

**ESF Research Networking Programme 'Research and Monitoring for and with
Raptors in Europe (EURAPMON)**

SCIENTIFIC REPORT OF THE EURAPMON'S SHORT VISIT GRANT

- **Short Visit Grant Reference:** 5249
- **Title of the proposed research project:** Best practice on contaminant monitoring with raptors.
- **Duration of visit:** 13 days (from 19th November to 1st December 2012)*
- **Applicant's Name and Address:** Prof. Antonio Juan García-Fernández. Toxicology Area, Dpt. of Socio-Sanitary Sciences, University of Murcia, Murcia, Spain. Email: ajgf@um.es. Tel. +34 868 88 7021, Fax +34 868 88 4147.
- **Host:** Dr. Albertus Gerardus Maria van Hattum, IVM, VU University, Amsterdam, Netherlands

*The visit period was modified and started the 19th instead of the 15th November because a strike of the spanish flight company (IBERIA) was announced for the 14th November.

1. PURPOSE OF THE VISIT

In agreement with the third immediate objective of EURAPMON, included as a part of the workpackage 5, the aim of the visit was to work on best practices to build capacities in Europe for harmonized monitoring with raptors after the establishment of a consensus on Europe-wide priorities for monitoring with raptors, based on comprehensive inventory of existing monitoring. In order to achieve this purpose, the concrete aims of the visit were: 1) to analyse the information obtained from the raptor contaminant inventory during the workshop celebrated in Amsterdam in order to establish preferences about best practices, 2) to write a draft proposing activities for the 3rd Eurapmon workshop on “Best practices on raptor contaminant monitoring activities in Europe” to be held in 2013, and 3) to compile information and documents on best practice to write a manuscript and protocols or guidelines to be included in the EURAPMON web page.

2. DESCRIPTION OF WORK CARRIED OUT DURING THE VISIT

The visit coincided with the Exchange visit of Dr. Pilar Gómez-Ramírez who was working on the inventory of existing raptor contaminant monitoring activities in Europe under supervision of the host, Dr. van Hattum, and Prof. Shore and Dr. van den Brink. The work carried out by Dr. Gómez-Ramírez was relevant to the purpose of this visit.

19th – 21th nov: Analysis of the inventory information compiled by Dr. Gómez-Ramírez, focusing on the data necessary for the establishment of best practices.

22th – 23th nov: Compilation of information on best practice: web links, published papers, official documents (EPA, UE), etc.

24th - 27th nov: Writing a draft including a proposal of the next workshop on best practice to be held in 2013. The draft was reviewed by Dr. van Hattum.

28th-30th nov: Attendance to the workshop “Inventory of existing raptor contaminant monitoring activities in Europe” celebrated in Amsterdam between 28th and 30th November 2012. During a meeting celebrated in the morning of 28th, before the workshop start, Prof. Richard Shore (expert), Dr. Nico van der Brink (expert), Dr. van Hattum (member of SC and Host of the Exchange visit grant and the short visit grant), and the applicant revised the final version of the draft. Prof. Shore and Dr. van der Brink suggested some comments which were included in the final version. This final version was presented and discussed the last day of the workshop (30th November 2012) and suggestions and comments of the participants were discussed.

After the visit, the contact between members of EURAPMON with expertise in best practice (Prof. Shore, Dr. Sonne, Dr. van den Brink, Dr. van Hattum, Dr. Dortze and Prof. García-Fernández) continued in order to improve some aspects of the proposal for workshop.

3. DESCRIPTION OF MAIN RESULTS/OUTPUTS

In this section a brief summary of the draft presented during the Amsterdam workshop has been included.

Scientific summary

The workshop will focus on the science related to EURAPMON Work Package 5, **Setting Best Practice**, and therefore, advance progress with this Work Package. Regarding Research and Monitoring *with* raptors, discussions on this Work Package in Scopelo (2010) identified a range of potential user groups for guidance on best practice. A number of priorities for promoting best practice were proposed, including collating existing best practice or guidelines. In this sense, several guidelines such as SANCO¹ for pesticide residues analysis, or other guidelines for specimen banks and forensics, were mentioned as useful starting points. Since the Scopelo Workshop (2010) to Amsterdam Workshop (2012), the SANCO guidelines have been modified and improved and setting of best practice has, hence, to be peer-reviewed.

In 2010, during the Scopello Workshop, there was a preliminary discussion about the need to standardise methods taking into account the different points of view of countries from European Union and others. Also the necessity to standardise methods depending on end-user needs (Word Package 3) was discussed.

Prior to the workshop, several participants will prepare a first evaluation report to be discussed at the workshop, and, if possible, protocols for, at least, sampling, storage and pretreatment for the most frequently used tissues for monitoring and research. This will be based on the information obtained from the inventories about monitoring *for* (Workshop in Murcia, February 2012) and *with* raptors (Workshop in Amsterdam, November 2012). A draft evaluation report will be distributed before the workshop. During the workshop, the report and protocols will be discussed and completed with an overview of sampling methods and type of compounds analysed in the published scientific literature and reference guidelines. This information will be included in a database covering information on e.g. species studied; geographical area, type of samples (internal tissues, biological fluids such as blood, feathers, unhatched eggs, excrements, carcasses and other samples); sampling methods; contaminants, analytical methods, biomarkers, other biological/ecological parameters monitored in relation to exposure; human resources (staff, volunteer), skills held, training needs; facilities available, communication and information spread.

