# ~~~ Sea otter foraging analysis (SOFA) V. 3.0 ~~~

Project: Monterey_2006_2024, Results file: Rslt_Grp-Period_2024_Aug_07_17hr.rdata

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## Summary

This report summarizes the results of an analysis of sea otter observation-based foraging data. The analytic approach is referred to as the "Sea Otter Foraging Analysis", or SOFA. Standard variables recorded in the field from foraging sea otters - duration of dive and surface intervals, prey captures, prey sizes, etc. - are first summarized for all the dives in each feeding bout, and then Bayesian methods are used to fit a process model to these observed data, in order to estimate key "latent" parameters. Latent parameters of interest include how sea otters allocate their effort to foraging for different prey types, how much each of these prey types contributes to the resulting diet, several prey-specific parameters (mean size, handling time, consumption rates, and the functional relationship between the latter two parameters and prey size), and the overall net rate of biomass consumption and energy intake. The process model uses a probabilistic approach to account for incomplete data (including un-identified prey and missing data fields from some records), and the inherent biases associated with incomplete data (e.g. which types and sizes of prey are more likely to be recorded as un-identified). The resulting parameter estimates account for all sources of uncertainty, including sampling error, measurement error, uncertainty in the functional relationship between prey size and edible biomass, error in caloric density estimates, and various other sources of parameter uncertainty.

The results of the model fitting are presented below for the entire data set, and (if specified during model set-up) for each unique "level" of one or more categorical grouping variables. Grouping variables can include area, time period, otter ID, or reproductive status.

## Methods

### Observation model

SOFA is based around a simple conceptual model of sea otter foraging that corresponds to what an observer records in the field. Specifically, during a period of feeding activity (a "Bout", consisting of a contiguous

sequence of dives) foraging sea otters make decisions as to how to allocate their effort among multiple potential prey types. The term "prey type" is used in a flexible way: a prey type may be a single species (*Tegula brunnea*), or it may be a group of related species (e.g. "marine snails"). Each prey type can be defined by its frequency of encounter (or the inverse of encounter rate, which is the time required to find and capture one or more items of the prey while diving), the time required to handle an item of that prey type once captured, the size of each item and the number of items captured per dive. The total time in a bout allocated to each prey type $j$ consists of the sum of the dive durations ($DT_j$) allocated to acquiring that prey type, and the sum of time at the surface spent handling items of that prey type ($HT_j$), both of which are measured in seconds. For dives where multiple prey types are captured, it is reasonable to divide the relevant $DT$ and $HT$ among the prey types captured on that dive, proportional to their size and number. In addition to the confirmed time allocated to each prey type, there is also "unallocated time" ($UT$) during a bout, which consists of the total duration of unsuccessful dives and time at surface ($ST$) not handing prey. We can partition this unallocated time among prey types according to their proportional contributions to confirmed allocated time, $PA_j$. Thus, the total number of minutes ($TM$) allocated to prey type $j$ in bout $i$ is calculated as:

$$TM_{j,i} \ = \frac{1}{60}\left[\sum DT_{j,i} + \sum HT_{j,i} + \left(PA_{j,i}\sum UT_i\right)\right]$$

We note that one of the prey types for which we calculate total allocated minutes consists of un-identified prey items (UNID): we assume that these UNID prey items are a collection of all the other known prey types, but we do not know *a priori* the proportion of each known prey type comprising the UNID category.

In addition to calculating the total time allocated to each prey in each bout, we can also calculate the biomass consumed for each prey type: this is accomplished by converting the linear size of each prey item ($SZ_j$, in mm) to biomass. Linear size is estimated by observers as the maximum linear dimension of a prey item relative to a paw width (excluding appendages), and this value is converted into an estimate of edible biomass using a set of empirically derived log-log functional relationships between linear dimension and edible biomass for each prey type. We then sum the estimated edible biomass for all recorded items of prey type $j$ observed in a bout (or a portion of a bout), and divide by the total number of minutes of a bout allocated to prey type $j$ in that bout (or a portion of a bout), to obtain the observed consumption rate for that prey type ($CRobs_{j,i}$), in g/min. For each observed bout we calculate several key statistics: $TM_{j,i}$ and $CRobs_{j,i}$, as well as the mean values of handling time and prey size for each prey type ($HTmn_{j,i}$ and $SZmn_{j,i}$), and the proportion of successful dives associated with each prey item ($PSD_j$, calculated by partitioning unsuccessful dives among prey types according to their proportional contributions to confirmed allocated time, $PA_j$).

**Process model**

The observed activity of sea otter foraging can be approximated by a sequence of mathematical equations that together represent the process model, the expected dynamics of which are determined by the values of the parameters in the equations (Table 1). We let $\eta_j$ represent the mean proportional allocation of foraging effort to prey type $j$, excluding the UNID class (i.e. TRUE effort allocation if all prey were positively identified), such that:

$$\sum_{j=1}^{J}\eta_j = 1$$

For each prey type $j$ we also specify parameter $\omega_j$ as the probability that an item of that prey type will be positively identified. We calculate values of $\omega_j$ based on the empirical distributions of the log of handling time and the log of mean prey size of prey type $j$, and the degree to which these distributions overlap with the same distributions for the UNID prey class. We measure joint proportional overlap of multiple distributions using the Bhattacharyya coefficient. Our rationale is that the more similar the density distributions of these attributes are between UNID and prey type $j$, the more likely it is that $j$ contributes to the UNID prey class. To account for unidentified prey in our observed data set, we define the parameter $\alpha$ as the relative

allocation of effort to each prey type INCLUDING the UNID prey class. For positively identified prey types:

$$\alpha_j = \eta_j \cdot \omega_j \cdot \tau_B$$

while for the unidentified prey class (UNID):

$$\alpha_u = \sum_j \eta_j \cdot (1 - \omega_j) \cdot \tau_B$$

The parameter $\tau_B$ represents a fitted precision parameter, which allows us to use $\alpha_j$ as the base parameters for a Dirichlet-Multinomial distribution that defines the relative probabilities of a prey type being observed in a given bout:

$$[\theta_{j,i}] \sim Dirichlet\,(\alpha_1, \alpha_2, \; ... \; \alpha_J, \alpha_U)$$

where $\theta_{j,i}$ is the expected proportional allocation of effort to each prey type for bout $i$.

We define parameter $\mu_{s,j}$ as the mean log size (mm) for each prey type. For handling time and consumption rate, we note that both of these parameters are correlated strongly with prey size: specifically, there is an approximately linear relationship between the log of each variable and the log of prey size. We therefore calculate expected log handling time ($\mu_{h,j}$) and expected log consumption rate ($\mu_{c,j}$) as derived parameters:

$$\mu_{h,j} = \psi_{1,j} + \psi_{2,j} \cdot \log(SZmn)$$

$$\mu_{c,j} = \phi_{1,j} + \phi_{2,j} \cdot \log(SZmn)$$

where the fitted parameters $phi_{1,j}$, $phi_{2,j}$, $psi_{1,j}$, and $psi_{2,j}$, together describe the functional relationships between handling time, consumption rate, and prey size for each prey type. We note that $\mu_{h,j}$ and $\mu_{c,j}$ are calculated for each bout, based on the mean log size of prey type $j$ on that bout, but we can also calculate mean values based on the mean log prey size over all bouts. Specifically, if we define $\bar{\mu}_{s,j}$ as the mean log size of prey type $j$ over the entire data set, then we can calculate mean size, handling time and consumption rate for prey type $j$ as:

$$\bar{S}_j = \exp\left(\mu_{s,j} + {\sigma_{s,j}^2}\big/2 \right)$$

$$\bar{H}_j = \exp\left((\mu_{h,j}|\mu_{s,j}, \psi_j) + {\sigma_{h,j}^2}\big/2 \right)$$

$$\overline{cr}_j = \exp\left((\mu_{c,j}|\mu_{s,j}, \phi_j) + {\sigma_{c,j}^2}\big/2 \right)$$

We define parameter $\lambda_j$ the expected proportion of successful dives associated with each prey type, which we estimate as a logit parameter with Cauchy prior:

$$logit(\lambda_j) \sim \; Cauchy\,(0, 2.5)$$

And the overall mean dive success rate is calculated as:

$$\bar{\lambda} = \sum_{j=1}^{J} \eta_j \cdot \bar{\lambda}_j$$

We define several other "derived" parameters that help simplify or expand our interpretation of model results. The rate of energy intake associated with foraging on prey type $j$ ($er_j$) is calculated by multiplying the consumption rate of prey type $j$ by the caloric density of edible biomass ($Cdens_j$) for that prey type, based on published values. We also integrate consumption rate and energy intake rates across all prey types, accounting for proportional allocation of effort among prey types, to obtain the overall consumption rate (CR) and energy intake rate (ER):

$$\overline{CR} = \sum_{j=1}^{J} \eta_j \cdot \overline{cr}_j$$

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$$\overline{ER} = \sum_{j=1}^{J} \eta_j \cdot \overline{cr}_j \cdot Cdens_j$$

Diet composition, defined as the proportional contribution (in terms of consumed biomass) of each prey type to the overall diet $(/pi_j)$, is calculated as:

$$\pi_j = (\eta_j \cdot \overline{cr}_j)/\sum_{j=1}^{J} \eta_j \cdot \overline{cr}_j$$

The proportional contribution of each prey type to the UNID prey class is represented by parameter $v_j$, calculated as:

$$v_j = (1 - \omega_j) \cdot \pi_j \cdot {}^1\!/_{EB_j}$$

where $EB_{\mathrm{j}}$ is the average biomass per prey item of prey type $j$.

Finally, the process model can be modified to account for random effects of categorical group variables (age, sex, area, time period) by utilizing a hierarchical approach for certain key parameters. We allow foraging effort to vary across groups using a Dirichlet-Multinomial approach:

$$\eta_{g,j} \sim Dirichlet\left(\eta_j \cdot \tau_G\right)$$

where $\eta_{g,j}$ is the mean proportional allocation of foraging effort to prey type $j$ in bouts belonging to group level $g$, and parameter $\tau_G$ is a fitted precision parameter that determines the degree of consistency in diet across groups. We assume that log prey size for each prey type is normally distributed across groups with mean equal to $\bar{\mu}_{s,j}$ and standard error as a fitted parameter. We make the same assumption for $\phi_{1,j}$, $\psi_{1,j}$ and $\lambda_j$, thereby allowing prey specific handling times, consumption rates and dive success rates to vary across groups. By treating these base parameters hierarchically, we also allow for variation in the derived parameters of diet composition, mean consumption rates and mean energy intake rates across groups. Table 1 provides a summary of all parameters estimated by the model.

**Table 1. Summary of estimated parameters**

| Parameter | Description |
| --- | --- |
| $\overline{CR}$ | Mean overall net consumption rate (CR, g/min) while foraging |
| $\overline{ER}$ | Mean overall net energy intake rate (ER, kcal/min) while foraging |
| $\overline{\lambda}$ | Mean overall dive success rate (proportion successful dives) |
| $\bar{S}_j$ | Mean size, prey type j |
| $\bar{H}_j$ | Mean handling time, prey type j |
| $\bar{cr}_j$ | Mean consumption rate, prey type j |
| $\bar{er}_j$ | Mean energy intake rate, prey type j |
| $\bar{\lambda}_j$ | Mean dive success rate, prey type j |
| $\bar{\phi}_{1,j}$ | CR vs log(Size) function, intercept parameter, prey type j |
| $\phi_{2,j}$ | CR vs log(Size) function, slope parameter, prey type j |
| $\bar{\psi}_{1,j}$ | HT vs log(Size) function, intercept parameter, prey type j |
| $\psi_{2,j}$ | HT vs log(Size) function, slope parameter, prey type j |
| $\bar{\eta}_j$ | Proportion of foraging effort allocated to prey type j |

| Parameter | Description |
|---|---|
| $\bar{\pi}_j$ | Proportion of diet (biomass consumed) made up of prey type j |
| $\bar{\omega}_j$ | Proportion of prey type j identified (not recorded as "un-identified" prey) |
| $\bar{v}_j$ | Proportional contribution of prey type j to un-identified prey |
| $\sigma_{c,j}$ | Std error in log(CR) across bouts for a given prey type |
| $\sigma_{h,j}$ | Std error in log(H) across bouts for a given prey type |
| $\sigma_{s,j}$ | Std error in log(S) across bouts for a given prey type |
| $\sigma_{l,j}$ | Std error in logit(lambda) across bouts for a given prey type |
| $\tau_B$ | Precision (consistency) in diet composition across bouts (within group) |
| $\tau_G$ | Precision (consistency) in diet composition across groups (if defined) |
| $CR_g$ | Mean net consumption rate (CR, g/min) while foraging, group g |
| $ER_g$ | Mean net energy intake rate (ER, kcal/min) while foraging, group g |
| $\bar{\lambda}_g$ | Mean overall dive success rate, group g |
| $S_{g,j}$ | Mean size, prey type j, group g |
| $H_{g,j}$ | Mean handling time, prey type j, group g |
| $cr_{g,j}$ | Mean consumption rate, prey type j, group g |
| $er_{g,j}$ | Mean energy intake rate, prey type j, group g |
| $\lambda_{g,j}$ | Mean dive success rate, prey type j, group g |
| $\phi_{1,g,j}$ | CR vs log(Size) function, intercept parameter, prey type j, group g |
| $\psi_{1,g,j}$ | HT vs log(Size) function, intercept parameter, prey type j, group g |
| $\eta_{g,j}$ | Proportion of foraging effort allocated to prey type j, group g |
| $\pi_{g,j}$ | Proportion of diet (biomass consumed) made up of prey type j, group g |
| $\omega_{g,j}$ | Proportion of prey type j identified, group g |
| $v_{g,j}$ | Contribution of prey type j to un-identified prey, group g |

*Note: parameters with 'g' subscripts estimated if by-groups were incorporated in analysis*

**Relating observation model and process model**

By comparing expected distributions from the process model with observed data, the statistics recorded from foraging bouts constrain the possible values of the parameters of the process model. Specifically, we assume that the observed distribution of minutes allocated to each prey type on a given bout can be described by a multinomial distribution:

$$[TM_{j,i}] \sim Multinomial\left([\theta_{j,i}]\right)$$

We assume that observed mean prey size for prey type $j$ is described by a log-normal distribution:

$$SZmn_{j,i} \sim lognormal\left(\mu_{s,j}, \sigma_{s,j}\right)$$

where $\sigma_{s,j}$ is a parameter describing the variance in the mean size of prey $j$ across bouts.

We assume that observed mean handling time and mean consumption rate for prey type $j$ are also described by log-normal distributions:

$$HTmn_{j,i} \sim \ lognormal\,(\mu_{h,j}, \sigma_{h,j})$$

$$CRobs_{j,i} \sim \ lognormal\,(\mu_{c,j}, \sigma_{c,j})$$

where $\sigma_{h,j}$ and $\sigma_{c,j}$ are fitted parameters describing variance in these statistics across bouts.

We assume that the observed dives success rates specific to each prey type ($PSD_j$), logit-transformed, are described by a normal distribution:

$$logit(PSD_j) \sim \ normal\,(logit(\lambda_j), \sigma_{l,j})$$

where $\sigma_{l,j}$ is a fitted parameter describing variance in logit dive success rate across bouts.

We used standard Markov-Chain Monte Carlo methods to fit the model to the foraging data, with uninformative priors for all model parameters (Cauchy priors for unconstrained parameters and half-Cauchy priors for parameters constrained to be positive). We evaluated model convergence by graphically examining chain mixing and ensuring that the Rhat statistic was close to 1 for all estimated parameters. We evaluated model fit using graphical posterior predictive checks, ensuring that the distributions of out-of-sample predictions were consistent with observed data. We present summaries of posterior distributions for both base parameters and derived parameters such as energy intake rate.

## Results

Both graphical and tabular results are presented below. In some cases prey types are referred to numerically (e.g. as subscripts for prey-specific parameters), in which case the numbers correspond to prey types as summarized in Table 2.

Table 2: Prey types included in the analysis

| TypeN | PreyType | Description | Class |
|---|---|---|---|
| 1 | urchin | urchins, various sp | urchin |
| 2 | mussel | mussels | mussel |
| 3 | clam | clams, various species | clam |
| 4 | abalone | abalone, various sp | abalone |
| 5 | cancrid_crab | Cancr crabs | cancrid_crab |
| 6 | kelp_crab | kelp crabs | kelp_crab |
| 7 | crab_other | Other crabs | other_crab |
| 8 | snail | snails, various sp | snail |
| 9 | star | sea stars | star |
| 10 | worm | fat innkeepers, nereids, etc. | worm |
| 11 | cephalapod | octopus and squid | cephalapod |
| 12 | other | chitons, limpets, barnacles,etc. | other_hardsub |
| 13 | UNID | UN-IDENTIFIED | NA |

The posterior estimates for net consumption rate (CR) and energy intake rate (ER), for the data set as a whole, are shown in Figure 1, and summarized in Table 3. Posterior density plots are also shown for estimates of foraging effort allocation among prey types, proportional contribution to diet (in terms of consumed biomass) by prey type, and estimates mean handling time, size, consumption rate and energy intake rate for each prey type.

If the SOFA analysis being summarized incorporated group-level differences in foraging behavior (e.g. area-based differences, time-based differences or differences among individual animals), a second series of plots are presented showing the same statistics described above but for each level of the grouping variable(s). See Table 2b

Table 3: Group levels used for by-group statitics

| GroupID | Period | Nbouts | Groupname |
|--------:|--------|-------:|-----------|
| 1 | 2006 | 5 | 2006 |
| 2 | 2007 | 209 | 2007 |
| 3 | 2008 | 177 | 2008 |
| 4 | 2009 | 145 | 2009 |
| 5 | 2010 | 164 | 2010 |
| 6 | 2011 | 255 | 2011 |
| 7 | 2012 | 7 | 2012 |
| 8 | 2013 | 2 | 2013 |
| 9 | 2014 | 11 | 2014 |
| 10 | 2015 | 51 | 2015 |
| 11 | 2016 | 353 | 2016 |
| 12 | 2017 | 630 | 2017 |
| 13 | 2018 | 478 | 2018 |
| 14 | 2019 | 184 | 2019 |
| 15 | 2020 | 17 | 2020 |
| 16 | 2021 | 15 | 2021 |
| 17 | 2022 | 62 | 2022 |
| 18 | 2023 | 211 | 2023 |
| 19 | 2024 | 74 | 2024 |

Tabular summaries of all statistics (both for all data combined and by group levels, if appropriate) are provided at the end of the report.

