A MEANS TO CONTROL AND DIMINISH ITS SPREAD IN ROMANIA AND ALSO AT EUROPEAN LEVEL.

**Keywords:** *Amorpha fruticosa*, biopotential, valorification, control

**Title:** INVASIVE PLANTS ON THE IRON GATES NATURAL PARK

**Authors and presenter name, organization, position/title:** MONICA MARIAN, OANA MARE  
ROȘCA LUCIA MIHĂLESCU, TECHNICAL UNIVERSITY OF CLUJ NAPOCA, THE NORTH UNIVERSITY  
CENTRE OF BAIAMARE

**Presentation type:** POSTER

### **Summary**

IRON GATES NATURAL PARK IS LOCATED IN THE SW OF ROMANIA, ALONG THE DANUBE. THE LANDSCAPE IS MOUNTAINOUS, THE DANUBE PASSES A RELATIVELY NARROW LANE WITH STEEP WALLS AND ACCIDENTS. THE CLIMATE IS TEMPERATE WITH MEDITERRANEAN INFLUENCES DUE TO WARM AIR COMING FROM THE MEDITERRANEAN.

THE STUDY OF VEGETATION, HIGHLIGHTED THE DIVERSE FORESTS, ESPECIALLY OAK FORESTS WITH XEROTHERMOPHILOUS PREFERENCES, SUCH AS *Quercus robur*, *Quercus farnetto*, *Quercus pubescens*, AND BEECH FORESTS, STANDS OF *Fagus ssp. banatica* AND DRY MEADOWS. THE PARK OVERLAPS WITH NATURA 2000 SITES THAT ARE HOME TO SPECIES OF FLORA AND FAUNA WITH CONSERVATION VALUE BEING AN AREA OCCUPIED AND WORKED UNDER ANTHROPIC PRESSURE ON BIODIVERSITY FACIES, OF WHICH ONE IS THE RELATIVELY INTENSE INVASIVE PLANT SPECIES.

IN THE PARK WAS RECORDED THE PRESENCE AND DISTRIBUTION OF INVASIVE SPECIES IN DIFFERENT PLANT ASSOCIATIONS. THE PAPER PRESENTS THE MAIN SPECIES PRESENT, INCLUDING *Robinia pseudacacia*, *Ambrosia artemisiifolia*, *Ailanthus altissima*, *Phytolaca americana* AND *Ambrosia artemisiifolia* IN THE PARK IN DIFFERENT HABITAT TYPES AND THEIR ASSOCIATION WITH THE INTENSITY OF ANTHROPOGENIC FACTORS.

**Title:** ANALYSIS OF WOODY ALIEN FLORA IN SARDINIA PUBLIC FORESTS.

**Authors and presenter name, organization, position/title:** MANCA M., PIRAS G. BRUNDU G.:  
UNIVERSITY OF SASSARI, DIPARTIMENTO DI AGRARIA. RESEARCHER. ENTE FORESTE DELLA SARDEGNA  
PUBLIC OFFICER-RESEARCHER.

**Presentation type:** POSTER

**Summary**

THE ENTE FORESTE DELLA SARDEGNA (EFS) IS ONE OF THE MOST RELEVANT PUBLIC AUTHORITIES INVOLVED IN FOREST AND PROTECTED AREAS MANAGEMENT IN SARDINIA, WITH 230,000 HA OF LAND UNDER HIS JURISDICTION

WE PRESENT THE PRELIMINARY RESULTS OF A REGIONAL ANALYSIS ON THE WOODY ALIEN (EXOTIC) IN THE EFS MANAGED AREAS, SUPPORTED BY A DEDICATED GEO-DATABASE, COMPILED USING BIBLIOGRAPHIC DATA, TECHNICAL REPORTS AND FIELD OBSERVATIONS.

FROM THE DATABASE IT IS POSSIBLE TO CREATE UPDATED MAPS OF DISTRIBUTION AND THE CORRESPONDING CHECKLIST OF THE ALIEN WOODY SPECIES OCCURRING IN MANAGED AREAS.

IN ADDITION, TAKING INTO ACCOUNT SPECIFIC TRAITS AND INVASIVE STATUS, IT'S POSSIBLE TO EXPAND THE CHECKLIST OF WOODY INVASIVE ALIEN SPECIES OF GREATER CONCERN, WHICH NEED SPECIFIC MANAGEMENT INTERVENTIONS.

WE ALSO SUGGEST THE MAIN PRIORITY ACTION FOR RAPID INTERVENTION, CONTROL AND LOCAL ERADICATION AND WE CONSIDER ALSO THE POSSIBILITY OF ADOPTING A VOLUNTARY CODE OF GOOD PRACTICES E.G. NURSERY, PLANTATION MANAGEMENT, HARVESTING, DETECTION OF IAS, RAPID INTERVENTION PROCEDURES AND AT THE SAME TIME, AN IN-HOUSE COMMUNICATION CAMPAIGN FOR INCREASING THE KNOWLEDGE AND AWARENESS OF PROBLEM WITHIN EFS PERSONNEL

**Keywords:** FOREST MANAGEMENT, ALIENS (EXOTIC) WOODY FLORA, INVASIVE ALIEN SPECIES, SARDINIA.

**Title:** LARGE-SCALE ERADICATION OF NON-INDIGENOUS ASCLEPIAS SYRIACA IN THE FRAME OF NATURE PROJECTS IN KISKUNSAAG NATIONAL PARK

**Authors name, organization, position:** ORSOLYA MILE, KISKUNSAAG NATIONAL PARK / MONITORING EXPERT. ATTILA GAL, KISKUNSAAG NATIONAL PARK / MONITORING ASSISTANT; ISTVAN SOMOGYI, KISKUNSAAG NATIONAL PARK / RANGER ANDRÁS BANKOVICS, KISKUNSAAG NATIONAL PARK / PROJECT MANAGER

**Presentation type:** POSTER

**Summary:**

ASCLEPIAS SYRIACA IS ABUNDANT IN THE KISKUNSAAG NATIONAL PARK, ESPECIALLY ON SANDY AREAS. SPREADING OF THE SPECIES INTO STEPPIC VEGETATION IS ALSO OBSERVABLE. SINCE SANDY AREAS OWN VALUABLE FLORA AND FAUNA, THE DEFENCE AGAINST THE INVASIVE A. SYRIACA. OUR FORMER RESEARCHES ENDURING FOR YEARS SHOWED, THAT MECHANICAL DEFENCE AGAINST INVASIVE A. SYRIACA (PULLING UP THE STOCKS) DOES NOT LEAD TO A SIGNIFICANT RESULT BECAUSE OF THE STRONG UNDERGROUND RHIZOMA SYSTEM OF THE PLANT. HAVING REGARD FOR A. SYRIACA HAS ONLY A VERY FEW NATURAL ENEMIES, AND BECAUSE IT IS POISONOUS THE CARNIVOROUS ANIMALS DO NOT EAT IT, THE ONLY WAY TO FORCE IT BACK IS THE USE OF CHEMICALS. THE FIRST SYSTEMATIC, LARGE-SCALE ERADICATION OF A. SYRIACA IN KISKUNSAAG NATIONAL PARK WAS COMPLETED IN THE FRAME OF THE "CONSERVATION OF THE PANNON ENDEMIC DIANTHUS DORNICUS" NATURE PROJECT (LIFE06 NAT/H/000104) WITH SUCCESS DURING 2006-2011. THE EXPERIENCES ARE PRESENTLY APPLIED IN THE BÖDDI-LIFE PROJECT (LIFE12 NAT/HU/001188) AS WELL, AS PART OF THE ACTION "ELIMINATION OF THE STANDS OF NON-INDIGENOUS AND INVASIVE SPECIES FROM THE AREA OF THE PANNONIC SODIC WETLAND" (2013-2019).

WHEN USING CHEMICALS WE CONSIDERED TO USE ONLY CHEMICAL WHICH HAS DELAYED EFFECT AS REASON TO DESTROY NOT ONLY THE SURFACE, BUT THE SUBGROUND PARTS OF THE PLANT.

