

README:

Data Summary

DATA TITLE: Painted Turtle Age Immunosenescence Data

PROJECT TITLE: "Immunosenescence and its influence on reproduction in a long-lived vertebrate"

DATA ABSTRACT: These data include information on male, female, and juvenile painted turtles (*Chrysemys picta*) captured from Thomsom Causeway Recreation Area in Thomson, Illinois, USA in 2011. These turtles are part of a long-term mark-recapture study, and as such have information on age at first capture. These known ages, combined with ages estimated from growth models created from turtles in this population, were used to assess patterns of immunosenescence in three innate immune measures: agglutination ability, lysis ability, and bactericidal competence of plasma. We additionally tested the influence of sex, day captured, and clutch size on these immune measures. Clutch size information was collected for female painted turtles for which we had excavated nests and counted the number of eggs laid.

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ASSOCIATED PUBLICATIONS:

Judson, J.M., Reding, D.M., and Bronikowski, A.M. *Accepted*. Immunosenescence and its influence on

reproduction in a long-lived vertebrate. **Journal of Experimental Biology.**

<https://www.doi.org/10.1242/jeb.223057>

COLLECTION INFORMATION:

Time period: Data collected in 2011, uploaded to repository in May of 2020

Location: <http://doi.org/10.25380/iastate.12290585>

FILE DIRECTORY

```
Painted_Turtle_Immunosenescence
|-> Age_Immune_Data.csv
|-> Age_Immune_SAS_Code.txt
|-> Codebook_Age_Immune_Data.csv
|-> README.pdf
```

FILE LIST

1. `Painted_Turtle_Immunosenescence` : Folder containing all data and SAS code from Judson et al. 2020

- 1a. `Age_Immune_Data.csv` : Comma-separated file containing data on painted turtles used in Judson et al. 2020. Includes ages, sexes, clutch size information, dates of capture, and results of immune assays.
- 1b. `Age_Immune_SAS_Code.txt` : SAS code file containing code used to run statistical models in Judson et al. 2020.
- 1c. `Codebook_Age_Immune_Data.csv` : Codebook of data file containing explanation of variables found in `AgeImmuneData.csv`.
- 1d. `README.pdf` : README file.

METHODS AND MATERIALS

DATA COLLECTION METHODS

These data were collected from painted turtles (*Chrysemys picta*) from a population on the Mississippi River in Thomson, Illinois, USA. Turtles were trapped in hoop nets, opportunistically sampled during migration between bodies of water, or sampled after nesting. We collected males, females and juveniles representing a range of ages. Ages were either known from previous mark-recapture data or were estimated using a growth model. Innate immune function was assessed by measuring the agglutination and lysis ability of turtle plasma and measuring the ability of turtle plasma to kill or inhibit growth of *Escherichia coli*. All data were collected under

Iowa State University IACUC 12-03-5570-J and with collecting permits from the United States Army Corps of Engineers, the United States Fish and Wildlife Service (SUP 32576-021), and the Illinois Department of Natural Resources (NH11.0073).

DATA PROCESSING METHODS

Raw data are included in the data files. One variable, bactericidal capacity (Bknoneg), is a modification of the raw bactericidal competence variable so that values less than -10 were treated as missing data and values between -10 and 0 were adjusted to 0. Both variables are included in the published dataset (`Age_Immune_Data.csv`).

SOFTWARE

Name: SAS

Version: 9.4

System Requirements: Windows

URL: https://www.sas.com/en_us/software/sas9.html

Developer: SAS Institute Inc.

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