## Overall mean Consumption and Energy Intake Rate
Forage data Monterey_2006_2024



Figure 1: Density plot showing posterior distributions for consumption rate ($\bar{CR}$, g/min) and rate of energy intake ($\bar{ER}$, kcal/min) for the overall data set
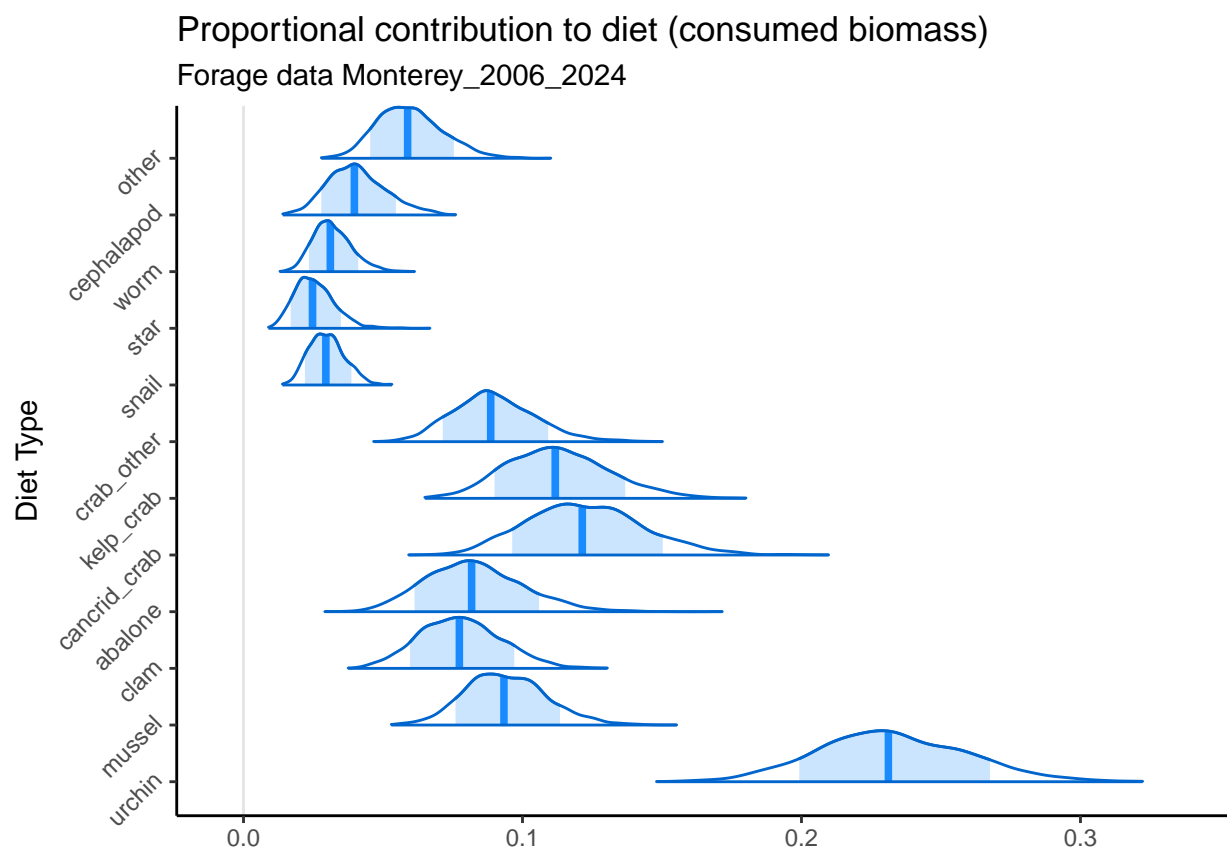
Figure 2: Density plot showing posterior distributions for $\pi_j$, the proportion of diet (biomass consumed) made up of prey type j
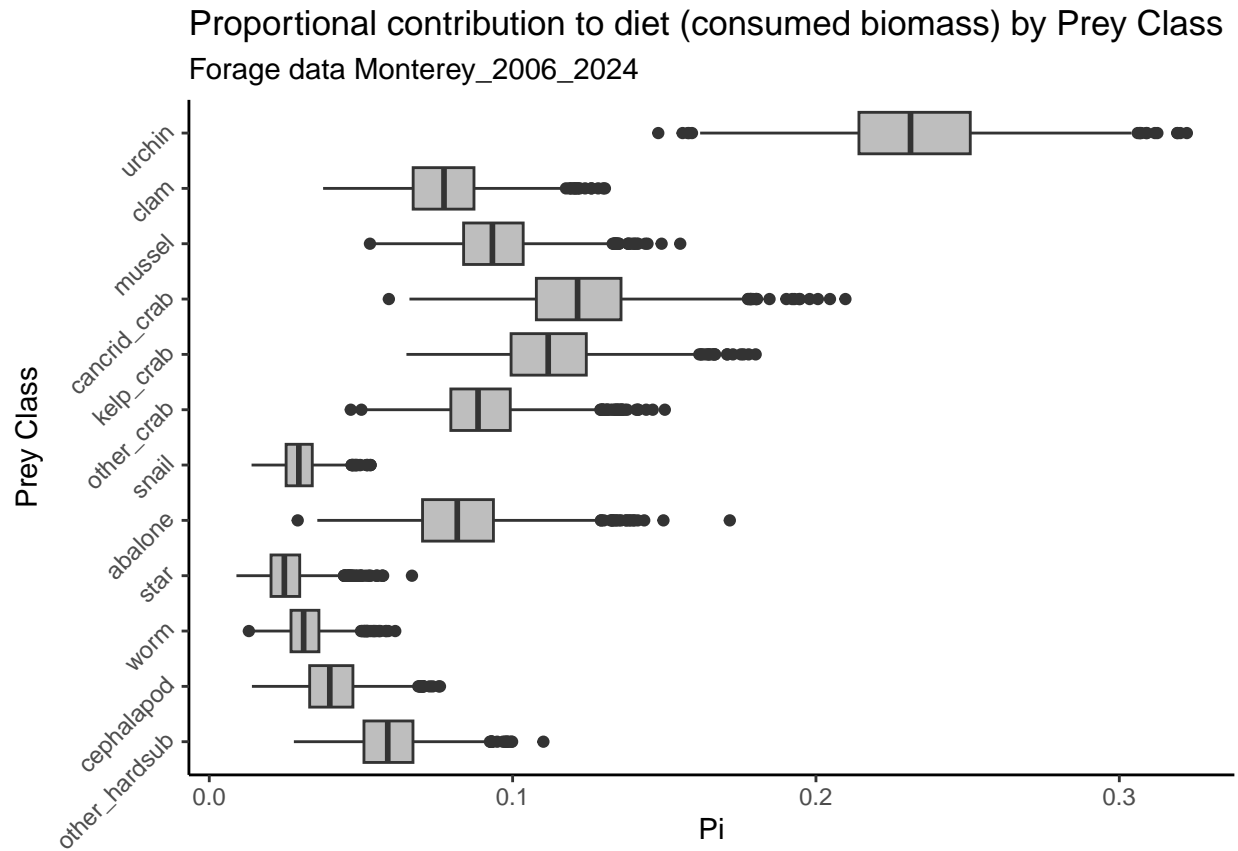
Figure 3: Boxplot showing posterior distributions for diet composition by Prey Class
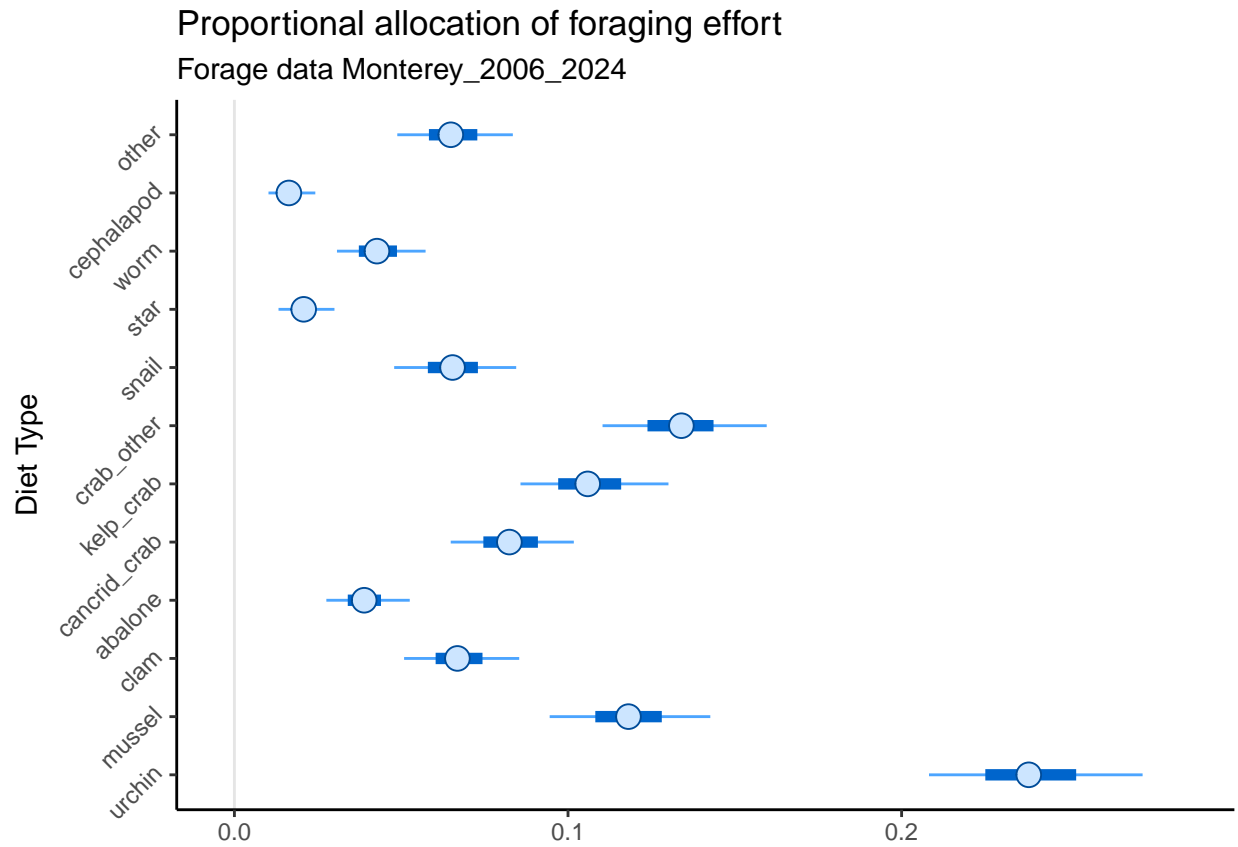
Figure 4: Caterpiller plot showing posterior distributions for $\eta_j$, the relative allocation of effort to each prey type j
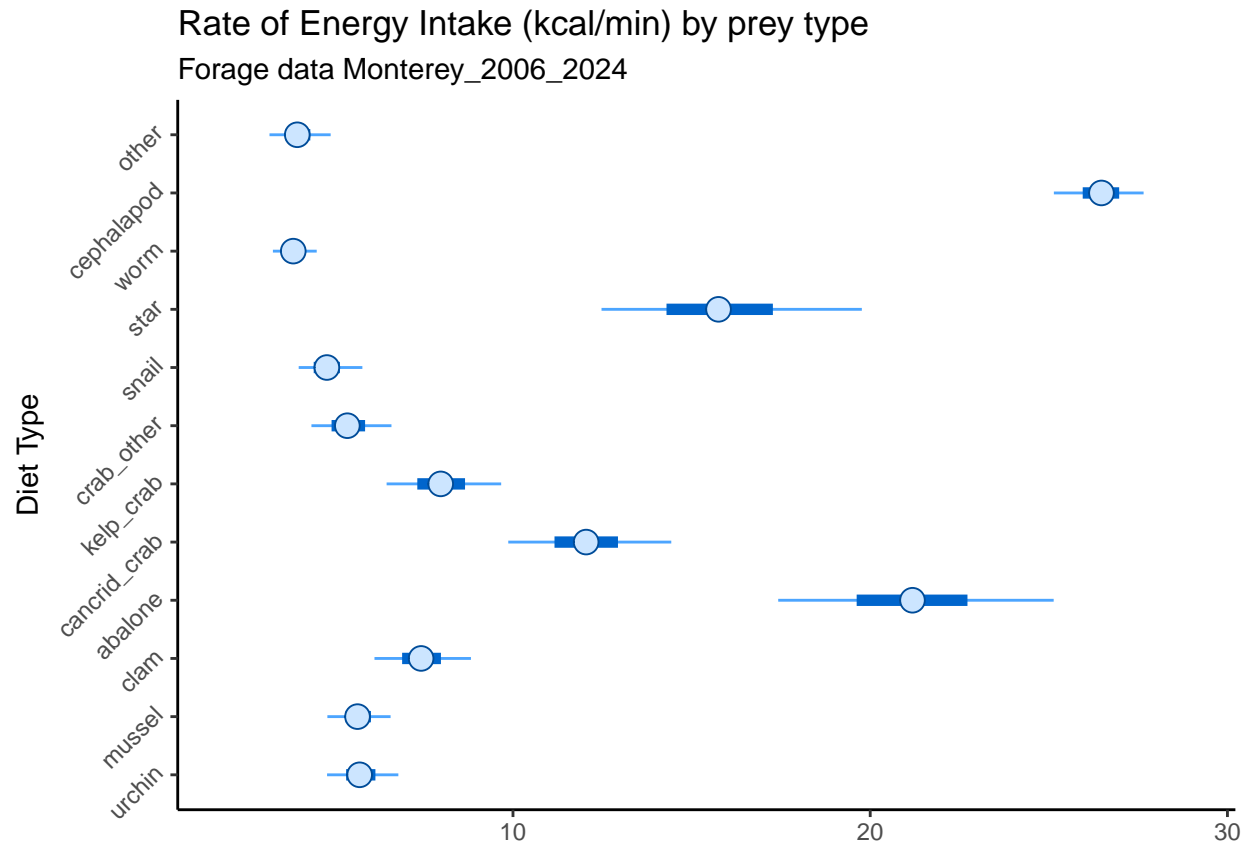
Figure 5: Caterpiller plot showing posterior distributions for the rate of energy intake while feeding on each prey type j
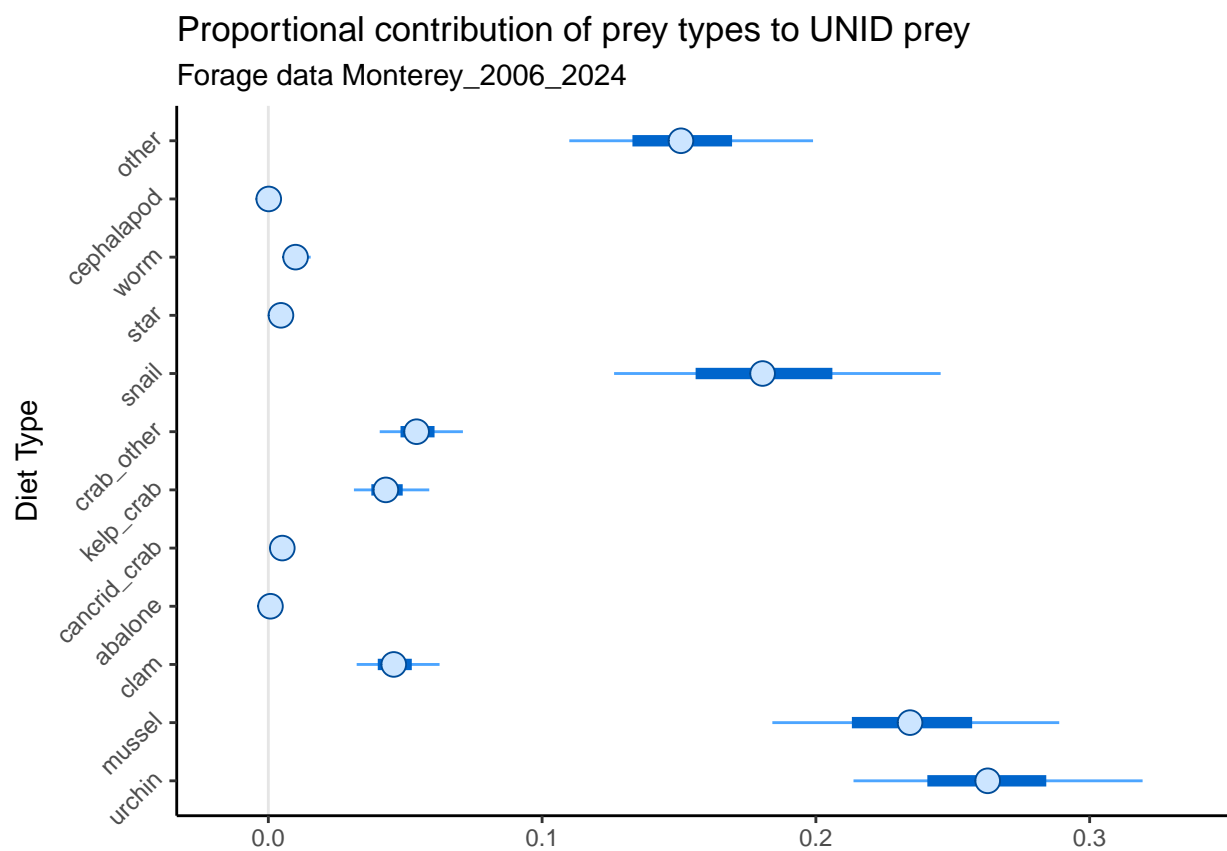
Figure 6: Caterpiller plot showing posterior distributions for $v_j$, the relative contribution to un-identified of each prey type j

**Figures, statistics by group level**

## Posterior distributions, Energy Intake, by Period
Forage data Monterey_2006_2024
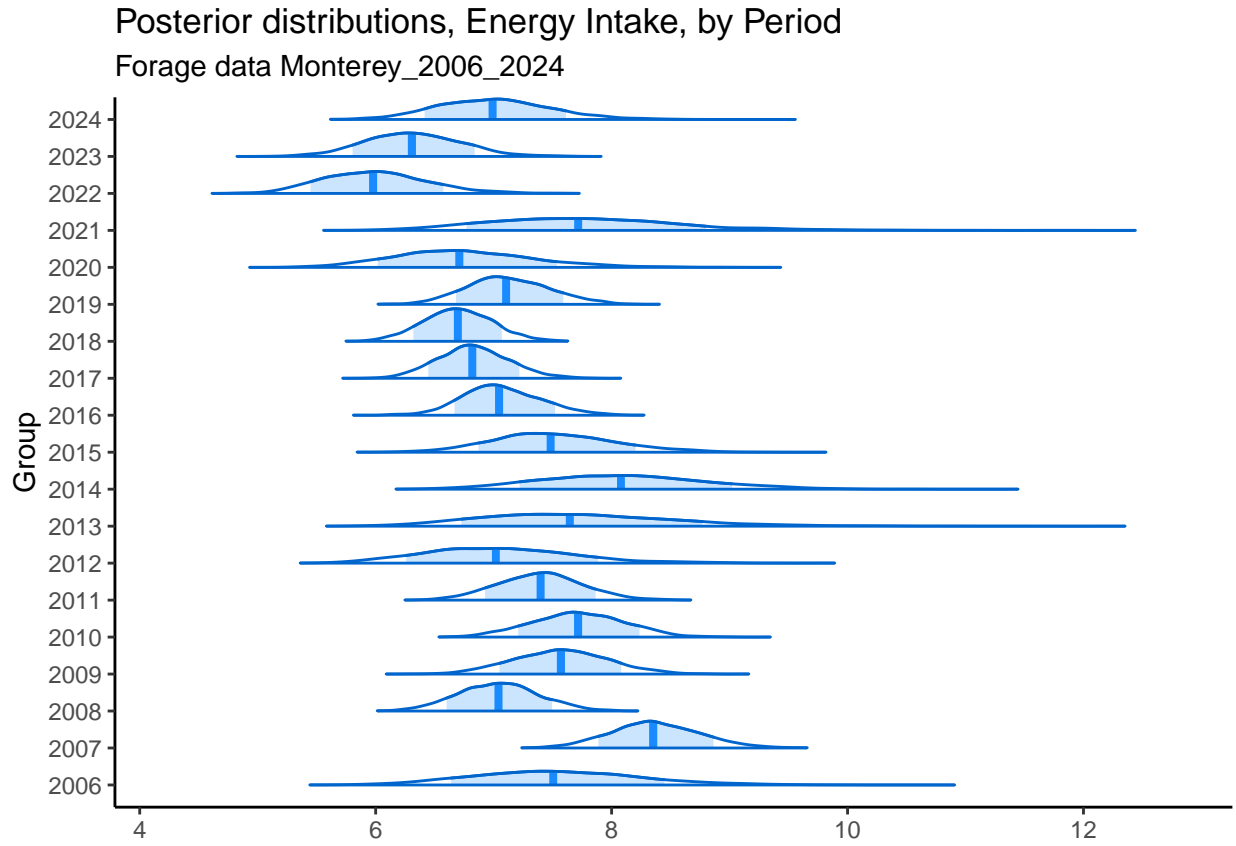


Figure 7: Density plot showing posterior distributions for rate of energy intake ($\bar{ER}_g$, kcal/min) for each group level
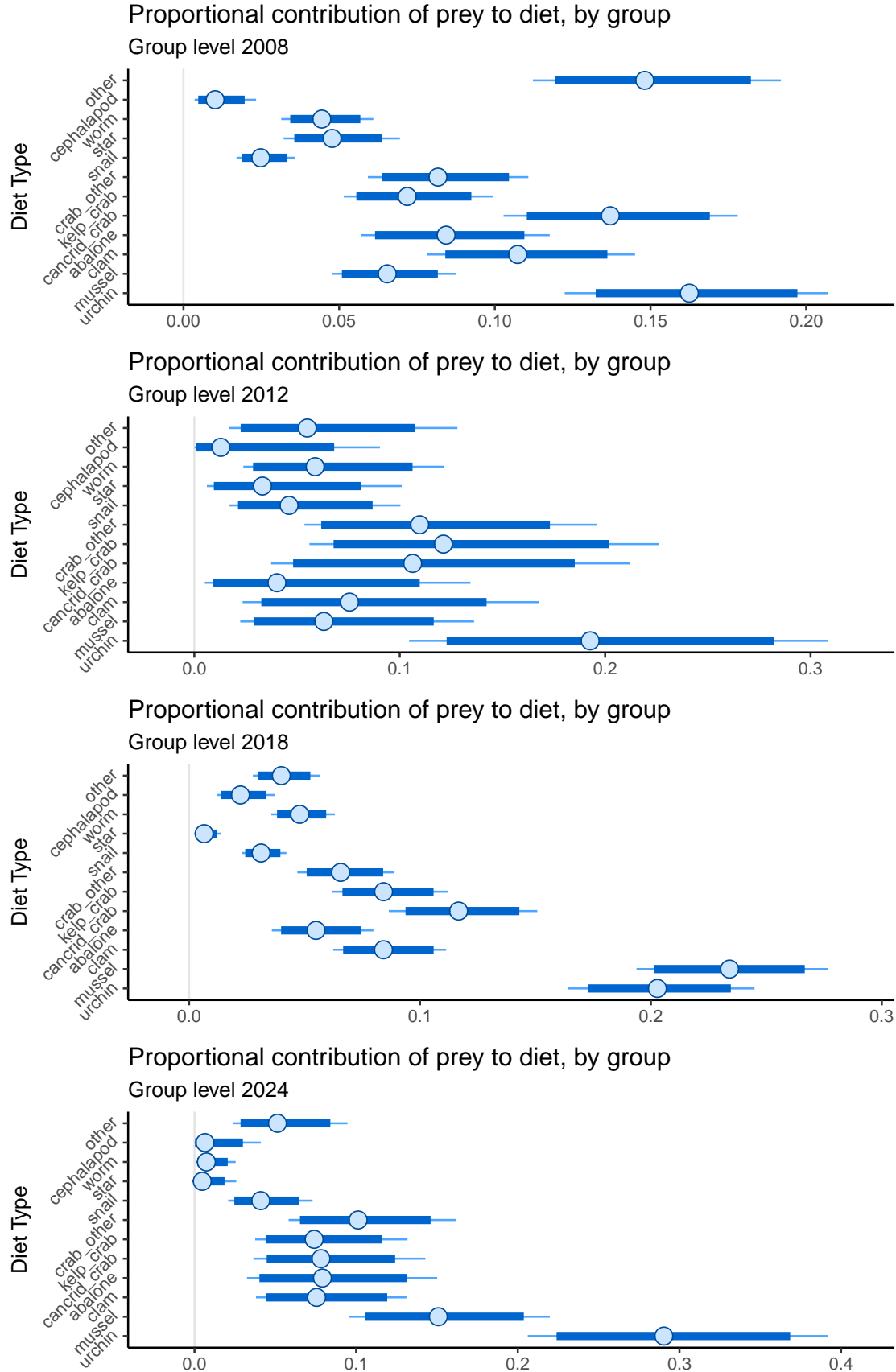
Figure 8: Caterpiller plots showing posterior distributions for $\pi_{g,j}$, the proportion of diet (biomass consumed) made up of prey type j for group g
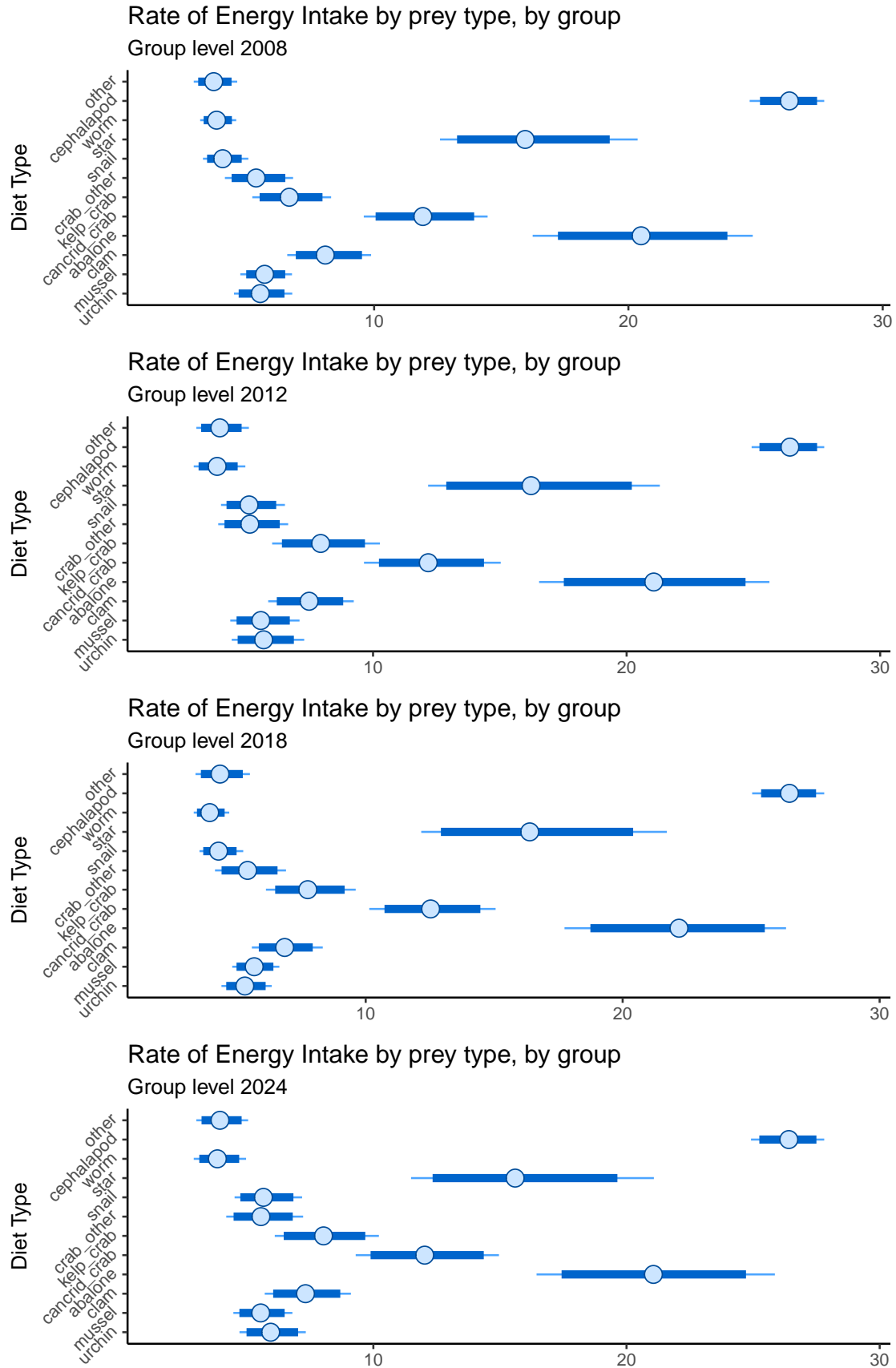
Figure 9: Caterpiller plot showing posterior distributions for the rate of energy intake while feeding on each prey type j for group g

**Tables, statistics for ALL data**

Table 4: Parameter estimates for consumption rate ($\bar{CR}$, g/min), rate of energy intake ($\bar{ER}$, kcal/min), and dive success rate ($\bar{\lambda}$) for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| CR_bar | 9.8830 | 0.405400 | 9.1150 | 10.7000 | 3749 | 1.005 |
| ER_bar | 7.4790 | 0.318600 | 6.8830 | 8.1290 | 3536 | 1.004 |
| Lambda_bar | 0.8533 | 0.008894 | 0.8344 | 0.8695 | 1351 | 1.016 |

Table 5: Parameter estimates for mean size, $\bar{S}_j$ (mm), by prey type, for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| S_bar_1 | 39.16832 | 1.664925 | 36.00169 | 42.59734 | 4436.7394 | 1.009087 |
| S_bar_2 | 40.68541 | 1.975266 | 36.90084 | 44.60915 | 3647.5174 | 1.005138 |
| S_bar_3 | 54.25749 | 3.191225 | 48.09116 | 60.86657 | 2128.4444 | 1.008476 |
| S_bar_4 | 99.64900 | 6.995922 | 86.93509 | 114.43332 | 1576.8254 | 1.009575 |
| S_bar_5 | 82.26369 | 5.565849 | 71.65799 | 93.94865 | 1933.5024 | 1.004858 |
| S_bar_6 | 44.34433 | 2.426009 | 39.61600 | 49.18331 | 2335.9274 | 1.014347 |
| S_bar_7 | 39.45952 | 2.302058 | 35.10568 | 44.10048 | 2559.7357 | 1.007233 |
| S_bar_8 | 22.02329 | 1.121732 | 19.98089 | 24.31846 | 2783.5230 | 1.006074 |
| S_bar_9 | 50.07894 | 5.472570 | 40.72812 | 62.03630 | 999.7019 | 1.016264 |
| S_bar_10 | 82.49514 | 4.746596 | 73.48795 | 91.66921 | 2271.5509 | 1.007637 |
| S_bar_11 | 72.90194 | 8.863526 | 57.52497 | 92.35918 | 794.4583 | 1.020894 |
| S_bar_12 | 43.18213 | 2.607848 | 38.42015 | 48.67452 | 2138.0860 | 1.011427 |

Table 6: Parameter estimates for mean handling time, $\bar{H}_j$ (sec), by prey type, for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| H_bar_1 | 34.53962 | 1.814278 | 31.16433 | 38.20084 | 5127.858 | 1.001615 |
| H_bar_2 | 23.87747 | 1.358470 | 21.32242 | 26.63319 | 3847.743 | 1.003218 |
| H_bar_3 | 40.75982 | 3.050483 | 35.25947 | 47.09338 | 2974.298 | 1.003152 |
| H_bar_4 | 116.28891 | 15.380945 | 89.86660 | 151.94778 | 2945.415 | 1.004408 |
| H_bar_5 | 116.69711 | 13.799708 | 92.43377 | 146.70177 | 2629.786 | 1.002573 |
| H_bar_6 | 65.74879 | 5.420553 | 55.75618 | 76.86850 | 3496.840 | 1.005473 |
| H_bar_7 | 42.96586 | 4.873144 | 34.52768 | 53.32534 | 3678.399 | 1.003165 |
| H_bar_8 | 16.50163 | 1.124383 | 14.41248 | 18.86381 | 2650.525 | 1.003014 |
| H_bar_9 | 85.15017 | 9.639381 | 67.31931 | 105.30590 | 1246.776 | 1.013206 |
| H_bar_10 | 36.00621 | 2.356731 | 31.65280 | 40.94895 | 5156.053 | 1.003073 |
| H_bar_11 | 123.44220 | 15.315035 | 96.74232 | 156.92962 | 2129.577 | 1.007100 |
| H_bar_12 | 23.14520 | 1.968963 | 19.61558 | 27.27962 | 1671.150 | 1.010228 |

Table 7: Parameter estimates for mean consumption rate by prey type $\bar{cr}_j$ (g/min), for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| cr_1 | 9.629751 | 1.0343265 | 7.718033 | 11.793370 | 4136.556 | 1.006863 |

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| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| cr_2 | 7.846292 | 0.7489584 | 6.449362 | 9.391429 | 3956.707 | 1.002522 |
| cr_3 | 11.384768 | 1.2474753 | 8.986718 | 13.933798 | 2367.820 | 1.008670 |
| cr_4 | 20.844854 | 2.2914887 | 16.334435 | 25.293672 | 1943.111 | 1.008914 |
| cr_5 | 14.651196 | 1.6307004 | 11.509655 | 17.944192 | 2192.953 | 1.004095 |
| cr_6 | 10.468865 | 1.2443359 | 8.109915 | 13.013893 | 2422.960 | 1.011859 |
| cr_7 | 6.606641 | 0.8373060 | 5.123634 | 8.408252 | 2910.957 | 1.005969 |
| cr_8 | 4.475385 | 0.4983308 | 3.615704 | 5.548075 | 2920.105 | 1.004390 |
| cr_9 | 11.951905 | 1.7120024 | 8.955229 | 15.656612 | 1130.156 | 1.013492 |
| cr_10 | 7.253602 | 0.6992455 | 5.943065 | 8.682318 | 2888.698 | 1.003789 |
| cr_11 | 24.196821 | 0.6678915 | 22.838385 | 25.445933 | 1748.484 | 1.008463 |
| cr_12 | 8.982152 | 1.1945471 | 6.802724 | 11.475730 | 1768.090 | 1.010965 |

Table 8: Parameter estimates for mean energy intake rate by prey type $\bar{er}_j$ (kcal/min), for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| er_1 | 5.741840 | 0.6191824 | 4.600563 | 7.033391 | 4069.323 | 1.006832 |
| er_2 | 5.669643 | 0.5436694 | 4.653999 | 6.780480 | 3942.602 | 1.002394 |
| er_3 | 7.437963 | 0.8181274 | 5.861978 | 9.098290 | 2403.176 | 1.008631 |
| er_4 | 21.201069 | 2.3368551 | 16.628618 | 25.756702 | 1940.612 | 1.008848 |
| er_5 | 12.093905 | 1.3511474 | 9.503131 | 14.835902 | 2212.938 | 1.003985 |
| er_6 | 8.026542 | 0.9559262 | 6.236855 | 9.976230 | 2400.886 | 1.011882 |
| er_7 | 5.396473 | 0.6871997 | 4.174644 | 6.885046 | 2883.819 | 1.006110 |
| er_8 | 4.801919 | 0.5369959 | 3.883729 | 5.970828 | 2939.549 | 1.004420 |
| er_9 | 15.932016 | 2.2865727 | 11.915442 | 20.914995 | 1138.368 | 1.013101 |
| er_10 | 3.877545 | 0.3738299 | 3.175692 | 4.645281 | 2890.960 | 1.003743 |
| er_11 | 26.433077 | 0.7738077 | 24.857145 | 27.910235 | 1955.917 | 1.008048 |
| er_12 | 3.983459 | 0.5314835 | 3.010286 | 5.089876 | 1796.300 | 1.010732 |

