

House cricket personality tests based on emergence behaviour in experimental trials

SND-ID: 2022-30-1. **Version:** 1. **DOI:** <https://doi.org/10.5878/s283-2r88>

Download data

Personality_data_virus_infection_SciRep_pub.csv (8.23 KB)

Associated documentation

data_description_SciRep.pdf (23.37 KB)

Low-M-et-al-2022.pdf (1.08 MB)

Download all files

2022-30-1-1.zip (~1.11 MB)

Citation

Low, M. (2022) House cricket personality tests based on emergence behaviour in experimental trials (Version 1) [Data set]. Swedish University of Agricultural Sciences. Available at: <https://doi.org/10.5878/s283-2r88>

Creator/Principal investigator(s)

[Matthew Low](#) - Swedish University of Agricultural Sciences, Department of Ecology

Research principal

[Swedish University of Agricultural Sciences](#) - Department of Ecology

Principal's reference number

SLU.ekol.2022.4.4.IÄ-8

Description

Data Material: refer to 'Description of the dataset'

Purpose of the study: These data primarily relate to the scientific article "Viral infection changes the expression of personality traits in an insect species reared for consumption". This is summarised in the following abstract: Disease-induced personality change results from endogenous and adaptive host responses or parasitic manipulation. Within animal husbandry systems understanding the connection between behaviour and disease is important for health monitoring and for designing systems considerate to animal welfare. However, understanding these relationships within insect mass-rearing systems is still in its infancy. We used a simple repeated behavioural-emergence test to examine parasite-induced differences in group personality traits in the house cricket *Acheta domesticus*, by comparing the behaviours of 37 individuals infected with the *Acheta domesticus* densovirus (AdDV) and 50 virus-free individuals. AdDV-infected animals had a much lower emergence probability, longer times until emergence, and did not change their behaviour with experience compared to the virus-free animals. AdDV-infected animals also had lower variation in their probability of emergence within the population, most likely related to animals displaying a relatively uniform sickness response. These infected animals also had higher variation in their response to experimental trial experience; this greater variation resulted from a difference between males and females. Infected females responded to experience in a similar way as virus-free animals, while AdDV-

infected males showed a response to experience in the opposite direction: i.e., while all other groups reduced emergence time with experience, infected males always increased their mean emergence time as trials progressed. Our results are important not only in the context of animal personality research, but also with regards to creating husbandry systems and disease monitoring within the insects-as-food industry that are considerate to both production traits and animal welfare.

The dataset file 'Personality_data_virus_infection_SciRep_pub.csv' is a simple csv datafile with 6 columns and 575 rows of data from 87 individual house crickets that were involved in repeated personality testing based on their emergence time from a tube in a novel environment (see the paper "Viral infection changes the expression

of personality traits in an insect species reared for consumption" by Low et al.)

During each experimental trial each cricket was individually placed into a tube and the time recorded to it to emerge, and based on multiple measurements this allowed measures of its 'personality'. The study was concerned with differences in emergence behaviour for crickets that were infected with *Acheta domesticus*

densovirus (N=37) and individuals that were certified as virus free (N=50). Experimental trials were repeated for each animal every day or every second day during the data collection period.

See the documentation file 'data_description_SciRep.pdf' for information about each data column.

Data contains personal data

No

Language

[English](#)

Time period(s) investigated

2020 - 2021

Data format / data structure

[Numeric](#)

Species and taxons

[Acheta domesticus](#)

Data collection 1

- Mode of collection: Measurements and tests
- Description of the mode of collection: Behavioural observations of experimental trials of house crickets in cages
- Time period(s) for data collection: 2020-05-01 - 2021-07-01
- Data collector: Swedish University of Agricultural Sciences
- Source of the data: Events/Interactions

Geographic spread

Geographic location: [Sweden](#)

Responsible department/unit

Department of Ecology

Funding 1

- Funding agency: Swedish Research Council
- Funding agency's reference number: 2018-04772_VR

Funding 2

- Funding agency: Swedish Research Council for Environment Agricultural Sciences and Spatial Planning
- Funding agency's reference number: 2017-00384, 2016-00361, 2018-01142

Research area

[Zoology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Ecology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Behavioural sciences biology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Evolutionary biology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Other veterinary science](#) (Standard för svensk indelning av forskningsämnen 2011)

Keywords

[Densovirinae](#), [Insects](#), [Viruses](#), [Behavioural science](#), [Insect](#), [Virus](#), [Densovirus](#), [Insect](#), [House cricket](#), [Acheta domesticus](#), [Virus](#), [Personality research](#)

Publications

Low M., Eksell I., Jansson A. & Berggren Å. (2022). Viral infection changes the expression of personality traits in an insect species reared for consumption. *Scientific Reports*. 12, 9503.

<https://doi.org/10.1038/s41598-022-13735-8>

DOI: <https://doi.org/10.1038/s41598-022-13735-8>

If you have published anything based on these data, [please notify us](#) with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data description in DORIS.

Accessibility level

Access to data through SND

Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

Versions

Version 1. 2022-07-06

Contact for questions about the data

Matthew Low

matt.low@slu.se

Download metadata

[DataCite](#)

[DDI 2.5](#)

[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

[JSON-LD](#)

[PDF](#)

[Citation \(CLS\)](#)

[File overview \(CSV\)](#)

Published: 2022-07-06