

ACADEMIC COMPONENT – INTERNATIONAL

INTERNATIONAL 2 – MEETING WITH MNHN (NATIONAL MUSEUM OF NATURAL HISTORY)

CONTEXT

GENERAL CONTEXT

The MNHN is a major institution in France for life science and popularization. It gathers several research units in ecology, mineralogy, veterinary sciences, botany and other fields.

The research unit encountered in this meeting is called CESCO (for Ecology and Conservation Sciences Center). On the unit website (see link in References and links section), their introduction is the following (translated from French):

The Center for Ecology and Conservation Sciences (CESCO) develops research on biodiversity conservation through multidisciplinary approaches in population ecology and social sciences (management science, political science, conservation psychology).

INSIDE THE PROJECT

In the context of the project, a partner that is both compounded of academics – or, for some members, professionals of related fields, outside of academia – and involved in popularization while being focused on animal communication, behaviour or cognition is a relevant and suitable partner.

Different kinds of outcomes – both from academic and popular perspectives – can be expected if a long-term partnership is set up.

INTERNATIONAL STRATEGY

CHOICE OF PARTNER

As one of the observation spots in Paris is the botanical garden of the MNHN, it seemed logical to reach the scientific team in charge of the monitoring and conservation of the local flock. This choice was even more interesting because the scientific team is monitoring the flock through methods (like marking rings) that are not used in Tartu and should be investigated.

The interlocutor was Frédéric Jiguet (CESCO, MNHN), director of the team “Populations’ Conservation and Rehabilitation”.

POTENTIAL OF THE PARTNERSHIP

Frédéric Jiguet would be interested in gathering comparative data from Estonia. He also expressed his willingness to come and help set up in Tartu a monitoring program based on the methodology of his team, if Estonian teams were interested.

An important part of his work is also focused on communication toward the general audience and how to propose a narrative regarding these species that is closer to the field reality, in order to increase their protection and reduce their extermination for “regulation purposes” (see Subjects of the meeting section).

MEETING

FORMAT OF THE MEETING

The meeting format was an informal interview since many different aspects had to be discussed, but also since many aspects of the work of Frédéric Jiguet were not known enough to ask formal questions. The informal aspect allowed him to discuss broadly what he felt was relevant to the project.

SUBJECTS OF THE MEETING

Three focus points were discussed:

- Comparative data on the behaviour of crows in Paris:
 - o Pair, nesting and family behaviour
 - o Geographical repartition
 - o Behaviour towards humans
- Methodology and technics for the monitoring of the crows:
 - o Leg bands and GPS devices
 - o Aggression management
 - o Public health exploitation
- Cohabitation and narrative aspects:
 - o Regulation and hunting narratives
 - o Popular science and citizen science programs
 - o Communication and narratives for the general audience

AGENDA OF THE MEETING

COMPARATIVE DATA ON THE BEHAVIOUR OF CROWS IN PARIS

PAIR, NESTING AND FAMILY BEHAVIOUR

With the help of GPS devices, a piece of important information could be gathered regarding the way a pair is interacting with its younglings. Crows are known for their parental care, but the tracking showed that, during the first year of their life, younglings are hopping from one spot to another during the day, exploring their environment, but come back at night to the parental nest to sleep next to their parents.

This information is major to understanding how crows can learn, especially by imitation, since they can benefit from a long observation period next to their parents. It is also an important clue of the strength of the bond crows can have with their younglings and could explain more easily some aggressive behaviour when they feel their nest threatened.

GEOGRAPHICAL REPARTITION

The team studied the repartition of the crows in Paris (Work for a Master thesis, unpublished). Their study, a bit like what happened with the previous study about rats in Paris (Delahaye 2021), concluded that crows are not overpopulating, that the major nuisances are done by young adults in big flocks very dependent on easy food (like in trash cans) and that the real solution would be in better waste management, rather than any regulation measure.

BEHAVIOUR TOWARDS HUMANS

Two major behaviours were sources of complaints by inhabitants:

- Grass damages. The team proposed a trial (Lequitte-Charransol et Jiguet 2021) that showed that simple changes in grass management were efficient in completely suppressing this problematic behaviour.
- Aggressions during nesting season. These aggressions were very rare. The team advertises their work, in order to be called in case of aggression toward humans and to try behaviour management solutions (see Aggression Management section).

In all other situations, the crows are well tolerated by inhabitants, who are even sometimes feeding them. It is also interesting to note that, for many inhabitants, crows with leg bands are born in captivity and set free in the city later, so must have an use (see Communication and Narrative for the General Audience section).

METHODOLOGY AND TECHNICS FOR THE MONITORING OF THE CROWS

LEG BANDS AND GPS DEVICES

Crows are monitored through two devices:

- Leg bands: the crows are trapped in a cage in the MNHN, and receive two bands (one on each leg) of different colours every year. Some crows appear to enter the trap voluntarily to access easy food, even after being trapped once or twice. The leg bands can be registered in a database through a citizen science program (see Popular Science and Citizen Science Programs section).
- GPS devices: this aspect of the monitoring allows the team to understand the movements of the crows. It was through this device that the CESCO team discovered that younglings are returning every night to sleep with their parents after foraging during the day in the city. It also showed that experimented adults are territorial, younglings are living in big flocks and crows can move from and to the countryside if needed (like during the pandemic or hunting seasons).

AGGRESSION MANAGEMENT

Inhabitants can call the team in case of aggression from an individual. Usually, the team will simply find a chick fallen from the nest, will relocate it to a place where the parents can take care of it without being disturbed, and the aggression will stop.