Table 9: Parameter estimates for $\lambda_j$, mean dive success rate by prey type, for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| lambda_1 | 0.9147509 | 0.0094315 | 0.8948630 | 0.9319592 | 2886.1516 | 1.004746 |
| lambda_2 | 0.9464702 | 0.0067614 | 0.9319514 | 0.9586554 | 2006.8540 | 1.010592 |
| lambda_3 | 0.8672775 | 0.0214142 | 0.8207027 | 0.9044926 | 1248.5380 | 1.017248 |
| lambda_4 | 0.4069064 | 0.0488363 | 0.3157747 | 0.5043528 | 1251.4064 | 1.007099 |
| lambda_5 | 0.6400990 | 0.0492117 | 0.5383143 | 0.7325390 | 1051.4364 | 1.019548 |
| lambda_6 | 0.7841595 | 0.0247778 | 0.7329081 | 0.8295750 | 1799.6758 | 1.009192 |
| lambda_7 | 0.8910153 | 0.0159461 | 0.8567307 | 0.9193584 | 1732.2828 | 1.009846 |
| lambda_8 | 0.9679136 | 0.0041506 | 0.9587878 | 0.9752201 | 2297.5875 | 1.005693 |
| lambda_9 | 0.7885503 | 0.1018681 | 0.5405277 | 0.9336923 | 453.4436 | 1.040088 |
| lambda_10 | 0.8449162 | 0.0217964 | 0.7979908 | 0.8836505 | 1499.5128 | 1.011356 |
| lambda_11 | 0.8085075 | 0.0828949 | 0.6162569 | 0.9276827 | 238.4240 | 1.068594 |
| lambda_12 | 0.9440233 | 0.0085325 | 0.9252148 | 0.9590392 | 1522.4300 | 1.011991 |

Table 10: Estimates for $\phi_{1,j}$, the intercept parameter for the function relating log consumption rate to log size, by prey type, for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| phi__1__1 | 0.8911634 | 0.1623527 | 0.5879048 | 1.2026437 | 482.9831 | 1.044129 |
| phi__1__2 | 1.5784641 | 0.1025114 | 1.3909880 | 1.7846917 | 899.7097 | 1.017558 |
| phi__1__3 | 0.6178251 | 0.1435782 | 0.3381151 | 0.9004018 | 346.5430 | 1.042270 |
| phi__1__4 | -0.3248455 | 0.4256942 | -0.8867275 | 0.8152524 | 118.6305 | 1.118007 |
| phi__1__5 | 0.7229468 | 0.3109325 | 0.0964819 | 1.3630797 | 253.3505 | 1.068617 |
| phi__1__6 | 0.3676001 | 0.1474736 | 0.1204800 | 0.7049422 | 404.0354 | 1.046749 |
| phi__1__7 | 0.7234320 | 0.1830470 | 0.3616015 | 1.0761667 | 462.9794 | 1.036420 |
| phi__1__8 | 1.8897213 | 0.0829313 | 1.7302888 | 2.0531170 | 1294.3368 | 1.010441 |
| phi__1__9 | -0.0399156 | 0.1647443 | -0.3288674 | 0.3221889 | 559.1683 | 1.026585 |
| phi__1__10 | 0.0246885 | 0.1570674 | -0.2375194 | 0.3882446 | 426.9173 | 1.036949 |
| phi__1__11 | -0.1723300 | 0.1949952 | -0.4921878 | 0.3026053 | 325.0588 | 1.050748 |
| phi__1__12 | 1.2487870 | 0.1781194 | 0.9244095 | 1.6380712 | 550.8256 | 1.026789 |

Table 11: Estimates for $\phi_{2,j}$, the slope parameter for the function relating log consumption rate to log size, by prey type, for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| phi__2__1 | 0.1827740 | 0.0712304 | 0.0512681 | 0.3260933 | 491.4961 | 1.044796 |
| phi__2__2 | 0.0691426 | 0.0384336 | 0.0071510 | 0.1514022 | 869.0684 | 1.019104 |
| phi__2__3 | 0.2740838 | 0.0464657 | 0.1809408 | 0.3659871 | 410.3354 | 1.036924 |
| phi__2__4 | 0.1142193 | 0.0981605 | 0.0034276 | 0.3752884 | 119.3109 | 1.115342 |
| phi__2__5 | 0.2305039 | 0.0771068 | 0.0754310 | 0.3873022 | 254.7472 | 1.067022 |
| phi__2__6 | 0.0649896 | 0.0502747 | 0.0026303 | 0.1902772 | 593.7503 | 1.041918 |
| phi__2__7 | 0.2045641 | 0.0760085 | 0.0536109 | 0.3542632 | 638.0886 | 1.027301 |
| phi__2__8 | 0.4093517 | 0.0621815 | 0.2840609 | 0.5291905 | 1997.4700 | 1.007981 |
| phi__2__9 | 0.0678467 | 0.0435084 | 0.0041172 | 0.1684232 | 632.0104 | 1.026595 |
| phi__2__10 | 0.0468642 | 0.0354733 | 0.0012862 | 0.1321256 | 530.6868 | 1.035335 |
| phi__2__11 | 0.0542700 | 0.0438990 | 0.0019904 | 0.1672696 | 418.8523 | 1.039964 |
| phi__2__12 | 0.0489657 | 0.0450477 | 0.0017531 | 0.1705839 | 1050.8402 | 1.013822 |

Table 12: Estimates for $\psi_{1,j}$, the intercept parameter for the function relating log handling time to log size, by prey type, for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| psi__1__1 | 2.993027 | 0.0848419 | 2.828753 | 3.161488 | 695.5729 | 1.021623 |
| psi__1__2 | 2.722828 | 0.0856952 | 2.548456 | 2.884805 | 646.2152 | 1.025099 |
| psi__1__3 | 3.139503 | 0.1482401 | 2.834187 | 3.425820 | 427.2481 | 1.040444 |
| psi__1__4 | 2.568327 | 0.4526295 | 1.715100 | 3.494099 | 150.9458 | 1.100462 |
| psi__1__5 | 2.408236 | 0.1821714 | 2.066317 | 2.777182 | 348.5879 | 1.051388 |
| psi__1__6 | 3.089524 | 0.1131518 | 2.861258 | 3.307884 | 527.4575 | 1.041275 |
| psi__1__7 | 2.731319 | 0.1451966 | 2.447071 | 3.011685 | 604.2316 | 1.036303 |
| psi__1__8 | 2.534845 | 0.0583020 | 2.418239 | 2.646885 | 1929.1936 | 1.007005 |
| psi__1__9 | 3.610754 | 0.1920381 | 3.242896 | 3.993520 | 437.1409 | 1.046086 |
| psi__1__10 | 3.220752 | 0.1784784 | 2.837553 | 3.521446 | 374.9613 | 1.057103 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| psi__1__11 | 3.819026 | 0.3169604 | 3.188963 | 4.395178 | 310.4255 | 1.060119 |
| psi__1__12 | 2.870625 | 0.1119833 | 2.633817 | 3.069749 | 629.9784 | 1.024359 |

Table 13: Estimates for $\psi_{2,j}$, the slope parameter for the function relating log handling time to log size, by prey type, for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| psi__2__1 | 0.2341363 | 0.0349731 | 0.1647622 | 0.3030043 | 667.7184 | 1.023033 |
| psi__2__2 | 0.1718458 | 0.0332221 | 0.1083057 | 0.2381482 | 574.6831 | 1.026892 |
| psi__2__3 | 0.1662106 | 0.0470903 | 0.0764403 | 0.2567797 | 505.5182 | 1.034769 |
| psi__2__4 | 0.4665639 | 0.0994608 | 0.2643808 | 0.6533475 | 157.4560 | 1.095856 |
| psi__2__5 | 0.5622333 | 0.0440658 | 0.4750206 | 0.6445317 | 350.9660 | 1.050465 |
| psi__2__6 | 0.4214123 | 0.0413552 | 0.3388808 | 0.5028310 | 512.6233 | 1.038168 |
| psi__2__7 | 0.3925253 | 0.0618913 | 0.2708500 | 0.5100188 | 673.2658 | 1.033962 |
| psi__2__8 | 0.2725575 | 0.0365814 | 0.1991738 | 0.3430993 | 2646.9709 | 1.007105 |
| psi__2__9 | 0.2287871 | 0.0568601 | 0.1145599 | 0.3374326 | 499.2512 | 1.038981 |
| psi__2__10 | 0.0747442 | 0.0431997 | 0.0055542 | 0.1677184 | 369.0555 | 1.057470 |
| psi__2__11 | 0.1802446 | 0.0840944 | 0.0276651 | 0.3485033 | 326.8775 | 1.059918 |
| psi__2__12 | 0.0517304 | 0.0364906 | 0.0022663 | 0.1379008 | 849.5364 | 1.017270 |

Table 14: Estimates for $\eta_j$, proportional allocation of effort to prey type j, for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| eta__1 | 0.2384823 | 0.0191170 | 0.2026489 | 0.2777227 | 3622.863 | 1.004860 |
| eta__2 | 0.1183308 | 0.0145994 | 0.0902063 | 0.1476129 | 3363.086 | 1.002225 |
| eta__3 | 0.0675539 | 0.0105751 | 0.0476624 | 0.0888090 | 3665.230 | 1.002644 |
| eta__4 | 0.0394758 | 0.0075273 | 0.0257696 | 0.0554285 | 3199.907 | 1.003688 |
| eta__5 | 0.0830014 | 0.0115885 | 0.0618528 | 0.1058712 | 3368.667 | 1.005095 |
| eta__6 | 0.1063752 | 0.0136006 | 0.0813889 | 0.1343662 | 3565.865 | 1.002031 |
| eta__7 | 0.1342462 | 0.0148513 | 0.1064146 | 0.1640457 | 2914.464 | 1.004743 |
| eta__8 | 0.0656242 | 0.0109097 | 0.0453322 | 0.0877039 | 3307.661 | 1.004145 |
| eta__9 | 0.0210608 | 0.0052117 | 0.0121198 | 0.0323421 | 2553.387 | 1.005729 |
| eta__10 | 0.0433514 | 0.0082038 | 0.0286827 | 0.0603445 | 3335.860 | 1.003602 |
| eta__11 | 0.0166734 | 0.0043517 | 0.0092385 | 0.0263359 | 2345.447 | 1.008428 |
| eta__12 | 0.0658246 | 0.0106579 | 0.0463505 | 0.0878247 | 3125.980 | 1.006187 |

Table 15: Estimates for $\pi_j$, proportion of diet (consumed biomass) consisting of prey type j, for the overall data set

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| pi__1 | 0.2320896 | 0.0272169 | 0.1816339 | 0.2872253 | 2875.766 | 1.006838 |
| pi__2 | 0.0940146 | 0.0146183 | 0.0678500 | 0.1249547 | 3611.654 | 1.003585 |
| pi__3 | 0.0778419 | 0.0146132 | 0.0507121 | 0.1077481 | 3353.419 | 1.004463 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| pi_4 | 0.0831414 | 0.0174770 | 0.0523648 | 0.1203278 | 2777.262 | 1.004354 |
| pi_5 | 0.1229362 | 0.0207898 | 0.0857959 | 0.1659946 | 2669.586 | 1.007316 |
| pi_6 | 0.1125410 | 0.0182702 | 0.0798932 | 0.1507560 | 4198.552 | 1.002297 |
| pi_7 | 0.0897618 | 0.0147677 | 0.0638101 | 0.1217772 | 3984.320 | 1.006219 |
| pi_8 | 0.0297958 | 0.0062472 | 0.0191045 | 0.0429872 | 3226.479 | 1.003822 |
| pi_9 | 0.0254527 | 0.0071832 | 0.0137337 | 0.0411643 | 1995.695 | 1.006439 |
| pi_10 | 0.0318734 | 0.0069316 | 0.0201004 | 0.0473062 | 3645.192 | 1.002288 |
| pi_11 | 0.0408103 | 0.0105315 | 0.0229203 | 0.0639281 | 2414.803 | 1.007895 |
| pi_12 | 0.0597413 | 0.0118652 | 0.0391517 | 0.0850472 | 3553.129 | 1.007211 |

Table 16: Estimates for $\omega_j$, probability that prey type j is positively identified (and thus not recorded as 'Un-ID' prey), and $\upsilon_j$, relative contribution of each prey type to the UNID prey category.

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| omega_1 | 0.1261667 | 0.0061413 | 0.1141126 | 0.1383360 | 2560.958 | 1.004450 |
| omega_2 | 0.1216395 | 0.0066857 | 0.1086289 | 0.1353811 | 1533.581 | 1.008231 |
| omega_3 | 0.1079758 | 0.0074686 | 0.0935039 | 0.1222604 | 2139.667 | 1.009824 |
| omega_4 | 0.0104217 | 0.0040759 | 0.0044593 | 0.0203729 | 2008.166 | 1.007720 |
| omega_5 | 0.0270553 | 0.0062586 | 0.0164085 | 0.0411077 | 2101.644 | 1.010863 |
| omega_6 | 0.0855586 | 0.0079503 | 0.0702494 | 0.1011099 | 3134.965 | 1.002814 |
| omega_7 | 0.1466640 | 0.0068311 | 0.1341448 | 0.1607240 | 1847.901 | 1.008058 |
| omega_8 | 0.1339423 | 0.0088535 | 0.1171718 | 0.1521872 | 2145.200 | 1.003479 |
| omega_9 | 0.0668513 | 0.0152101 | 0.0403930 | 0.0987396 | 1381.553 | 1.013451 |
| omega_10 | 0.0278793 | 0.0053823 | 0.0185542 | 0.0394088 | 2962.205 | 1.003605 |
| omega_11 | 0.0352292 | 0.0134161 | 0.0151666 | 0.0661170 | 1180.722 | 1.010067 |
| omega_12 | 0.1106162 | 0.0083284 | 0.0939263 | 0.1267195 | 1694.026 | 1.010344 |
| upsilon_1 | 0.2636657 | 0.0321556 | 0.2054399 | 0.3315333 | 3912.631 | 1.004524 |
| upsilon_2 | 0.2354415 | 0.0321858 | 0.1750270 | 0.2982009 | 2542.900 | 1.007404 |
| upsilon_3 | 0.0465611 | 0.0092139 | 0.0301542 | 0.0660847 | 3395.405 | 1.004724 |
| upsilon_4 | 0.0008700 | 0.0003781 | 0.0003471 | 0.0018031 | 2482.864 | 1.005753 |
| upsilon_5 | 0.0052687 | 0.0014411 | 0.0029509 | 0.0084989 | 2767.711 | 1.004048 |
| upsilon_6 | 0.0437646 | 0.0084766 | 0.0293335 | 0.0623496 | 4623.239 | 1.001936 |
| upsilon_7 | 0.0548569 | 0.0094671 | 0.0382493 | 0.0754931 | 4093.899 | 1.004533 |
| upsilon_8 | 0.1817802 | 0.0353477 | 0.1191402 | 0.2559406 | 2908.627 | 1.004601 |
| upsilon_9 | 0.0048661 | 0.0017840 | 0.0022324 | 0.0089316 | 2301.484 | 1.009098 |
| upsilon_10 | 0.0103300 | 0.0029440 | 0.0056565 | 0.0171898 | 3636.774 | 1.004865 |
| upsilon_11 | 0.0001733 | 0.0000897 | 0.0000561 | 0.0003932 | 1330.197 | 1.013056 |
| upsilon_12 | 0.1524218 | 0.0272593 | 0.1020471 | 0.2098666 | 3478.748 | 1.007795 |

Table 17: Estimates for model variance and precision parameters. Prey-specific standard error values are shown for log-normally distributed observed variables of prey size ($\sigma_{s,j}$), handling time ($\sigma_{h,j}$), consumption rate ($\sigma_{c,j}$) and dive success rate ($\sigma_{l,j}$). Also shown are precision parameters for Dirichlet distributions that describe the relative frequencies of different prey types. Precision parameters determine the consistency in diet composition across bouts ($\tau_b$) and, if applicable, across different groups ($\tau_g$)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| sigma_s_1 | 0.2352 | 0.009503 | 0.2175 | 0.2548 | 4569.0 | 1.004 |
| sigma_s_2 | 0.3305 | 0.014950 | 0.3030 | 0.3615 | 6247.0 | 1.002 |
| sigma_s_3 | 0.3993 | 0.027410 | 0.3502 | 0.4573 | 5556.0 | 1.004 |
| sigma_s_4 | 0.2635 | 0.036280 | 0.2037 | 0.3450 | 4760.0 | 1.003 |
| sigma_s_5 | 0.3642 | 0.029130 | 0.3135 | 0.4274 | 4636.0 | 1.010 |
| sigma_s_6 | 0.2923 | 0.016690 | 0.2629 | 0.3266 | 5052.0 | 1.003 |
| sigma_s_7 | 0.4105 | 0.026090 | 0.3637 | 0.4658 | 5497.0 | 1.003 |
| sigma_s_8 | 0.3120 | 0.016060 | 0.2817 | 0.3447 | 2134.0 | 1.019 |
| sigma_s_9 | 0.2189 | 0.068010 | 0.1221 | 0.3809 | 2912.0 | 1.003 |
| sigma_s_10 | 0.2697 | 0.015780 | 0.2413 | 0.3035 | 6579.0 | 1.004 |
| sigma_s_11 | 0.2693 | 0.073270 | 0.1671 | 0.4470 | 3431.0 | 1.004 |
| sigma_s_12 | 0.3430 | 0.022360 | 0.3026 | 0.3926 | 3016.0 | 1.010 |
| sigma_h_1 | 0.3059 | 0.015090 | 0.2775 | 0.3378 | 6170.0 | 1.006 |
| sigma_h_2 | 0.3822 | 0.019370 | 0.3456 | 0.4221 | 4980.0 | 1.009 |
| sigma_h_3 | 0.4192 | 0.037910 | 0.3532 | 0.5010 | 4976.0 | 1.004 |
| sigma_h_4 | 0.3754 | 0.060530 | 0.2790 | 0.5120 | 4214.0 | 1.007 |
| sigma_h_5 | 0.3093 | 0.029590 | 0.2577 | 0.3742 | 5220.0 | 1.004 |
| sigma_h_6 | 0.3044 | 0.022130 | 0.2642 | 0.3511 | 4993.0 | 1.003 |
| sigma_h_7 | 0.5717 | 0.059140 | 0.4700 | 0.7093 | 986.7 | 1.017 |
| sigma_h_8 | 0.3962 | 0.020800 | 0.3575 | 0.4393 | 3773.0 | 1.005 |
| sigma_h_9 | 0.6332 | 0.045420 | 0.5533 | 0.7286 | 3727.0 | 1.009 |
| sigma_h_10 | 0.3602 | 0.025720 | 0.3130 | 0.4136 | 6329.0 | 1.006 |
| sigma_h_11 | 0.8415 | 0.065540 | 0.7238 | 0.9810 | 5305.0 | 1.008 |
| sigma_h_12 | 0.5450 | 0.041110 | 0.4726 | 0.6305 | 5951.0 | 1.008 |
| sigma_c_1 | 0.5663 | 0.032100 | 0.5096 | 0.6365 | 1886.0 | 1.017 |
| sigma_c_2 | 0.5260 | 0.029690 | 0.4731 | 0.5888 | 5416.0 | 1.009 |
| sigma_c_3 | 0.3543 | 0.034620 | 0.2932 | 0.4279 | 3765.0 | 1.005 |
| sigma_c_4 | 0.4104 | 0.080870 | 0.2846 | 0.5988 | 5022.0 | 1.006 |
| sigma_c_5 | 0.4399 | 0.057280 | 0.3436 | 0.5693 | 2800.0 | 1.007 |
| sigma_c_6 | 0.5039 | 0.051090 | 0.4153 | 0.6122 | 5980.0 | 1.006 |
| sigma_c_7 | 0.5894 | 0.072320 | 0.4656 | 0.7520 | 4866.0 | 1.005 |
| sigma_c_8 | 0.6328 | 0.036250 | 0.5662 | 0.7090 | 4115.0 | 1.003 |
| sigma_c_9 | 0.5795 | 0.049350 | 0.4939 | 0.6885 | 5291.0 | 1.009 |
| sigma_c_10 | 0.4360 | 0.033960 | 0.3762 | 0.5085 | 5838.0 | 1.008 |
| sigma_c_11 | 0.7776 | 0.067340 | 0.6568 | 0.9231 | 5469.0 | 1.005 |
| sigma_c_12 | 1.0320 | 0.088600 | 0.8793 | 1.2200 | 5460.0 | 1.005 |
| sigma_l_1 | 1.3030 | 0.055230 | 1.2020 | 1.4190 | 5373.0 | 1.005 |
| sigma_l_2 | 1.4540 | 0.066200 | 1.3330 | 1.5890 | 7090.0 | 1.007 |
| sigma_l_3 | 1.6510 | 0.114000 | 1.4420 | 1.8890 | 5602.0 | 1.005 |
| sigma_l_4 | 0.9935 | 0.135800 | 0.7593 | 1.2860 | 4684.0 | 1.004 |
| sigma_l_5 | 1.5890 | 0.130900 | 1.3580 | 1.8740 | 2720.0 | 1.010 |
| sigma_l_6 | 1.1750 | 0.066870 | 1.0560 | 1.3160 | 5724.0 | 1.006 |
| sigma_l_7 | 1.3830 | 0.090540 | 1.2180 | 1.5720 | 5191.0 | 1.004 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| sigma_l_8 | 1.1340 | 0.057190 | 1.0290 | 1.2540 | 6392.0 | 1.007 |
| sigma_l_9 | 2.0150 | 0.509400 | 1.2810 | 3.2630 | 4550.0 | 1.003 |
| sigma_l_10 | 1.3940 | 0.083910 | 1.2410 | 1.5690 | 6392.0 | 1.007 |
| sigma_l_11 | 1.5320 | 0.400600 | 0.9558 | 2.4960 | 3355.0 | 1.005 |
| sigma_l_12 | 1.3530 | 0.082150 | 1.2010 | 1.5240 | 6576.0 | 1.004 |
| tau_b_1 | 2.2650 | 0.895800 | 0.9085 | 4.4190 | 3921.0 | 1.005 |
| tau_b_2 | 1.4050 | 0.076520 | 1.2570 | 1.5560 | 6892.0 | 1.005 |
| tau_b_3 | 1.9250 | 0.115200 | 1.7050 | 2.1630 | 6424.0 | 1.014 |
| tau_b_4 | 1.8830 | 0.128300 | 1.6420 | 2.1400 | 6580.0 | 1.012 |
| tau_b_5 | 1.5560 | 0.103000 | 1.3650 | 1.7630 | 5018.0 | 1.010 |
| tau_b_6 | 1.7170 | 0.105300 | 1.5170 | 1.9350 | 6427.0 | 1.004 |
| tau_b_7 | 1.2980 | 0.433800 | 0.6413 | 2.3340 | 7203.0 | 1.011 |
| tau_b_8 | 2.2950 | 0.972700 | 0.7928 | 4.5230 | 5255.0 | 1.007 |
| tau_b_9 | 4.0110 | 0.617100 | 2.7180 | 4.9540 | 3011.0 | 1.004 |
| tau_b_10 | 2.0430 | 0.240100 | 1.6070 | 2.5500 | 6736.0 | 1.010 |
| tau_b_11 | 0.8947 | 0.051710 | 0.7956 | 0.9976 | 6232.0 | 1.007 |
| tau_b_12 | 0.8140 | 0.036760 | 0.7428 | 0.8885 | 6262.0 | 1.010 |
| tau_b_13 | 0.9432 | 0.045250 | 0.8549 | 1.0320 | 6002.0 | 1.003 |
| tau_b_14 | 0.8517 | 0.066820 | 0.7299 | 0.9866 | 4676.0 | 1.006 |
| tau_b_15 | 0.4969 | 0.156000 | 0.2492 | 0.8552 | 6042.0 | 1.002 |
| tau_b_16 | 0.5923 | 0.334300 | 0.1552 | 1.4500 | 7308.0 | 1.007 |
| tau_b_17 | 0.8840 | 0.163700 | 0.6053 | 1.2460 | 6429.0 | 1.006 |
| tau_b_18 | 0.9707 | 0.118200 | 0.7558 | 1.2180 | 4566.0 | 1.006 |
| tau_b_19 | 0.8554 | 0.128600 | 0.6225 | 1.1300 | 6289.0 | 1.002 |
| tau_g | 3.8140 | 0.597400 | 2.7650 | 5.1200 | 1446.0 | 1.007 |

## Tables, statistics by group level

Table 18: Parameter estimates for consumption rate ($\bar{CR}_g$, g/min), rate of energy intake ($\bar{ER}_g$, kcal/min) and dive success rate ($\lambda_g$) for each group level g

