# Data sharing agreement
## The Cheetah Upscaling Project
### a range-wide study on cheetah male tactics and cheetah communication hubs

## Introduction:

The Leibniz Institute for Zoo and Wildlife Research in Berlin (Leibniz-IZW) has been conducting research on free-ranging cheetahs in Namibia for over 20 years. One of our focal studies is the spatial ecology of cheetahs. Similar to findings in the Serengeti NP in East Africa[1], we described that male cheetahs use two spatial tactics (territory holders and floaters) and discovered what we call a network of communication hubs in the landscape[2]. We found that this system contributes to cheetah-human conflict in Namibia, specifically where cheetah communication hubs with high densities of cheetah occur with livestock farming. We also used these results to discover viable solutions to mitigate the conflict[3].

## The Cheetah Upscaling Project:

1. In the Cheetah Upscaling Project we aim to upscale our previous findings to the full cheetah range across Africa by using a collaborative approach. We plan to investigate three hypotheses outlined in the email sent to you, i.e. 1) male cheetahs operate in two spatial tactics (territory holders and floaters) in all ecosystems, irrespective of males being solitary or in coalition units, 2) cheetahs have communication hubs in the core areas of the territories in all ecosystems and 3) territories are not adjacent to each other but are separated by a surrounding matrix in all ecosystems. For this, we would like to collate and analyse existing data within the cheetah research community.
2. Through the planned study, we suggest to build on an open, scientific network that promotes collaborative science-based knowledge and data sharing to investigate cheetah spatial ecology. As a first step towards this goal, we would like to store all cheetah spatial data in the online platform Movebank (www.movebank.org), a global archive for animal movement and bio-logging data. Our plan with storing data on Movebank is to build up a similar data repository as has been done successfully with other mammalian species in platforms such as AfriMove, EuroDeer, EuroLynx, EuroWildcat or the Jaguar Database for the Neotropics.[4]

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[1] Caro, T. M. 1994: Cheetahs of the Serengeti Plains – Group Living in an Asocial Species. University of Chicago Press, Chicago, USA.

[2] Melzheimer J, Streif S, Wasiolka B, Fischer M, Thalwitzer S, Heinrich SK, Weigold A, Hofer H, Wachter B 2018: Queuing, take-overs, and becoming a fat cat: Long-term data reveal two distinct male spatial tactics at different life-history stages in Namibian cheetahs. Ecosphere 9(6): e02308. Doi: 10.1002/ecs2.2308

[3] Melzheimer J, Heinrich SK, Wasiolka B, Mueller R, Thalwitzer S, Palmegiani I, Weigold A, Portas R, Roeder R, Krofel M, Hofer H, Wachter B (2020): Communication hubs of an asocial cat are the source of a human-carnivore conflict and key to its solution. Proc. Natl. Acad. Sci. USA. https://doi.org/10.1073/pnas.2002487117

[4] For those not fully familiar with Movebank, we provide here a short list with general information:
- You retain full ownership of your data
- Your study and some basic information (e.g. study species, study location, Principal Investigator, number of animals, but not the GPS data) becomes visible and detectable for potential collaborators
- You decide who to grant full access to your data
- Your data are preserved in a large, safe repository
- Your data are structured and neatly organized
- Your data are automatically prepared for R and GIS software
- You can share your data very easily and quickly with potential collaborators

**Invitation to collaborate with us in the Cheetah Upscaling Project community**

We would like to invite you to contribute data to this study.

The main data needed for this planned study are location data of cheetah males and, if available, additional data on direct cheetah observations, camera trap pictures or marking locations. Even geo-tagged images collected by tourists can be useful.

If you would like to participate in this metastudy but do not wish to have your data stored in Movebank, you can still contact us and we can cater for individual data sharing solutions.

We are happy to answer additional questions if this helps to get you and your research into Movebank. We are happy to upload your data for you into an individual Movebank project that will be handed over to and owned by you.

For questions please contact: Dr. Cameron Radford, radford@izw-berlin.de

We would like to request the collaborators to acknowledge and agree to the terms of use prior to sharing data.

**If you would like to participate, please fill in the data sharing agreement form below.**

This document shall provide the terms of use for data submitted to the:

**Cheetah Upscaling Project** -

**a range-wide study on male cheetah tactics and cheetah communication hubs.**

I/we, ……..

want to share our data with the

**Forschungsverbund Berlin e.V. (FVB), Leibniz-Institute for Zoo- and Wildlife Research (Leibniz-IZW),** Rudower Chaussee 17, 12489 Berlin, jointly represented by Prof Dr Heribert Hofer and Dr Nicole Münnich

Responsible scientist: Dr. Cameron Radford, radford@izw-berlin.de

☐ I/we want to share our data with and be part of the Cheetah Upscaling Project

☐ The data that I/we share is described in a separate document (Annex I).

**Terms of use**

1. The data will only be used for the agreed Cheetah Upscaling Project mentioned above and not for any other purposes or projects, unless agreed in advance.

2. Data providers will be offered co-authorship and will get the opportunity to provide input on any and all publications that result from this Cheetah Upscaling Project and contains their data.

3. Any publications resulting from this data will be part of the meta-analyses across multiple sites and countries. The data will not be analysed for publication at site level, unless agreed in advance.

4. The data recipients will not share the original datasets with third parties and will direct all potential requests for use of the data to you as the original collector and provider of the data.

5. The data recipients will not publish the data in their original format, neither whole nor in part.

6. The undersigning data provider declares that they have understood the aim of the study and that results will be only used for scientific analysis and conservation purposes.

7. The data provider declares that they have the legitimate right to share the data with the data recipients.

8. The data provider confirms whether their data can be uploaded to Movebank. Please tick one of the options. If the data provider agrees to have the data safely stored at www.movebank.org, the data recipients will create a project for each data provider on Movebank and make the respective data provider the owner of this project (see general information above on Movebank)

☐ The data provider is aware of and supports the plan that their data are stored on www.movebank.org in an individual project. Data will not be visible to the public but only to the data provider and data recipient. The data provider can add additional collaborators to see the project as they wish.

☐ The data provider prefers not to add and share their data on www.movebank.org in an individual project.

**Name and signature (data provider)** Date:

_____

**Name and signature (representatives of FVB, Leibniz-IZW)**

_____ Date:
Prof Dr Heribert Hofer, Director of Leibniz-IZW

_____ Date:
Dr Nicole Münnich, Managing Director of FVB

**Name and signature (data recipients)** Date: 17.07.2023

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|---|---|---|---|
| _____ | _____ | _____ | _____ |
| Dr Joerg Melzheimer | Dr Bettina Wachter | Ruben Portas | Dr Cameron Radford |

# Annex I

## Data description

Data owner (Name, Address, email)

Persons that must be contacted for co-authorship (Names and Emailadresses):

Data type/delivery:

Collection site:

Others Comments: