IPS-161 Demonstrations of practicals

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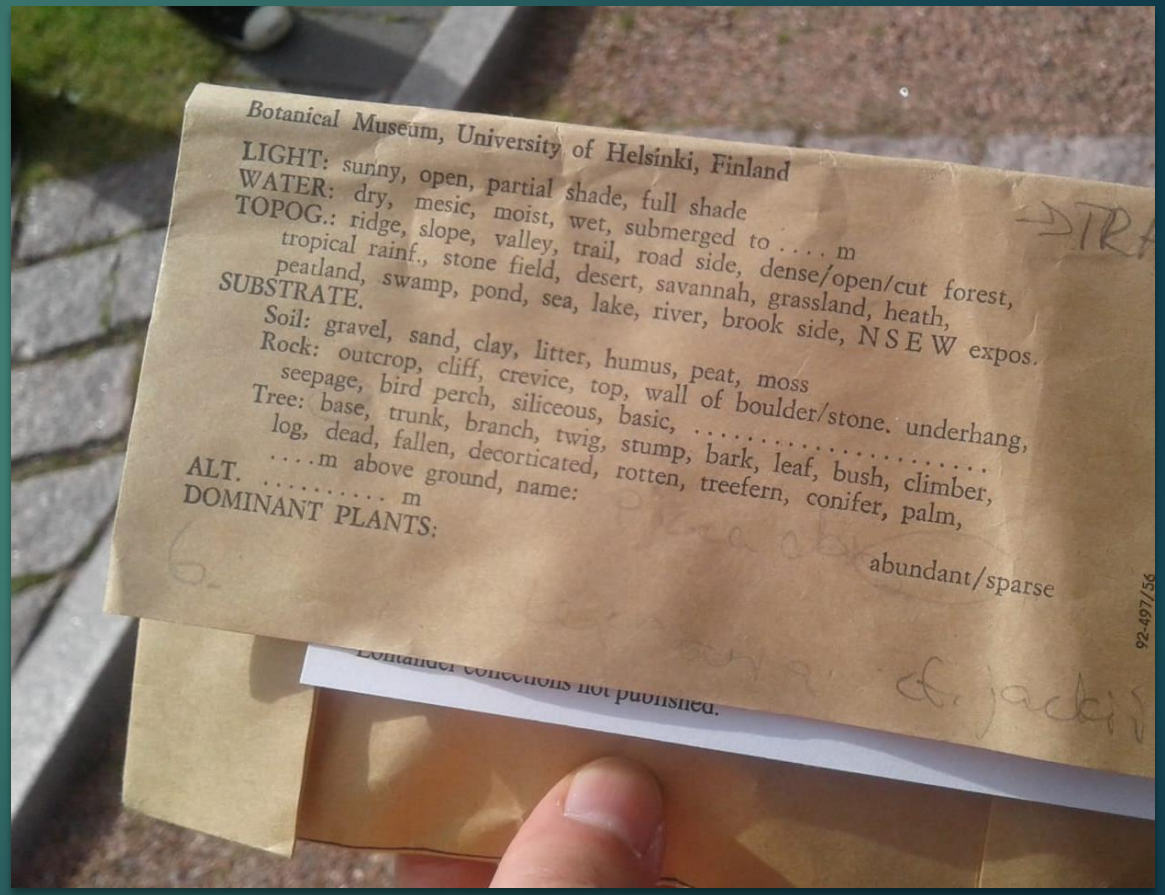
Lichen practicals

- Collecting
- Identification
- Preparing the herbarium specimen

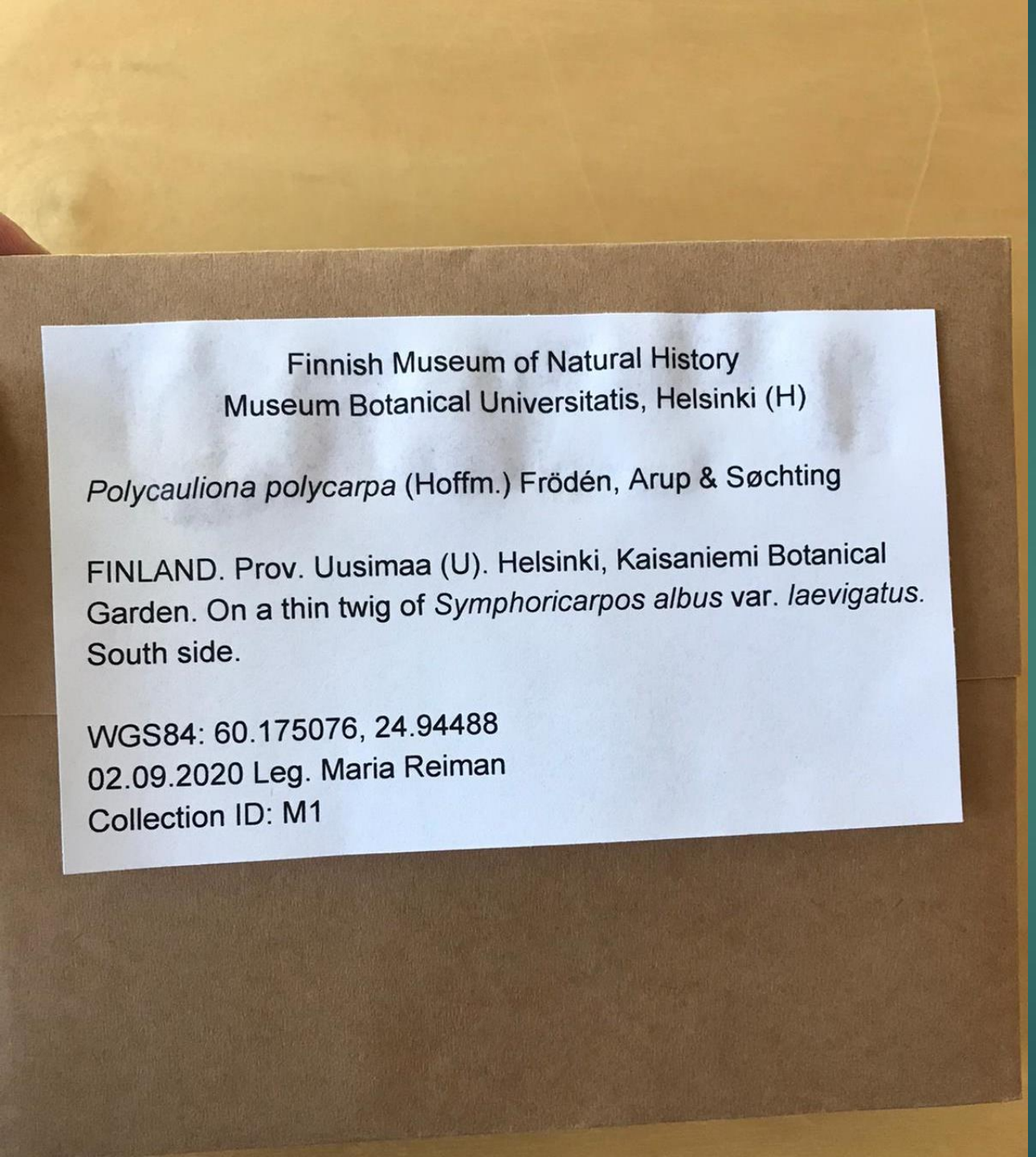
Collecting

- What to bring with you?
  - Paper bags (one for each specimen!), map, compass, phone, notebook, pen, tools if needed.
  - Collection number (JWright2920-01)
- Writing down the data
  - Locality
  - Vegetation
  - Preliminary identification
  - Collection number, difference with every specimen
  - Be as specific as you can!



Identification

- On field Preliminary identification
  - Colour reagants
  - Hand lens
- Later
  - Literature
  - Microscope
  - Reference material



Preparing the specimen

- Label –easy to do with good collection data
- In freezer for a week before adding to the collections

Useful links

- Coordinates
- https://asiointi.maanmittauslaitois.fi/karttapaikka/
- The international plant names index
- https://ipni.org/ipni/plantnamesearchpage.do
- Author names
- https://indexfungorum.org/names/names.asp

Collections

- Digitizing: Kotka database
- Adding the specimen into collections
  - Alphabetically
  - In time order

Digitization & 3D

Digital scanning of a cat's (Felis catus) skull

Tools:

- 3D surface scanner & computer
- Powder
- Modelling clay

Process:

- Apply powder on the skull
- Insert the skull on the platform
- Insert the object into the scanner to begin scanning
- Fine tune the scanned result for a neat image
- Repeat the process in six different angles
- Combine the results for a full 3D model

Utilization:

- Remotely accessible data
- Space saving
- Accurate and easy measuring
- Time consuming process

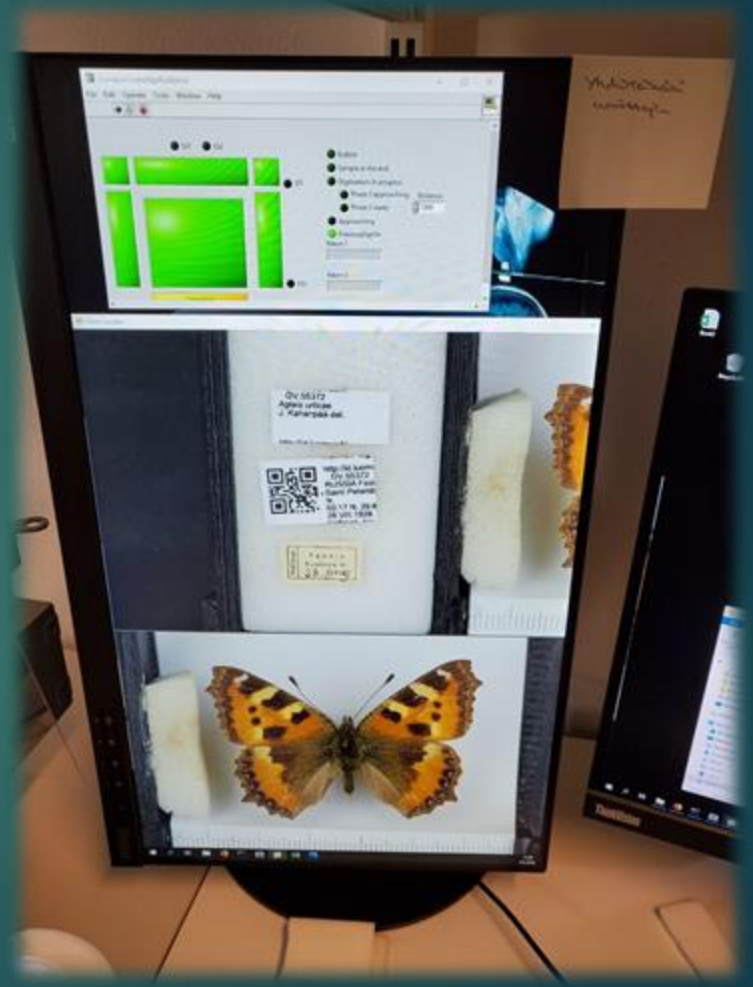
Digital preservation of insects

Tools:

- Conveyor
- High resolution digital camera
- Scanning platform
- Tweezers
- Camera for leveling

Process

- Pin the insect on the platform by the info labels
- Adjust the level of the subject
- Set the platform on the conveyor
- After the photoshoot remove the insect



Results

- Accessible online database
- Preservation
- High resolution images

Vertebrate practicals

OUR DAY AT THE KITCHEN OF ZOOLOGY

Vertebrate practicals

- Practicals led by Zoology Unit's Janne Granroth (Senior Museum Technician) and Ari Puolakoski (Chief Taxidermist). Introduction to the subject by Alexandre Aleixo (Curator of vertebrates).
- What we did
  - Getting to know different kind of vertebrate specimen collections
  - Preparing a skeleton specimen
  - Preparing a fish specimen (in alcohol)

Vertebrate collections

- One vertebrate individual can be converted into many specimens
  - Tissue -> DNA analysis
  - Wing
  - Skeleton
  - Skin
  - Egg
- Mammals and birds are usually presented as skins or skeletons, and sometimes as stuffed animals
- Fishes, amphibians, and reptiles are kept in alcohol

