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Title of presentation: Improving the success of restocking programs: the case of the critically endangered common hamster (*Cricetus cricetus*)

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Abstract:

The common hamster is critically endangered throughout its Eurasian distribution range. In France, 94% of its populations have disappeared in the last 50 years. As part of a national conservation program, captive-bred hamsters are released every year to reinforce fragmented wild populations. However, the success of these releases is low, impairing the effectiveness of the reinforcements. Seeking to identify pre-release ways to improve this effectiveness, we conducted two experiments.

In the first one, we investigate behavioural response of captive-bred individuals to predators. Juvenile and adult hamsters from a “control group” (remaining in their breeding cages) and an “enclosure group” (experiencing a pre-release treatment of 2 weeks in a large outdoor enclosure) were confronted to a predator model. Results of these confrontations demonstrated the impact of the pre-release treatment on the anti-predation behaviour of adult hamsters. The individuals of the “enclosure group” took shelter more quickly and remained hidden for a longer period than hamsters from the control group. This pre-release treatment did not impact the anti-predator behaviour of juveniles as they spent most of their time in a shelter, with or without any treatment.

In a second experiment, we investigate demographic rates of 3 groups of captive-bred hamsters (control, enclosure and juvenile groups) after their release on field in early summer 2021 and 2022. VHF monitoring until hibernation will allow us to estimate their survival and camera-trap survey monitors their reproduction. First data suggested that released female hamsters were able to reproduce in their birth year, which had never been proven in the wild before. Genetic analyses are currently performed to confirm the field observations.

These experiments will benefit the general knowledge of this threatened species and its conservation programme.

Keywords (6 max): common hamster, *Cricetus cricetus*, conservation, predation, captive-breeding