METHODS OF CHEMICAL HANDLING WERE ELABORATED AND USED AS PROTOCOL AS FOLLOWS: IN STANDS WHERE A. SYRIACA OCCURRED SCATTERED AND THE GRASS STRUCTURE WAS UNTOUCHED OR PROTECTED PLANTS OCCUR, THE LEAVES OF THE YOUNG PLANTS WERE COATED ONE BY ONE. IN STANDS WHERE THE RELATIVE COVER VARIED BETWEEN 40%-75% THE HANDLING METHOD WAS SPRAYING FROM PRESSURED CONTAINER (2 LITERS). THIS EQUIPMENT ALLOWED MORE PRECISION THAN THE MAN POWER MACHINES;

IN CASE WHERE THE GRASS STRUCTURE WAS SUPPRESSED ALREADY BY WEED VEGETATION, OR WHERE ASCLEPIAS COVERING WAS MORE THAN 75 %, THE CHEMICAL TREATMENT WAS SPRAYING FROM POWER SPRAY MACHINES.

THE YEARLY HANDLING CONTAINS THE THREE REPETITIONS ON THE SAME INFECTED PATCH DURING THE VEGETATION PERIOD OF *A. syriaca*.

THE EFFECTIVENESS OF THE A. SYRIACA ERADICATION DURING THE FIVE-YEAR HANDLING WAS 84% AT PROJECT SITE, BODOGLÁR (160 HA) 84%, IN BÓCSA PROJECT SITE 96%. THE OTHER IMPORTANT INDICATOR OF THE EFFECTIVENESS IS, THAT BESIDE THE SIGNIFICANT REDUCE OF THE INFECTION AREA, THE COVER OF THE ASCLEPIAS STANDS IS ALSO SIGNIFICANTLY DECREASED. IN THE BÖDDI-SZÉK 3,7 HA STANDS OF ASCLEPIAS SYRIACA WERE HANDLED IN 2014 AND 2015 CONSEQUENTLY WITH THE SAME METHOD. DENSITY OF THE STANDS WAS REDUCED AFTER THE FIRST YEAR HANDLING AVERAGE 50%. SOME SPORADIC NEW OCCURENCES HAVE BEEN OBSERVED IN SPRING 2015, HENCE THEIR HANDLING STARTED IN MAY 2015.

THE OBSERVATIONS ABOUT COLLATERAL EFFECT OF THE CHEMICAL HANDLING WERE MADE BY VISUAL ASSESSMENT OF THE TREATED AREA BY VISUAL ASSESSMENT. THE MONITORING RESULT OF VEGETATION CHANGE

ASCLEPIAS ERADICATION SHOW THAT IN CASE OF SPORADIC DAMAGE THE REGENERATION OF VEGETATION STARTS QUICKLY AND EFFICIENTLY DUE TO THE SURROUNDING PROPAGULUM S

**Keywords:** ASCLEPIAS SYRACA, CHEMICAL TREATMENT, ERADICATION, SAFETY OF NATURE V  
MONITORING

**Title:** IMPROVING THE CONSERVATION STATUS FOR THE PRIORITY SPECIES AND HABITATS IN THE IRON GATES WETLANDS

**Authors and presenter name, organization, position/title:** CARMEN SORESCU, TANIA CHINCEA, ENVIRONMENTAL PROTECTION AGENCY CARAS-SEVERIN, 73 PETRUMAIOR, ROMANIA,

**Presentation type:** POSTER

### Summary

LOCATED IN THE SOUTH-WESTERN OF ROMANIA, ROSPA0026 DANUBE WATER COURSE BAZIAS-IRON GATES OVERLAPS A LARGE AREA OF PRIORITY HABITATS WHERE COMMON CORMORANT AND FERRUGINOUS DUCK POPULATION LIVES ALONGSIDE OTHER PROTECTED FORM HABITATS DIRECTIVE, 3 AMPHIBIANS (*Sombina*, *Bombina variegata*, *Bufo bufo*), 1 SPECIES BELONGING TO THE REPTILES (*Uta*) AND 4 SPECIES FROM PISCES (*Gymnocephalus schraetzer*, *Gymnocephalus baloni*, *Zingel streber*, *Zingel zingel*). ROSPA0026 DANUBE WATER COURSE BAZIAS – IRON GATES IS CLASSIFIED AS THE THIRD IMPORTANT BIRD AREA FROM ROMANIA. THE AREA REPRESENTS AN IMPORTANT STOPPING DURING THE SPRING – AUTUMN PASSAGE SEASONS FOR THE WILD BIRDS, AS IT IS ON THE ROUTE FOR THE WESTERN PART OF THE COUNTRY TISA-MURES-DANUBE. THE AREA IS ENDANGERED BY SEVERE BIODIVERSITY THREATS, SUCH AS: WETLANDS EUTROPHICATION, AQUATIC INVASIVE SPECIES NESTING AND RESTING HABITATS DEGRADATION AND WETLANDS POLLUTION.

OUR AIM THROUGH LIFE NATURE PROGRAMME IS TO PROVIDE A LONG TERM FAVORABLE CONSERVATION STATUS FOR PRIORITY BIRD SPECIES (ESPECIALLY *Phalacrocorax aristoteles* AND *Aythya nyroca*) BY RESTORING WINTERING, NESTLING AND FEEDING HABITATS; REMOVING AQUATIC AND RIVERSIDE INVASIVE SPECIES THROUGH DEMONSTRATIVE ACTIONS; ENFORTH AN EARLY WARNING SYSTEM FOR INVASIVE ALIEN SPECIES AND INCREASING PUBLIC AWARENESS OF THE IMPORTANCE OF BIODIVERSITY IN THE IRON GATES WETLANDS.

WEED HARVESTING IS AN EFFICIENT METHOD TO ELIMINATE INVASIVE SPECIES AND IS EXTENSIVELY USED IN MANY COUNTRIES. PRACTICALLY IT IS THE ONLY CERTIFIED MEASURE TO REDUCE THE SPECIES COMPETING WITH VARIOUS PROTECTED SPECIES WITHOUT USING CHEMICAL COMPOUNDS (HERBICIDES), DREDGING OR DRAINING THE WETLANDS.

WEED HARVESTING PROCEDURE HAS NEVER BEEN USED BEFORE IN ROMANIA AND THIS PROJECT WILL PROVE THE EFFICIENCY OF THIS METHOD IN THE SOCIAL – ECONOMIC AND ECOLOGICAL CONTEXT OF WETLANDS ALONG THE DANUBE RIVER AND NOT ONLY. THE WORKING SESSIONS WILL TAKE PLACE AVOIDING NESTING PERIODS, SEEDS GERMINATION, ETC. IT WON'T GET ENDANGER THE PROTECTED SPECIES. THE IMPLEMENTATION OF THIS PROJECT WILL PROVIDE FAVORABLE HABITATS FOR WINTERING AND FEEDING FOR MORE THAN 50 SPECIES (COMMON CORMORANTS AND SECONDARY HABITATS FOR 12 OTHERS PROTECTED SPECIES (*Aythya nyroca*)).

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**Title:** ECOLOGICAL AND SOCIAL IMPACT OF BLACK LOCUST (*Robinia pseudoacacia* L.) AFFORESTATION ON DEGRADED LANDS IN SW ROMANIA.

**Authors and presenter name, organization, position/title:** ALEXANDRU LIVIU ȂȚIV CRISTIANA DINU, DIANA VASILE IONIAN INSTITUTE FOR RESEARCH AND DEVELOPMENT IN FORESTRY "MARIN DRĂGĂ" - INCDS, EROILOR BLVD. 128, 077190 VOLUNTARI, ILFOV, ROMANIA

**Presentation type:** POSTER

**Summary**

FOREST AREA IN THE S-W PART OF ROMANIA AND ESPECIALLY IN OLTENIA REGION HAS DIMINISHED CONSIDERABLY IN THE LAST TWO CENTURIES, REACHING IN 2010 A LEVEL OF AFFORESTATION OF 130000 HA). SOME OF THE BIGGEST DEFORESTATIONS IN THE AREA (CA. 9000 HA) WERE MADE BY THE COMMUNIST REGIME IN THE 60' TO EXPAND AGRICULTURAL LAND. DEFORESTATION TRIGGERED THE CAUSING THE FORMATION AND ADVANCING OF SAND DUNES, AND THIS PHENOMENON HAS A DIRECT EFFECT ON THE ECONOMIC, ENVIRONMENTAL AND SOCIAL CONDITIONS OF THE REGION, AND ON GLOBAL CLIMATE CHANGE EFFECTS, CREATING PREREQUISITES TO DESERTIFICATION.