Preparation of a scientific skeleton specimen

1. Collecting

   Active/passive collecting

   Hunting, mistnets, road-kills

2. Individual arrives to the Museum

   → freezer

   Entry label with collecting data

3. Recording of morphological characteristics

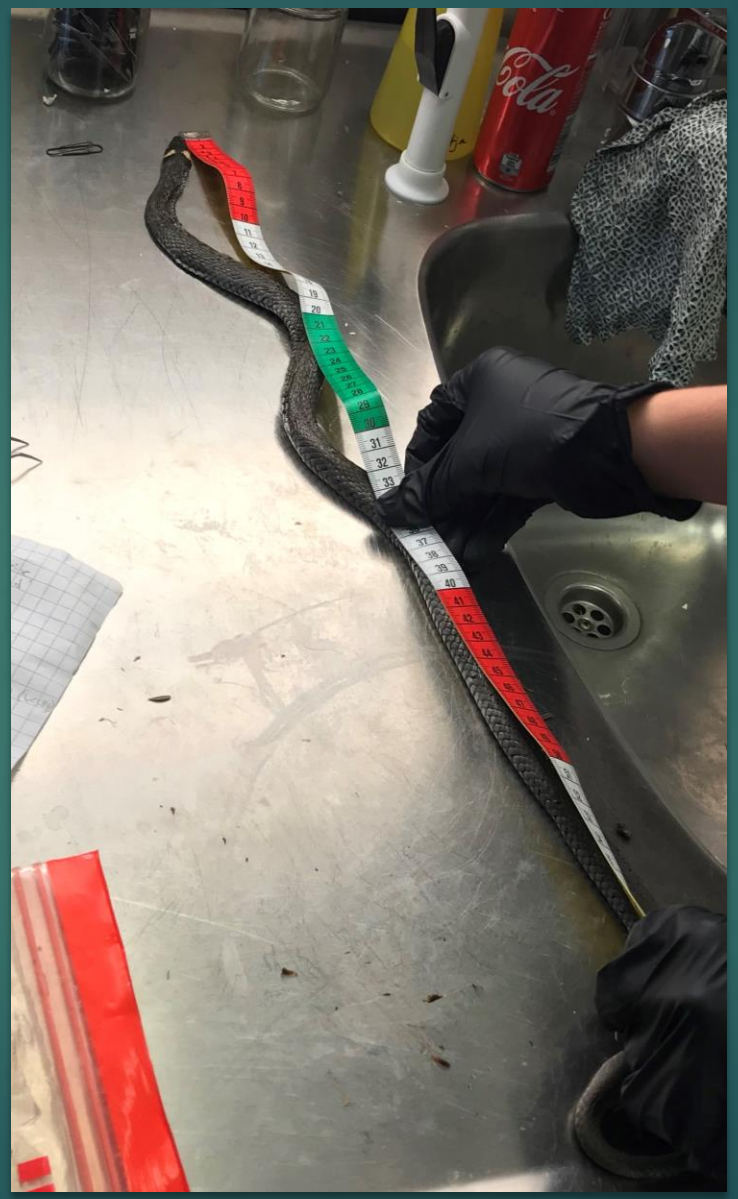
   Species/sex/age determination

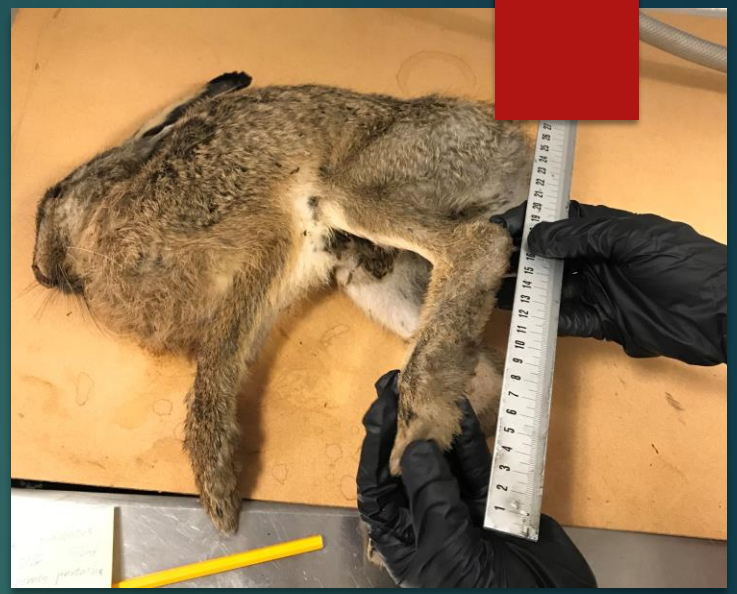
   Body mass

   Wingspan

   Length

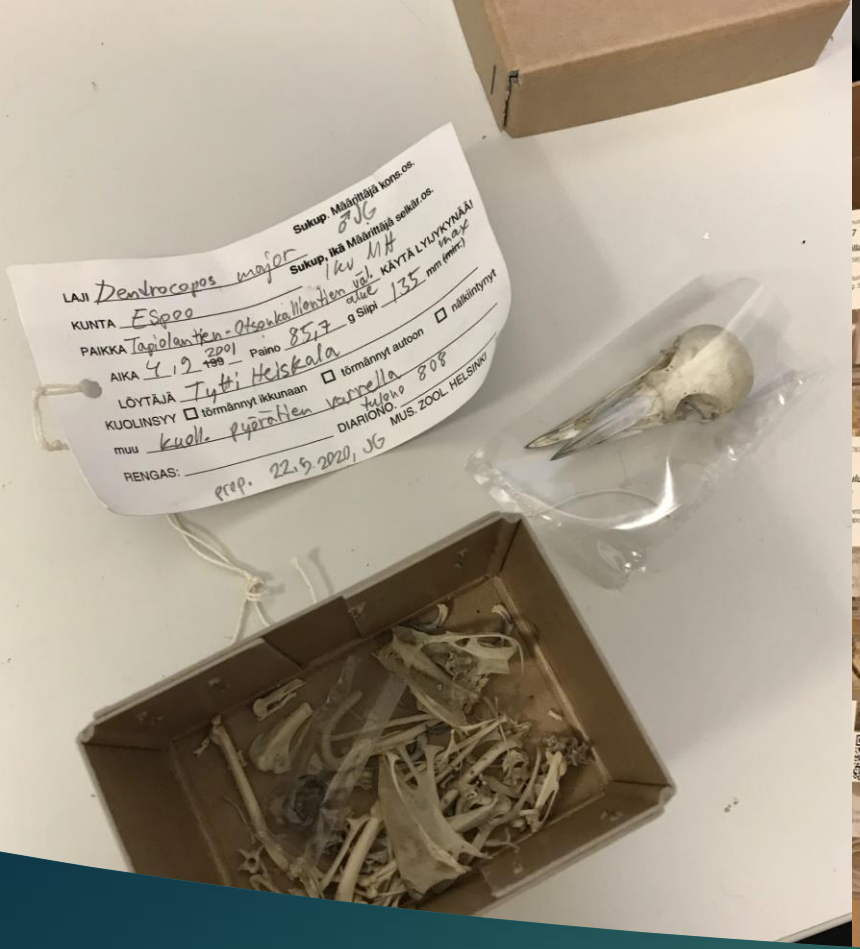
