



European Network for the durable exploitation of crop protection strategies

IA3 Activity: Human resource exchange

ENDURE - Internal Mobility

Final activity report

(The form has to be filled in and sent to the activity leader – message should go to his p.a. elisa.scanzi@ibaf.cnr.it – within 15 days after the end of the visit)

Topic of the visit

1. Information about researcher and sending partner

Name and surname:

Gabor Lövei

Professional status: *(PhD student, post-doc, junior or senior scientist)*

senior scientist

Sending partner:

University of Aarhus

Institute/Department/Research Unit:

Department of Integrated Pest Management

Address: *(street, postal code, city)*

Forsøgsvej 1, DK-4200 Slagelse, Denmark

E-mail and phone number of the researcher:

gabor.lovei@agrsci.dk, +45-89993636

Supervisor name*:

Supervisor e-mail*:

Supervisor phone number*:

*Supervisor information only for PhD student, post-doc and junior researchers

2. Information about hosting partner

Hosting partner:

Szent Istvan University, Hungary

Institute/Department/Research Unit:

Inst. Plant Protection

Address: *(street, postal code, city)*

H-2100 Godollo, Pater K. u. 1.

Supervisor name*:

Prof. Jozsef Kiss, Dr. Agnes Szenasi

Supervisor e-mail*:

Jozsef.Kiss@mkk.szie.hu, Szenasi.Agnes@mkk.szie.hu

Supervisor phone number*:

+36 (-28) -410200 /1772

* For senior scientist indicate the name of the collaborating colleague

3. Information about the visit

Duration: *(number of weeks or months)*

6 weeks

Starting date:

15 February 2009

Ending date:

30 March 2009

4. Description of the activities and outcomes

Background and context: *maximum 10 lines*

Recognising important trophic links and structure in agroecosystems is important when assessing the environmental impact of novel agricultural technologies. An analysis of known trophic links can aid to evaluate the potential of mathematical tools to point out important interactions in little known ecosystems.

Objective: *maximum 10 lines*

Evaluation of the arthropod community on transgenic maize using network analysis methods, with special reference to arthropods in food webs connected to genetically modified crop plants.

Activities carried out: *maximum 20 lines*

Extensive (3-year) field census data collected in an earlier GM monitoring project in Hungary, by personnel at the Dept, as well as collaborating partners in Hungary were collected, controlled, and prepared for analysis by network analysis tools. Several points were clarified about data structure, metadata structure, species identities, and databases on several herbivore groups (aphids, leafhoppers) and predators (carabids, spiders) were controlled and edited. This work is not yet completed (spiders, and other important groups await taxonomic confirmation in places). These activities were organised after discussions were held with Dr. F. Jordan (formerly at Nat. History Mus., Budapest, now at Univ. Trento, Italy) who will also collaborate in the evaluation. A partial database was constructed and is under pre-analysis.

5. Links between visit activity and ENDURE

Describe links and relevance of your visit in relation to a specific ENDURE activity(ies) and sub-activity(ies) – maximum 15 lines

This collaboration links several ENDURE areas: RA2.3 (exploitation of landscape and community ecology), RA3.3. (Environmental risk and benefit analysis), and RA4.4., (Invasive and emerging pests). Network analysis is a potential tool to recognise importance of given species in trophic webs. This, however, has not yet been used in identifying important pests in crop protection situations nor for GMO risk analysis. An existing arthropod survey collected on maize in an SZIE project is used to a) identify the key species/groups (from an ecological perspective) in the maize arthropod food web with special reference to b) non-native arthropods.

Once the usefulness of this tool is tested, an international research application will be developed with other ENDURE partners to more widely explore this tool for crop protection and risk assessment purposes.

6. Impact

Added value for the researcher: *maximum 10 lines*

New collaborating possibilities emerged with this ENDURE partner, as well as with the University of Trento, Microsoft Centre for Research on Complexity. Having access to a large dataset held by SZIE allows me to evaluate an idea that otherwise would remain untestable.

Added value for sending partner and hosting partner: *maximum 10 lines*

The sending institution strengthened its reputation in Hungary via close interaction with the hosting institution researchers, as well as others, with whom I had an opportunity to discuss my plans and achievements (National Museum of Natural History, Budapest, University of Szeged, University of Debrecen, Plant Protection Institute). New collaboration possibilities emerged with several of these institutions.

I gave a seminar at the hosting partner that attracted large interest, promoting the recognition of the hosting institution as an important research location in Hungary. A multiple use of an existing database will enrich the results emerging from this research, bringing additional benefits to the hosting institution. Joint publication and conference presentations will result in mutual benefits.

Date of submission

03 April 2009



Dr. Maurizio Sattin
IA3 activity leader

Approved