THE SUSTAINABLE SOLUTION TO STABILIZE AND RESTORE THE SYSTEM WAS IDENTIFIED SINCE 1885, NAMELY AFFORESTATION OF THE SAND DUNES WITH BLACK LOCUST (*Robinia pseudoacacia* L.). PRIVATE OWNERS OF ABANDONED AGRICULTURAL LANDS TURNED TO BLACK LOCUST BECAUSE OF ITS FAST GROWTH CYCLE AND SIMPLE MANAGEMENT. COMMON EFFORTS TO MITIGATE COMMON THREATS MADE POSSIBLE THE RECLAMATION OF MORE THAN 5000 HA OF DEGRADED LANDS IN DESERTIFICATION PRONE AREAS.

AMONG THE ECOSYSTEM SERVICES PROVIDED BY LOCAL PRIVATE OWNED BLACK LOCUST AFFORESTATIONS ARE CONSTRUCTION WOOD, HONEY (BEEKEEPING), 'FLYING SAND' STABILIZATION, AGRICULTURAL PROTECTION, AGRO FORESTRY INTERCROPPING AND ENHANCED BIODIVERSITY (E.G HABITAT FOR

**Keywords:** *Black locust, impact, degraded lands, private forest owners*



**Title:** COMPARISON OF THE OCCURRENCE AND SPREAD OF INVASIVE ALIEN PLANT SPECIES IN SLOVAKIA: AN EXAMPLE OF THE TOWNS OF LEVICE AND ZVOLEN (SLOVAKIA)

**Authors and presenter name, organization, position/title:** JURAJ MODRANSKÝ, MICHAL PÁSTOR, DUŠAN DANŠ, TECHNICAL UNIVERSITY IN ZVOLEN, FACULTY OF ECOLOGY AND ENVIRONMENTAL SCIENCES, DEPARTMENT OF LANDSCAPE PLANNING AND DESIGN

**Presentation type:** POSTER

### Summary

RESEARCH INTO INVASIVE ALIEN PLANT SPECIES IN SLOVAKIA RUNS FROM THE 1990S OF THE 20TH CENTURY. THE FIRST TOWNS IN WHICH WAS COMPREHENSIVELY ASSESSED THE SPREAD OF INVASIVE ALIEN SPECIES ARE LEVICE IN SOUTHERN SLOVAKIA AND ZVOLEN IN CENTRAL SLOVAKIA. LEVICE IS THE WARM AND SLIGHTLY DRY CLIMATE REGION WITH AVERAGE ANNUAL TEMPERATURE CIRCA 10.5 °C AND AVERAGE ANNUAL PRECIPITATION 628 MM. ZVOLEN IS SITUATED IN THE MILD WARM CLIMATE WITH AN AVERAGE ANNUAL TEMPERATURE ABOUT 7.6 °C AND AVERAGE ANNUAL PRECIPITATION 702 MM. IN THE YEAR 2004, THERE WERE EVALUATED AS THE MOST PROBLEMATIC SPECIES IN BOTH TOWNS THE SPECIES *Ailanthus altissima*, *Rhus typhina*, *Robinia pseudoacacia*, *Amorpha fruticosa*, *Lycium barbarum*, AND *Negundo aceroides*. REPEATED COMPREHENSIVE INVESTIGATION WAS CONDUCTED AGAIN IN THE YEAR 2015 IN LEVICE. AS THE MOST RISKY SPECIES WERE ASSESSED, *Rhus typhina*, *Lycium barbarum*, AND *Negundo aceroides* COMPARED TO APPROXIMATELY 5,000 INDIVIDUALS OF INVASIVE ALIEN SPECIES IN THE YEAR 2004, THERE WERE MAPPED ALMOST 10,000 INDIVIDUALS IN THE YEAR 2015. THE INCREASE OF THESE SPECIES IS CAUSED BY THEIR ADAPTABILITY TO NEW ENVIRONMENTS AND INADEQUATE EDUCATION OF THE PUBLIC. FROM OUR OBSERVATIONS, WE FOUND THAT THE OCCURRENCE OF INVASIVE ALIEN PLANT SPECIES IN THE URBAN AREAS IS NOT SO PROBLEMATIC IN THESE PLACES, SINCE THEY HAVE USUALLY AN INTENSIVE MAINTENANCE. RISK IS REPRESENTED MAINLY BY THE CORRIDORS LEADING THROUGH THE CONTACT ZONE OF THE SETTLEMENT-LAND INTO THE OPEN COUNTRY. CORRIDORS CAN BE USED BY THE INVASIVE ALIEN PLANT SPECIES FOR THEIR FURTHER UNCONTROLLED SPREAD INTO THE OPEN COUNTRY, WHERE THEY CAUSE RELEVANT ECOLOGICAL DAMAGE. PRIORITIES IN THE SOLUTION OF THESE ISSUES OF INVASIVE ALIEN SPECIES IN URBAN AREAS, INCLUDE THE MAPPING, CONTROL AND ERADICATION OF THESE SPECIES IN PROBLEMATIC LOCALITIES. VERY IMPORTANT IS ALSO THE IDENTIFICATION AND ERADICATION OF THE MENTIONED CORRIDORS AND ERADICATION OF INVASIVE ALIEN SPECIES WITHIN THE SUPPOSED FLIGHT OF INDIVIDUAL SPECIES DIASPORA.

**Keywords:** INVASIVE ALIEN PLANT SPECIES, SPREAD, ERADICATION, URBAN AREAS, CORRIDORS

**Title:** MAPPING AND EXPLAINING THE DISTRIBUTION OF INVASIVE PLANT SPECIES IN A NATURA 2000 SITE IN ROMANIA

**Authors and presenter name, organization, position/title:** ANNAMÁRIA FENESI, BABE BOLYAI UNIVERSITY, HUNGARIAN DEPARTMENT OF BIOLOGY AND ECOLOGY. ZOLTÁN LÁSZLÓ BÓLYAI, BABE BOLYAI UNIVERSITY, HUNGARIAN DEPARTMENT OF BIOLOGY AND ECOLOGY. DE GÁBOS BALÁZS, BABE BOLYAI UNIVERSITY, HUNGARIAN DEPARTMENT OF BIOLOGY AND ECOLOGY. CSÖRNYEI VÁGÁSI, BABE BOLYAI UNIVERSITY, HUNGARIAN DEPARTMENT OF BIOLOGY AND ECOLOGY. UNIVERSITY OF DEBRECEN, BEHAVIOURAL ECOLOGY RESEARCH GROUP, DEPARTMENT OF EVOLUTIONARY ZOOLOGY

**Presentation Type:** POSTER

### Summary

THE SPREAD OF INVASIVE PLANT SPECIES IN CONSERVATION AREAS ARE OF SPECIAL CONCERN. MANAGEMENT OPTIONS TO PREVENT, DETECT, AND CONTROL INVASIVE SPECIES ASSUME INVENTORY AND MONITORING OF THE ALIEN SPECIES. WE PERFORMED A BASIC INVENTORY OF A SECTION OF THE TÂRNAVA MARE VALLEY IN SOUTHERN TRANSYLVANIA, ROMANIA. THIS LANDSCAPE IS HIGHLY HETEROGENEOUS DUE TO ITS TOPOGRAPHY AND TRADITIONAL LAND-USE TECHNIQUES. IT HAS BEEN DESIGNATED AS NATURA 2000 SITE OF COMMUNITY IMPORTANCE (SIGHIȘA MARE NATURA 2000 SITE, ROSCI0227) BECAUSE 18 HABITATS LISTED IN THE EU HABITATS DIRECTIVE CAN BE FOUND IN THIS REGION. MASSIVE ABANDONMENT OF AGRICULTURAL LANDS OCCURRED OVER TWO DECADES, WHICH MADE A GREAT VARIETY OF HABITATS ESPECIALLY SUSCEPTIBLE TO INVASION.

DURING 2011-2013, WE MAPPED THE PRESENCES AND ABUNDANCE OF 20 ALIEN PLANT SPECIES ACROSS THE 85374 HA STUDY AREA. WE FOLLOWED ALL THE LINEAR DISTRIBUTION PATHWAYS (RIVERS, SPRINGS, ROADS, RAILWAYS) AND WE TOOK SAMPLE POINTS IN EVERY 3 KM. WE RECORDED THE PRESENCE OF SPECIES TYPES AND THE OCCURRING INVASIVE SPECIES AND THEIR ABUNDANCE ON A FIVE-LEVEL SCALE AT THE POINTS. FURTHERMORE, WE TOOK SAMPLE POINTS WHENEVER WE OBSERVED AN INVASION BETWEEN TWO CONSECUTIVE SAMPLE POINTS. LANDSCAPE DATA (ALTITUDE, TOPOGRAPHY, LAND-USE HETEROGENEITY), CLIMATE AND ANTHROPIC DISTURBANCE DATA (NEAREST VILLAGE, CITY DISTANCE) WERE EXTRACTED FROM VARIOUS DATABASES AND CORRELATED WITH THE DISTRIBUTION OF THE INVASIVE SPECIES.

