



European Raptor
Biomonitoring Facility



SCOPING A DATABASE FOR A EUROPEAN RAPTOR SPECIMEN BANK

WG3 STSM

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Mission aim, dates, participants

Aim

- To scope the development of an online **European Raptor Specimen Database of frozen raptor specimens** (carcasses, tissues) held by natural science collections

Specific objectives

- To determine database **content**
- To identify potential **links with existing databases and data flow between databases**

Dates of Mission: 25/11/2019 – 20/12/2019

Mission Holder: Konstantinos Vlachopoulos, University of Thessaly, Greece

Mission Hosts: Dimitris Koureas, Sharif Islam, Paola Movalli, René Dekker, Steven van der Mije
Naturalis Biodiversity Center, The Netherlands

What is the European Raptor Specimen Database?

A key proposed element of the distributed European Raptor Specimen Bank (ERSpeB):

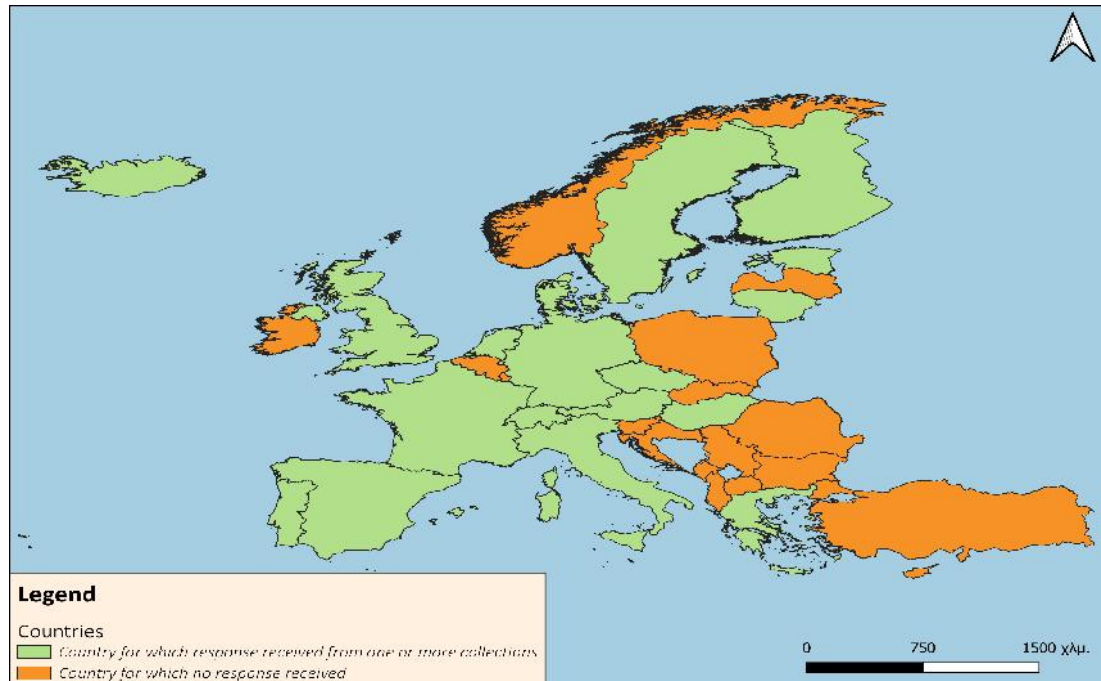
- providing a **near real-time inventory of available frozen raptor specimens** in natural science collections across Europe
- enabling **rapid identification and supply of relevant tissue samples** for pan-European contaminant analyses.
- enabling overview and collaborative management of the distributed ERSpeB **to optimise pertinence of frozen carcass/tissue collections across Europe for pan-European contaminant monitoring**, e.g. to:
 - Identify geographical gaps in specimen coverage
 - Identify where extra effort is required to gather and store particular species/tissues.

What data should the database contain?

