

Metadata file for data presented by:

González-Suárez M, Le Galliard JF, Claessen D. Population and life-history consequences of within-cohort individual variation. American Naturalist

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Empirical life-history dataset used for parameterization

We used a large unpublished dataset (J.F. Le Galliard unpublished data) based on > 1,200 Z. vivipara individuals from an experimental population at Centre de Recherche en Ecologie Expérimentale et Prédictive, France (CEREEP) to calibrate the model parameters presented in Table 1 of González-Suárez et al. These data were gathered by J.-F. Le Galliard and co-authors (see below).

(1) Allometric scaling between body mass and body size (Allometry.csv).

Data on body size (snout-vent length) and body mass were gathered by repeated measurements of multiple cohorts of common lizards from 1999 to 2001 by J.-F. Le Galliard. Raw data present body size and body mass.

Column headers are as follows:

CODE: unique identification number for each individual lizard

SVL= snout-vent length (mm).

W = wet body mass (g).

(2) Mass at birth for offspring born in year 1999 (Massatbirth.csv)

Data on wet body mass of offspring were gathered in one cohort in 1999 by J.-F. Le Galliard.

Column headers are as follows:

CODE: unique identification number for each individual offspring

CODEM: unique identification number for each individual mother

DATEBIRTH: date of birth as month/day/year

WBIRTH: wet body mass at birth (g).

(3) Survival and mass relationship (Sizesurvival.csv)

Data on annual survival were gathered for lizards captured from 1999 to 2011 by J.-F. Le Galliard together with data on body size (snout-vent length) prior to annual survival or death.

Column headers are as follows:

CODE: unique identification number for each individual lizard

YEAR: study year

SIZE: snout-vent length (mm) prior to survival or death

SURVIVAL: annual survival (1 = survival, 0 = death).

(4) Maturation data and fecundity at body size relationship (Reproduction.csv)

Data on maturation and total number of live offspring were gathered for all females from 1999 to 2003 by J.-F. Le Galliard.

Column headers are as follows:

CODE: unique identification number for each female lizard

AGE: age class for which data are presented. 1+=yearling, >1+=adult.

YEAR: study year

SVL: snout-vent length (mm) prior to survival or death

REPRODUCTION: reproductive status (1 = gravid, 0 = non gravid)

DATEPARTURITION: parturition date as month/day/year.

NBOFFSPRING: number of live offspring.

Empirical food intake dataset used for parameterization

Data collection methods are described in detail by González-Suárez et al. (2011), which presents an analysis of the food intake rates in the common lizard. The data file *Food_intake_data.csv* includes data for each individual lizard for which fecal output was measured ($N=107$).

Column headers are as follows:

Individual_ID: unique numerical code assigned to each marked lizard.

Density_treatment: code indicating the density treatment to which each individual was assigned. T1 is the lowest density and T5 the highest.

Enclosure: identifier of the experimental plot where the lizard was captured.

N_start: number of lizards released in the enclosure at the beginning of the experiment.

N_end: number of lizards recaptured in the enclosure at the end of the experiment.

Araneae_density: dry biomass in mg of captured prey from the order Araneae in the enclosure.

Palatable_insect_density: dry biomass in mg of captured prey from the orders Araneae, Homoptera, Heteroptera and Orthoptera in the enclosure.

Capture_date: date on which the individual lizard was recaptured on the enclosure.

Capture_time: time at which the individual lizard was recaptured on the enclosure.

Sex: sex of the lizard. F=female, M=male.

Age: age class. Y=yearling, A=adult.

Body_mass: total body mass in g.

SVL: snout-vent length in mm.

Sun3: mean sunshine duration in hours day⁻¹ recorded on the 3 days prior to recapture of the lizard on the enclosures.

Measured_fecal_output: total dry mg of fecal output produced over a period of 3 days following recaptured in the enclosures. During the 3 days in which fecal material was collected individuals were not fed.

Estimated_food_intake: estimated mass of live prey consumed by a lizard based on its fecal output measured in mg per day. The food intake was estimated using an experimental relationship described by González-Suárez et al. (2011).

Empirical life-history dataset used for model validation

We used a long-term dataset obtained from a natural population in the Cévennes, France (Le Galliard et al. 2010, M. Massot and J.F. Le Galliard unpublished data). These data were gathered from 1989 to 2005 by M. Massot, J. Clobert and field assistants. The data file *Life_history_validation.csv* presents mean, standard deviation, and sample size estimates for multiple life-history traits including:

- Snout-vent length: measured in mm for individuals of known age at 0 days, 200 days, 400 days, 600 days and 800 days of age. Data were calculated for a sample of laboratory-born

lizards with mean age 0, 200, 400, 600 and 800 days respectively and a range of age of ca. 20-50 days around the mean to get reasonable sample sizes for each calculation.

- Body mass: body mass in mg calculated for individuals of known age at 0 days, 200 days, 400 days, 600 days and 800 days of age. Data were calculated for a sample of laboratory-born lizards with mean age 0, 200, 400, 600 and 800 days respectively and a range of age of ca. 20-50 days around the mean to get reasonable sample sizes for each calculation.
- Fecundity: calculated as the number of offspring per female determined at birth. Includes still-born and malformed individuals who died shortly after birth.
- Survival rates: probability of annual survival calculated with an age-dependent mark-recapture model in MARK 5.1 software for juveniles (age 0+), yearlings (age 1+) and adults (age >1+). Juvenile survival was calculated from 15 birth cohorts (1988-2002) and 17 recapture years (1989-2005) assuming age variation in capture probabilities and temporal variation in juvenile and yearling survival but constant adult survival (see Le Galliard et al. 2010 for justification). Yearling and adult survival is reported by Le Galliard et al. (2010).

Column headers are as follows:

life_history_trait: life-history trait. SVL (snout-vent length), body_mass, fecundity, survival

age_class: age class for which data are presented. 0+=Juvenile, 1+=yearling, >1+=adult.

age: true age in days for mass and SVL data: 0=at birth, 200=200 days old, 400=400 days old, 600=600 days old, 800=800 days old.

sex: sex of lizards for which data are presented. F=female, M=male.

mean: arithmetic mean of the trait indicated.

sd: standard deviation of the trait indicated.

temporal_sd= inter-annual sd from a random effect model.

residual_sd= intra-annual sd from a random effect model.

sample_size= sample size used to calculate the mean and sd.

Cited literature

- González-Suárez, M., M. Mugabo, B. Decenci re, S. Perret, D. Claessen, and J. F. Le Galliard. 2011. Disentangling the effects of predator body size and prey density on prey consumption in a lizard. *Functional Ecology* 25:158-165.
- Le Galliard, J. F., O. Marquis, and M. Massot. 2010. Cohort variation, climate effects and population dynamics in a short-lived lizard. *Journal of Animal Ecology* 79:1296-1307.