*Solidago canadensis*, *Helianthus tuberosus* AND *Robinia pseudacacia* WERE THE MOST SUCCESSFUL INVASIVE COLONIZERS, OFTEN BECOMING DOMINANT EVEN AT THE LANDSCAPE SCALE. OTHER SPECIES WERE ABLE TO ENTER NATURAL COMMUNITIES AS WELL. OTHER SPECIES (E.G. *Asclepias syriaca*, *Reynoutria japonica*, *Erigeron annuus*, *Conyza canadensis*, *Echinocystis lobata*, *Rudbeckia laciniata* AND *Impatiens glandulifera*) WERE LOCALLY ABUNDANT, BUT WITH MODERATE REGIONAL DISTRIBUTION. ROADS AND ABANDONED AGRICULTURAL AREAS WERE THE MAIN SITES OF INVASION, WHEREAS FORESTS WERE NOT HOSTING INVASIVE SPECIES. OUR FINDINGS SHOW THAT THE NUMBER OF INVASIVE SPECIES AND THEIR ABUNDANCE INCREASED WITH LANDSCAPE HETEROGENEITY.

**Keywords:** CONSERVATION AREA, NATURA 2000, INVASIBILITY, TRANSYLVANIA, SIGHIȘA MARE

**Title:** INVASIVE ALIEN SPECIES IN KAMPINOSKI NATIONALPARK. POLAND

**Authors and presenter name, organization, position/title:** ANNA OJRA, ANNA KSIOWSKA,  
KAMPINOS NATIONALPARK / TEAM FOR SCIENCE AND CONSERVATION MONITORING

**Presentation type:** POSTER

### Summary

KAMPINOSKI NATIONALPARK IS THE SECOND BIGGEST NATIONALPARK IN POLAND, LOCATED IN THE CAPITALCITY – WARSAW IN THE VALLEY OF VISTULA RIVER. IT WAS ESTABLISHED TO PROTECT THE LARGEST COMPLEX OF INLAND DUNES IN CENTRAL EUROPE. CHARACTERISTIC FOR THE GEOMORPHOLOGICAL FORMATION OF THE TWO LARGE DUNE AREAS AND VAST MARSHES BUT OVER 73 PERCENT OF AREA IS COVERED BY FORESTS.

VARIOUS NATURAL AND ANTHROPOGENIC FACTORS DETERMINE THAT THE AREA OF KAMPINOSKI NATIONALPARK IS A PROTECTED SITE IN WHICH THE INVASION OF ALIEN SPECIES IS ESPECIALLY INTENSIVE. THE VASCULAR FLORA OF KAMPINOSKI FOREST COUNTS APPROX 1400 SPECIES AMONG WHICH 36 ARE OF ALIEN ORIGIN, WHILE A FURTHER 40 ARE LISTED AS INVASIVE IN POLAND. DURING THE LAST DECADE THE NUMBER OF INVASIVE ALIEN SPECIES IN KAMPINOSKI FOREST DOUBLED WITH THE INCREASED AREA COVERED BY THESE SPECIES BEING EVEN LARGER.

AMONG THE 40 INVASIVE ALIEN SPECIES NOTED IN KAMPINOSKI FOREST 25 OCCUR FREQUENTLY (IN MANY LOCATIONS) WHILE EIGHT HAVE A MASSIVE OCCURRENCE. MASSIVELY OCCURRING SPECIES INCLUDE *Quercus rubra*, *Acer negundo*, *Robinia pseudoacacia*, *Solidago gigantea*, *Impatiens parviflora*, *Bidens frondosa* AND THEY ARE ALSO HIGHLY INVASIVE IN THE COUNTRY. OTHER SPECIES OCCUR HERE EITHER SPORADICALLY OR ONLY ON INDIVIDUAL LOCATIONS BUT CAN POSE A THREAT TO NATIVE SPECIES AND HABITATS. ACCORDING TO THE SECONDARY LEGISLATION OF THE MINISTER OF THE ENVIRONMENT FROM THE YEAR 2003 THE FOLLOWING SPECIES ARE LISTED AS INVASIVE: *Echinocystis lobata*, *Impatiens glandulifera*, *Reynoutria japonica*, *Reynoutria sachalinensis*.

THE ACTIVITIES PERFORMED BY KAMPINOSKI NATIONALPARK STAFF SINCE THE EARLY 2000s HAVE BEEN FOCUSED ON LIMITING THE DISTRIBUTION OF 4 SPECIES OF TREES: *Quercus robur*, *Quercus petraea*, *Quercus rubra*, *Robinia pseudoacacia*, AND ON A MUCH SMALLER SCALE THE FOLLOWING PERENNIALS: *Solidago ssp.* AND *Reynoutria japonica*.

THE RESOURCES ON ELIMINATING ALIEN SPECIES WERE PROVIDED FROM NATIONAL FUNDS DEDICATED TO NATURE PROTECTION PURPOSES. AN EVALUATION OF THE EFFECTIVENESS OF THE PERFORMED ACTIVITIES SHOWED A HIGH EFFICIENCY OF PLANTING NATIVE SPECIES, PULLING AND GRUBBING OF ALIEN PLANTS. IN CASE OF *Quercus rubra* ALSO CUTTING AT A HEIGHT OF 0,5-1M.

**Keywords:** alien species, Kampinoski National Park, protected areas, methods of eradication,

**Title:** AILANTHUS (*Ailanthus altissima*) MANAGEMENT PLAN IN COLLSEROLA NATURAL PARK: PREVENTION, DETECTION AND CONTROL

**Authors and presenter name, organization, position/title:** JOAN VILAMÚVIÑAS, COLLSEROLA NATURAL PARK CONSORTIUM / ENVIRONMENTAL TECHNICIAN

**Presentation type:** POSTER

### **Summary**

#### **PREVENTION: DISCLOSURE/COMMUNICATION**

ON 21 JUNE 2011, THE COLLSEROLA NATURAL PARK CONSORTIUM HELD A WORKSHOP TO HAND INFORMATION ON PROBLEMS WITH EXOTIC PLANTS AND, THUS LAY THE FOUNDATION FOR REDUCING THEIR ENVIRONMENTAL IMPACT. FROM THIS, A WORKING COMMITTEE WAS SET UP TO PREPARE A LIST OF INVASIVE SPECIES IN THE PARK, AS WELL AS RESEARCH ON SIMILAR NON-INVASIVE PLANTS FOR GARDENING. THEN, THIS COMMITTEE MADE A PROPOSAL ON HOW TO DEAL WITH INVASIVE SPECIES. THE CONSORTIUM'S TECHNICAL DEPARTMENT HAS REPORTED THE DAMAGE CAUSED BY INVASIVE SPECIES THROUGH ARTICLES, POSTCARDS AND ITEMS ON ITS WEB PAGE AND NEWSLETTERS. THE ISSUE HAS ALSO BEEN EXPLAINED IN MEDIA INTERVIEWS.

#### **DETECTION: PARTICIPATION.**

IN 2007 FILE CARDS WERE MADE FOR EVERY POPULATION STAND OF AILANTHUS SO AS TO OBTAIN A MORE COMPREHENSIVE MAP OF ITS DISTRIBUTION IN THE PARK. THIS WORK IS BEING DONE BY A GROUP OF VOLUNTEERS SO THAT 138 AILANTHUS CLUSTERS HAVE ALREADY BEEN INVENTORIED. IN 2014 A NEW LINE OF COLLABORATION WITH NEIGHBORHOOD ASSOCIATIONS ALLOWED US TO IDENTIFY AILANTHUS IN PRIVATE PLOTS WITHIN COLLSEROLA. THE COLLSEROLA NATURAL PARK CONSORTIUM IS IN CHARGE OF APPLYING HERBICIDE WHILE THE OWNERS OF THE PLOTS ARE EXPECTED TO REMOVE THE DEAD TREES.