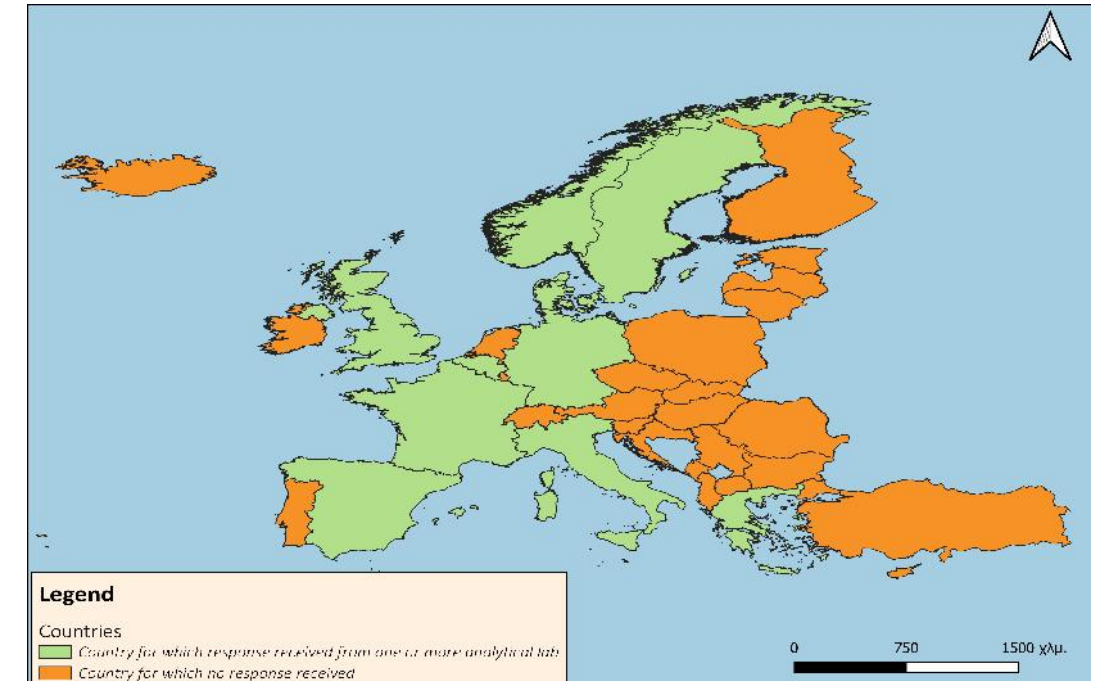
Methodology

- Questionnaire to two key user groups: (a) Collections (suppliers of specimens), (b) Analytical labs (users of specimens) – with good geographical spread of responses across Europe (total 20 countries)

Collections responses (n=21, 18 countries)



Lab responses (n=12, 10 countries)



What data should the database contain?

Results

- **Key data required by analytical labs** (users of specimens): species scientific name, collection registration number, ring/band number, date of death, geographical area/location, sex, age class, mass, cause of death, storage temperature.
- **Data recorded by collections** (suppliers of specimens) is largely in accordance with the above.
- Most users require a database of specimens from **2000 to present**
- Most users would value **as near real-time data as possible**
- Most collections are **willing to share data**

