

Contrat doctoral – ED Galilée

Titre du sujet : Linking personality, physiology and early-life environment to improve conservation of the European mink (*Mustela lutreola*)

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- Domaine de recherche : Éthologie
- Mots clés : Animal personality, Early-life environment, Stress physiology, Testosterone, Conservation Biology

Context

The European mink (*Mustela lutreola*) is one of the most endangered carnivores in Europe [1]. To prevent extinction, conservation programs, such as national action plans in France, have been developed combining *in situ* and *ex situ* approaches. However, two major challenges remain: low reproductive success in captivity and high mortality after reintroduction [2-3].

As shown in other species [4], recent studies suggest that the early social environment as well as consistent individual behavioural differences (personality) play a role in both reproductive success *ex situ* and survival *in situ* [5]. Maternal effects – such as maternal hormones that cross the placenta barrier [6]– or the dam's own behaviour [7] create a unique environment that affects growth, behaviour, and fitness [8], and yet these remain largely unexplored in this species.

Objectives

This project aims to provide a comprehensive understanding of how early-life environment and hormonal processes shape personality and fitness, and how these factors influence both captive breeding success and reintroduction outcomes of the critically endangered European mink. Data will be collected in the breeding centres of the European Association of Zoos and Aquaria Ex situ Programme (EEP) for this species, primarily those located in France and Estonia. In particular, the thesis aims to (i) identify the main ecological, behavioural and management factors affecting reproductive success in captive mustelids; and test whether early-life environmental conditions such as (ii) personality, (iii) stress, and/or (iv) testosterone influence offspring personality and subsequent reproductive success and survival.

References

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