#### **CONTROL: ACTION**

COLLSEROLA NATURAL PARK TECHNICIANS HAVE CARRIED OUT DIFFERENT CONTROL MEASURES FOR EXOTIC INVASIVE SPECIES, INCLUDING ALL TREATMENTS AVAILABLE, EITHER MANUAL, MECHANICAL OR CHEMICAL. THE FIRST TEST FOR AILANTHUS ELIMINATION WAS CONDUCTED IN THE PARK IN 2004. THE TREATMENT WITH HERBICIDE INJECTION BEGAN IN 2004 AND IT CONSISTED OF TRYING OUT DIFFERENT METHODS OF APPLYING HERBICIDE ON THE TREE'S TRUNK AND INJECTING DIFFERENT PRODUCTS. WE FOUND ONE HERBICIDE OR MORE DILUTED IN WATER OR DIESEL. FINALLY, A MIXTURE OF HERBICIDES WAS FOUND WHICH GIVES GOOD RESULTS SO THAT IT HAS BEEN USED THROUGHOUT THE SURFACE SINCE BETWEEN 2004 AND 2015, 50,962 TREES WERE REMOVED BY THIS METHOD. PRIORITY HAS BEEN GIVEN TO CLUSTERS IN THE DEEPEST AREAS OF THE PARK IN ORDER TO PREVENT THEM FROM BECOMING THE OUTBREAKS OF NEW SETTLEMENTS AND ATTAINING THE EXTENT OF THE CURRENTLY EXISTING ON THE PARK'S PERIPHERY. IN RECENT YEARS EFFORTS HAVE BEEN MADE TO REMOVE FEMALE TREES IN ORDER TO AVOID SEED DISPERSAL AS MUCH AS POSSIBLE, THUS LIMITING THE INVASIVE ABILITY.

**Keywords:** *Ailanthus altissima*, MANAGEMENT, PREVENTION, ALTERNATIVE SPECIES, MEDIA, DETECTION, VOLUNTEERS, NEIGHBORHOOD ASSOCIATIONS, CONTROL, HERBICIDE INJECTION

**Title:** Chances of the Combat – Forest Stand Transformation on the Szabadság Island, Mohács, Hungary

**Authors and presenter name, organization, position/title:** András Márkus, Duna-Dráva National Park Directorate / botanical referee, ,

**Presentation type:** poster

### **Summary**

In the scope of the LIFE07 NAT/H/000320 „Conservation of alluvial habitats of community interest on the Szabadság Island and side channel in Béda-Karapanca pSCI” the WWF and the DDNPD carried out the transformation of earlier private owned non-natural noble poplar forest stands and degraded stands of alluvial forests invaded by box elder (*Acer negundo*) and green ash (*Fraxinus pennsylvanica*).

In the noble poplar stands clear cutting was performed and after that the plots were planted with the species of the natural alluvial forests (white poplar, black poplar, Hungarian ash). At the basically native forest stands the invasive species were eliminated and some native species were planted additionally.

In the 3 years of the LIFE programme intensive monitoring were carried out at 9 plots with 2 and 3 sampling in a year. In the AfterLIFE period in the next 2 years yearly one sampling was did.

In these years the newly planted forest stands show relatively large growth and the stands started to close but the invasive species were also abundant as well as at the thinned semi-natural alluvial forests.

In the management of the area the young shoots of box elder and green ash were eliminated every year minimum 2 times. Unfortunately not only offsets emerged but from the near stands of the invasive species the seeds spreads easily moreover in the soil of the island the propagulum also available.

The sampling show that the abundancy of the invasive arboraceous species only depends on a simple factor: how long is the period without cutting of the young shoots. The renewal of these species is so strong in the area – from seeds and offsetting – it is hardly imaginable the forest stand transformations can be really finished. As it seems through five years without continuous elimination of the invasive species the forest stands of native species probably turns into invasive dominated stands again.

**Keywords:** *Acer negundo*, *Fraxinus pennsylvanica*, invasion, floodland, island, forest stand transformation, renewal

**Title:** INVASIVE SPECIES FROM NATURA 2000 SITE ROSCIOIOM, ROMANIA

**Authors and presenter name, organization, position/title:** LIVIU HOLONEC, ORSOLYA BORSAL, FLORIN REBREANU, ADRIAN FÜSTÖS, LUDOVIC OTTO VARGA, ILEANA GLODEAN, UNIVERSITY OF AGRICULTURAL SCIENCES AND VETERINARY MEDICINE, CLUJ-NAPOCA / CORRESPONDING AUTHOR. MONICA MARIAN, OANA MȘCĂ, RUCIA MIHĂLESCU, ZORICA VȘCAN, TECHNICAL UNIVERSITY OF CLUJ-NAPOCA, NORTH UNIVERSITY CENTER OF BAI A MARE, BIOLOGY DEPARTMENT.

**Presentation type:** POSTER

### Summary

**Introduction:** ONE OF THE SUBSTANTIAL THREATS TO THE ENTIRETY OF THE NATURA 2000 SITE ROSCIOIOM IS ITS BIODIVERSITY STRUCTURE IS THE OCCURENCE OF THE NON-INDIGENOUS SPECIES, WITH A HIGH IN WHICH HAD BEEN INTENTIONALLY PLANTED OR BEING SPREAD THROUGH DIFFERENT PLANT MIGRATION ORIGINAL CHARACTER AND THE PATRIMONIAL VALUE OF THE NATURA 2000 SITE IS GIVEN BY THE FLOR THE MEADOWS, FORESTS, WETLANDS AND ROCK GARDENS. THESE AREAS ARE BUILT UP OF SETTLED PLANT INTEGRATED IN THE CENOTYX AND STAGNANT ENVIRONMENT. THE GROWTH OF THE NON-INDIGENOUS DUE TO HUMAN ACTIVITIES OR SPREAD BY NATURE, CAN LEAD TO THE DECREASE OF THE NATIVE POPULATION BY ITS SUBSTITUTION AND PAUPERIZATION OF THE HABITATS.

**Aims and objectives:** THE MAIN OBJECTIVES OF THE STUDY WERE TO IDENTIFY INVASIVE SPECIES FROM NATURA 2000 SITE ROSCIOIOM TO ESTIMATE THE POTENTIAL IMPACT OF THESE SPECIES ON THE BIODIVERSITY AND TO MANAGE MEASURES ON BIODIVERSITY IN ORDER TO PROTECT THE HABITATS.

**Materials and methods:** THE RESEARCH WAS CARRIED OUT IN THE ROSCIOIOM NATURA 2000 SITE SITUATED IN THE NORTH-WESTERN PART OF ROMANIA. THE STUDIED AREA HAD 19602 HECTARES IN PLANT COMMUNITY ANALYSIS WERE REALIZED APPLYING THE BRAUN-BLANQUET J., PAVILLARD J. METHODS AND ECOLOGICAL INDICATORS. INVESTIGATIONS WERE STARTED ACCORDING TO THE BIOLOGICAL CYCLE TO OBTAIN GOOD RESULTS. THIS PHYTOSOCIOLOGICAL RESEARCH WAS DONE IN THE YEAR OF 2014-2015

**Results:** BASED ON THE RESEARCH MADE IN THE ROSCIOIOM NATURA 2000 SITE SITUATED IN THE NORTH-WESTERN PART OF ROMANIA THE FOLLOWING INVASIVE SPECIES WERE IDENTIFIED HAVING A HIGH ORIGINAL HABITATS FROM THE AREA: *Urtica dioica*, *Fallopia japonica*, *Salix matsudana*, *Acer negundo*, *Helianthus tuberosus*, *Impatiens parviflora*, etc.. AS LONG AS SOME OF THESE SPECIES WERE FOUND IN THE VICINITY OF THE PROTECTED AREA, OTHERS WERE ALREADY SETTLED IN THE ORIGINAL HABITAT FROM BUSHES FROM THE WATERSIDES. ALL THESE SPECIES SPREAD IN THIS AREA ENDANGER THE NATURAL CONSERVATION PURPOSES.

**Conclusions:** IN ORDER TO REDUCE THE RISK OF THE INVASION OF THE NATURAL HABITATS, MORE ATTENTION TO BE PAID FOR INFRASTRUCTURE, ANTHROPOLOGICAL AREAS AND CANALS. BEATEN TRACKS AND ROADWAYS GENERATE SIGNIFICANT CHANGES IN THE HABITATS FAVORIZING WEED GROWTH. THE PROPOSED MONITORING AS FOLLOWS: SHRUBBERIES AND GROUNDS. BESIDES INCLUDING NOT ONLY THE RESTRICTION OF TRAFFIC ON THE AGRICULTURAL ROADS FROM THE SITE BUT ALSO THE IDENTIFICATION AND ELIMINATION OF INVASIVE SPECIES WITH A HIGH DESTROYING POTENTIAL ON THE NATURAL HABITATS.