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| CR_1 | 9.6750 | 0.743600 | 8.2690 | 11.1800 | 4561 | 1.0030 |
| CR_2 | 10.4200 | 0.438800 | 9.5820 | 11.3100 | 2904 | 1.0040 |
| CR_3 | 9.5470 | 0.438500 | 8.7080 | 10.4300 | 3843 | 1.0030 |
| CR_4 | 10.0400 | 0.499300 | 9.0630 | 11.0000 | 2610 | 1.0070 |
| CR_5 | 10.1000 | 0.486600 | 9.1810 | 11.0600 | 2083 | 1.0080 |
| CR_6 | 9.7090 | 0.455600 | 8.8020 | 10.6500 | 3836 | 1.0040 |
| CR_7 | 9.3130 | 0.692100 | 8.0160 | 10.7700 | 4004 | 1.0030 |
| CR_8 | 10.2600 | 0.833400 | 8.7780 | 12.0500 | 4837 | 0.9999 |
| CR_9 | 10.5600 | 0.737400 | 9.1990 | 12.0200 | 4672 | 1.0050 |
| CR_10 | 10.0500 | 0.627100 | 8.8600 | 11.3400 | 4646 | 1.0040 |
| CR_11 | 9.5560 | 0.441900 | 8.7290 | 10.4500 | 4641 | 1.0030 |
| CR_12 | 9.3970 | 0.425000 | 8.5890 | 10.2500 | 2731 | 1.0060 |
| CR_13 | 9.1350 | 0.393800 | 8.3730 | 9.9330 | 4498 | 1.0040 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| CR_14 | 9.6730 | 0.466800 | 8.7930 | 10.6200 | 4324 | 1.0030 |
| CR_15 | 9.3880 | 0.700900 | 8.0990 | 10.8400 | 2683 | 1.0050 |
| CR_16 | 10.2700 | 0.825900 | 8.7580 | 12.0000 | 4927 | 1.0030 |
| CR_17 | 8.5700 | 0.618500 | 7.4320 | 9.8530 | 4193 | 1.0030 |
| CR_18 | 9.0510 | 0.575300 | 7.9690 | 10.2100 | 5635 | 1.0040 |
| CR_19 | 9.5460 | 0.607700 | 8.4280 | 10.8100 | 5267 | 1.0050 |
| ER_1 | 7.5270 | 0.698100 | 6.2660 | 9.0610 | 4018 | 1.0050 |
| ER_2 | 8.3740 | 0.391100 | 7.6430 | 9.1880 | 2776 | 1.0030 |
| ER_3 | 7.0450 | 0.345500 | 6.3910 | 7.7340 | 3796 | 1.0020 |
| ER_4 | 7.5750 | 0.400000 | 6.8020 | 8.3560 | 2707 | 1.0060 |
| ER_5 | 7.7160 | 0.394100 | 6.9660 | 8.4720 | 2635 | 1.0070 |
| ER_6 | 7.3980 | 0.361300 | 6.7010 | 8.1240 | 3723 | 1.0040 |
| ER_7 | 7.0670 | 0.644600 | 5.9430 | 8.4840 | 4309 | 1.0060 |
| ER_8 | 7.7230 | 0.825900 | 6.3330 | 9.5700 | 4911 | 1.0010 |
| ER_9 | 8.1010 | 0.693800 | 6.8450 | 9.5290 | 4448 | 1.0050 |
| ER_10 | 7.5270 | 0.528200 | 6.5490 | 8.6320 | 4966 | 1.0030 |
| ER_11 | 7.0720 | 0.337200 | 6.4360 | 7.7670 | 4662 | 1.0050 |
| ER_12 | 6.8300 | 0.305100 | 6.2540 | 7.4460 | 2962 | 1.0060 |
| ER_13 | 6.6980 | 0.293400 | 6.1280 | 7.2820 | 4379 | 1.0010 |
| ER_14 | 7.1280 | 0.355900 | 6.4630 | 7.8500 | 4541 | 1.0030 |
| ER_15 | 6.7460 | 0.600700 | 5.7000 | 8.0170 | 2776 | 1.0050 |
| ER_16 | 7.7600 | 0.830400 | 6.3670 | 9.5910 | 5038 | 1.0030 |
| ER_17 | 6.0040 | 0.446900 | 5.1910 | 6.9530 | 4949 | 1.0030 |
| ER_18 | 6.3220 | 0.411200 | 5.5470 | 7.1480 | 5229 | 1.0040 |
| ER_19 | 7.0040 | 0.488800 | 6.1200 | 8.0280 | 5152 | 1.0040 |
| Lambda_1 | 0.8262 | 0.027100 | 0.7687 | 0.8747 | 2388 | 1.0090 |
| Lambda_2 | 0.8367 | 0.013990 | 0.8062 | 0.8617 | 1366 | 1.0150 |
| Lambda_3 | 0.8424 | 0.012940 | 0.8155 | 0.8665 | 1746 | 1.0150 |
| Lambda_4 | 0.8328 | 0.015110 | 0.8018 | 0.8602 | 3184 | 1.0060 |
| Lambda_5 | 0.8299 | 0.015000 | 0.7988 | 0.8578 | 2694 | 1.0090 |
| Lambda_6 | 0.8663 | 0.011860 | 0.8421 | 0.8893 | 1093 | 1.0180 |
| Lambda_7 | 0.8573 | 0.021610 | 0.8090 | 0.8934 | 2692 | 1.0060 |
| Lambda_8 | 0.8338 | 0.028640 | 0.7710 | 0.8811 | 4181 | 1.0090 |
| Lambda_9 | 0.8220 | 0.025930 | 0.7669 | 0.8686 | 2545 | 1.0090 |
| Lambda_10 | 0.8603 | 0.015750 | 0.8272 | 0.8886 | 3609 | 1.0030 |
| Lambda_11 | 0.8554 | 0.011730 | 0.8305 | 0.8767 | 1951 | 1.0110 |
| Lambda_12 | 0.8827 | 0.008768 | 0.8645 | 0.8988 | 3237 | 1.0050 |
| Lambda_13 | 0.8791 | 0.009532 | 0.8598 | 0.8971 | 3238 | 1.0040 |
| Lambda_14 | 0.8765 | 0.012070 | 0.8509 | 0.8978 | 3108 | 1.0060 |
| Lambda_15 | 0.8529 | 0.021760 | 0.8037 | 0.8899 | 2171 | 1.0080 |
| Lambda_16 | 0.8442 | 0.027190 | 0.7837 | 0.8918 | 3613 | 1.0030 |
| Lambda_17 | 0.9112 | 0.013480 | 0.8822 | 0.9348 | 4318 | 1.0110 |
| Lambda_18 | 0.8748 | 0.014320 | 0.8442 | 0.9009 | 3286 | 1.0080 |
| Lambda_19 | 0.8705 | 0.016160 | 0.8360 | 0.8991 | 3228 | 1.0050 |

Table 19: Parameter estimates for mean size, $\bar{S}_{g,j}$, by group level g and by prey type j

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| S_1,1 | 36.57019 | 6.209085 | 26.15047 | 50.55980 | 3867.053 | 1.006066 |
| S_1,2 | 40.03602 | 6.779163 | 28.39040 | 54.81071 | 4835.907 | 1.003476 |
| S_1,3 | 52.53947 | 8.367414 | 37.97838 | 70.31876 | 4102.035 | 1.006778 |
| S_1,4 | 100.95487 | 17.657502 | 71.02515 | 139.53755 | 3864.967 | 1.005100 |
| S_1,5 | 84.13581 | 14.268183 | 59.87863 | 116.09122 | 4094.761 | 1.006936 |
| S_1,6 | 35.83465 | 4.822633 | 27.20941 | 45.90630 | 2833.367 | 1.007518 |
| S_1,7 | 38.71504 | 5.728860 | 28.51005 | 51.02701 | 4699.927 | 1.007344 |
| S_1,8 | 22.24311 | 3.504906 | 15.96404 | 29.98847 | 6242.696 | 1.005316 |
| S_1,9 | 50.86675 | 9.643641 | 34.84283 | 72.95827 | 2469.752 | 1.012576 |
| S_1,10 | 83.31862 | 14.050067 | 58.94167 | 113.12977 | 4959.501 | 1.004370 |
| S_1,11 | 73.91596 | 14.743278 | 49.55022 | 107.49050 | 1600.910 | 1.011305 |
| S_1,12 | 42.98060 | 7.385862 | 30.41417 | 59.04866 | 5099.204 | 1.008696 |
| S_2,1 | 32.30269 | 1.490336 | 29.49504 | 35.33990 | 4857.001 | 1.005209 |
| S_2,2 | 32.65603 | 2.016706 | 28.93538 | 36.77370 | 5213.359 | 1.007653 |
| S_2,3 | 49.60548 | 4.795191 | 40.91839 | 59.52161 | 4626.847 | 1.009122 |
| S_2,4 | 106.82968 | 8.173205 | 91.79410 | 123.95485 | 4504.493 | 1.005471 |
| S_2,5 | 87.35062 | 7.084288 | 74.65620 | 102.42435 | 5832.954 | 1.002738 |
| S_2,6 | 41.46650 | 2.889821 | 36.24346 | 47.56190 | 5449.515 | 1.005001 |
| S_2,7 | 36.18640 | 3.294401 | 30.09836 | 43.01028 | 4212.960 | 1.004702 |
| S_2,8 | 16.91834 | 1.030655 | 15.07826 | 19.06028 | 3819.159 | 1.005948 |
| S_2,9 | 41.92039 | 6.247990 | 32.30435 | 57.06500 | 2379.689 | 1.004995 |
| S_2,10 | 78.22825 | 4.136602 | 70.66260 | 86.60637 | 6097.233 | 1.005322 |
| S_2,11 | 73.61273 | 14.750901 | 48.97188 | 107.35513 | 1709.561 | 1.007415 |
| S_2,12 | 46.06571 | 3.854245 | 39.05460 | 54.05192 | 4762.526 | 1.008951 |
| S_3,1 | 31.99834 | 1.445108 | 29.24703 | 34.95059 | 6261.536 | 1.009745 |
| S_3,2 | 30.69447 | 1.902794 | 27.20815 | 34.58631 | 5907.576 | 1.003192 |
| S_3,3 | 51.42343 | 4.873412 | 42.46597 | 61.25646 | 3004.370 | 1.007465 |
| S_3,4 | 94.24145 | 9.239586 | 77.80246 | 114.19423 | 4250.967 | 1.005562 |
| S_3,5 | 74.08567 | 7.299226 | 60.98752 | 89.56556 | 5944.401 | 1.007081 |
| S_3,6 | 41.57808 | 3.212832 | 35.64872 | 48.36568 | 6636.985 | 1.007781 |
| S_3,7 | 37.35836 | 3.319088 | 31.31837 | 44.35708 | 4885.632 | 1.007103 |
| S_3,8 | 19.82514 | 1.322368 | 17.36971 | 22.45655 | 3752.541 | 1.009077 |
| S_3,9 | 47.07407 | 5.673608 | 37.88785 | 60.84832 | 2433.128 | 1.005383 |
| S_3,10 | 83.53151 | 5.085271 | 73.95576 | 93.56198 | 5094.893 | 1.003744 |
| S_3,11 | 73.86516 | 14.909115 | 48.96403 | 108.37432 | 1670.063 | 1.006795 |
| S_3,12 | 34.78048 | 2.296534 | 30.52805 | 39.55299 | 3956.271 | 1.004716 |
| S_4,1 | 33.48090 | 1.640540 | 30.41126 | 36.85351 | 5627.937 | 1.005629 |
| S_4,2 | 34.73513 | 2.625757 | 29.87178 | 40.20115 | 4718.778 | 1.003482 |
| S_4,3 | 47.09408 | 4.838986 | 38.31664 | 57.31904 | 5608.159 | 1.005568 |
| S_4,4 | 100.89136 | 17.367761 | 70.32095 | 138.68142 | 3826.840 | 1.008283 |
| S_4,5 | 88.02247 | 8.532955 | 72.55027 | 105.92838 | 4957.376 | 1.009509 |
| S_4,6 | 46.02794 | 2.900336 | 40.60413 | 52.10054 | 5994.511 | 1.005101 |
| S_4,7 | 37.77097 | 4.199368 | 30.40297 | 46.90354 | 4517.463 | 1.005422 |
| S_4,8 | 18.98190 | 1.456757 | 16.33426 | 22.07493 | 5952.707 | 1.005723 |
| S_4,9 | 50.79482 | 9.740023 | 34.78887 | 72.93107 | 1914.929 | 1.006887 |
| S_4,10 | 91.91046 | 9.644921 | 74.47336 | 112.92045 | 6087.866 | 1.007306 |

Table 19: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| S_4,11 | 77.32641 | 12.612521 | 55.60565 | 104.50418 | 1549.062 | 1.008910 |
| S_4,12 | 41.00405 | 2.869500 | 35.83577 | 47.01973 | 5890.883 | 1.007412 |
| S_5,1 | 34.62293 | 1.945840 | 30.92413 | 38.54181 | 5409.802 | 1.003530 |
| S_5,2 | 32.09134 | 2.631182 | 27.21980 | 37.71556 | 5515.736 | 1.007082 |
| S_5,3 | 49.38326 | 5.159270 | 40.04702 | 60.59678 | 4989.124 | 1.003908 |
| S_5,4 | 86.25994 | 9.482066 | 70.20455 | 106.94115 | 4428.126 | 1.003020 |
| S_5,5 | 81.04936 | 8.066549 | 66.60636 | 97.95563 | 5206.507 | 1.004835 |
| S_5,6 | 44.45724 | 2.904289 | 39.00213 | 50.42033 | 5208.053 | 1.004793 |
| S_5,7 | 39.45995 | 4.278400 | 31.85349 | 48.52619 | 4444.669 | 1.005915 |
| S_5,8 | 18.87186 | 1.247699 | 16.49457 | 21.42282 | 7014.012 | 1.009906 |
| S_5,9 | 54.82608 | 6.772899 | 42.31624 | 69.29796 | 2801.982 | 1.003734 |
| S_5,10 | 73.83613 | 4.901644 | 64.70438 | 83.84274 | 5863.944 | 1.003474 |
| S_5,11 | 73.99057 | 14.941941 | 49.50466 | 106.91407 | 1638.046 | 1.010692 |
| S_5,12 | 39.19650 | 3.316181 | 33.21889 | 46.05590 | 4324.716 | 1.000904 |
| S_6,1 | 39.71880 | 1.777543 | 36.37691 | 43.34751 | 5545.432 | 1.007684 |
| S_6,2 | 37.65709 | 3.135348 | 31.91459 | 44.21116 | 6421.060 | 1.004458 |
| S_6,3 | 66.71042 | 5.579370 | 56.30139 | 78.26488 | 5024.952 | 1.004925 |
| S_6,4 | 123.99380 | 12.531073 | 101.09150 | 149.40540 | 4621.273 | 1.003971 |
| S_6,5 | 89.70935 | 6.865122 | 77.06231 | 104.12810 | 5316.570 | 1.004976 |
| S_6,6 | 46.62215 | 2.553207 | 41.89333 | 51.77994 | 3693.447 | 1.006023 |
| S_6,7 | 42.14693 | 3.897921 | 35.16111 | 50.34049 | 3618.178 | 1.005651 |
| S_6,8 | 21.03475 | 1.228302 | 18.76055 | 23.61596 | 4609.898 | 1.005784 |
| S_6,9 | 59.83834 | 6.609959 | 47.01085 | 73.03688 | 2319.297 | 1.005810 |
| S_6,10 | 100.15812 | 8.456322 | 84.70617 | 118.24620 | 1698.506 | 1.015306 |
| S_6,11 | 71.62343 | 7.950083 | 58.09383 | 89.75975 | 2393.338 | 1.006713 |
| S_6,12 | 48.41315 | 3.107168 | 42.57859 | 54.97438 | 5910.170 | 1.010694 |
| S_7,1 | 37.83093 | 6.108198 | 27.32793 | 51.29853 | 4990.946 | 1.003856 |
| S_7,2 | 40.14552 | 6.665026 | 29.10922 | 54.95540 | 5177.557 | 1.002436 |
| S_7,3 | 53.92466 | 8.303545 | 39.34408 | 71.81078 | 5068.120 | 1.005024 |
| S_7,4 | 101.11495 | 17.639853 | 70.90989 | 139.81408 | 3676.809 | 1.006235 |
| S_7,5 | 82.35226 | 13.036520 | 59.82361 | 111.22407 | 4506.677 | 1.008494 |
| S_7,6 | 44.96419 | 7.336510 | 32.33176 | 61.47514 | 4923.011 | 1.005468 |
| S_7,7 | 44.54603 | 6.642516 | 32.86623 | 59.23994 | 3992.502 | 1.009880 |
| S_7,8 | 21.59853 | 2.854182 | 16.57327 | 27.57441 | 5795.311 | 1.005764 |
| S_7,9 | 50.95006 | 9.725400 | 34.76708 | 73.08494 | 2195.156 | 1.007449 |
| S_7,10 | 83.74889 | 13.772944 | 59.54498 | 113.15743 | 5466.370 | 1.000661 |
| S_7,11 | 74.08775 | 15.243759 | 48.66728 | 109.66945 | 1717.174 | 1.007461 |
| S_7,12 | 43.68485 | 7.547594 | 30.97559 | 60.38999 | 4689.105 | 1.006612 |
| S_8,1 | 40.34073 | 6.631137 | 28.82395 | 55.03433 | 6157.255 | 1.006388 |
| S_8,2 | 40.85738 | 6.626523 | 29.37996 | 55.51549 | 4806.451 | 1.005694 |
| S_8,3 | 54.67844 | 8.888747 | 39.10381 | 73.53005 | 4556.818 | 1.003308 |
| S_8,4 | 101.58769 | 18.155726 | 70.52505 | 142.84725 | 4977.533 | 1.004904 |
| S_8,5 | 84.69025 | 14.248574 | 59.82338 | 115.67703 | 4458.065 | 1.007078 |
| S_8,6 | 44.42019 | 7.453761 | 31.57137 | 61.49493 | 5245.987 | 1.005096 |
| S_8,7 | 39.90925 | 6.455481 | 28.47339 | 54.36696 | 5100.457 | 1.004900 |
| S_8,8 | 22.45308 | 3.647301 | 16.15914 | 30.44290 | 5260.032 | 1.001455 |
| S_8,9 | 50.52777 | 9.644787 | 34.41952 | 72.16153 | 2172.954 | 1.007812 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| S_8,10 | 84.23823 | 14.898862 | 59.34991 | 118.21667 | 1564.408 | 1.018302 |
| S_8,11 | 73.93898 | 14.600961 | 49.78365 | 106.70515 | 1615.663 | 1.009421 |
| S_8,12 | 44.30294 | 7.613997 | 31.00883 | 61.06616 | 4261.287 | 1.004234 |
| S_9,1 | 36.65302 | 3.481981 | 30.26755 | 44.12380 | 6023.402 | 1.006238 |
| S_9,2 | 40.53121 | 6.656610 | 29.19332 | 55.21550 | 6208.958 | 1.004578 |
| S_9,3 | 61.16077 | 9.590540 | 44.83830 | 82.63743 | 5078.850 | 1.009054 |
| S_9,4 | 100.75869 | 17.924368 | 70.27302 | 141.38833 | 2695.793 | 1.006803 |
| S_9,5 | 84.39108 | 14.414824 | 59.27856 | 116.02378 | 3856.724 | 1.002998 |
| S_9,6 | 41.45060 | 5.973201 | 30.76210 | 54.47918 | 2729.014 | 1.007759 |
| S_9,7 | 40.02532 | 6.623463 | 28.47056 | 54.33635 | 5309.337 | 1.006166 |
| S_9,8 | 22.39488 | 3.665242 | 16.23664 | 30.60431 | 5530.252 | 1.005173 |
| S_9,9 | 50.79965 | 9.913325 | 34.48010 | 73.88918 | 2241.794 | 1.005537 |
| S_9,10 | 86.89817 | 11.035181 | 67.82085 | 110.35317 | 4388.344 | 1.006080 |
| S_9,11 | 73.68565 | 14.817872 | 49.18430 | 106.22567 | 1590.355 | 1.010539 |
| S_9,12 | 43.97358 | 7.413735 | 31.06624 | 60.25133 | 4288.310 | 1.004644 |
| S_10,1 | 42.37182 | 2.039238 | 38.49024 | 46.46199 | 6256.562 | 1.016970 |
| S_10,2 | 44.22265 | 6.613430 | 32.88246 | 58.66280 | 3265.905 | 1.009345 |
| S_10,3 | 49.44497 | 7.300770 | 36.49603 | 65.46369 | 4692.270 | 1.004487 |
| S_10,4 | 90.52145 | 10.529261 | 72.36561 | 112.97240 | 4259.893 | 1.004285 |
| S_10,5 | 82.99845 | 13.881326 | 58.66657 | 112.93520 | 4570.860 | 1.005494 |
| S_10,6 | 57.98980 | 6.168052 | 46.71651 | 71.01264 | 2579.945 | 1.008113 |
| S_10,7 | 39.05940 | 5.658374 | 29.18072 | 50.97611 | 4022.237 | 1.004097 |
| S_10,8 | 19.77106 | 1.966059 | 16.24458 | 23.81027 | 4877.820 | 1.009533 |
| S_10,9 | 50.51084 | 9.851785 | 33.63469 | 72.77702 | 2042.003 | 1.007098 |
| S_10,10 | 83.54967 | 14.601559 | 59.17647 | 114.80822 | 3588.506 | 1.010384 |
| S_10,11 | 73.92524 | 15.027919 | 49.16480 | 108.63990 | 1560.445 | 1.011313 |
| S_10,12 | 53.14307 | 5.982798 | 42.50038 | 65.94249 | 2757.144 | 1.007409 |
| S_11,1 | 43.35654 | 1.930951 | 39.76313 | 47.28473 | 6704.431 | 1.004936 |
| S_11,2 | 41.34142 | 2.544646 | 36.60381 | 46.45005 | 6357.386 | 1.008007 |
| S_11,3 | 55.61347 | 6.280621 | 44.50029 | 69.09126 | 5633.573 | 1.003452 |
| S_11,4 | 97.04304 | 12.225066 | 75.07682 | 123.63995 | 4636.124 | 1.010870 |
| S_11,5 | 88.82455 | 10.063773 | 70.56044 | 110.74083 | 4628.573 | 1.015261 |
| S_11,6 | 53.58990 | 3.234390 | 47.47789 | 60.31255 | 6113.294 | 1.002197 |
| S_11,7 | 43.11216 | 3.817650 | 36.18068 | 51.19799 | 5619.378 | 1.004063 |
| S_11,8 | 24.37123 | 1.400166 | 21.75268 | 27.17343 | 6267.670 | 1.002005 |
| S_11,9 | 50.50119 | 9.557763 | 35.12824 | 72.92531 | 2019.457 | 1.008270 |
| S_11,10 | 94.98823 | 5.710148 | 84.28269 | 106.95347 | 6065.115 | 1.012488 |
| S_11,11 | 71.56378 | 11.601251 | 51.51537 | 97.23694 | 1779.106 | 1.008538 |
| S_11,12 | 43.23276 | 4.066511 | 35.93376 | 51.66119 | 3257.444 | 1.009682 |
| S_12,1 | 41.12656 | 1.841987 | 37.58619 | 44.82067 | 5555.464 | 1.002862 |
| S_12,2 | 45.45540 | 2.876362 | 40.09900 | 51.36989 | 5820.116 | 1.005047 |
| S_12,3 | 54.21685 | 5.229610 | 44.83028 | 65.75420 | 4981.732 | 1.008628 |
| S_12,4 | 108.24806 | 15.769487 | 81.09464 | 142.33125 | 4720.376 | 1.002212 |
| S_12,5 | 88.20121 | 9.777427 | 70.51520 | 108.66435 | 4491.487 | 1.007449 |
| S_12,6 | 48.40322 | 2.694594 | 43.46361 | 53.83741 | 4407.771 | 1.006069 |
| S_12,7 | 44.19899 | 3.627842 | 37.53229 | 51.81126 | 5693.717 | 1.010224 |
| S_12,8 | 24.35253 | 1.406894 | 21.75640 | 27.23410 | 8107.109 | 1.001718 |

Table 19: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| S_12,9 | 50.36934 | 9.590711 | 34.86930 | 71.90307 | 2092.579 | 1.010650 |
| S_12,10 | 83.29011 | 4.317579 | 75.17890 | 92.04781 | 6337.345 | 1.002619 |
| S_12,11 | 72.28053 | 12.132340 | 52.20968 | 100.71660 | 1620.383 | 1.007776 |
| S_12,12 | 43.09197 | 3.467124 | 36.72727 | 50.46529 | 6372.167 | 1.010089 |
| S_13,1 | 39.07107 | 1.710701 | 35.84849 | 42.59023 | 6305.157 | 1.005414 |
| S_13,2 | 49.28550 | 3.044065 | 43.53169 | 55.58069 | 4464.078 | 1.004410 |
| S_13,3 | 52.58803 | 4.503331 | 44.47498 | 61.97159 | 4403.123 | 1.006756 |
| S_13,4 | 96.59115 | 10.987436 | 77.07225 | 120.27380 | 4649.914 | 1.006512 |
| S_13,5 | 64.47001 | 6.382638 | 53.23006 | 78.28838 | 3921.880 | 1.004867 |
| S_13,6 | 43.67433 | 2.857905 | 38.39328 | 49.52995 | 4563.568 | 1.008020 |
| S_13,7 | 38.76085 | 3.741345 | 32.01338 | 46.60586 | 6247.340 | 1.003811 |
| S_13,8 | 24.39427 | 1.410656 | 21.75808 | 27.31850 | 6828.569 | 1.005240 |
| S_13,9 | 50.56732 | 9.773729 | 34.35738 | 72.59668 | 2094.232 | 1.005015 |
| S_13,10 | 70.51812 | 3.523762 | 63.93048 | 77.70152 | 6138.856 | 1.008565 |
| S_13,11 | 74.52829 | 10.447992 | 56.34192 | 97.29750 | 2092.782 | 1.008206 |
| S_13,12 | 43.45615 | 3.976833 | 36.08673 | 52.05568 | 4595.447 | 1.007116 |
| S_14,1 | 40.55837 | 1.844891 | 37.12318 | 44.29969 | 6880.767 | 1.007247 |
| S_14,2 | 47.34068 | 2.909438 | 41.87389 | 53.10377 | 5513.381 | 1.004922 |
| S_14,3 | 55.63574 | 5.259378 | 46.20493 | 66.56837 | 5391.912 | 1.002980 |
| S_14,4 | 104.53811 | 12.682778 | 82.33066 | 131.29575 | 3611.574 | 1.003562 |
| S_14,5 | 87.08980 | 11.665814 | 66.73371 | 112.25215 | 3300.691 | 1.006068 |
| S_14,6 | 40.19011 | 3.840584 | 33.25579 | 48.25988 | 6370.415 | 1.007520 |
| S_14,7 | 35.77611 | 4.352923 | 27.97615 | 45.05841 | 4515.442 | 1.003913 |
| S_14,8 | 27.46910 | 1.843175 | 24.01674 | 31.26235 | 6370.522 | 1.005539 |
| S_14,9 | 50.54622 | 9.761539 | 34.19461 | 71.84776 | 2073.344 | 1.006808 |
| S_14,10 | 73.11917 | 6.196426 | 61.67795 | 86.03119 | 5625.056 | 1.010078 |
| S_14,11 | 73.91823 | 15.135947 | 49.38633 | 108.75795 | 1676.791 | 1.009763 |
| S_14,12 | 44.94942 | 6.179576 | 34.22583 | 58.62527 | 4900.329 | 1.003017 |
| S_15,1 | 42.68884 | 2.767354 | 37.54940 | 48.30119 | 6750.239 | 1.012510 |
| S_15,2 | 42.16692 | 5.660190 | 32.03534 | 54.28827 | 5997.383 | 1.005688 |
| S_15,3 | 58.77507 | 9.202098 | 43.05804 | 78.36313 | 4172.562 | 1.006874 |
| S_15,4 | 101.21541 | 17.703218 | 71.03480 | 139.64090 | 3526.286 | 1.006451 |
| S_15,5 | 82.34144 | 14.732973 | 57.18920 | 115.34137 | 4046.264 | 1.006715 |
| S_15,6 | 44.36408 | 7.350379 | 31.80365 | 60.60616 | 4571.467 | 1.005283 |
| S_15,7 | 39.83883 | 6.616631 | 28.52323 | 54.30536 | 4264.316 | 1.002444 |
| S_15,8 | 22.43871 | 3.663930 | 16.11425 | 30.16402 | 6033.345 | 1.011552 |
| S_15,9 | 50.58341 | 9.737108 | 34.65743 | 72.48392 | 2000.771 | 1.006170 |
| S_15,10 | 83.57045 | 14.471670 | 58.57853 | 115.12757 | 4327.131 | 1.005030 |
| S_15,11 | 73.55197 | 15.014679 | 48.99642 | 107.60345 | 1074.569 | 1.016665 |
| S_15,12 | 43.29180 | 7.477934 | 30.61111 | 59.74475 | 4335.990 | 1.004479 |
| S_16,1 | 44.72449 | 4.737501 | 35.99863 | 54.94009 | 4175.704 | 1.008248 |
| S_16,2 | 41.22648 | 6.894872 | 29.27075 | 56.61586 | 5894.915 | 1.006303 |
| S_16,3 | 58.33472 | 8.008369 | 44.52344 | 75.31428 | 4513.194 | 1.009797 |
| S_16,4 | 98.49110 | 14.245085 | 74.29111 | 130.75063 | 4162.433 | 1.002886 |
| S_16,5 | 82.97732 | 14.176145 | 58.53631 | 114.40812 | 4045.592 | 1.008330 |
| S_16,6 | 45.25418 | 7.683129 | 32.13085 | 62.11986 | 4435.397 | 1.003529 |

