



Establishment and operation of a conservation breeding facility for Common Hamster (*Cricetus cricetus*) at Leipzig Zoo

European Species Initiative

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Overview

- 🐾 Introduction
- 🐾 Role of Leipzig zoo in conservation activities for Common Hamster
- 🐾 Project outline
- 🐾 Husbandry and breeding
- 🐾 Future perspective



Biology and distribution

- 🐾 Rather short live expectancy (mean 28-31 months)
- 🐾 Litter size: 1-12 (mean 5,7 – 7,6) per litter
- 🐾 Solitary, hibernation from Sept. to April
- 🐾 Central Europe is the western border of its distribution



Why are targeted breeding efforts and reintroduction measures necessary for conservation of European hamsters?

- ❃ Causes of rapid extinction:
 - Intensification of agriculture
 - Targeted hunting in the past (Leipzig was a stronghold of the fur trade)
 - Heavy persecution as a crop pest
 - Droughts
- ❃ IUCN Red List update in 2020: Critically endangered (CR)
- ❃ Genetically distinct populations in Germany: hamster in Central Germany form a distinct population with remnant populations in Thuringia and Saxony-Anhalt. In Saxony below detection limit with standard methods (last remaining population is/was in the area around Delitzsch).
- ❃ Protection in central Germany so far only through field measures
- ❃ Existing breeding stations in Germany: Heidelberg, Kronberg, Langgöns, Metelen, Berlin, Leipzig



Project outline

- 🐾 Phase 1: initial phase (3 years)
 - Establishment of initial capacities for keeping and breeding hamster
 - Founder population: 47
 - Establishing sustainable breeding population
- 🐾 Phase 2: Re-introduction (5-10 years)
 - Release of at least 100-150 common hamster per year
- 🐾 Phase 3 (optional): Re-introduction and establishment of new populations and interconnecting existing ones

Role of Leipzig Zoo within the broader context



LANDESAMT FÜR UMWELT,
LANDWIRTSCHAFT
UND GEOLOGIE



Freistaat
SACHSEN

Saxonian working group
for hamster conservation



Feldhamster
schutz SACHSEN



Hamster breeding facility

Breeding station

- 🐾 Building covers 150m², located within the zoo, but not accessible by visitors
- 🐾 separated into two rooms
- 🐾 Temperature depends on outside climate (7 - 26 ° C)
 - Food kitchen, breeding area
 - Large room for holding capacity
- 🐾 Staffing: two animal keepers during high season (April – October), part time staff in winter (November - March)



Hamster breeding facility

2 m² (4 cages) required per Hamster for permanent holding



Hamster breeding facility

Connective tubes between cages



Hamster breeding facility

Handling



Hamster breeding facility

Handling



Hamster breeding facility

Kitchen and breeding room



Hamster breeding facility

Diet



- 🐾 Each Hamster is fed twice per week.
- 🐾 Mixture of grains, seasonal vegetables, alfalfa, dandelion
- 🐾 Hard-boiled egg is offered between April and September

Hamster breeding facility

12 connectable enclosures for introducing pairs



Hamster breeding facility

Mating system

- ❃ Males are introduced to females in late afternoon during breeding season (mid of May until beginning of August)
- ❃ Pairs need to be carefully observed and separated, if serious aggression occur.
- ❃ If a pair harmonizes, they can stay together for up to 5 days
- ❃ Breeding success is checked not earlier than 18 days after the latest calculated date of birth.



Results

Breeding season 2022

- ❃ 43 Founders (14,29) from Thuringia and Saxony-Anhalt (obtained between 20th April – 22nd May)
- ❃ Mating between 10th May and 8th August
- ❃ 3 litters (4,9; mean litter size 4,3) born between 27th June – 19th July



Results

Breeding season 2023

- ❃ 47 (17,30) Founders + 13 (4,9) F1 offspring 2022
- ❃ Mating between 18th May and 8th August
- ❃ 20 litters (1 DNS) (63,83; mean litter size: 7,7) between 9th June – 9th August



In situ activities

Release sites

- 🐾 „Hamster paradise“ (6 – 8 ha), 100% harvest waived, at least 5 crops
- 🐾 Electric fence between April to October, surrounding area „Hamster-friendly“



Summary and Perspectives

- 🐾 Without ex situ intervention, conservation of hamsters in Saxony would come to an end, soon.
- 🐾 Currently, Leipzig zoo is finalizing a conservation action plan for this species in saxony, together with the Ministry of state and the saxonian hamster working group
- 🐾 Important addition to „conservation portfolio“ of Leipzig zoo, as first local conservation project
- 🐾 Release of about 70 hamsters planned for next spring
- 🐾 Long term committment, stepwise increase of capacity required (expected annual number for release in future: 400-500 animals)
- 🐾 **It's a number game...**





Thank you very much for your attention