**Keywords:** *Helianthus tuberosus*, *Fallopia japonica*, PHYTOSOCIOLOGICAL SURVEY, *Urtica dioica*

**Title:** PRUNUS SEROTINA, ALIANTHUS ALTISSIMA. PHYTOCLACCA AMERICANA: THE MAIN INVASIVE SPECIES IN THE WILDLIFE RESERVE "BOSCOWWF DI VANZAGO" ITALY

**Authors and presenter name, organization, position/title:** ANDREA MARIA LONGO 'BOSCO WWF DI VANZAGO' ITALY/ DIRECTOR OF THE WILDLIFE RESERVE

**Presentation type:** POSTER

### **Summary**

THE WILDLIFE RESERVE "BOSCOWWF VANZAGO" IS A RELIC FOREST OF WHAT ONCE WAS THE LOMBARD FOREST, HEAVILY POPULATED TODAY. THE "BOSCOWWF VANZAGO" IS ABOUT 20 KM FROM MILAN.

THE WOODED AREA IS ALTERNATE WITH FARMLAND, LAKES AND WETLANDS.

"BOSCOWWF VANZAGO" IS RECOGNIZED AS A NATURE RESERVE FROM REGIONE LOMBARDIA AND HAS BEEN IDENTIFIED AS SCI AND ZPS FROM THE HABITAT DIRECTIVE.

IN SEVERAL FORESTS OF THE POPLAIN THERE IS A MASSIVE SPREAD OF PRUNUS SEROTINA. IN 1992, PRESUMABLY IN SOME PRIVATE LANDS IN CRENNA DI GALLARATE (VARESE), THE SPECIES GREATLY EXPANDED ITS DISTRIBUTION AREA.

ITS ORIGIN IS FROM NORTH AMERICAN, IT IS A TREE THAT REACHES 18-25 METERS AND ITS FRUIT IS HARVESTED AFTER THE MIDDLE OF AUGUST.

THE SPECIES HAS EXPANDED RAPIDLY ESPECIALLY IN COPSES FOREST FORMING POPULATIONS OF HIGH DENSITY AND STRUCTURE AND GREATLY DEPLETING THE SPECIFIC COMPOSITION. IT HAS INHIBITORY CAPACITY AND PRODUCES SUBSTANCES ALLOPATHIC PRODUCTION.

IN ADDITION TO THE PRUNUS SEROTINA, OTHER NON-NATIVE SPECIES ARE ALSO PRESENT: ALIANTHUS ALTISSIMA E PHYTOCLACCA AMERICANA.

IT IS EXTREMELY PROBLEMATIC TO CONTROL THE WEED CONSIDERING ALSO THE HIGH COST FOR THE CUTTING AND CONTINUOUS CUTTING IN ALL THE AREAS CONCERNED AND THE NON-USE OF CHEMICALS.

**Title:** ALIEN PLANT SPECIES IN TRIGLAV NATIONAL PARK: SPECIES COMPOSITION, HABITAT CHARACTERISTICS AND MANAGEMENT.

**Authors and presenter name, organization, position/title:** TINA PETRAS SACKL, TANJA MENEGALIJA, TRIGLAV NATIONAL PARK

**Presentation type:** POSTER

### Summary

AN OVERVIEW ON THE INVENTORY OF ALIEN PLANT SPECIES IN TRIGLAV NATIONAL PARK TAKEN IN 2014, IS GIVEN. ADDITIONALLY, THE LIFE STRATEGIES THAT ARE RESPONSIBLE FOR A SUCCESSFUL ECOLOGICAL AND HABITAT CHARACTERISTICS OF ALIEN SPECIES, AND EXAMPLES FOR THE MOST INVASIVE ALIEN SPECIES IN NATIONAL PARK ARE DESCRIBED.

WITH *Erigeron annuus*, *Fallopia japonica*, *Solidago gigantea*, AND *Robinia pseudacacia* AS THE MOST PREVAILING SPECIES, THE ALIEN FLORA OF TNP CURRENTLY CONSISTS OF 19 SPECIES. IN EUROPEAN COUNTRIES WHERE THE FAMILIES *Urticaceae*, *Poaceae* AND *Rosaceae* CONTAIN MOST ALIEN SPECIES (WEBER 1997), MOST INVASIVE PLANTS IN TNP BELONG TO THESE FAMILIES WHILE OTHER FAMILIES CONTAIN ONLY ONE OR TWO ALIEN SPECIES. CURRENTLY NO ALIEN SPECIES IS KNOWN IN NATIONAL PARK WHICH IS TYPICAL ONLY FOR THE MOUNTAIN CLIMATE RANGE WHICH IS IN AGREEMENT WITH THE THEORY THAT MOST ALIEN PLANTS ARE CLIMATICALLY BROAD LOWLAND SPECIES RATHER THAN MOUNTAIN SPECIES (MCDUGALL ET AL., 2010). ACCORDING TO THE MOUNTAINOUS CHARACTER OF THE SAMPLING AREA, ALIEN PLANTS WERE FOUND MOST FREQUENTLY IN THE MOUNTAIN ALTITUDINAL BELT. THE HIGHEST NUMBER OF ALIEN PLANTS ARE SITUATED NEAR THE POKLJUKA PLATEAU (NEAR GORJELJEK AND GORJELJEK MOUNTAIN ALTITUDINAL BELT: *Fallopia japonica* (1343 M) AND *Solidago nemoralis* (1678 M)).

WITH THE EXCEPTION OF *Acer negundo* WHICH IS CURRENTLY RESTRICTED TO A FEW LOCATIONS, MOST ALIEN WOODY PLANTS SHOW A DISTINCTIVE GEOGRAPHICAL DISTRIBUTION IN THE PARK: *Robinia pseudacacia* PREVAILS IN TRIGLAV NP, *Robinia pseudacacia* IS MOST ABUNDANT IN BOVEC AND TOLMINSKO MESTO, WHILE *Fallopia japonica* WAS FOUND MOST FREQUENTLY IN THE GORJENSKA REGION OF THE PARK: IN POKLJUKA, BOVINJ AND POKLJUKA. ALL LATTER SPECIES, WHICH ARE CHARACTERIZED BY THE LIFE STRATEGIES, WERE FOUND IN DISTURBED HABITATS.

MOST INVASIVE PLANT SPECIES IN TNP ARE PERENNIALS OR HERBS WHICH FLOWER MOSTLY IN THE LATE SUMMER. THE FLOWERING PERIOD FROM MID- TILL LATE SUMMER IN ONLY A FEW SPECIES WHICH WERE INTRODUCED TO TRIGLAV NP, THE FLOWERING PERIOD IS LIMITED TO LATE SPRING AND EARLY SUMMER (*Robinia pseudacacia*, *Spiraea japonica*, *Acer negundo*). SOME SPECIES WHICH HAVE ALREADY ESTABLISHED NATURALIZED POPULATIONS IN TNP LIKE *Geolobus segetalis*, *Bidens frondosa*, *Erigeron annuus*, AND *Impatiens parviflora*, ARE CHARACTERIZED BY THE MOST EXTENDED FLOWERING PERIODS, WHILE MOST INVASIVE SPECIES IN THE PARK FLOWERING IS RESTRICTED TO COMPARATIVELY SHORT PERIODS OF SEVERAL MONTHS. FOLLOWING TO THEIR CURRENT DISTRIBUTION AND HABITAT CHARACTERISTICS THE MAIN REASONS FOR THE INVASION AND SPREAD OF ALIEN SPECIES IN TNP ARE THE TRANSPORTATION OF SEEDS ON MATERIALS, ESCAPES FROM GARDENS, AND SPONTANEOUS INVASION FROM ADJACENT AREAS. THE MOST ALIEN PLANTS RECORDED IN TNP ORIGINATES FROM NORTH AMERICA, WITH A SMALLER NUMBER OF SPECIES IN ASIA AND IN THE MEDITERRANEAN BASIN.