Table 19: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| S_16,7 | 39.87294 | 6.971687 | 28.28694 | 55.47242 | 3411.406 | 1.008733 |
| S_16,8 | 22.38309 | 3.855754 | 15.83879 | 30.96852 | 5654.647 | 1.003099 |
| S_16,9 | 50.60712 | 9.569312 | 34.54178 | 71.82703 | 2218.091 | 1.004582 |
| S_16,10 | 80.50263 | 11.747329 | 60.16734 | 105.76608 | 3591.395 | 1.006478 |
| S_16,11 | 73.72521 | 14.892753 | 49.03950 | 106.60625 | 1599.426 | 1.008893 |
| S_16,12 | 43.61085 | 7.200334 | 31.08764 | 58.81512 | 4593.650 | 1.010621 |
| S_17,1 | 38.26197 | 1.711182 | 35.10977 | 41.68209 | 6823.114 | 1.004793 |
| S_17,2 | 38.02343 | 2.574424 | 33.25977 | 43.37673 | 5568.887 | 1.003681 |
| S_17,3 | 54.08189 | 9.069234 | 38.34843 | 73.50802 | 5245.240 | 1.004168 |
| S_17,4 | 101.11685 | 17.370333 | 71.15306 | 140.91455 | 4055.238 | 1.004055 |
| S_17,5 | 83.33479 | 15.147947 | 58.03354 | 118.40765 | 1948.237 | 1.015487 |
| S_17,6 | 41.71966 | 6.219133 | 30.89436 | 55.32742 | 2889.554 | 1.007431 |
| S_17,7 | 36.44786 | 5.199143 | 27.16351 | 47.57572 | 4517.864 | 1.004034 |
| S_17,8 | 22.39537 | 3.739586 | 16.10095 | 30.95757 | 4519.382 | 1.014958 |
| S_17,9 | 50.48454 | 9.913691 | 33.83877 | 73.24648 | 2128.943 | 1.005432 |
| S_17,10 | 83.27428 | 14.319171 | 58.19463 | 113.98037 | 4283.358 | 1.005183 |
| S_17,11 | 73.61459 | 14.699993 | 48.99594 | 107.35388 | 1787.879 | 1.008750 |
| S_17,12 | 43.01312 | 7.447678 | 30.06644 | 59.15313 | 5470.809 | 1.012272 |
| S_18,1 | 47.02850 | 2.129296 | 43.04712 | 51.25913 | 4624.327 | 1.005200 |
| S_18,2 | 51.84880 | 3.239846 | 45.89688 | 58.50082 | 6320.128 | 1.005566 |
| S_18,3 | 56.64891 | 7.666189 | 43.16685 | 73.04172 | 4222.657 | 1.006703 |
| S_18,4 | 100.59384 | 17.723674 | 70.27842 | 138.85710 | 3180.933 | 1.005328 |
| S_18,5 | 82.25570 | 14.510914 | 57.89566 | 114.24620 | 4322.886 | 1.005706 |
| S_18,6 | 44.71046 | 7.367397 | 32.23980 | 60.54657 | 5413.881 | 1.003297 |
| S_18,7 | 40.75437 | 5.455029 | 31.00674 | 52.31556 | 4923.115 | 1.006315 |
| S_18,8 | 23.54388 | 2.857275 | 18.51999 | 29.80193 | 4573.839 | 1.007130 |
| S_18,9 | 50.49766 | 9.778288 | 34.03162 | 72.41098 | 2253.741 | 1.006524 |
| S_18,10 | 82.81240 | 13.924129 | 58.53922 | 114.02955 | 5077.586 | 1.003019 |
| S_18,11 | 73.93454 | 14.967143 | 48.52468 | 106.17735 | 1563.199 | 1.006530 |
| S_18,12 | 43.48170 | 7.537827 | 31.11546 | 60.26305 | 4063.120 | 1.005727 |
| S_19,1 | 48.21765 | 2.676389 | 43.20379 | 53.57268 | 5028.845 | 1.011653 |
| S_19,2 | 55.44113 | 3.556707 | 48.92647 | 62.85956 | 4686.021 | 1.004176 |
| S_19,3 | 60.12795 | 9.137958 | 44.07536 | 80.28552 | 5257.594 | 1.004157 |
| S_19,4 | 101.19060 | 17.758909 | 70.62725 | 139.78070 | 4128.696 | 1.007186 |
| S_19,5 | 82.70168 | 14.079610 | 57.96017 | 114.20058 | 4970.022 | 1.003520 |
| S_19,6 | 44.63020 | 7.328916 | 31.98024 | 60.29102 | 5219.806 | 1.002544 |
| S_19,7 | 41.46947 | 5.372477 | 31.76599 | 53.04207 | 4147.717 | 1.005672 |
| S_19,8 | 28.18840 | 3.176827 | 22.60062 | 34.98081 | 4158.415 | 1.003005 |
| S_19,9 | 50.72324 | 9.764602 | 34.44162 | 73.23465 | 2114.128 | 1.010348 |
| S_19,10 | 82.38554 | 13.986542 | 58.72212 | 113.43818 | 4877.165 | 1.006605 |
| S_19,11 | 73.65768 | 14.577395 | 49.84441 | 105.59930 | 1509.744 | 1.010136 |
| S_19,12 | 43.78953 | 7.316348 | 31.09040 | 60.08727 | 4731.536 | 1.006916 |

Table 20: Parameter estimates for mean handling time, $\bar{H}_{g,j}$, by group level g and by prey type j

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| H_1,1 | 35.36542 | 5.241642 | 26.13745 | 46.67180 | 6741.2209 | 1.008914 |
| H_1,2 | 24.49868 | 3.851343 | 17.87869 | 33.17288 | 5971.3368 | 1.008602 |
| H_1,3 | 41.04784 | 6.500238 | 29.71700 | 55.32517 | 6234.4961 | 1.013006 |
| H_1,4 | 117.26400 | 23.248207 | 78.44199 | 169.50255 | 3909.0307 | 1.002376 |
| H_1,5 | 118.27011 | 22.686199 | 79.53680 | 169.61030 | 4311.2844 | 1.008847 |
| H_1,6 | 68.47130 | 10.327632 | 50.92626 | 91.31749 | 3973.2177 | 1.004759 |
| H_1,7 | 46.11716 | 8.346770 | 32.18032 | 64.66726 | 5340.5991 | 1.006392 |
| H_1,8 | 16.75779 | 2.721339 | 11.93779 | 22.81116 | 4513.8386 | 1.005912 |
| H_1,9 | 78.45683 | 14.675704 | 53.02758 | 110.85998 | 1955.5391 | 1.009402 |
| H_1,10 | 36.34270 | 6.061752 | 26.09978 | 49.33819 | 6352.4916 | 1.009851 |
| H_1,11 | 124.46953 | 23.249077 | 84.11011 | 176.75962 | 3506.2374 | 1.003319 |
| H_1,12 | 23.51801 | 4.035012 | 16.47095 | 32.44825 | 3585.3545 | 1.003831 |
| H_2,1 | 31.92376 | 2.206603 | 27.95701 | 36.60205 | 4969.5574 | 1.004727 |
| H_2,2 | 21.22541 | 1.617035 | 18.28655 | 24.68670 | 5263.7189 | 1.007695 |
| H_2,3 | 39.89757 | 4.883440 | 31.15353 | 50.27551 | 6345.7001 | 1.003651 |
| H_2,4 | 127.01634 | 16.731762 | 98.53253 | 164.65005 | 2892.9907 | 1.003924 |
| H_2,5 | 124.00591 | 15.945846 | 96.28915 | 158.23720 | 2742.9329 | 1.003363 |
| H_2,6 | 64.67352 | 6.695618 | 52.99229 | 78.79542 | 3890.6024 | 1.005267 |
| H_2,7 | 49.56365 | 7.647639 | 36.68834 | 66.59790 | 4540.7562 | 1.002725 |
| H_2,8 | 18.22318 | 1.508365 | 15.48654 | 21.45965 | 5645.8728 | 1.003588 |
| H_2,9 | 72.17227 | 8.926098 | 56.14070 | 90.99014 | 1721.1844 | 1.011021 |
| H_2,10 | 36.62525 | 2.662823 | 31.79162 | 42.11068 | 4845.6494 | 1.005212 |
| H_2,11 | 121.31489 | 21.239068 | 84.96583 | 167.52222 | 3244.2406 | 1.005031 |
| H_2,12 | 22.72303 | 2.765875 | 17.80082 | 28.63655 | 4914.7596 | 1.005624 |
| H_3,1 | 38.52607 | 3.269370 | 32.64010 | 45.47443 | 3943.7118 | 1.010183 |
| H_3,2 | 24.15814 | 2.001473 | 20.56878 | 28.35145 | 4678.3282 | 1.003571 |
| H_3,3 | 36.97895 | 5.000449 | 28.35658 | 47.65880 | 4877.7670 | 1.003900 |
| H_3,4 | 121.18393 | 21.256140 | 86.20081 | 168.51450 | 3514.4428 | 1.002310 |
| H_3,5 | 116.78108 | 16.199321 | 88.51387 | 152.00807 | 2958.6092 | 1.002386 |
| H_3,6 | 83.43933 | 9.056431 | 67.50367 | 103.10960 | 2953.8101 | 1.005297 |
| H_3,7 | 46.81464 | 7.295768 | 34.08814 | 63.03518 | 5085.7146 | 1.005748 |
| H_3,8 | 18.77080 | 1.957472 | 15.37327 | 22.99409 | 3261.5744 | 1.003516 |
| H_3,9 | 95.18605 | 11.905276 | 74.78784 | 120.78562 | 2201.6955 | 1.004949 |
| H_3,10 | 38.20552 | 3.157215 | 32.62056 | 44.89534 | 5030.3658 | 1.005157 |
| H_3,11 | 128.26386 | 22.626333 | 88.94771 | 177.50285 | 3463.9684 | 1.005931 |
| H_3,12 | 26.32833 | 2.481937 | 21.89620 | 31.75519 | 4559.2576 | 1.008487 |
| H_4,1 | 32.34084 | 2.817974 | 27.24437 | 38.12423 | 5790.0435 | 1.005505 |
| H_4,2 | 27.58418 | 2.446465 | 23.08041 | 32.64601 | 5709.1032 | 1.001865 |
| H_4,3 | 46.81054 | 5.589607 | 37.08192 | 58.48404 | 5364.0921 | 1.004106 |
| H_4,4 | 118.34138 | 23.922810 | 78.78023 | 171.72285 | 3243.2527 | 1.002976 |
| H_4,5 | 130.82006 | 19.520578 | 96.93890 | 173.27822 | 2883.3229 | 1.004361 |
| H_4,6 | 66.14033 | 6.581352 | 54.45973 | 79.69402 | 4273.2304 | 1.003339 |
| H_4,7 | 41.52469 | 7.552355 | 29.02931 | 59.71073 | 2309.5727 | 1.016201 |
| H_4,8 | 17.96217 | 1.992841 | 14.51521 | 22.25990 | 3025.7325 | 1.003564 |
| H_4,9 | 89.60070 | 14.541319 | 64.16548 | 121.49808 | 2480.6301 | 1.006357 |
| H_4,10 | 38.82199 | 5.377743 | 29.80375 | 50.52950 | 4749.6677 | 1.005092 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| H_4,11 | 122.34353 | 20.203988 | 87.00969 | 165.89943 | 2287.7883 | 1.003622 |
| H_4,12 | 26.41769 | 3.000804 | 21.14662 | 32.83934 | 4884.3602 | 1.008048 |
| H_5,1 | 35.37407 | 3.504170 | 29.11939 | 42.63729 | 8696.4241 | 1.007289 |
| H_5,2 | 23.83215 | 2.269926 | 19.71005 | 28.74204 | 4384.4261 | 1.004805 |
| H_5,3 | 40.68926 | 5.765214 | 30.71589 | 53.34300 | 7670.3857 | 1.004925 |
| H_5,4 | 114.96419 | 19.006694 | 83.35357 | 158.12845 | 2505.4598 | 1.004558 |
| H_5,5 | 114.40908 | 15.249972 | 87.42156 | 146.79612 | 2489.3989 | 1.002964 |
| H_5,6 | 67.98594 | 6.359794 | 56.28343 | 82.05452 | 4093.0769 | 1.002157 |
| H_5,7 | 45.75233 | 7.027591 | 33.52103 | 61.07832 | 4715.8063 | 1.002870 |
| H_5,8 | 15.71894 | 1.489710 | 12.97999 | 18.83311 | 4643.5818 | 1.001959 |
| H_5,9 | 88.27879 | 12.946450 | 65.42170 | 115.70772 | 1997.1308 | 1.007309 |
| H_5,10 | 33.39529 | 3.329150 | 27.26154 | 40.24941 | 4678.3407 | 1.005519 |
| H_5,11 | 126.84689 | 19.928847 | 91.41540 | 169.14955 | 2412.7520 | 1.009104 |
| H_5,12 | 24.22659 | 3.226652 | 18.53529 | 31.09467 | 5283.2937 | 1.003170 |
| H_6,1 | 34.47873 | 3.007232 | 28.98640 | 40.79174 | 6487.2610 | 1.004437 |
| H_6,2 | 21.86852 | 2.139621 | 17.94938 | 26.47170 | 2524.3010 | 1.011078 |
| H_6,3 | 43.93427 | 4.275451 | 36.01000 | 52.93416 | 3400.8525 | 1.002982 |
| H_6,4 | 130.42478 | 20.286538 | 94.76703 | 175.38653 | 2450.4036 | 1.008150 |
| H_6,5 | 115.74248 | 14.246712 | 90.08978 | 145.99977 | 2588.2068 | 1.001971 |
| H_6,6 | 72.77401 | 6.945660 | 60.05292 | 87.83156 | 3765.4526 | 1.003024 |
| H_6,7 | 47.28441 | 7.425191 | 34.84313 | 63.69519 | 4610.0840 | 1.001968 |
| H_6,8 | 17.53936 | 1.475549 | 14.83763 | 20.64534 | 4380.5382 | 1.002829 |
| H_6,9 | 83.22445 | 11.044870 | 63.38816 | 107.28973 | 2150.9816 | 1.007770 |
| H_6,10 | 37.36119 | 4.535135 | 29.35349 | 47.19020 | 5728.0825 | 1.007901 |
| H_6,11 | 133.68855 | 18.431255 | 100.42328 | 174.15895 | 2982.2876 | 1.008435 |
| H_6,12 | 21.26195 | 2.683367 | 16.42289 | 27.02379 | 3616.9951 | 1.004597 |
| H_7,1 | 35.11983 | 5.525897 | 25.56189 | 46.92307 | 6818.1506 | 1.009296 |
| H_7,2 | 24.43336 | 3.914541 | 17.86959 | 33.19297 | 5941.5310 | 1.004431 |
| H_7,3 | 39.83977 | 6.412078 | 28.88604 | 53.61815 | 4020.8719 | 1.009022 |
| H_7,4 | 117.72546 | 23.519246 | 78.58933 | 172.45860 | 4137.4073 | 1.004447 |
| H_7,5 | 117.83778 | 20.127139 | 82.38638 | 162.41615 | 4056.3778 | 1.006086 |
| H_7,6 | 66.43873 | 11.450524 | 46.64665 | 93.05914 | 5518.5918 | 1.006342 |
| H_7,7 | 44.19407 | 7.963154 | 30.69679 | 62.19248 | 4413.8527 | 1.005960 |
| H_7,8 | 15.36113 | 2.346830 | 11.05560 | 20.30652 | 2948.8198 | 1.010105 |
| H_7,9 | 86.20183 | 15.873972 | 59.39070 | 121.84375 | 2842.5539 | 1.004111 |
| H_7,10 | 36.38593 | 6.088332 | 25.89101 | 49.73109 | 5845.6340 | 1.008666 |
| H_7,11 | 124.93025 | 23.264236 | 85.55046 | 177.08177 | 3505.5044 | 1.004198 |
| H_7,12 | 23.39220 | 3.967963 | 16.49650 | 32.19498 | 3834.2394 | 1.006646 |
| H_8,1 | 34.97044 | 5.622390 | 25.12111 | 47.01188 | 6204.1268 | 1.011022 |
| H_8,2 | 24.26324 | 3.791647 | 17.61555 | 32.59367 | 6771.9376 | 1.008911 |
| H_8,3 | 41.20931 | 6.759755 | 29.97837 | 56.45564 | 4117.5660 | 1.006761 |
| H_8,4 | 117.89483 | 23.392154 | 78.48140 | 169.31085 | 3528.9342 | 1.003525 |
| H_8,5 | 118.77651 | 22.762150 | 80.42688 | 168.80603 | 4361.2562 | 1.004438 |
| H_8,6 | 65.94951 | 11.353607 | 46.10570 | 91.45312 | 5569.5992 | 1.006998 |
| H_8,7 | 43.52474 | 8.276709 | 29.74021 | 62.21371 | 3001.4845 | 1.014741 |
| H_8,8 | 16.67463 | 2.717441 | 11.66454 | 22.47732 | 1260.7461 | 1.014819 |
| H_8,9 | 85.95800 | 16.026252 | 58.23205 | 120.73432 | 2450.0393 | 1.009197 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| H_8,10 | 36.45743 | 5.829159 | 26.51054 | 49.35664 | 5962.0211 | 1.005920 |
| H_8,11 | 124.51289 | 22.720930 | 85.28828 | 174.72420 | 3648.4900 | 1.003521 |
| H_8,12 | 23.26067 | 4.097059 | 16.11800 | 32.08720 | 2670.4103 | 1.005099 |
| H_9,1 | 33.91425 | 4.486640 | 25.88843 | 43.55745 | 7447.4289 | 1.002405 |
| H_9,2 | 24.28882 | 3.824089 | 17.72956 | 32.74770 | 5018.8690 | 1.003678 |
| H_9,3 | 43.86735 | 6.986997 | 31.90789 | 59.42424 | 3739.5084 | 1.004947 |
| H_9,4 | 117.95524 | 22.996281 | 79.95959 | 168.94053 | 3919.9626 | 1.002471 |
| H_9,5 | 118.00666 | 23.089432 | 79.50805 | 170.41168 | 4948.8077 | 1.008167 |
| H_9,6 | 66.71157 | 11.648129 | 46.98806 | 92.36176 | 5365.8288 | 1.007842 |
| H_9,7 | 43.65268 | 8.322392 | 29.68425 | 62.39633 | 4500.6093 | 1.005797 |
| H_9,8 | 16.90465 | 2.787804 | 12.02149 | 22.98087 | 4439.7688 | 1.005765 |
| H_9,9 | 82.32874 | 15.541810 | 55.70674 | 115.67235 | 2547.1968 | 1.005920 |
| H_9,10 | 38.02211 | 5.722249 | 28.03712 | 50.79071 | 6238.6797 | 1.013117 |
| H_9,11 | 123.29756 | 22.516071 | 82.63874 | 172.87470 | 3309.2646 | 1.003683 |
| H_9,12 | 23.44837 | 3.992375 | 16.45067 | 32.27897 | 4020.1360 | 1.005979 |
| H_10,1 | 31.76861 | 2.241139 | 27.48345 | 36.33953 | 6546.6307 | 1.010563 |
| H_10,2 | 24.63235 | 3.981840 | 17.91033 | 33.58324 | 4809.5063 | 1.007395 |
| H_10,3 | 48.08470 | 8.109950 | 35.12042 | 66.66174 | 2817.2655 | 1.004215 |
| H_10,4 | 107.91567 | 20.980436 | 72.95761 | 154.89632 | 3052.5191 | 1.004450 |
| H_10,5 | 117.65215 | 22.188318 | 79.89781 | 167.78805 | 4128.0904 | 1.004205 |
| H_10,6 | 58.45657 | 8.255693 | 43.28674 | 75.60277 | 2994.5337 | 1.005309 |
| H_10,7 | 43.57951 | 7.795497 | 30.10121 | 60.64717 | 2345.1797 | 1.009336 |
| H_10,8 | 18.02196 | 2.135841 | 14.26758 | 22.75245 | 4762.6667 | 1.006960 |
| H_10,9 | 86.45807 | 15.713634 | 60.05434 | 120.68263 | 2640.6004 | 1.005287 |
| H_10,10 | 36.38010 | 6.163717 | 26.06486 | 50.28921 | 5429.1434 | 1.007626 |
| H_10,11 | 141.24312 | 25.306557 | 98.74716 | 197.89083 | 3306.4756 | 1.002118 |
| H_10,12 | 26.16040 | 4.135762 | 19.16035 | 35.52546 | 3666.9951 | 1.007681 |
| H_11,1 | 37.58196 | 2.372081 | 33.10277 | 42.43333 | 4073.4257 | 1.002567 |
| H_11,2 | 22.02134 | 1.641576 | 19.08876 | 25.56114 | 5389.1854 | 1.002814 |
| H_11,3 | 36.22993 | 4.592250 | 28.06998 | 45.87855 | 5045.6821 | 1.006539 |
| H_11,4 | 112.34095 | 21.107111 | 77.37704 | 160.15998 | 2961.0707 | 1.003002 |
| H_11,5 | 105.32081 | 14.592782 | 79.61546 | 136.34158 | 3184.4160 | 1.001869 |
| H_11,6 | 58.55065 | 5.366479 | 48.55652 | 69.82775 | 3009.4770 | 1.008164 |
| H_11,7 | 27.10042 | 5.157132 | 18.50117 | 38.51424 | 770.8137 | 1.020997 |
| H_11,8 | 13.68971 | 1.128984 | 11.64426 | 16.07617 | 4399.5533 | 1.004932 |
| H_11,9 | 92.35336 | 16.084992 | 64.35764 | 128.81970 | 1791.5291 | 1.007889 |
| H_11,10 | 32.15861 | 2.683643 | 27.31077 | 37.79562 | 3647.3016 | 1.003228 |
| H_11,11 | 105.35741 | 17.872478 | 73.95624 | 143.32710 | 2138.2800 | 1.005593 |
| H_11,12 | 23.16559 | 3.193240 | 17.63505 | 30.14995 | 4675.2412 | 1.003391 |
| H_12,1 | 34.50561 | 2.204379 | 30.46123 | 39.15842 | 6434.2572 | 1.006203 |
| H_12,2 | 20.67267 | 1.608601 | 17.69763 | 24.11356 | 2525.1742 | 1.008149 |
| H_12,3 | 43.17884 | 5.144155 | 34.13115 | 54.55634 | 3763.1073 | 1.004132 |
| H_12,4 | 124.67719 | 22.765433 | 86.93448 | 176.68160 | 3807.8449 | 1.003215 |
| H_12,5 | 118.05774 | 18.770509 | 85.10528 | 159.03950 | 3340.4560 | 1.003255 |
| H_12,6 | 56.71190 | 5.230475 | 47.34237 | 67.54789 | 3407.9481 | 1.006289 |
| H_12,7 | 45.77659 | 6.151078 | 35.16803 | 58.96772 | 4591.8829 | 1.004638 |
| H_12,8 | 14.31732 | 1.194175 | 12.07799 | 16.77303 | 4550.9118 | 1.004127 |

Table 20: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| H_12,9 | 99.31760 | 15.954928 | 71.58273 | 133.77420 | 1641.1116 | 1.009701 |
| H_12,10 | 38.89717 | 3.421656 | 32.73692 | 46.00204 | 4553.3412 | 1.003483 |
| H_12,11 | 117.58481 | 20.584313 | 82.75949 | 161.84480 | 2237.9115 | 1.006663 |
| H_12,12 | 20.59050 | 2.798904 | 15.66767 | 26.67875 | 3901.0963 | 1.004734 |
| H_13,1 | 35.61914 | 2.243903 | 31.36991 | 40.18501 | 6060.3284 | 1.003265 |
| H_13,2 | 24.82446 | 1.849609 | 21.41299 | 28.65853 | 4784.8684 | 1.003584 |
| H_13,3 | 42.63467 | 4.740173 | 34.30698 | 52.96755 | 5477.3513 | 1.002653 |
| H_13,4 | 108.13620 | 18.815839 | 77.30113 | 152.27700 | 2835.9141 | 1.007787 |
| H_13,5 | 109.46691 | 15.469177 | 82.91519 | 144.39740 | 3035.0511 | 1.003262 |
| H_13,6 | 67.66811 | 6.838275 | 55.41824 | 82.21454 | 4695.3971 | 1.005196 |
| H_13,7 | 45.27179 | 7.453263 | 32.38620 | 62.24243 | 5818.5628 | 1.009016 |
| H_13,8 | 19.36910 | 1.525586 | 16.57109 | 22.51501 | 3973.9149 | 1.002326 |
| H_13,9 | 81.19072 | 14.546233 | 55.96135 | 112.11150 | 2854.7770 | 1.006859 |
| H_13,10 | 35.26855 | 2.905393 | 30.05269 | 41.38438 | 3380.5419 | 1.004119 |
| H_13,11 | 121.53815 | 20.118092 | 86.73251 | 165.74730 | 2936.7274 | 1.003405 |
| H_13,12 | 19.53146 | 2.849020 | 14.48109 | 25.57794 | 1859.8564 | 1.010165 |
| H_14,1 | 33.54361 | 2.391112 | 29.23211 | 38.55129 | 4403.8511 | 1.004401 |
| H_14,2 | 21.26592 | 1.620366 | 18.28808 | 24.74263 | 4542.3097 | 1.003478 |
| H_14,3 | 36.39059 | 4.550098 | 28.57292 | 46.45932 | 2737.5365 | 1.004450 |
| H_14,4 | 110.25597 | 21.034012 | 75.28956 | 157.41250 | 3604.1395 | 1.002572 |
| H_14,5 | 122.81376 | 19.220254 | 89.21307 | 164.75598 | 2960.1474 | 1.007213 |
| H_14,6 | 65.16968 | 7.911189 | 51.16195 | 81.60731 | 5885.4798 | 1.006699 |
| H_14,7 | 41.51629 | 6.986085 | 29.60085 | 57.18646 | 5805.5774 | 1.008090 |
| H_14,8 | 16.86523 | 1.658357 | 13.80705 | 20.29963 | 2963.8054 | 1.004346 |
| H_14,9 | 86.03998 | 14.908318 | 60.35918 | 117.12285 | 2001.5614 | 1.005562 |
| H_14,10 | 35.11500 | 3.984744 | 27.78366 | 43.57035 | 5990.4938 | 1.003950 |
| H_14,11 | 128.88810 | 22.544395 | 89.25732 | 179.01028 | 3122.0719 | 1.003950 |
| H_14,12 | 23.49388 | 4.085988 | 16.59846 | 32.49809 | 3795.7297 | 1.010956 |
| H_15,1 | 39.74032 | 4.222765 | 32.20865 | 49.02743 | 2598.6404 | 1.009375 |
| H_15,2 | 25.92368 | 3.821521 | 19.36760 | 34.26528 | 4545.8266 | 1.008330 |
| H_15,3 | 38.27313 | 6.062602 | 27.74202 | 51.26809 | 4024.0265 | 1.005695 |
| H_15,4 | 117.28444 | 24.125140 | 77.19878 | 173.06080 | 3533.3331 | 1.007047 |
| H_15,5 | 117.71627 | 22.523541 | 80.23630 | 166.89032 | 3676.3406 | 1.006228 |
| H_15,6 | 66.14846 | 11.296300 | 47.10209 | 90.32663 | 6501.7685 | 1.006530 |
| H_15,7 | 43.48164 | 8.043809 | 30.07061 | 61.60829 | 5871.4222 | 1.006547 |
| H_15,8 | 16.90560 | 2.769730 | 12.11854 | 22.90000 | 4345.1810 | 1.008946 |
| H_15,9 | 86.02348 | 16.221017 | 58.04938 | 120.70167 | 2888.3381 | 1.005624 |
| H_15,10 | 36.45818 | 6.138263 | 26.08620 | 50.57673 | 6895.9153 | 1.006407 |
| H_15,11 | 124.54834 | 22.781247 | 84.28197 | 174.98597 | 3239.2945 | 1.003674 |
| H_15,12 | 23.58018 | 4.056843 | 16.41878 | 32.77356 | 4924.4492 | 1.008814 |
| H_16,1 | 33.26824 | 4.255471 | 25.27012 | 42.33825 | 6616.1993 | 1.005727 |
| H_16,2 | 24.15466 | 3.940911 | 17.37296 | 32.79406 | 5468.9331 | 1.007934 |
| H_16,3 | 39.16152 | 5.860150 | 28.68174 | 51.73770 | 5272.4049 | 1.003329 |
| H_16,4 | 117.33980 | 23.897065 | 77.58708 | 170.71463 | 3507.6942 | 1.004787 |
| H_16,5 | 118.07609 | 22.417813 | 81.32477 | 167.32040 | 4181.4994 | 1.008805 |
| H_16,6 | 66.94352 | 11.539454 | 46.56357 | 92.81153 | 6321.5920 | 1.004663 |