The workshop will further address critical evaluations of (emerging) contaminants included, target species, suitability of raptors for European wide monitoring of exposure to PBT (persistent, bioaccumulative and persistent) compounds, recommendations for quality assurance and standardisation, as well as identification of user needs and required input for other work packages.

Preliminary Meeting Programme

The workshop will cover a 3-days program focused on reviewing existing information and drafting outputs devoted to improve the quality of the analytical results, to be obtained from representative samples of the animals sampled. For this reason, special attention should be paid in relation to the use of appropriate sampling methods.

The program will include:

- Short presentation of major ongoing studies of laboratories involved in the analysis of contaminants in raptors from UK, Sweden, Norway, Spain, and other European countries.
- Overview of main guidance reports, protocols and other documents related to best practices in raptor contaminant exposure studies published in the open literature – European and other international studies.
- Based in the WP2 *inventory of raptor contaminant monitoring activities in Europe*, selection of compounds to be analysed taking into account the objectives and user needs of EURAPMON.
- Special attention in emerging contaminants and effect-based studies.
- Setting a rank list of the ideal target tissues and organs for analysis depending on the compounds, species, etc.
- Establishing remaining steps for successful reporting of protocols. Evaluation of the influence of the above for the assessment of user needs (WP3), capacity buildings (WP6) and database development (WP7).

- Drafting main results section and conclusions in recommendations for workshop report in small break-out groups.
- Preparation of draft for scientific manuscript.

The workshop will consist on small sessions with presentations and discussions dedicated to drafting text contributions for workshop report, scientific paper, protocols, and suggestions to improve the web including the protocols, at least, on sampling. Two plenary sessions will be organized (inaugural and closing sessions). Further details of the scientific content of the workshop will be issued in due course.

Provisional list of participants

Due to the nature of the targeted workshop, a limited number of participants is foreseen. Speakers/participants will include EURAPMON steering committee members and experts in the field. The core group will consist of Prof. Dr. R. Shore (CEH, UK), Dr. Bert van Hattum (IVM, NL), Dr. N. van den Brink (Alterra, NL), Prof. Dr. A.J. Garcia Fernandez (University of Murcia, Spain), Dr. Dorte Herzke (Norway), and representatives from Sweden, Germany and others, such as Dr. Björn Helander, Dr. Christian Sonne, Dr. Rafael Mateo, Dr. Veerle Jaspers, Dr. Renaud Scheifler, Dr. Oliver Krone, Dr. Geir Gabrielsen, Dr. Clementine Fritsch, Guy Duke, and Dr. Paola Movalli.

A limited number of additional speakers/participants may further be invited to represent leading research and conservation groups in other (non-funding) countries around Europe, notably those previously involved in the network.

4. OUTPUTS: Draft manuscript, protocols of Best Practice and/or guidelines, web database and others

There are different points of view to organize the information into reports, scientific manuscripts and useful protocols for end-users, all of them suitable. Hence, this is probably going to be discussed in the next months, before starting the workshop and, probably, within the aim of the next ESF visit exchange grant.

Exposure and effect evaluations are both the main steps into the Risk Assessment Procedures. The available data and information could be organized according to these

topics (exposure and effects). Therefore, if accepted by the participants, all documents would be planned and structured taking into consideration both aspects. In this sense, all reports should include a chapter devoted to “**contaminant exposure monitoring with raptors**”, and another regarding “**toxicological effects monitoring in raptors**”. Although the final decision about the structure of the documents will be taken by the group in charge, the following structure is proposed. Discussion will be done by groups according to the main tasks (Task 1: Exposure monitoring; and Task 2: Toxicological Effects monitoring). However, during the Amsterdam workshop it was suggested that the next workshop should be focussed only on the task 1, leaving the task 2 for a future workshop.

Task 1 (exposure monitoring) should include: introduction (containing some comments such as the presence of contaminants in the ecosystems, how species and populations are exposed to these contaminants, undesired expected effects on health of individuals, species and populations (after short-, medium-, and long-term exposures). It will also contain a brief review of the information from the Amsterdam Workshop about the most commonly studied species, the most frequently collected and analysed samples, etc. The main item to be developed into the documents could be referred to sampling, taking into account the mentioned influencing factors and aims of the proposed study, but also all aspects related to the management of the samples such as, type, storage, transport and treatment prior to the analysis. We have to put special attention about which contaminants should be analysed. Special attention would also be put in the data of unhatched eggs and their usefulness as biomonitoring tool. Comparison with other kind of samples is a priority.

All data and information collated and structured as above will be used to write, at least, a **draft manuscript** to be submitted to an international scientific journal, and different **protocols or guidelines of best practices** which will be organised to prepare two or more drafts of protocols (or guidelines) of best practices.

To the extent possible, it would be interesting to improve the **EURAPMON web** including all information available in the **database** elaborated with the information collated and studied during the workshop. Moreover, protocols, guidelines or similar documents would be freely available in EURAPMON web page (www.eurapmon.net).

The preliminary drafts of these documents could be done by the applicant of the grant for the next visit exchange and could be finished within one or two short visits between members of the core group before and/or after the workshop.

5. FUTURE COLLABORATION WITH HOST INSTITUTE (IF ANY)

Future possible activities in collaboration with the host institutions would consist on the analyses of raptor samples archived by the research group of the applicant under the supervision of Dr. Bert van Hattum from IVM (The Netherlands). Moreover, Dr. van Hattum and the applicant will collaborate in the organization of the next workshop as members of the core group.

6. OTHER COMMENTS (IF ANY)

I would like to thank the hospitality and supervision of Dr. van Hattum during my stay in Amsterdam.

REFERENCES USED DURING THE VISIT:

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