   Genus/species-specific characteristics for eg. subspecies determination

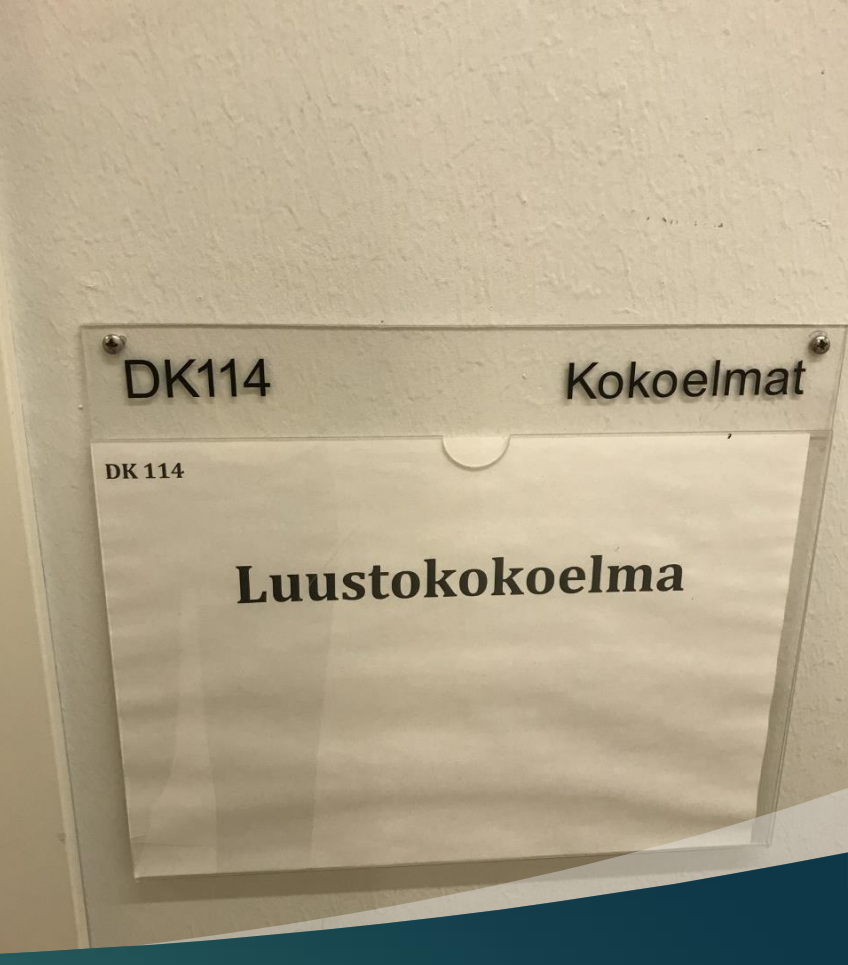




4. Skeleton conservation

- Skin off
- Recording of internal characteristics
  - Sex confirmation
  - Amount of fat
  - Bursa of Fabricius
- Soft tissues off
- Beetle cleaning *(Dermestes maculatus)*
- Freezing
- Removal of fat from bone surface





5. Preservation at the skeleton collection
   Gets a specimen label and Kotka-ID