Table 20: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| H_16,7 | 43.42784 | 8.058216 | 29.71907 | 61.22066 | 5617.0408 | 1.008005 |
| H_16,8 | 16.78898 | 2.840641 | 11.81219 | 23.18281 | 4618.6369 | 1.002168 |
| H_16,9 | 85.99380 | 16.308853 | 57.91526 | 121.10847 | 2326.1123 | 1.008169 |
| H_16,10 | 35.18649 | 5.245533 | 26.05338 | 46.62073 | 6279.8948 | 1.002091 |
| H_16,11 | 125.19348 | 23.775995 | 83.51654 | 176.80540 | 3130.9413 | 1.003465 |
| H_16,12 | 23.42850 | 4.117901 | 16.43340 | 32.49868 | 3477.7665 | 1.004752 |
| H_17,1 | 35.67491 | 3.222287 | 29.55703 | 42.53233 | 6925.5833 | 1.004430 |
| H_17,2 | 27.78525 | 2.712651 | 22.87000 | 33.34822 | 3643.7705 | 1.005354 |
| H_17,3 | 41.23131 | 6.854188 | 29.39004 | 56.55382 | 5102.9592 | 1.007764 |
| H_17,4 | 117.41587 | 23.564934 | 78.16302 | 169.68500 | 4054.5783 | 1.006527 |
| H_17,5 | 117.72942 | 22.967948 | 79.99030 | 168.13542 | 4269.2939 | 1.006576 |
| H_17,6 | 68.46677 | 10.307246 | 50.73844 | 91.14798 | 5556.8277 | 1.006879 |
| H_17,7 | 46.08290 | 8.278154 | 32.46923 | 65.03442 | 5180.9143 | 1.005089 |
| H_17,8 | 17.04104 | 2.780247 | 12.33153 | 23.17732 | 3780.8956 | 1.002909 |
| H_17,9 | 85.96613 | 15.840032 | 58.33262 | 120.65020 | 3026.8984 | 1.006432 |
| H_17,10 | 36.31858 | 5.939923 | 26.24235 | 49.42298 | 7149.1759 | 1.016054 |
| H_17,11 | 123.82995 | 22.812463 | 83.52421 | 172.93565 | 3763.3938 | 1.002540 |
| H_17,12 | 23.58056 | 4.023017 | 16.62033 | 32.64999 | 3972.4465 | 1.003089 |
| H_18,1 | 35.50175 | 2.363100 | 31.14693 | 40.29047 | 4063.9646 | 1.002318 |
| H_18,2 | 28.69469 | 2.390726 | 24.34241 | 33.59615 | 3552.7443 | 1.002721 |
| H_18,3 | 41.21773 | 6.816362 | 29.23130 | 56.53601 | 6109.0284 | 1.001412 |
| H_18,4 | 117.11456 | 23.253929 | 77.44010 | 167.64325 | 3768.1451 | 1.003452 |
| H_18,5 | 117.09688 | 22.388518 | 79.60095 | 168.03907 | 5122.7447 | 1.005713 |
| H_18,6 | 66.01099 | 11.460765 | 46.23597 | 91.48444 | 5771.8472 | 1.007554 |
| H_18,7 | 43.19132 | 7.698856 | 30.28939 | 60.22805 | 3848.3022 | 1.007476 |
| H_18,8 | 16.03324 | 2.302932 | 11.97528 | 20.87189 | 5300.3313 | 1.009395 |
| H_18,9 | 86.30773 | 16.574029 | 58.10283 | 123.44535 | 1372.7703 | 1.011161 |
| H_18,10 | 36.42818 | 6.002185 | 26.01964 | 49.95516 | 6423.7817 | 1.011487 |
| H_18,11 | 125.42990 | 22.957864 | 85.82384 | 176.67015 | 3282.4892 | 1.008150 |
| H_18,12 | 23.60498 | 4.098594 | 16.47442 | 32.51919 | 3057.6128 | 1.004281 |
| H_19,1 | 31.42882 | 3.178412 | 25.70025 | 37.92509 | 4205.9238 | 1.006096 |
| H_19,2 | 22.20646 | 2.406831 | 17.81704 | 27.64625 | 2150.4707 | 1.012445 |
| H_19,3 | 42.95891 | 6.677172 | 31.46659 | 57.70555 | 6206.8361 | 1.010024 |
| H_19,4 | 117.18888 | 23.507177 | 78.32287 | 171.74580 | 4241.7164 | 1.004916 |
| H_19,5 | 117.07619 | 22.275437 | 78.87616 | 167.35025 | 3834.2203 | 1.005940 |
| H_19,6 | 65.86837 | 11.322921 | 45.99851 | 90.20381 | 4859.7145 | 1.005654 |
| H_19,7 | 41.87097 | 7.489997 | 28.73228 | 57.90692 | 5404.3605 | 1.003467 |
| H_19,8 | 14.05647 | 1.873230 | 10.62481 | 17.84422 | 2875.2614 | 1.006467 |
| H_19,9 | 86.04327 | 16.295153 | 57.91663 | 120.86938 | 2550.3166 | 1.005136 |
| H_19,10 | 36.46585 | 5.856412 | 26.37274 | 49.15154 | 6350.2969 | 1.008256 |
| H_19,11 | 124.37277 | 23.349844 | 84.06673 | 175.24402 | 2876.9766 | 1.004726 |
| H_19,12 | 23.43651 | 3.917721 | 16.38346 | 32.10169 | 4052.8371 | 1.003655 |

Table 21: Parameter estimates for mean consumption rate, $\bar{cr}_{g,j}$, by group level g and by prey type j

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| cr_1,1 | 9.559369 | 1.4089775 | 7.026856 | 12.532305 | 6010.222 | 1.006724 |
| cr_1,2 | 7.785381 | 1.1442513 | 5.700837 | 10.256260 | 4905.937 | 1.002495 |
| cr_1,3 | 10.819249 | 1.4974974 | 8.095600 | 13.893173 | 3027.158 | 1.005701 |
| cr_1,4 | 20.795673 | 2.8157955 | 15.335760 | 26.289355 | 2175.457 | 1.007426 |
| cr_1,5 | 14.605612 | 2.0982831 | 10.650885 | 19.004040 | 3058.378 | 1.004631 |
| cr_1,6 | 10.221789 | 1.5152876 | 7.430158 | 13.349845 | 2817.797 | 1.011225 |
| cr_1,7 | 6.175315 | 1.0059653 | 4.406044 | 8.306979 | 3479.934 | 1.003673 |
| cr_1,8 | 4.465287 | 0.7047474 | 3.250890 | 6.007319 | 4093.649 | 1.001207 |
| cr_1,9 | 12.295035 | 2.1580449 | 8.486632 | 16.985730 | 1474.428 | 1.008115 |
| cr_1,10 | 7.252297 | 1.1617296 | 5.244598 | 9.785577 | 4355.412 | 1.004537 |
| cr_1,11 | 24.176508 | 0.7903400 | 22.559520 | 25.680445 | 2222.753 | 1.005683 |
| cr_1,12 | 8.952989 | 1.4093194 | 6.414649 | 11.945478 | 2590.494 | 1.006823 |
| cr_2,1 | 10.091342 | 1.1850357 | 7.932709 | 12.568333 | 4113.661 | 1.007707 |
| cr_2,2 | 9.187615 | 0.9345471 | 7.470899 | 11.132608 | 3603.686 | 1.002978 |
| cr_2,3 | 11.971075 | 1.4182543 | 9.326763 | 14.791755 | 2424.876 | 1.004750 |
| cr_2,4 | 20.691641 | 2.3153900 | 16.110800 | 25.237037 | 1872.967 | 1.005981 |
| cr_2,5 | 14.217553 | 1.6800522 | 11.000370 | 17.593740 | 2465.388 | 1.003213 |
| cr_2,6 | 10.503733 | 1.3854610 | 8.039831 | 13.353373 | 3267.963 | 1.006082 |
| cr_2,7 | 6.263666 | 0.9152915 | 4.688659 | 8.268050 | 2601.331 | 1.006254 |
| cr_2,8 | 4.208217 | 0.5236082 | 3.314369 | 5.329796 | 2494.328 | 1.005143 |
| cr_2,9 | 13.581167 | 1.9219345 | 10.211897 | 17.717153 | 1172.018 | 1.012870 |
| cr_2,10 | 8.512460 | 0.8420000 | 6.986738 | 10.248432 | 2938.402 | 1.004492 |
| cr_2,11 | 24.386491 | 0.7430528 | 22.890235 | 25.823358 | 2248.275 | 1.006709 |
| cr_2,12 | 9.203607 | 1.3277791 | 6.761482 | 11.993315 | 2257.905 | 1.009683 |
| cr_3,1 | 9.334414 | 1.1752745 | 7.199101 | 11.878103 | 4108.745 | 1.005219 |
| cr_3,2 | 7.920063 | 0.8501593 | 6.357761 | 9.711628 | 3890.634 | 1.002311 |
| cr_3,3 | 12.436883 | 1.5062894 | 9.650590 | 15.512738 | 2388.005 | 1.008721 |
| cr_3,4 | 20.181033 | 2.5754434 | 15.157657 | 25.222008 | 2387.628 | 1.003527 |
| cr_3,5 | 14.503832 | 1.8098624 | 11.055655 | 18.184113 | 2298.927 | 1.006096 |
| cr_3,6 | 8.765025 | 1.2409361 | 6.501844 | 11.358762 | 2948.881 | 1.007575 |
| cr_3,7 | 6.600916 | 0.9866540 | 4.813668 | 8.699416 | 2499.782 | 1.007416 |
| cr_3,8 | 3.809964 | 0.5105922 | 2.923552 | 4.937246 | 2533.146 | 1.004612 |
| cr_3,9 | 12.117513 | 1.8140290 | 8.967236 | 16.060883 | 1210.227 | 1.013142 |
| cr_3,10 | 7.165460 | 0.8045908 | 5.713208 | 8.799175 | 3374.865 | 1.005267 |
| cr_3,11 | 24.072082 | 0.7736543 | 22.505195 | 25.531590 | 2149.721 | 1.005983 |
| cr_3,12 | 8.381284 | 1.1758986 | 6.280844 | 10.782402 | 2336.600 | 1.010277 |
| cr_4,1 | 9.711454 | 1.2025532 | 7.510104 | 12.255252 | 5671.728 | 1.003956 |
| cr_4,2 | 7.061078 | 0.7795817 | 5.647326 | 8.715305 | 4121.748 | 1.002714 |
| cr_4,3 | 10.660953 | 1.3593812 | 8.085921 | 13.429350 | 2612.272 | 1.005610 |
| cr_4,4 | 20.724693 | 2.8333717 | 15.155440 | 26.384065 | 2233.915 | 1.011885 |
| cr_4,5 | 14.453455 | 1.8179375 | 11.002465 | 18.092292 | 2624.970 | 1.001951 |
| cr_4,6 | 10.991251 | 1.4315751 | 8.320506 | 13.951448 | 1011.130 | 1.016849 |
| cr_4,7 | 6.839743 | 1.0902418 | 4.921742 | 9.212788 | 3597.163 | 1.003812 |
| cr_4,8 | 4.149033 | 0.5596038 | 3.160919 | 5.383743 | 3613.395 | 1.004294 |
| cr_4,9 | 11.817251 | 1.9583735 | 8.379347 | 15.987918 | 1432.953 | 1.008822 |
| cr_4,10 | 7.059472 | 0.9690150 | 5.348697 | 9.075881 | 4271.757 | 1.005701 |

Table 21: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|----|------|-------|-------|------|
| cr__4,11 | 23.986575 | 0.7433220 | 22.488782 | 25.377595 | 1995.161 | 1.006588 |
| cr__4,12 | 8.133284 | 1.2162083 | 5.987706 | 10.772123 | 1617.565 | 1.011535 |
| cr__5,1 | 9.437391 | 1.2362757 | 7.194900 | 12.003193 | 5406.604 | 1.008082 |
| cr__5,2 | 8.351523 | 0.9479527 | 6.628932 | 10.333520 | 3959.025 | 1.003502 |
| cr__5,3 | 12.506114 | 1.6082769 | 9.476426 | 15.777942 | 2293.306 | 1.005945 |
| cr__5,4 | 20.251303 | 2.5654974 | 15.415970 | 25.378338 | 1911.613 | 1.011874 |
| cr__5,5 | 14.931750 | 1.7612574 | 11.641990 | 18.529788 | 2513.798 | 1.007417 |
| cr__5,6 | 10.318793 | 1.3381976 | 7.737604 | 13.060132 | 1465.345 | 1.014269 |
| cr__5,7 | 6.622136 | 1.0049531 | 4.859195 | 8.801929 | 3644.237 | 1.004028 |
| cr__5,8 | 4.798529 | 0.6214582 | 3.723782 | 6.148574 | 3298.545 | 1.004271 |
| cr__5,9 | 11.751822 | 1.8750633 | 8.519277 | 15.838725 | 1350.133 | 1.011845 |
| cr__5,10 | 7.385070 | 0.8733070 | 5.833411 | 9.195803 | 3885.156 | 1.004253 |
| cr__5,11 | 23.862818 | 0.7486146 | 22.391337 | 25.290073 | 1395.896 | 1.009962 |
| cr__5,12 | 8.816327 | 1.3227236 | 6.432030 | 11.644470 | 2532.609 | 1.006733 |
| cr__6,1 | 9.808931 | 1.2248075 | 7.577140 | 12.327628 | 4683.953 | 1.006276 |
| cr__6,2 | 8.843072 | 0.9972272 | 7.048886 | 10.901185 | 3906.934 | 1.002472 |
| cr__6,3 | 10.775349 | 1.2508969 | 8.418200 | 13.313287 | 2399.970 | 1.009437 |
| cr__6,4 | 20.078222 | 2.6640824 | 14.996842 | 25.254610 | 2370.049 | 1.005173 |
| cr__6,5 | 14.163485 | 1.6819428 | 10.926927 | 17.597500 | 2303.257 | 1.003103 |
| cr__6,6 | 9.769170 | 1.2840861 | 7.426153 | 12.424452 | 2786.765 | 1.009984 |
| cr__6,7 | 5.942724 | 0.8873571 | 4.400860 | 7.895164 | 3490.396 | 1.003777 |
| cr__6,8 | 4.245887 | 0.5250212 | 3.334328 | 5.410147 | 3498.337 | 1.001618 |
| cr__6,9 | 11.347133 | 1.7816317 | 8.295023 | 15.327822 | 1378.458 | 1.010101 |
| cr__6,10 | 6.764829 | 0.9221452 | 5.126670 | 8.718259 | 3798.026 | 1.002464 |
| cr__6,11 | 24.099786 | 0.6899266 | 22.706140 | 25.411620 | 1946.985 | 1.007826 |
| cr__6,12 | 9.516695 | 1.3414763 | 7.097331 | 12.354352 | 2161.951 | 1.008562 |
| cr__7,1 | 9.614764 | 1.4686724 | 7.023499 | 12.747700 | 5972.001 | 1.001149 |
| cr__7,2 | 7.802360 | 1.1643243 | 5.747891 | 10.289222 | 4802.784 | 1.005326 |
| cr__7,3 | 11.457919 | 1.5377208 | 8.578990 | 14.529053 | 3388.765 | 1.005933 |
| cr__7,4 | 20.746738 | 2.7628824 | 15.452673 | 26.121915 | 2519.522 | 1.006398 |
| cr__7,5 | 14.838067 | 1.9693426 | 11.098330 | 18.905020 | 2631.416 | 1.004186 |
| cr__7,6 | 10.460687 | 1.6501078 | 7.462976 | 13.893612 | 3770.338 | 1.005579 |
| cr__7,7 | 6.347688 | 1.0204145 | 4.599546 | 8.545241 | 3727.250 | 1.004187 |
| cr__7,8 | 4.800035 | 0.7276194 | 3.540905 | 6.411981 | 4674.568 | 1.004374 |
| cr__7,9 | 12.362659 | 2.1661423 | 8.674428 | 16.992440 | 1512.807 | 1.008684 |
| cr__7,10 | 7.300341 | 1.1637807 | 5.206268 | 9.856326 | 4479.718 | 1.003479 |
| cr__7,11 | 24.168800 | 0.7824321 | 22.583993 | 25.653870 | 2116.025 | 1.005894 |
| cr__7,12 | 8.979645 | 1.4414337 | 6.378888 | 11.993455 | 2161.383 | 1.007713 |
| cr__8,1 | 9.636413 | 1.4641138 | 7.052644 | 12.747835 | 5748.741 | 1.005929 |
| cr__8,2 | 7.819535 | 1.1337462 | 5.853279 | 10.327552 | 4913.860 | 1.009888 |
| cr__8,3 | 11.370020 | 1.6240739 | 8.401869 | 14.791222 | 2790.550 | 1.006310 |
| cr__8,4 | 20.737501 | 2.8060038 | 15.204455 | 26.161348 | 2646.978 | 1.008044 |
| cr__8,5 | 14.561565 | 2.0856399 | 10.553852 | 18.926275 | 3087.168 | 1.003915 |
| cr__8,6 | 10.497729 | 1.6428768 | 7.531743 | 13.790658 | 2185.829 | 1.007996 |
| cr__8,7 | 6.615344 | 1.1330614 | 4.704930 | 9.093606 | 4260.531 | 1.005154 |
| cr__8,8 | 4.478645 | 0.6849987 | 3.271174 | 5.928787 | 3948.706 | 1.003474 |
| cr__8,9 | 11.991826 | 2.1725342 | 8.249796 | 16.763585 | 1650.281 | 1.008207 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| cr_8,10 | 7.264954 | 1.1320744 | 5.283487 | 9.730239 | 4818.106 | 1.002065 |
| cr_8,11 | 24.177445 | 0.7834738 | 22.645565 | 25.658023 | 2106.613 | 1.007207 |
| cr_8,12 | 9.008693 | 1.4490161 | 6.443150 | 12.076240 | 2691.306 | 1.005893 |
| cr_9,1 | 9.807642 | 1.3631168 | 7.403622 | 12.768620 | 5932.125 | 1.002895 |
| cr_9,2 | 7.808853 | 1.1248309 | 5.801818 | 10.215700 | 5395.041 | 1.002057 |
| cr_9,3 | 11.200731 | 1.5150880 | 8.321221 | 14.371355 | 3131.229 | 1.004480 |
| cr_9,4 | 20.738761 | 2.7956314 | 15.320382 | 26.084962 | 2601.494 | 1.004649 |
| cr_9,5 | 14.609010 | 2.1001513 | 10.660338 | 18.924377 | 2904.909 | 1.003628 |
| cr_9,6 | 10.433638 | 1.6567958 | 7.353770 | 13.914948 | 1725.195 | 1.010326 |
| cr_9,7 | 6.601278 | 1.0781565 | 4.666315 | 8.864293 | 4110.399 | 1.003081 |
| cr_9,8 | 4.457725 | 0.7198787 | 3.253041 | 6.042880 | 4019.127 | 1.001380 |
| cr_9,9 | 12.218384 | 2.1702431 | 8.487703 | 17.029058 | 1771.781 | 1.006988 |
| cr_9,10 | 6.653989 | 1.0120143 | 4.821942 | 8.776221 | 4015.018 | 1.006796 |
| cr_9,11 | 24.072786 | 0.7736541 | 22.496240 | 25.552880 | 2174.905 | 1.006377 |
| cr_9,12 | 8.959824 | 1.4254031 | 6.358226 | 11.948643 | 2728.030 | 1.005771 |
| cr_10,1 | 9.703178 | 1.1336340 | 7.651975 | 12.108430 | 4994.990 | 1.002975 |
| cr_10,2 | 7.754972 | 1.1396682 | 5.770139 | 10.180447 | 4453.546 | 1.004520 |
| cr_10,3 | 10.965609 | 1.4970649 | 8.122922 | 13.971775 | 3109.234 | 1.005636 |
| cr_10,4 | 20.933992 | 2.7173765 | 15.673948 | 26.168122 | 2506.682 | 1.005378 |
| cr_10,5 | 14.611875 | 2.0726277 | 10.719363 | 18.753647 | 2734.974 | 1.004113 |
| cr_10,6 | 11.386474 | 1.6290758 | 8.298471 | 14.739007 | 1534.459 | 1.011807 |
| cr_10,7 | 6.584213 | 1.0916088 | 4.651778 | 8.928199 | 2801.397 | 1.007083 |
| cr_10,8 | 3.940361 | 0.5523964 | 3.011130 | 5.112230 | 3142.235 | 1.003338 |
| cr_10,9 | 11.812910 | 2.0791423 | 8.289279 | 16.337408 | 1539.848 | 1.012540 |
| cr_10,10 | 7.283795 | 1.1821101 | 5.229643 | 9.994246 | 1561.036 | 1.011679 |
| cr_10,11 | 23.881377 | 0.7805162 | 22.304300 | 25.346565 | 2188.806 | 1.007054 |
| cr_10,12 | 8.420299 | 1.3522672 | 5.953476 | 11.299077 | 2257.556 | 1.008131 |
| cr_11,1 | 9.075717 | 1.0210887 | 7.166336 | 11.178900 | 5224.242 | 1.002607 |
| cr_11,2 | 7.886469 | 0.8084353 | 6.428165 | 9.580082 | 4097.703 | 1.003391 |
| cr_11,3 | 11.087412 | 1.3666198 | 8.544415 | 13.915000 | 2694.736 | 1.006966 |
| cr_11,4 | 20.975450 | 2.6924152 | 15.605363 | 26.169195 | 2623.354 | 1.004570 |
| cr_11,5 | 14.483723 | 1.8029954 | 11.002070 | 18.111375 | 2325.270 | 1.004806 |
| cr_11,6 | 10.873596 | 1.3948353 | 8.182363 | 13.719610 | 1587.036 | 1.013144 |
| cr_11,7 | 8.675679 | 1.3765647 | 6.183055 | 11.557673 | 2392.415 | 1.007677 |
| cr_11,8 | 5.475170 | 0.6408569 | 4.361543 | 6.864070 | 3080.122 | 1.003770 |
| cr_11,9 | 11.104413 | 1.9668752 | 7.680295 | 15.381927 | 1700.633 | 1.007047 |
| cr_11,10 | 7.438927 | 0.7910641 | 6.004248 | 9.071609 | 2931.155 | 1.003510 |
| cr_11,11 | 24.581286 | 0.7197110 | 23.141875 | 25.941165 | 2157.498 | 1.005958 |
| cr_11,12 | 8.973909 | 1.3693200 | 6.553750 | 11.857710 | 1855.617 | 1.008956 |
| cr_12,1 | 9.896613 | 1.0949866 | 7.902740 | 12.130503 | 4234.251 | 1.003620 |
| cr_12,2 | 9.131950 | 0.9115972 | 7.443389 | 11.032545 | 3919.867 | 1.002257 |
| cr_12,3 | 10.420301 | 1.3087537 | 8.005267 | 13.090542 | 2670.731 | 1.006730 |
| cr_12,4 | 20.904111 | 2.6492302 | 15.762367 | 25.955340 | 2244.623 | 1.007846 |
| cr_12,5 | 14.699219 | 1.9170464 | 11.085733 | 18.628855 | 2598.288 | 1.003375 |
| cr_12,6 | 11.396687 | 1.4452563 | 8.741697 | 14.319762 | 2854.256 | 1.007753 |
| cr_12,7 | 5.924232 | 0.8459180 | 4.434127 | 7.758449 | 3029.502 | 1.006899 |
| cr_12,8 | 5.100109 | 0.6029019 | 4.038744 | 6.417919 | 2924.971 | 1.003532 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| cr_12,9  | 10.540413 | 1.7705883 | 7.474192  | 14.398473 | 1423.077 | 1.010465 |
| cr_12,10 | 6.635153  | 0.7248362 | 5.320547  | 8.143089  | 3223.320 | 1.003442 |
| cr_12,11 | 24.466831 | 0.7366132 | 22.981390 | 25.855877 | 2338.708 | 1.004780 |
| cr_12,12 | 9.678541  | 1.4394400 | 7.136715  | 12.675512 | 2277.395 | 1.008562 |
| cr_13,1  | 8.929396  | 1.0185956 | 7.058257  | 11.051120 | 2735.200 | 1.006525 |
| cr_13,2  | 7.856582  | 0.7923545 | 6.395288  | 9.512886  | 3740.155 | 1.004445 |
| cr_13,3  | 10.514398 | 1.2751834 | 8.113596  | 13.188508 | 2443.438 | 1.008642 |
| cr_13,4  | 21.764475 | 2.5592800 | 16.621357 | 26.626427 | 1993.694 | 1.005681 |
| cr_13,5  | 15.257485 | 1.8194673 | 11.761275 | 18.930720 | 2311.200 | 1.005139 |
| cr_13,6  | 10.217284 | 1.3669917 | 7.698994  | 13.047818 | 2576.010 | 1.008076 |
| cr_13,7  | 6.651863  | 1.0279114 | 4.847208  | 8.807669  | 3049.844 | 1.005516 |
| cr_13,8  | 4.011050  | 0.4746056 | 3.190734  | 5.026195  | 3236.962 | 1.002661 |
| cr_13,9  | 12.459818 | 2.1799809 | 8.765800  | 17.137660 | 1521.679 | 1.008860 |
| cr_13,10 | 7.391515  | 0.7858593 | 5.983280  | 9.053732  | 2790.609 | 1.003790 |
| cr_13,11 | 24.226624 | 0.7366602 | 22.739185 | 25.583220 | 2133.707 | 1.006115 |
| cr_13,12 | 9.851162  | 1.4478301 | 7.226420  | 12.904730 | 2561.194 | 1.009061 |
| cr_14,1  | 10.198684 | 1.1933325 | 8.023901  | 12.633505 | 4673.827 | 1.002528 |
| cr_14,2  | 8.202538  | 0.8140207 | 6.733364  | 9.869815  | 4005.228 | 1.003740 |
| cr_14,3  | 13.075665 | 1.4839301 | 10.166055 | 16.083607 | 2286.913 | 1.008612 |
| cr_14,4  | 21.138414 | 2.7675488 | 15.701788 | 26.350895 | 2598.193 | 1.004348 |
| cr_14,5  | 14.436033 | 1.8890588 | 10.836573 | 18.205607 | 2785.037 | 1.003801 |
| cr_14,6  | 10.548134 | 1.4324582 | 7.851618  | 13.581045 | 2577.950 | 1.011571 |
| cr_14,7  | 6.826581  | 1.0667300 | 4.962359  | 9.105274  | 3730.902 | 1.002758 |
| cr_14,8  | 4.378573  | 0.5439269 | 3.407676  | 5.541864  | 3829.428 | 1.005296 |
| cr_14,9  | 11.990622 | 2.0763450 | 8.367257  | 16.557693 | 1581.894 | 1.009628 |
| cr_14,10 | 7.921147  | 1.0187641 | 6.102080  | 10.084207 | 3818.221 | 1.005134 |
| cr_14,11 | 24.246447 | 0.7479800 | 22.702370 | 25.646612 | 2173.916 | 1.006428 |
| cr_14,12 | 8.969039  | 1.4270088 | 6.412180  | 12.045300 | 2503.763 | 1.007166 |
| cr_15,1  | 9.351463  | 1.1977804 | 7.178633  | 11.845660 | 3119.798 | 1.006360 |
| cr_15,2  | 7.300332  | 1.0172264 | 5.422293  | 9.523112  | 4845.787 | 1.003909 |
| cr_15,3  | 12.232535 | 1.5801312 | 9.268681  | 15.462030 | 2963.069 | 1.005633 |
| cr_15,4  | 20.799400 | 2.8100515 | 15.344580 | 26.210853 | 2035.232 | 1.004698 |
| cr_15,5  | 14.627476 | 2.0055578 | 10.770760 | 18.743725 | 2927.542 | 1.003900 |
| cr_15,6  | 10.476252 | 1.6591231 | 7.389490  | 13.879072 | 1941.873 | 1.010236 |
| cr_15,7  | 6.616400  | 1.1004609 | 4.667362  | 8.952538  | 3995.266 | 1.001899 |
| cr_15,8  | 4.445109  | 0.7022073 | 3.234107  | 5.960414  | 2950.685 | 1.003837 |
| cr_15,9  | 11.942518 | 2.1262019 | 8.215159  | 16.563392 | 1579.839 | 1.012010 |
| cr_15,10 | 7.265543  | 1.1517784 | 5.301609  | 9.777687  | 4964.743 | 1.002655 |
| cr_15,11 | 24.174479 | 0.7845333 | 22.626250 | 25.676208 | 2158.086 | 1.005996 |
| cr_15,12 | 8.938726  | 1.4523795 | 6.341712  | 12.016655 | 2287.396 | 1.008901 |
| cr_16,1  | 10.281714 | 1.4085923 | 7.723894  | 13.180710 | 5354.746 | 1.005771 |
| cr_16,2  | 7.839430  | 1.1377606 | 5.821265  | 10.228837 | 5245.922 | 1.008711 |
| cr_16,3  | 10.467681 | 1.4390459 | 7.814833  | 13.449405 | 2411.033 | 1.010373 |
| cr_16,4  | 20.757305 | 2.8514687 | 15.198153 | 26.369075 | 2606.856 | 1.006613 |
| cr_16,5  | 14.593447 | 2.0558634 | 10.770380 | 18.881493 | 3190.196 | 1.005557 |
| cr_16,6  | 10.440576 | 1.6300933 | 7.544043  | 13.939730 | 3909.331 | 1.005299 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| cr_16,7 | 6.615003 | 1.1057616 | 4.664867 | 9.012448 | 3565.689 | 1.005397 |
| cr_16,8 | 4.459289 | 0.7197701 | 3.231707 | 6.044768 | 3879.950 | 1.004906 |
| cr_16,9 | 11.962885 | 2.1530772 | 8.202326 | 16.542538 | 1607.888 | 1.007651 |
| cr_16,10 | 7.029039 | 1.0698038 | 5.102060 | 9.250388 | 3611.865 | 1.006464 |
| cr_16,11 | 24.162423 | 0.7980514 | 22.574247 | 25.684450 | 2417.488 | 1.005839 |
| cr_16,12 | 8.958381 | 1.4350489 | 6.407966 | 12.008195 | 2191.928 | 1.008695 |
| cr_17,1 | 9.279484 | 1.2217732 | 7.088469 | 11.899855 | 3500.804 | 1.005729 |
| cr_17,2 | 6.480121 | 0.7661950 | 5.129256 | 8.064460 | 3303.995 | 1.004341 |
| cr_17,3 | 11.368622 | 1.6251501 | 8.380508 | 14.657528 | 1676.587 | 1.013796 |
| cr_17,4 | 20.800187 | 2.8114494 | 15.411302 | 26.302927 | 2393.591 | 1.004985 |
| cr_17,5 | 14.638621 | 2.1035560 | 10.679065 | 18.896187 | 2854.319 | 1.004973 |
| cr_17,6 | 10.433255 | 1.5309492 | 7.663617 | 13.634050 | 3780.497 | 1.005749 |
| cr_17,7 | 6.439119 | 1.0849386 | 4.535697 | 8.955476 | 1540.624 | 1.010816 |
| cr_17,8 | 4.420209 | 0.7003803 | 3.192853 | 5.928831 | 3602.007 | 1.004738 |
| cr_17,9 | 11.974572 | 2.1556880 | 8.318929 | 16.761980 | 1607.312 | 1.008098 |
| cr_17,10 | 7.264709 | 1.1270371 | 5.273208 | 9.610551 | 4598.236 | 1.004794 |
| cr_17,11 | 24.188703 | 0.7937017 | 22.574613 | 25.690665 | 2115.433 | 1.006921 |
| cr_17,12 | 8.940303 | 1.4090851 | 6.403297 | 11.914507 | 2367.852 | 1.007618 |
| cr_18,1 | 9.121099 | 1.1173558 | 7.097213 | 11.444645 | 3955.310 | 1.006204 |
| cr_18,2 | 6.734378 | 0.7554634 | 5.379579 | 8.310083 | 3972.254 | 1.003831 |
| cr_18,3 | 11.491429 | 1.5561055 | 8.641148 | 14.763053 | 2780.598 | 1.005855 |
| cr_18,4 | 20.782819 | 2.8055660 | 15.233975 | 26.290893 | 2893.602 | 1.004663 |
| cr_18,5 | 14.667494 | 2.0465071 | 10.935255 | 18.810627 | 2775.034 | 1.004717 |
| cr_18,6 | 10.489810 | 1.6670752 | 7.504728 | 13.890472 | 2577.604 | 1.007567 |
| cr_18,7 | 6.638666 | 1.1117377 | 4.698548 | 9.035056 | 4246.890 | 1.004160 |
| cr_18,8 | 4.461682 | 0.6782585 | 3.280408 | 5.971812 | 4222.834 | 1.003669 |
| cr_18,9 | 11.945833 | 2.1752778 | 8.228614 | 16.814297 | 1590.692 | 1.013094 |
| cr_18,10 | 7.286958 | 1.1382903 | 5.258291 | 9.773283 | 4559.706 | 1.005014 |
| cr_18,11 | 24.208244 | 0.7771367 | 22.601680 | 25.674925 | 2042.785 | 1.007060 |
| cr_18,12 | 8.942981 | 1.3914628 | 6.454111 | 11.877147 | 2706.039 | 1.004353 |
| cr_19,1 | 10.038436 | 1.3472923 | 7.524602 | 12.856435 | 6551.144 | 1.005539 |
| cr_19,2 | 7.716558 | 0.9882730 | 5.960492 | 9.872288 | 4274.042 | 1.002325 |
| cr_19,3 | 11.252001 | 1.5886205 | 8.310324 | 14.487642 | 3566.828 | 1.004551 |
| cr_19,4 | 20.768866 | 2.7794972 | 15.218613 | 26.328235 | 2848.646 | 1.002741 |
| cr_19,5 | 14.685611 | 2.0855357 | 10.776523 | 18.828965 | 2677.935 | 1.005924 |
| cr_19,6 | 10.504039 | 1.6109158 | 7.620963 | 13.882735 | 3496.067 | 1.004991 |
| cr_19,7 | 6.831886 | 1.1014317 | 4.868280 | 9.205393 | 3847.139 | 1.003211 |
| cr_19,8 | 5.334302 | 0.7563073 | 4.036333 | 6.983377 | 3141.460 | 1.004284 |
| cr_19,9 | 11.950297 | 2.1788898 | 8.103616 | 16.721753 | 1659.251 | 1.009246 |
| cr_19,10 | 7.264349 | 1.1397451 | 5.158614 | 9.673161 | 5006.708 | 1.007843 |
| cr_19,11 | 24.167710 | 0.7905085 | 22.571818 | 25.656852 | 2278.576 | 1.005954 |
| cr_19,12 | 8.968788 | 1.4441579 | 6.397168 | 12.078660 | 2577.508 | 1.005203 |