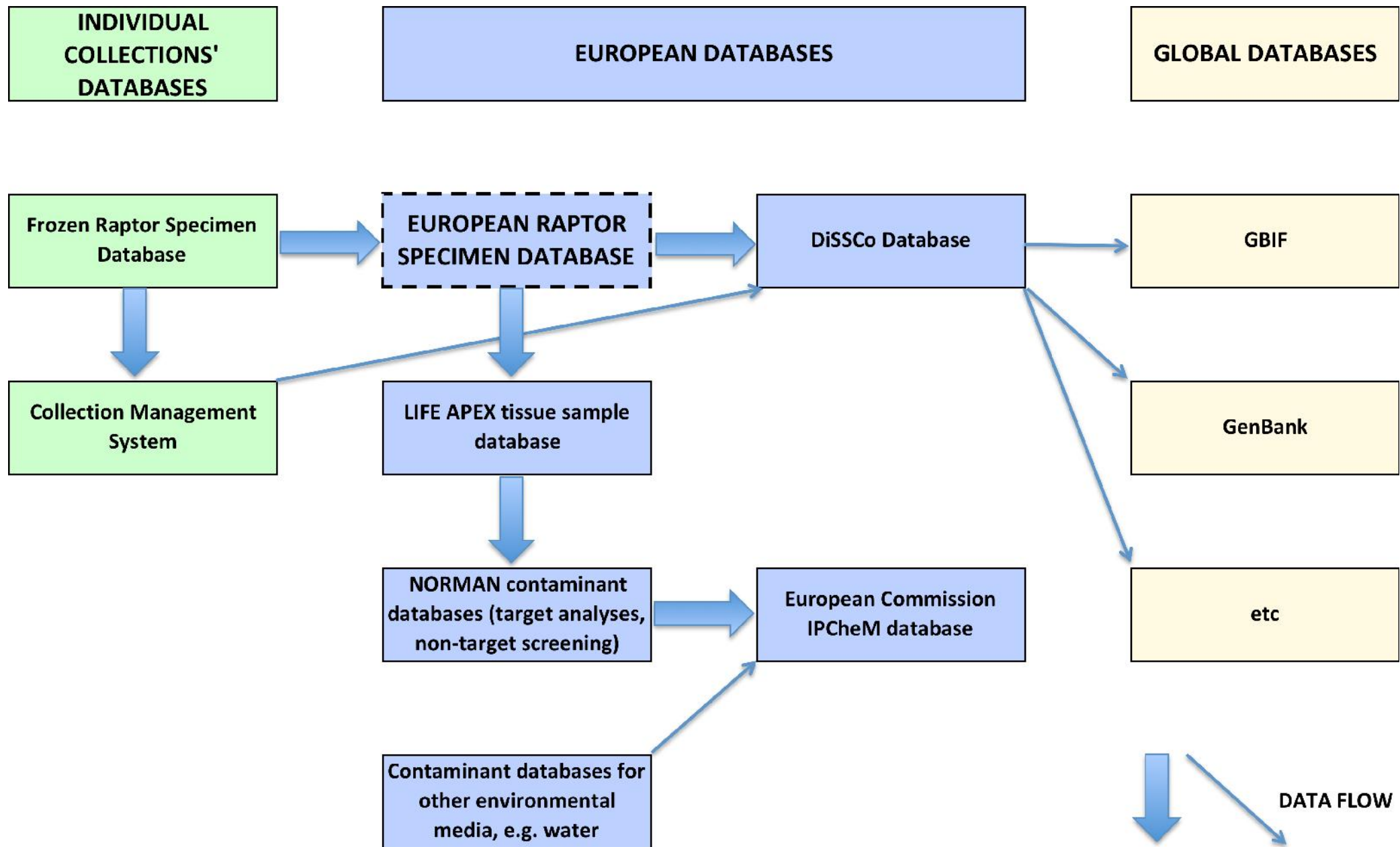
Links with existing databases / data flow

Methodology

- Discussions within Naturalis with experts in specimen curation, database development and ecotoxicology.

Results

- A **database and data flow diagram** representing the flow of data from individual collections' databases of frozen specimens and individual collection management systems to the European Raptor Specimen Database and related databases at European and Global scales



Issues/challenges

- The need for individual collections to maintain near real-time, digitised databases on their frozen raptor specimens – updated for each specimen entering/leaving the freezers
- Establishing protocols allowing European Raptor Specimen Database to mine data from individual collections' frozen raptor specimen databases
- Allocating Unique Identifiers (UID) to all specimens, allowing a specimen (and tissues therefrom, and related data) to be tracked across institutions and databases
- Ensuring interoperability of databases at the level of individual collections, European scale and global scale

Thank you!