BESIDES PARAMETERS OF LIFE STRATEGIES WE USED ELLENBERG VALUES TO ESTIMATE THE HABITAT REQUIREMENTS OF ALIEN SPECIES IN TNP AND FOR ANALYSING CURRENT TRENDS AND ENVIRONMENTAL VARIABLES UNDERLIE VEGETATION CHANGE. MOST ALIENS ARE SUB-OCEANIC SPECIES WHICH PREFER SITUATIONS WITH A HIGH AMOUNT OF SOIL MOISTURE. ACCORDING TO ELLENBERG *Impatiens parviflora* IS THE ONLY SPECIES WITH A



PREFERENCE FOR SHADY CONDITIONS. WE HAVE FOUND ONLY THREE HALF-SHADY SPECIES (*pseudacacia*, *Acer negundo*, *Impatiens glandulifera*), WHILE HALF-HELIOPHYTE AND HELIOPHYTE SPECIES PREVAIL. MOST SPECIES ARE THERMOPHILOUS AND PREFER MODERATE WARM TO WARM AND WERE FOUND ON WEAKLY ACIDOPHILOUS TO WEAKLY BASIC SOILS. ACCORDING TO THE CONTENTS OF NEOPHYTES WITH SOILS OF HIGH NITROGEN CONTENTS, INVASIVE PLANTS ARE GOOD INDICATORS OF SUCH SOILS.

SO FAR THE FOLLOWING ACTIONS WERE TAKEN FOR MANAGING INVASIVE SPECIES IN TNP: *Fallopia japonica* AND *Ambrosia artemisiifolia* IN MANGARTSKO SEDLO AND TRENTA VALLE RESPECTIVELY. AN "ACTION PLAN FOR ALIEN SPECIES" WHICH INCLUDES MEASURES FOR THE MONITORING, CONTROL AND REMOVAL OF INVASIVE SPECIES, WILL BE COMPILED DURING THE NEXT 3-YEAR PERIOD AS PART OF THE MANAGEMENT PLAN OF TRIGLAV NATIONAL PARK. IN GENERAL, PROHIBITING THE CULTIVATION OF NON-NATIVE SPECIES IN THE PARK, PHYSICAL REMOVAL OF ALIEN PLANTS FROM CURRENTLY KNOWN AND POTENTIAL INITIAL SUCCESSIONAL STAGES, AND A CONTINUOUS MONITORING OF ALIEN PLANTS AND OF POTENTIAL SITES AS WELL AS SITES FROM WHICH THE SPECIES HAS BEEN REMOVED ARE THE MOST IMPORTANT MEASURES TO PREVENT THE FURTHER EXPANSION OF NON-INDIGENOUS SPECIES. FURTHERMORE, KNOWLEDGE OF THE OCCURRENCE OF ALIEN PLANTS IN LATER SUCCESSIONAL STAGES AND THE DEVELOPMENT OF POTENTIAL COMMUNITIES IN WHICH ALIENS ARE PRESENT WILL BE NECESSARY FOR THE CONSERVATION OF NATIVE ALIEN SPECIES AND ECOSYSTEMS. FURTHER MONITORING AND RESEARCH IS NEEDED IN TRIGLAV NATIONAL PARK TO FIND OUT WHICH PROCESSES FAVOUR THE INVASION OF NON-INDIGENOUS PLANTS, WHICH NON-NATIVE SPECIES (LIFE STRATEGIES), WHICH ENVIRONMENTAL CONDITIONS AND WHICH SOIL TYPES (SPECIES COMPOSITION!) ARE RESPONSIBLE, MOST VULNERABLE OR MAY ENHANCE THE INVASION OF NON-NATIVE SPECIES IN MOUNTAIN AREAS.

**Keywords:** ALIEN PLANT SPECIES, JULIAN ALPS, TRIGLAV NATIONAL PARK, ECOLOGY, MANAGEMENT

**Title:** INVASIVE ALIEN SPECIES IN THE CZECH REPUBLIC

**Authors' name, organization, position/title:** J. PĚKNICOVÁ ŠÍMÁ

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**Presentation type:** POSTER

**Keywords:** BIOLOGICAL INVASIONS, BIODIVERSITY, LEGAL ACTS, BLACK LIST

THE CZECH REPUBLIC BELONGS WITHIN EUROPE AMONG TERRITORIES WITH RELATIVELY HIGH BIODIVERSITY OF PLANT AND ANIMAL SPECIES AND NATURAL HABITATS, WHICH FORM A FUNDAMENTAL PART OF ECOSYSTEMS. ALIEN SPECIES (AND MAINLY INVASIVE ALIEN SPECIES) POSE SIGNIFICANT THREAT TO THE BALANCE; BIOLOGICAL INVASIONS HAVE BEEN IDENTIFIED AS THE SECOND MOST IMPORTANT CAUSE OF GLOBAL BIODIVERSITY LOSS. IN THE CZECH REPUBLIC WAS RECORDED 1454 ALIEN TAXA IN FLORA, CONSISTING OF 61 INVASIVE PLANTS. THE STRONG TRADITION OF RESEARCH ON BIOLOGY OF INTRODUCED SPECIES RESULTS IN A GOOD KNOWLEDGE OF ALIEN SPECIES AND INVASIONS. WAS PUBLISHED "BLACK, GREY AND WATCH LISTS OF ALIEN SPECIES IN THE CZECH REPUBLIC AND ENVIRONMENTAL IMPACTS AND MANAGEMENT STRATEGY").

RESEARCH IS COOPERATIVE NATIONAL PROGRAM ORIENTED ON INVASIVE SPECIES. RESEARCH IN THIS FIELD IS ONE OF THE GOALS OF NATIONAL PROGRAM ORIENTED RESEARCH, EXPERIMENTAL DEVELOPMENT AND INNOVATIONS (LONG-TERM GOALS OF THE INSTITUTE OF ENVIRONMENTAL BIOLOGY AND ANIMAL ECOLOGY "Evaluation of the impact of the plant and animal invasions and development of the instruments for their limitation") WITH SUPPORT BY THE TECHNOLOGY AGENCY OF THE CZECH REPUBLIC (E.G. VZ000865 - *Design of invasive species mapping and monitoring*). CZECH RESEARCH INSTITUTIONS COOPERATES ON MANY INTERNATIONAL PROJECTS FUNDING FROM EU (E.G. DAISIE DIVERSITY AND INTEGRATED PROJECT ALARM).

THE CZECH REPUBLIC DOES NOT HAVE ANY SPECIAL LEGISLATION ON INVASIVE ALIEN SPECIES. THERE IS ONLY REGULATION OF THE INTENTIONAL INTRODUCTION OF ALIEN SPECIES AND REQUIREMENTS OF HABITATS AND BIRDS DIRECTIVE, BUT THE MINISTRY OF THE ENVIRONMENT HAS ADOPTED THE REGULATION (EU) NO 1143/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 22 OCTOBER 2014 ON THE PREVENTION AND MANAGEMENT OF THE INTRODUCTION AND SPREAD OF INVASIVE ALIEN SPECIES AND PREPARED AN AMENDMENT OF THE ACT NO. 114/1992 COLL., ON THE NATURE AND LANDSCAPE PROTECTION. THE CZECH REPUBLIC AIMS TO PRESERVE THE POPULATIONS OF WILD FAUNA AND FLORA THROUGHOUT THE ENTIRE COUNTRY AND MAKE AN EFFORT TO REDUCE THE NEGATIVE IMPACT OF IAS ON BIODIVERSITY. PRINCIPLES ARE JOINTLY INCLUDED IN THE STATE NATURE CONSERVATION AND LANDSCAPE PROTECTION PROGRAMME (1998-2021) AND UPDATES OF THE NATIONAL BIODIVERSITY STRATEGY OF THE CZECH REPUBLIC (2015-2025). THE STATE ENVIRONMENTAL POLICY OF THE CZECH REPUBLIC IS BASED ON THE FRAMEWORK FOR AN EFFECTIVE PROTECTION OF ENVIRONMENT IN THE CZECH REPUBLIC. IT IS THEREFORE IMPORTANT TO LIMIT THE SPREAD IN ECOSYSTEMS THREATENED BY IAS. FUNDING FOR ERADICATION IS PROVIDED BY NATIONAL (FUNDING SCHEMES OF MINISTRY OF THE ENVIRONMENT AND STRUCTURAL FUNDS – AS ONE OF THE SUPPORTED ACTIONS WITHIN THE OPERATIONAL PROGRAM ENVIRONMENT 2014-20). RECENTLY, IN THE MORAVIAN-SILESIAN REGION WAS IMPLEMENTED THE NATURE PROGRAM "PRESERVATION OF ALLUVIAL FOREST HABITATS IN THE MORÁVKA AND KARLOVY VARY REGION WAS IN PREVIOUS PERIOD FINANCED FROM OPERATIONAL PROGRAM ENVIRONMENT (STRUCTURE FUNDS) ONE OF THE LARGEST PROJECT IN THE CZECH REPUBLIC "HERACLEUM" FOCUSED ON ERADICATION. LOT OF OTHER ACTIVITIES ON SMALLER SCALE ARE SUPPORTED BY NGO'S AND REGIONAL AUTHORITIES AS WELL AS ADMINISTRATIONS OF THE PROTECTED AREAS (REGULATION OF IMPATIENS G. IN NP PODYJÍ OR LONG TERM ERADICATION PROJECT ON ČESKÉ ŠVÝCARSKO).

**Title:** Recent activities on invasive alien species in Bulgaria with special emphasis on plants

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**Presentation type:** Poster

**Key words:** alien plants, Bulgaria, ESENIAS, networks for alien species

Targeted studies on alien species in Bulgaria started about 10 years ago. Activities have focused on inventory of alien species in Bulgaria, study of their distribution and time of first introduction and/or recording in the country. Currently, work on alien species includes developing of methodologies for monitoring of alien taxa, risk assessment protocols, gathering of data about the distribution and impact of aliens on native biodiversity, analysis of the major pathways for introduction and spread, and creation of tools for early detection and warning. A special network – East and South European Network for Invasive Alien Species (ESENIAS) has been established and web-portal ([www.esenias.org](http://www.esenias.org)) developed to collect and share information about alien taxa in Bulgaria and South-East Europe. Two projects have been funded recently: 1) *Improving the Bulgarian Biodiversity Information System (IBBIS)* with a special work-package on aliens – ‘*Module for collecting, mapping and analysis of the impact of invasive species on the native Bulgarian species*’, and 2) *East and South European Network for Invasive Alien Species – A tool to support the management of alien species in Bulgaria (ESENIAS-TOOLS)*. The poster presents the goals, current activities and achieved results within these projects with special emphasis on vascular plants.

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## Field trip, 21 April 2016, Szigetmonostor, Hungary

### Szentendre Island

Szentendre island is a new-born geological formation which had started to be built up only 9-10 thousand years ago (Holocene) from the alluvium of the Danube. At the beginning there had been four separate islands which later merged together. It wasn't only the river but also the wind shaped the landscape to its present hilly appearance. It is 31 km long and approximately 2,3 km wide. There are four inhabited villages indicating the four ancient island-parts. Arable fields, orchards and vineyards can be found throughout the whole area. The drilled wells which give the main supply for the capital, provide 600 000 cubic meters of clear water every day.

#### Flora:

The natural vegetation of Szentendre-island consists of mainly xerophilous plant communities preferring dune habitat. Along the riverbank the typical alluvial forest consists of willow and poplar communities (*Salicetum albae-fragilis*) with fragmented patches of marshes and meadows.

#### Conservation

On Szentendre-island two separate Natura 2000 areas were designated with different characteristics: Danube and its floodplain (HUDI20034) and Island sands (HUDI20047). In addition there are also several protected areas which belong to the Danube-Ipoly National Park Directorate's.

#### Szigetmonostor project site

The site is situated in the south part of the island. The soil which is mainly fine sand originated from the Danube, wasn't suitable for ploughing, possibly was rather grazed for decades. From the beginning of the 90s it was used as a military training field by the army. Some of the artificial ditches and hide-outs are still conspicuous.

#### Vegetation of the area

Herbaceous vegetation is dominated with sandy grassland habitats (*Bassio-laniflorae-Bromion tectorum*) and sandy steppe habitats (*Astragalo austriaci-Festucetum sulcatae*). These two often form transitions but the southern part of the site is rather steppe-like. Protected plant species occurring in large numbers: *Alkanna tinctoria*, *Corispermum nitidum*, *Gypsophila fastigiata*, *Dianthus serotinus*, *Stipa borysthena*, *Iris arenaria*, *Achillea ochroleuca*, *Onosma arenaria*, *Sternbergia colchiciflora* or *Colchicum arenarium*. On the steppe-like south part *Pulsatilla nigricans*, *Anacamptis morio* and *Astragalus exscapus* are present.

Woody vegetation is mainly dominated by black locust (*Robinia pseudoacacia*), tree of heaven and hackberry. The original communities as *Convallario-Quercetum* and *Populo-canescens-Quercetum* disappeared. Only few patches of *Q. robur* and *Q. cerris* remind us how it might have looked like before.

Invasives are not only endangering woodlands but also spreading on the grassland along with indigenous shrubs as *Prunus spinosa* and *Crataegus* spp.

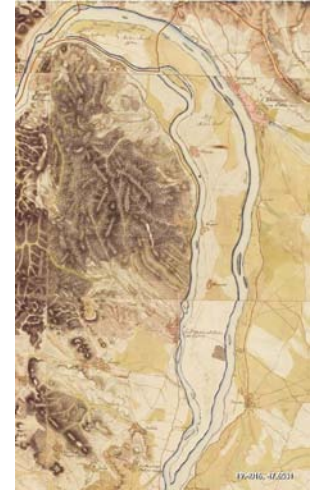
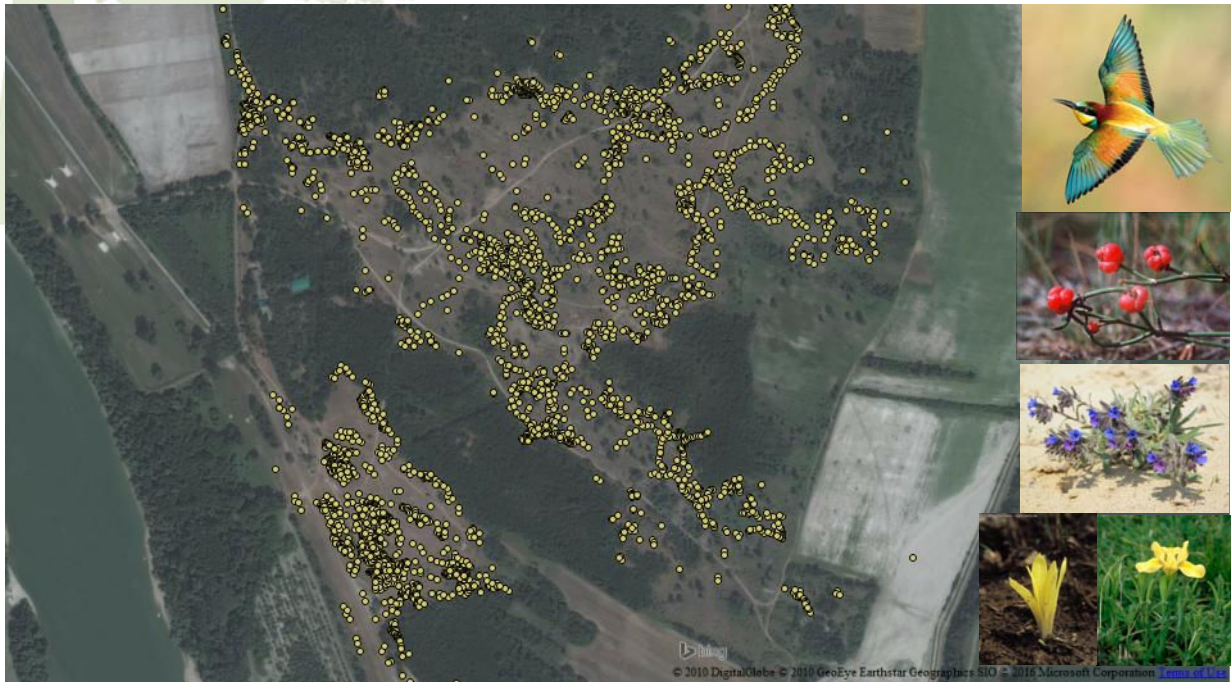




Fig 1. Szigetmonostor project site



Fig 2. Protected species recorded on the area



The workshop is organised in the frame of the LIFE+ Nature project "Conservation of Priority Natural Values in Turjánvidék Natura 2000 Area Southern Unit", with the financial support of the European Commission and the Ministry of Agriculture of Hungary. Project partners are the Duna-Ípoly National Park Directorate, Defence Economic Office of the Ministry of Defence of Hungary, Budapest Forestry Company and WWF Hungary. The workshop is also part of the Pannonian biogeographic seminar process as a follow-up event, and it is supported by the European Commission, ECNC and CEEWeb for Biodiversity.