Table 22: Parameter estimates for mean energy intake rate, $\bar{er}_{g,j}$ (kcal/min), by group level g and by prey type j

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| er_1,1 | 5.699472 | 0.8415386 | 4.185530 | 7.475203 | 5918.581 | 1.006008 |
| er_1,2 | 5.625670 | 0.8287596 | 4.133648 | 7.420983 | 4874.193 | 1.002469 |
| er_1,3 | 7.068098 | 0.9807925 | 5.292227 | 9.086338 | 3063.254 | 1.005640 |
| er_1,4 | 21.150390 | 2.8670492 | 15.562962 | 26.740862 | 2178.494 | 1.007388 |
| er_1,5 | 12.056533 | 1.7364211 | 8.813669 | 15.699193 | 3086.766 | 1.004914 |
| er_1,6 | 7.837201 | 1.1642940 | 5.675937 | 10.253473 | 2796.919 | 1.011246 |
| er_1,7 | 5.044051 | 0.8234641 | 3.594757 | 6.799479 | 3473.210 | 1.003221 |
| er_1,8 | 4.790776 | 0.7576999 | 3.467227 | 6.453608 | 4082.120 | 1.001319 |
| er_1,9 | 16.388385 | 2.8798567 | 11.332377 | 22.644320 | 1480.132 | 1.007920 |
| er_1,10 | 3.876836 | 0.6212928 | 2.808490 | 5.233185 | 4339.419 | 1.004412 |
| er_1,11 | 26.409933 | 0.9003445 | 24.553428 | 28.119905 | 2378.335 | 1.005400 |
| er_1,12 | 3.971020 | 0.6270117 | 2.832762 | 5.300285 | 2615.307 | 1.006627 |
| er_2,1 | 6.017181 | 0.7090818 | 4.729734 | 7.505191 | 4116.643 | 1.008550 |
| er_2,2 | 6.638824 | 0.6779734 | 5.393820 | 8.068293 | 3600.400 | 1.002842 |
| er_2,3 | 7.820918 | 0.9296713 | 6.075077 | 9.656786 | 2445.151 | 1.004749 |
| er_2,4 | 21.043932 | 2.3592488 | 16.417465 | 25.719928 | 1900.162 | 1.005772 |
| er_2,5 | 11.736082 | 1.3909197 | 9.083115 | 14.577822 | 2486.741 | 1.003409 |
| er_2,6 | 8.053059 | 1.0640647 | 6.179279 | 10.266848 | 3275.490 | 1.006302 |
| er_2,7 | 5.115938 | 0.7507942 | 3.819712 | 6.751639 | 2593.050 | 1.006280 |
| er_2,8 | 4.515207 | 0.5639475 | 3.549182 | 5.712904 | 2526.437 | 1.005017 |
| er_2,9 | 18.101831 | 2.5660996 | 13.589548 | 23.619937 | 1177.854 | 1.012462 |
| er_2,10 | 4.550469 | 0.4500595 | 3.734996 | 5.479133 | 2927.165 | 1.004500 |
| er_2,11 | 26.638724 | 0.8517589 | 24.939890 | 28.275455 | 2388.722 | 1.006522 |
| er_2,12 | 4.082441 | 0.5907022 | 2.999535 | 5.337536 | 2278.630 | 1.009489 |
| er_3,1 | 5.565366 | 0.7032177 | 4.293644 | 7.080762 | 4084.101 | 1.005405 |
| er_3,2 | 5.722678 | 0.6165716 | 4.588616 | 7.044309 | 3961.219 | 1.002555 |
| er_3,3 | 8.125416 | 0.9880704 | 6.285082 | 10.106300 | 2417.266 | 1.008674 |
| er_3,4 | 20.525652 | 2.6249694 | 15.431323 | 25.732463 | 2397.274 | 1.003442 |
| er_3,5 | 11.972175 | 1.4973510 | 9.114941 | 15.005802 | 2319.268 | 1.005905 |
| er_3,6 | 6.720408 | 0.9528468 | 4.985321 | 8.684595 | 2940.397 | 1.007446 |
| er_3,7 | 5.391887 | 0.8078691 | 3.925403 | 7.118699 | 2489.661 | 1.007656 |
| er_3,8 | 4.087815 | 0.5497464 | 3.134999 | 5.301838 | 2552.677 | 1.004533 |
| er_3,9 | 16.152658 | 2.4220824 | 11.970863 | 21.421980 | 1220.624 | 1.012849 |
| er_3,10 | 3.830411 | 0.4300198 | 3.051810 | 4.708743 | 3376.381 | 1.005207 |
| er_3,11 | 26.295062 | 0.8838955 | 24.531578 | 27.965808 | 2322.044 | 1.005634 |
| er_3,12 | 3.717114 | 0.5232445 | 2.786809 | 4.783096 | 2354.888 | 1.010062 |
| er_4,1 | 5.790504 | 0.7194067 | 4.480665 | 7.300864 | 5629.397 | 1.003880 |
| er_4,2 | 5.102026 | 0.5656252 | 4.067921 | 6.323165 | 4120.209 | 1.003721 |
| er_4,3 | 6.964959 | 0.8921015 | 5.287831 | 8.814241 | 2629.888 | 1.005661 |
| er_4,4 | 21.079175 | 2.8863066 | 15.497085 | 26.843110 | 2222.103 | 1.011821 |
| er_4,5 | 11.929863 | 1.5038229 | 9.061039 | 14.945890 | 2635.902 | 1.001841 |
| er_4,6 | 8.426373 | 1.0988974 | 6.377135 | 10.689820 | 1024.631 | 1.016753 |
| er_4,7 | 5.586397 | 0.8934124 | 4.014428 | 7.527813 | 3586.975 | 1.004048 |
| er_4,8 | 4.451812 | 0.6029507 | 3.389194 | 5.760687 | 3622.759 | 1.003231 |
| er_4,9 | 15.751371 | 2.6137776 | 11.173960 | 21.320013 | 1437.258 | 1.008705 |

Table 22: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| er__4,10 | 3.773775 | 0.5180565 | 2.859133 | 4.860310 | 4276.077 | 1.005883 |
| er__4,11 | 26.202257 | 0.8509528 | 24.493952 | 27.828700 | 2152.249 | 1.006238 |
| er__4,12 | 3.606942 | 0.5406420 | 2.655580 | 4.781661 | 1648.408 | 1.011299 |
| er__5,1 | 5.627076 | 0.7388292 | 4.297451 | 7.154073 | 5229.976 | 1.007305 |
| er__5,2 | 6.034701 | 0.6872124 | 4.788640 | 7.480020 | 3933.246 | 1.003606 |
| er__5,3 | 8.170572 | 1.0543164 | 6.197434 | 10.327222 | 2323.347 | 1.005943 |
| er__5,4 | 20.597054 | 2.6143942 | 15.672165 | 25.850710 | 1924.650 | 1.011491 |
| er__5,5 | 12.325294 | 1.4598143 | 9.591295 | 15.314495 | 2534.478 | 1.006700 |
| er__5,6 | 7.912286 | 1.0292083 | 5.923134 | 10.009858 | 1473.530 | 1.014217 |
| er__5,7 | 5.408706 | 0.8226448 | 3.961700 | 7.177460 | 3644.214 | 1.004159 |
| er__5,8 | 5.148921 | 0.6697082 | 3.987978 | 6.616365 | 3307.770 | 1.004230 |
| er__5,9 | 15.664612 | 2.5041942 | 11.327235 | 21.095932 | 1358.524 | 1.011669 |
| er__5,10 | 3.947822 | 0.4668318 | 3.117663 | 4.917445 | 3885.053 | 1.004182 |
| er__5,11 | 26.068112 | 0.8553692 | 24.410622 | 27.728437 | 1524.577 | 1.009839 |
| er__5,12 | 3.910053 | 0.5878463 | 2.850219 | 5.173515 | 2539.909 | 1.006754 |
| er__6,1 | 5.848617 | 0.7322367 | 4.514832 | 7.377080 | 4628.822 | 1.006498 |
| er__6,2 | 6.390265 | 0.7231237 | 5.092414 | 7.884707 | 3913.084 | 1.002365 |
| er__6,3 | 7.039942 | 0.8208079 | 5.503299 | 8.707071 | 2421.964 | 1.009215 |
| er__6,4 | 20.420893 | 2.7130134 | 15.257558 | 25.692162 | 2373.211 | 1.005080 |
| er__6,5 | 11.690890 | 1.3922772 | 9.015724 | 14.517640 | 2318.290 | 1.002954 |
| er__6,6 | 7.490286 | 0.9869548 | 5.697649 | 9.534363 | 2795.663 | 1.009809 |
| er__6,7 | 4.854253 | 0.7263786 | 3.595947 | 6.471985 | 3488.806 | 1.003970 |
| er__6,8 | 4.555417 | 0.5659644 | 3.565466 | 5.787709 | 3510.756 | 1.001670 |
| er__6,9 | 15.124366 | 2.3783313 | 11.036275 | 20.452150 | 1382.412 | 1.009875 |
| er__6,10 | 3.616260 | 0.4928816 | 2.743402 | 4.657714 | 3798.066 | 1.002453 |
| er__6,11 | 26.325787 | 0.7953846 | 24.711280 | 27.833755 | 2086.811 | 1.007393 |
| er__6,12 | 4.220500 | 0.5964186 | 3.156377 | 5.484869 | 2142.035 | 1.008465 |
| er__7,1 | 5.732521 | 0.8774640 | 4.186622 | 7.622363 | 5944.640 | 1.001749 |
| er__7,2 | 5.637997 | 0.8430994 | 4.145925 | 7.445363 | 4745.350 | 1.004878 |
| er__7,3 | 7.485818 | 1.0075878 | 5.608717 | 9.498025 | 3386.524 | 1.005885 |
| er__7,4 | 21.100491 | 2.8136667 | 15.695390 | 26.606455 | 2508.992 | 1.006345 |
| er__7,5 | 12.247725 | 1.6278717 | 9.183158 | 15.584497 | 2639.176 | 1.004178 |
| er__7,6 | 8.020474 | 1.2672158 | 5.714974 | 10.679913 | 3755.269 | 1.006144 |
| er__7,7 | 5.185048 | 0.8358609 | 3.753286 | 6.983409 | 3646.806 | 1.004471 |
| er__7,8 | 5.149503 | 0.7826703 | 3.804360 | 6.857392 | 4611.147 | 1.004513 |
| er__7,9 | 16.477375 | 2.8913132 | 11.559757 | 22.617857 | 1512.433 | 1.008584 |
| er__7,10 | 3.902560 | 0.6220894 | 2.784515 | 5.267855 | 4480.803 | 1.003501 |
| er__7,11 | 26.402077 | 0.8940908 | 24.610480 | 28.117607 | 2291.170 | 1.005633 |
| er__7,12 | 3.982467 | 0.6403528 | 2.835785 | 5.306915 | 2179.235 | 1.007491 |
| er__8,1 | 5.745937 | 0.8749145 | 4.200932 | 7.581499 | 5703.247 | 1.005790 |
| er__8,2 | 5.650366 | 0.8204410 | 4.224135 | 7.462326 | 4896.168 | 1.008956 |
| er__8,3 | 7.428614 | 1.0645010 | 5.482530 | 9.641064 | 2812.540 | 1.006213 |
| er__8,4 | 21.090666 | 2.8587419 | 15.491390 | 26.630840 | 2657.464 | 1.007969 |
| er__8,5 | 12.019892 | 1.7267719 | 8.714029 | 15.653525 | 3123.440 | 1.003796 |
| er__8,6 | 8.049041 | 1.2620488 | 5.752539 | 10.616962 | 2231.719 | 1.007946 |
| er__8,7 | 5.403474 | 0.9286956 | 3.832232 | 7.429553 | 4297.532 | 1.005042 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| er_8,8 | 4.805386 | 0.7367962 | 3.494192 | 6.364097 | 3943.668 | 1.003557 |
| er_8,9 | 15.985070 | 2.8980683 | 10.963447 | 22.371552 | 1659.407 | 1.008005 |
| er_8,10 | 3.883571 | 0.6051774 | 2.821230 | 5.195241 | 4823.598 | 1.002009 |
| er_8,11 | 26.410868 | 0.8944422 | 24.652107 | 28.134630 | 2278.313 | 1.006898 |
| er_8,12 | 3.995358 | 0.6445211 | 2.858927 | 5.356459 | 2711.874 | 1.005682 |
| er_9,1 | 5.847761 | 0.8150316 | 4.408542 | 7.622088 | 5908.978 | 1.002763 |
| er_9,2 | 5.642323 | 0.8151743 | 4.174495 | 7.400847 | 5369.932 | 1.002119 |
| er_9,3 | 7.318341 | 0.9920743 | 5.438955 | 9.368521 | 3122.445 | 1.004096 |
| er_9,4 | 21.093586 | 2.8501567 | 15.578772 | 26.531482 | 2594.631 | 1.004542 |
| er_9,5 | 12.058997 | 1.7360219 | 8.811942 | 15.590665 | 2917.053 | 1.003558 |
| er_9,6 | 7.999896 | 1.2725153 | 5.626571 | 10.668632 | 1715.813 | 1.010338 |
| er_9,7 | 5.392110 | 0.8827073 | 3.807944 | 7.257540 | 4119.281 | 1.003301 |
| er_9,8 | 4.782518 | 0.7728171 | 3.481828 | 6.465319 | 4014.203 | 1.000912 |
| er_9,9 | 16.284951 | 2.8967111 | 11.315478 | 22.753195 | 1778.068 | 1.006898 |
| er_9,10 | 3.557018 | 0.5410065 | 2.576608 | 4.692432 | 4020.598 | 1.006860 |
| er_9,11 | 26.296729 | 0.8844294 | 24.500570 | 27.969950 | 2352.237 | 1.006333 |
| er_9,12 | 3.973906 | 0.6339622 | 2.820676 | 5.297863 | 2738.820 | 1.005603 |
| er_10,1 | 5.785372 | 0.6780919 | 4.545604 | 7.246499 | 4982.954 | 1.002913 |
| er_10,2 | 5.603637 | 0.8242120 | 4.162687 | 7.361730 | 4443.821 | 1.005088 |
| er_10,3 | 7.164102 | 0.9810944 | 5.317559 | 9.126199 | 3113.907 | 1.005614 |
| er_10,4 | 21.291142 | 2.7702787 | 15.965065 | 26.665972 | 2523.098 | 1.005240 |
| er_10,5 | 12.061235 | 1.7144272 | 8.854044 | 15.505335 | 2760.648 | 1.003891 |
| er_10,6 | 8.730256 | 1.2511727 | 6.351330 | 11.294725 | 1589.251 | 1.011667 |
| er_10,7 | 5.378185 | 0.8947485 | 3.804544 | 7.316201 | 2772.974 | 1.007213 |
| er_10,8 | 4.227580 | 0.5934857 | 3.229756 | 5.499080 | 3152.104 | 1.003321 |
| er_10,9 | 15.745363 | 2.7742065 | 11.022460 | 21.802875 | 1542.380 | 1.012381 |
| er_10,10 | 3.893730 | 0.6319856 | 2.795737 | 5.348793 | 1572.083 | 1.011778 |
| er_10,11 | 26.087529 | 0.8882971 | 24.322752 | 27.755790 | 2350.109 | 1.006866 |
| er_10,12 | 3.734407 | 0.6012372 | 2.648207 | 5.032730 | 2247.547 | 1.008010 |
| er_11,1 | 5.411331 | 0.6107857 | 4.275082 | 6.667512 | 5159.795 | 1.002904 |
| er_11,2 | 5.698617 | 0.5868408 | 4.646480 | 6.936815 | 4093.393 | 1.003707 |
| er_11,3 | 7.243104 | 0.8941827 | 5.566109 | 9.094383 | 2722.241 | 1.006959 |
| er_11,4 | 21.332657 | 2.7437460 | 15.920158 | 26.665025 | 2651.938 | 1.004431 |
| er_11,5 | 11.955236 | 1.4921931 | 9.056252 | 14.989422 | 2341.537 | 1.004713 |
| er_11,6 | 8.336755 | 1.0719548 | 6.253270 | 10.529950 | 1598.051 | 1.013039 |
| er_11,7 | 7.086455 | 1.1281565 | 5.041491 | 9.438671 | 2373.735 | 1.007816 |
| er_11,8 | 5.874046 | 0.6896236 | 4.679091 | 7.363234 | 3090.185 | 1.003869 |
| er_11,9 | 14.801201 | 2.6261886 | 10.250587 | 20.507583 | 1703.881 | 1.006948 |
| er_11,10 | 3.976583 | 0.4229352 | 3.208037 | 4.849938 | 2930.690 | 1.003495 |
| er_11,11 | 26.852605 | 0.8281590 | 25.211147 | 28.443062 | 2280.847 | 1.006172 |
| er_11,12 | 3.980018 | 0.6086945 | 2.915389 | 5.276968 | 1890.805 | 1.008831 |
| er_12,1 | 5.900559 | 0.6549204 | 4.713076 | 7.240763 | 4195.066 | 1.003489 |
| er_12,2 | 6.598975 | 0.6615215 | 5.383006 | 7.981065 | 3958.219 | 1.002072 |
| er_12,3 | 6.808134 | 0.8583050 | 5.230285 | 8.544386 | 2707.326 | 1.006696 |
| er_12,4 | 21.260703 | 2.7005035 | 16.060907 | 26.416252 | 2240.886 | 1.007760 |
| er_12,5 | 12.133508 | 1.5876352 | 9.111228 | 15.390733 | 2613.792 | 1.003273 |
| er_12,6 | 8.737896 | 1.1096775 | 6.684971 | 10.984573 | 2851.160 | 1.007723 |