In some cases, when an individual is aggressive in a nest defence (usually the male while the female is on the eggs), “shock therapy” has been tried and proved efficient. The male is captured with a net gun, a device completely harmless for birds but very impressive. The aggressive individual is kept in a cage for more or less 72h, during which it is also veterinary checked, to exclude aggression caused by pain and injury. After that period, the individual is set free, observed back to its nest and no aggression occurs during the rest of the nesting season.

Frédéric Jiguet hypothesises that crows that have been familiar with humans (fed when young, for example) are bold enough to try physical contact when in defensive behaviour. The shock therapy is “re-writing” humans as a dangerous species in their minds and making them use demonstrative behaviours (alarm calls, wood-knocking etc.) instead of physical ones when defending the nest.

PUBLIC HEALTH MANAGEMENT

The monitoring program has also been used successfully in monitoring potential avian viruses that could be transmitted to humans. The team has shown (unpublished results) for example that avian flu was not a disease

carried by the crows (there is no trace of the virus nor of antibodies in the blood and feathers of the individuals checked), indicating that they are not a species vector of this disease.

In the case of new zoonosis birdborne, this kind of monitoring could allow a quick response, able to set apart birds that can be vectors and birds that cannot, helping the setting up of appropriate public health management.

COHABITATION AND NARRATIVE ASPECTS

REGULATION AND HUNTING ASPECTS

Crows in France are registered as a pest species, meaning that hunters have the right (and the duty) to “regulate” their population. This situation led to a certain kind of narrative where hunters, to justify their actions, emphasize the nuisances, the destructiveness or even the malevolence of these species.

In one of their work (Jiguet 2020), the CESCO team showed that regulation is much more costly than the damages generated by the crows (8 million euros per year versus 43 million euros per year). Even more, a year without almost any regulation (2020) showed that it had no impact on the general size of the population nor the amount of the damages.

POPULAR SCIENCE AND CITIZEN SCIENCE PROGRAMS

The monitoring of the crows is partially based on a citizen science platform (see References and links section). It is quite logical then to see that the team is evolved in developing citizen science.

More particularly, the bad image that crows are suffering from encourages also the team to communicate a lot about them and try to introduce them to the general audience through popularization and popular science. Due to that, Frédéric Jiguet was particularly sensitive, when introduced to the project, to the popularization part.

COMMUNICATION AND NARRATIVE FOR THE GENERAL AUDIENCE

The team is also starting to study the different communications and narratives surrounding the crows (especially from the hunters’ communities). Frédéric Jiguet was, consequently, very interested in the semiotic aspect of the project and the study of the symbolic and emotional aspects.

A project the team is working on (to be published) is the creation of a comic book, introducing the journey of a real woman deeply involved in the citizen science program monitoring the crow, in order to show how interest for this species can arise, how the relationship with them can evolve and why this kind of citizen action is important for science.

FEEDBACKS

PERSONAL FEEDBACK

This meeting was a major step in the project. A lot of data gathered during observations could be confirmed and more specifically explained, showing the relevance of the field methodology.

The interest of the CESCO team in the citizen science and the communication aspect shows well how the methodology including several semiotic aspects is relevant and accurate.

PARTNERS' FEEDBACK

Frédéric Jiguet has expressed his interest in the project. He is willing to share data, methodology and even possibly material (like GPS devices) if a potential collaboration between French and Estonian National History Museums could be set up.

He was delighted to see that both the factual/ethological aspect and the popularization/communication aspects were seen as important by a foreign team regarding cohabitation between humans and crows.

GENERAL PROJECT – CURRENT STATE OF PLAY

IMPLICATIONS OF THE CURRENT STEP

The current step had three main interests:

- Gather comparative data and check the data already obtained in order to ensure their accuracy and the relevance of the collection methodology.
- Learn about different methodologies, their outcomes and how they could be implemented in Tartu or fit in the scope of the general methodology plan.
- Discuss different ways to communicate with the general audience and interact about how important this communication is and why.

PROPOSITIONS FOR OTHER ASPECTS OF THE PROJECT

RESEARCH ASPECTS

Data gathered will be useful for the analysis of the fieldwork and comparative reports (Deliverables D20, D21 and D22).

POPULARIZATION ASPECTS

The choice made by the MNHN team (comic book) is a good indicator that a communication or a dissemination step could be a material object, like the book created for the study in Paris (Delahaye 2022) was also.

NEXT STEPS

Interviews with members of the Estonian National History Museum should be a good opportunity to also present this potential partnership and discuss possible future projects.

ANNEXES

REFERENCES AND LINKS

REFERENCES

- Delahaye, Pauline. 2021. « Rats, Mice and Humans ». *Linguistic Frontiers* 4 (1): 44-52.
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- . 2022. *Étude de la cohabitation urbaine interespèce: Brigitte, rongeur urbain*. Zoosémiotique. Paris: l'Harmattan.
- Jiguet, Frédéric. 2020. « The Fox and the Crow. A Need to Update Pest Control Strategies ». *Biological Conservation* 248 (août): 108693. <https://doi.org/10.1016/j.biocon.2020.108693>.

Lequitte-Charransol, Perrine, et Frédéric Jiguet. 2021. « Restricted Mowing Reduces Grass Uprooting by Urban Crows ». *European Journal of Wildlife Research* 67 (3): 59. <https://doi.org/10.1007/s10344-021-01504-3>.

LINKS TO WEBSITES

Introduction of the CESCO (in French): <https://cesco.mnhn.fr/fr/presentation-de-lumr-346>

Website of the project: <https://www.crows.ut.ee/>

Monitoring database: www.corneilles-paris.fr

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