Table 22: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| er__12,7 | 4.839470 | 0.6938353 | 3.613330 | 6.338787 | 3032.718 | 1.007126 |
| er__12,8 | 5.472072 | 0.6498450 | 4.330559 | 6.885865 | 2977.749 | 1.003520 |
| er__12,9 | 14.049147 | 2.3652304 | 9.952467 | 19.158855 | 1424.370 | 1.010398 |
| er__12,10 | 3.546933 | 0.3873578 | 2.845341 | 4.351498 | 3223.994 | 1.003420 |
| er__12,11 | 26.726917 | 0.8479592 | 25.018857 | 28.354120 | 2529.256 | 1.005007 |
| er__12,12 | 4.292749 | 0.6403200 | 3.146211 | 5.636255 | 2297.929 | 1.008352 |
| er__13,1 | 5.324039 | 0.6094083 | 4.202456 | 6.583915 | 2722.880 | 1.006433 |
| er__13,2 | 5.677327 | 0.5755022 | 4.622918 | 6.892584 | 3747.824 | 1.005071 |
| er__13,3 | 6.869251 | 0.8358315 | 5.290607 | 8.617889 | 2493.454 | 1.008586 |
| er__13,4 | 22.135995 | 2.6096455 | 16.878542 | 27.105480 | 2011.534 | 1.005447 |
| er__13,5 | 12.594514 | 1.5059763 | 9.701386 | 15.630500 | 2335.319 | 1.004893 |
| er__13,6 | 7.833428 | 1.0501152 | 5.904029 | 10.009873 | 2568.012 | 1.008043 |
| er__13,7 | 5.432768 | 0.8413621 | 3.951861 | 7.208492 | 3007.291 | 1.005664 |
| er__13,8 | 4.303244 | 0.5112826 | 3.417273 | 5.394347 | 3274.214 | 1.002593 |
| er__13,9 | 16.608739 | 2.9119335 | 11.653543 | 22.901455 | 1533.042 | 1.008627 |
| er__13,10 | 3.951245 | 0.4201892 | 3.197593 | 4.834697 | 2790.340 | 1.003770 |
| er__13,11 | 26.464830 | 0.8469912 | 24.742677 | 28.078392 | 2324.996 | 1.005875 |
| er__13,12 | 4.369488 | 0.6437172 | 3.194152 | 5.721690 | 2575.040 | 1.008958 |
| er__14,1 | 6.081039 | 0.7130552 | 4.770452 | 7.533168 | 4607.474 | 1.001999 |
| er__14,2 | 5.927252 | 0.5916184 | 4.860999 | 7.133482 | 3972.666 | 1.003145 |
| er__14,3 | 8.543016 | 0.9735829 | 6.632505 | 10.530320 | 2317.393 | 1.008529 |
| er__14,4 | 21.500402 | 2.8240139 | 15.923153 | 26.835137 | 2610.296 | 1.004145 |
| er__14,5 | 11.915769 | 1.5626426 | 8.960852 | 15.038877 | 2799.803 | 1.003637 |
| er__14,6 | 8.087821 | 1.1001586 | 6.020975 | 10.428128 | 2577.352 | 1.011500 |
| er__14,7 | 5.575503 | 0.8735697 | 4.027044 | 7.437397 | 3760.928 | 1.002641 |
| er__14,8 | 4.698081 | 0.5862392 | 3.645768 | 5.953550 | 3839.351 | 1.005184 |
| er__14,9 | 15.983033 | 2.7720048 | 11.189840 | 22.077700 | 1592.015 | 1.009505 |
| er__14,10 | 4.234421 | 0.5447396 | 3.268094 | 5.385744 | 3815.768 | 1.004948 |
| er__14,11 | 26.487049 | 0.8583251 | 24.744545 | 28.118163 | 2348.655 | 1.006309 |
| er__14,12 | 3.977891 | 0.6341312 | 2.838300 | 5.352448 | 2530.959 | 1.006850 |
| er__15,1 | 5.575757 | 0.7160697 | 4.282616 | 7.061437 | 3132.356 | 1.005920 |
| er__15,2 | 5.274867 | 0.7366793 | 3.910626 | 6.857745 | 4810.453 | 1.003391 |
| er__15,3 | 7.992343 | 1.0353714 | 6.040021 | 10.092975 | 2967.828 | 1.005666 |
| er__15,4 | 21.153882 | 2.8651751 | 15.604862 | 26.699940 | 2070.832 | 1.004537 |
| er__15,5 | 12.074065 | 1.6594474 | 8.847076 | 15.508007 | 2950.625 | 1.003534 |
| er__15,6 | 8.032537 | 1.2738180 | 5.663862 | 10.642620 | 1957.259 | 1.010140 |
| er__15,7 | 5.404507 | 0.9019900 | 3.793436 | 7.312187 | 4039.214 | 1.001952 |
| er__15,8 | 4.769170 | 0.7554385 | 3.458845 | 6.401889 | 3012.724 | 1.003822 |
| er__15,9 | 15.917115 | 2.8370707 | 10.974065 | 22.095530 | 1581.744 | 1.011861 |
| er__15,10 | 3.883904 | 0.6157782 | 2.833585 | 5.232860 | 4962.839 | 1.002711 |
| er__15,11 | 26.408088 | 0.8931985 | 24.674093 | 28.107347 | 2343.056 | 1.006069 |
| er__15,12 | 3.964192 | 0.6453735 | 2.818776 | 5.338576 | 2307.483 | 1.008776 |
| er__16,1 | 6.130621 | 0.8415905 | 4.610976 | 7.882573 | 5319.565 | 1.005229 |
| er__16,2 | 5.664524 | 0.8229198 | 4.188138 | 7.412858 | 5210.772 | 1.007931 |
| er__16,3 | 6.838696 | 0.9418743 | 5.122234 | 8.762694 | 2476.029 | 1.010189 |
| er__16,4 | 21.111343 | 2.9066396 | 15.522720 | 26.859740 | 2621.082 | 1.006519 |
| er__16,5 | 12.046260 | 1.7002695 | 8.875665 | 15.592010 | 3210.671 | 1.005828 |

Table 22: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|----|------|-------|-------|------|
| er__16,6 | 8.005041 | 1.2514353 | 5.790377 | 10.684045 | 3885.910 | 1.005813 |
| er__16,7 | 5.403014 | 0.9062050 | 3.807599 | 7.376976 | 3546.947 | 1.005202 |
| er__16,8 | 4.784826 | 0.7738800 | 3.456525 | 6.489033 | 3877.601 | 1.005180 |
| er__16,9 | 15.946406 | 2.8735288 | 10.929485 | 22.040760 | 1611.603 | 1.007481 |
| er__16,10 | 3.757523 | 0.5718391 | 2.726810 | 4.938281 | 3615.690 | 1.006502 |
| er__16,11 | 26.395013 | 0.9107867 | 24.572682 | 28.158622 | 2562.339 | 1.005756 |
| er__16,12 | 3.972847 | 0.6374722 | 2.836724 | 5.334181 | 2210.704 | 1.008433 |
| er__17,1 | 5.532680 | 0.7298370 | 4.225482 | 7.119128 | 3473.300 | 1.005464 |
| er__17,2 | 4.682016 | 0.5558266 | 3.692223 | 5.842892 | 3405.796 | 1.005148 |
| er__17,3 | 7.427429 | 1.0656091 | 5.460041 | 9.584832 | 1779.167 | 1.013574 |
| er__17,4 | 21.154406 | 2.8658400 | 15.698910 | 26.808560 | 2419.736 | 1.004817 |
| er__17,5 | 12.083681 | 1.7405663 | 8.805595 | 15.583605 | 2882.265 | 1.004656 |
| er__17,6 | 7.999714 | 1.1760412 | 5.874623 | 10.487795 | 3780.072 | 1.005692 |
| er__17,7 | 5.259454 | 0.8893854 | 3.700853 | 7.305487 | 1546.879 | 1.010816 |
| er__17,8 | 4.742582 | 0.7529576 | 3.422696 | 6.385816 | 3611.271 | 1.004590 |
| er__17,9 | 15.961244 | 2.8770380 | 11.089125 | 22.361085 | 1609.949 | 1.007915 |
| er__17,10 | 3.883523 | 0.6024917 | 2.818031 | 5.141625 | 4605.190 | 1.005038 |
| er__17,11 | 26.422948 | 0.9047946 | 24.562195 | 28.157460 | 2248.741 | 1.006939 |
| er__17,12 | 3.965286 | 0.6267007 | 2.825434 | 5.292664 | 2415.656 | 1.007470 |
| er__18,1 | 5.438149 | 0.6676460 | 4.234314 | 6.833149 | 3901.541 | 1.006344 |
| er__18,2 | 4.866123 | 0.5480719 | 3.880994 | 5.996691 | 3932.728 | 1.003694 |
| er__18,3 | 7.507564 | 1.0196646 | 5.640071 | 9.649779 | 2805.618 | 1.005718 |
| er__18,4 | 21.136864 | 2.8585496 | 15.488307 | 26.799175 | 2899.149 | 1.004544 |
| er__18,5 | 12.106995 | 1.6931123 | 9.018825 | 15.585165 | 2810.239 | 1.004511 |
| er__18,6 | 8.042341 | 1.2791332 | 5.754129 | 10.653790 | 2571.157 | 1.007440 |
| er__18,7 | 5.422506 | 0.9103995 | 3.835040 | 7.396969 | 4235.437 | 1.004362 |
| er__18,8 | 4.787099 | 0.7298982 | 3.515047 | 6.395967 | 4220.851 | 1.004234 |
| er__18,9 | 15.923374 | 2.9028637 | 10.958898 | 22.396480 | 1601.246 | 1.012844 |
| er__18,10 | 3.895388 | 0.6085139 | 2.816572 | 5.230898 | 4569.987 | 1.005040 |
| er__18,11 | 26.444634 | 0.8841609 | 24.636785 | 28.110312 | 2179.482 | 1.007380 |
| er__18,12 | 3.966217 | 0.6185169 | 2.868335 | 5.282588 | 2690.232 | 1.004217 |
| er__19,1 | 5.985169 | 0.8049801 | 4.481220 | 7.681000 | 6512.007 | 1.005464 |
| er__19,2 | 5.576099 | 0.7153907 | 4.301765 | 7.127611 | 4275.681 | 1.002121 |
| er__19,3 | 7.351065 | 1.0398973 | 5.442462 | 9.517923 | 3561.421 | 1.004583 |
| er__19,4 | 21.123476 | 2.8329838 | 15.519995 | 26.777225 | 2862.610 | 1.002683 |
| er__19,5 | 12.122217 | 1.7244681 | 8.908856 | 15.578930 | 2692.027 | 1.005791 |
| er__19,6 | 8.053448 | 1.2377583 | 5.830730 | 10.655960 | 3525.885 | 1.005108 |
| er__19,7 | 5.580433 | 0.9025922 | 3.970850 | 7.530080 | 3841.157 | 1.003295 |
| er__19,8 | 5.723429 | 0.8141286 | 4.324605 | 7.491729 | 3132.941 | 1.004430 |
| er__19,9 | 15.928077 | 2.9083227 | 10.789595 | 22.299220 | 1663.901 | 1.009061 |
| er__19,10 | 3.883240 | 0.6092672 | 2.759729 | 5.174989 | 5012.207 | 1.008029 |
| er__19,11 | 26.400716 | 0.9003222 | 24.591098 | 28.132125 | 2479.993 | 1.005744 |
| er__19,12 | 3.977396 | 0.6418695 | 2.831313 | 5.369383 | 2589.248 | 1.005066 |

Table 23: Parameter estimates for $\lambda_{g,j}$, mean dive success rate by group level g and by prey type j

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| lambda_1,1 | 0.9114955 | 0.0302985 | 0.8433917 | 0.9596970 | 2384.0545 | 1.010241 |
| lambda_1,2 | 0.9434055 | 0.0202013 | 0.8948754 | 0.9739945 | 4048.7009 | 1.003496 |
| lambda_1,3 | 0.8561738 | 0.0476674 | 0.7429872 | 0.9281494 | 2589.3973 | 1.006917 |
| lambda_1,4 | 0.4070198 | 0.0933540 | 0.2350655 | 0.5993798 | 2558.2090 | 1.003678 |
| lambda_1,5 | 0.6357346 | 0.0897433 | 0.4428925 | 0.7956524 | 2457.4423 | 1.011272 |
| lambda_1,6 | 0.7725291 | 0.0594773 | 0.6396348 | 0.8729605 | 3287.8666 | 1.004132 |
| lambda_1,7 | 0.8687874 | 0.0419009 | 0.7655633 | 0.9325386 | 3026.5371 | 1.008373 |
| lambda_1,8 | 0.9660777 | 0.0125035 | 0.9361880 | 0.9843973 | 4763.0147 | 1.004402 |
| lambda_1,9 | 0.7821245 | 0.1150123 | 0.5048322 | 0.9436715 | 546.5018 | 1.034402 |
| lambda_1,10 | 0.8393642 | 0.0509938 | 0.7265785 | 0.9233261 | 3570.6585 | 1.003785 |
| lambda_1,11 | 0.8044735 | 0.0985533 | 0.5641699 | 0.9401029 | 353.9482 | 1.047949 |
| lambda_1,12 | 0.9410788 | 0.0224401 | 0.8856553 | 0.9737393 | 3085.8996 | 1.009508 |
| lambda_2,1 | 0.9102033 | 0.0169773 | 0.8730922 | 0.9391418 | 5443.9992 | 1.005247 |
| lambda_2,2 | 0.9436602 | 0.0119148 | 0.9171879 | 0.9636135 | 5856.0478 | 1.010534 |
| lambda_2,3 | 0.8943193 | 0.0298097 | 0.8284236 | 0.9434504 | 2707.2955 | 1.004721 |
| lambda_2,4 | 0.3271306 | 0.0555734 | 0.2243137 | 0.4407381 | 1905.4919 | 1.015176 |
| lambda_2,5 | 0.6012175 | 0.0704165 | 0.4545762 | 0.7321827 | 2394.1198 | 1.007576 |
| lambda_2,6 | 0.8239887 | 0.0356715 | 0.7483034 | 0.8870770 | 3393.3783 | 1.006237 |
| lambda_2,7 | 0.9047942 | 0.0227975 | 0.8537826 | 0.9422314 | 4003.0834 | 1.008666 |
| lambda_2,8 | 0.9668748 | 0.0062970 | 0.9531036 | 0.9779202 | 4717.2586 | 1.003831 |
| lambda_2,9 | 0.7819881 | 0.1105552 | 0.5101625 | 0.9388059 | 571.2496 | 1.030240 |
| lambda_2,10 | 0.8922513 | 0.0223371 | 0.8431239 | 0.9310836 | 2357.4439 | 1.009826 |
| lambda_2,11 | 0.8048744 | 0.0965952 | 0.5674083 | 0.9409925 | 384.2426 | 1.045436 |
| lambda_2,12 | 0.9648099 | 0.0093154 | 0.9434992 | 0.9798134 | 1925.2413 | 1.009209 |
| lambda_3,1 | 0.8927714 | 0.0201551 | 0.8492378 | 0.9277385 | 3960.1290 | 1.007181 |
| lambda_3,2 | 0.9241478 | 0.0171530 | 0.8837475 | 0.9516660 | 3695.6575 | 1.004679 |
| lambda_3,3 | 0.8597605 | 0.0364703 | 0.7782415 | 0.9206860 | 3927.5081 | 1.009686 |
| lambda_3,4 | 0.3902717 | 0.0676035 | 0.2651091 | 0.5305276 | 3406.8102 | 1.003127 |
| lambda_3,5 | 0.6322105 | 0.0774320 | 0.4703456 | 0.7732695 | 2634.3124 | 1.007429 |
| lambda_3,6 | 0.7511623 | 0.0503991 | 0.6403425 | 0.8374139 | 4082.0992 | 1.008515 |
| lambda_3,7 | 0.9059237 | 0.0232049 | 0.8515318 | 0.9444113 | 4005.4589 | 1.008704 |
| lambda_3,8 | 0.9686782 | 0.0068366 | 0.9519057 | 0.9800418 | 2390.1791 | 1.010088 |
| lambda_3,9 | 0.7741234 | 0.1111281 | 0.5105145 | 0.9364896 | 528.5135 | 1.036195 |
| lambda_3,10 | 0.8299220 | 0.0354904 | 0.7518518 | 0.8902792 | 3256.9811 | 1.005170 |
| lambda_3,11 | 0.8039348 | 0.0982982 | 0.5667147 | 0.9394246 | 420.8198 | 1.043654 |
| lambda_3,12 | 0.9390661 | 0.0107926 | 0.9157079 | 0.9578679 | 3921.9121 | 1.005931 |
| lambda_4,1 | 0.9226653 | 0.0163956 | 0.8848554 | 0.9503554 | 4110.5490 | 1.006884 |
| lambda_4,2 | 0.9309004 | 0.0171789 | 0.8906906 | 0.9588441 | 4043.0014 | 1.008295 |
| lambda_4,3 | 0.8783569 | 0.0346927 | 0.7996569 | 0.9342131 | 2187.3359 | 1.008023 |
| lambda_4,4 | 0.4090991 | 0.0926416 | 0.2419181 | 0.6054008 | 3048.8779 | 1.004338 |
| lambda_4,5 | 0.6080659 | 0.0755696 | 0.4500126 | 0.7460404 | 2940.2219 | 1.005844 |
| lambda_4,6 | 0.7709106 | 0.0387555 | 0.6895385 | 0.8404244 | 5345.5696 | 1.007777 |
| lambda_4,7 | 0.8746929 | 0.0340899 | 0.7957638 | 0.9288027 | 3324.2240 | 1.002563 |
| lambda_4,8 | 0.9634688 | 0.0084074 | 0.9443746 | 0.9771961 | 5779.1838 | 1.003564 |
| lambda_4,9 | 0.7857764 | 0.1152790 | 0.4995545 | 0.9431053 | 556.0278 | 1.031273 |
| lambda_4,10 | 0.8622087 | 0.0412648 | 0.7714577 | 0.9292846 | 2406.6113 | 1.007755 |

Table 23: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| lambda_4,11 | 0.7909588 | 0.0981668 | 0.5572943 | 0.9317514 | 359.2049 | 1.047279 |
| lambda_4,12 | 0.9399878 | 0.0133638 | 0.9093768 | 0.9614359 | 5379.8401 | 1.010490 |
| lambda_5,1 | 0.8992355 | 0.0254948 | 0.8422217 | 0.9404433 | 4818.3711 | 1.003655 |
| lambda_5,2 | 0.9306712 | 0.0185064 | 0.8874319 | 0.9590214 | 4519.4401 | 1.007053 |
| lambda_5,3 | 0.8953260 | 0.0305750 | 0.8259298 | 0.9453007 | 2685.0844 | 1.003208 |
| lambda_5,4 | 0.4149237 | 0.0735899 | 0.2790249 | 0.5655286 | 3702.4307 | 1.003038 |
| lambda_5,5 | 0.6206235 | 0.0732896 | 0.4644797 | 0.7503829 | 2710.3003 | 1.008378 |
| lambda_5,6 | 0.7571171 | 0.0414358 | 0.6695078 | 0.8327252 | 5257.0321 | 1.009401 |
| lambda_5,7 | 0.8911554 | 0.0296079 | 0.8224895 | 0.9390389 | 1836.4728 | 1.016521 |
| lambda_5,8 | 0.9706621 | 0.0060220 | 0.9574922 | 0.9807111 | 3736.8472 | 1.006724 |
| lambda_5,9 | 0.7899508 | 0.1088909 | 0.5136258 | 0.9432670 | 539.0895 | 1.034566 |
| lambda_5,10 | 0.8042803 | 0.0447703 | 0.7063559 | 0.8799842 | 2992.6290 | 1.009750 |
| lambda_5,11 | 0.8053254 | 0.0960583 | 0.5735433 | 0.9381167 | 335.7037 | 1.049430 |
| lambda_5,12 | 0.9313141 | 0.0172373 | 0.8925605 | 0.9583489 | 4059.5971 | 1.007278 |
| lambda_6,1 | 0.9252552 | 0.0152897 | 0.8926237 | 0.9511504 | 4758.2285 | 1.006492 |
| lambda_6,2 | 0.9399076 | 0.0159422 | 0.9033502 | 0.9647900 | 4390.0243 | 1.009758 |
| lambda_6,3 | 0.8677342 | 0.0323530 | 0.7955125 | 0.9207188 | 3674.0076 | 1.005899 |
| lambda_6,4 | 0.3599767 | 0.0660790 | 0.2438233 | 0.4979551 | 2538.5685 | 1.004037 |
| lambda_6,5 | 0.6827753 | 0.0623606 | 0.5537062 | 0.7943014 | 2220.7320 | 1.008633 |
| lambda_6,6 | 0.8552143 | 0.0263439 | 0.7975790 | 0.9006912 | 2093.4860 | 1.009013 |
| lambda_6,7 | 0.9123937 | 0.0225627 | 0.8619769 | 0.9495951 | 3409.7565 | 1.006448 |
| lambda_6,8 | 0.9711811 | 0.0057061 | 0.9586070 | 0.9808182 | 5284.1456 | 1.009756 |
| lambda_6,9 | 0.7997771 | 0.1051198 | 0.5341346 | 0.9434859 | 571.9631 | 1.030868 |
| lambda_6,10 | 0.8460566 | 0.0394761 | 0.7566361 | 0.9113572 | 3795.0191 | 1.011336 |
| lambda_6,11 | 0.8021735 | 0.0833803 | 0.5956245 | 0.9244598 | 421.4361 | 1.044090 |
| lambda_6,12 | 0.9517195 | 0.0110048 | 0.9269713 | 0.9698412 | 4463.3976 | 1.004477 |
| lambda_7,1 | 0.9108123 | 0.0302500 | 0.8377543 | 0.9567523 | 4820.5223 | 1.005063 |
| lambda_7,2 | 0.9438135 | 0.0203933 | 0.8941546 | 0.9736571 | 3216.5929 | 1.011193 |
| lambda_7,3 | 0.8596548 | 0.0472151 | 0.7468625 | 0.9291936 | 2440.3811 | 1.004270 |
| lambda_7,4 | 0.4079937 | 0.0931778 | 0.2260638 | 0.6025845 | 1552.6356 | 1.009527 |
| lambda_7,5 | 0.6579104 | 0.0854012 | 0.4832286 | 0.8073183 | 2304.4968 | 1.010807 |
| lambda_7,6 | 0.7793434 | 0.0628243 | 0.6361039 | 0.8838013 | 4426.3950 | 1.006307 |
| lambda_7,7 | 0.8834446 | 0.0373305 | 0.7930303 | 0.9404750 | 3914.9153 | 1.005027 |
| lambda_7,8 | 0.9703164 | 0.0093267 | 0.9490840 | 0.9849594 | 4789.8605 | 1.008664 |
| lambda_7,9 | 0.7838218 | 0.1162185 | 0.5013237 | 0.9441960 | 577.9000 | 1.029082 |
| lambda_7,10 | 0.8400715 | 0.0507395 | 0.7227796 | 0.9207103 | 3657.0817 | 1.006981 |
| lambda_7,11 | 0.8044695 | 0.0968061 | 0.5729595 | 0.9395510 | 330.9040 | 1.049856 |
| lambda_7,12 | 0.9409436 | 0.0216421 | 0.8888425 | 0.9727712 | 3706.8775 | 1.006667 |
| lambda_8,1 | 0.9100907 | 0.0314467 | 0.8363888 | 0.9587117 | 4372.0304 | 1.012674 |
| lambda_8,2 | 0.9434983 | 0.0205801 | 0.8959170 | 0.9737104 | 4977.8469 | 1.006082 |
| lambda_8,3 | 0.8626620 | 0.0462077 | 0.7557331 | 0.9346299 | 3363.9952 | 1.004000 |
| lambda_8,4 | 0.4075344 | 0.0921033 | 0.2387680 | 0.5910603 | 2632.9413 | 1.004456 |
| lambda_8,5 | 0.6350235 | 0.0913359 | 0.4410378 | 0.7967080 | 2443.3761 | 1.013218 |
| lambda_8,6 | 0.7785436 | 0.0664419 | 0.6276565 | 0.8857734 | 3380.6923 | 1.007813 |
| lambda_8,7 | 0.8859859 | 0.0399923 | 0.7886257 | 0.9456946 | 3665.1744 | 1.006121 |
| lambda_8,8 | 0.9663905 | 0.0125582 | 0.9365684 | 0.9842644 | 3792.6142 | 1.006101 |
| lambda_8,9 | 0.7832266 | 0.1161570 | 0.4970113 | 0.9448705 | 578.1299 | 1.030527 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| lambda_8,10 | 0.8398627 | 0.0501709 | 0.7267069 | 0.9211423 | 3553.4709 | 1.006361 |
| lambda_8,11 | 0.8031586 | 0.0995863 | 0.5475695 | 0.9398178 | 360.8687 | 1.047363 |
| lambda_8,12 | 0.9413617 | 0.0221206 | 0.8887886 | 0.9728708 | 3432.2507 | 1.005971 |
| lambda_9,1 | 0.9045534 | 0.0295856 | 0.8346301 | 0.9503751 | 5380.2483 | 1.006156 |
| lambda_9,2 | 0.9439197 | 0.0199777 | 0.8967852 | 0.9739735 | 4335.7516 | 1.009205 |
| lambda_9,3 | 0.8522442 | 0.0490766 | 0.7363377 | 0.9285615 | 2304.3844 | 1.010749 |
| lambda_9,4 | 0.4076548 | 0.0934403 | 0.2387580 | 0.6038602 | 2855.6321 | 1.004663 |
| lambda_9,5 | 0.6375906 | 0.0911931 | 0.4392361 | 0.7988422 | 2538.9227 | 1.007939 |
| lambda_9,6 | 0.7907704 | 0.0579871 | 0.6581748 | 0.8881010 | 3170.7551 | 1.007961 |
| lambda_9,7 | 0.8863397 | 0.0406263 | 0.7902044 | 0.9465218 | 3584.6075 | 1.009657 |
| lambda_9,8 | 0.9661769 | 0.0127075 | 0.9347440 | 0.9844791 | 4517.9815 | 1.007038 |
| lambda_9,9 | 0.7846784 | 0.1154649 | 0.5025319 | 0.9425386 | 561.6492 | 1.030046 |
| lambda_9,10 | 0.8289787 | 0.0550509 | 0.6934700 | 0.9141608 | 2226.5485 | 1.012914 |
| lambda_9,11 | 0.8048787 | 0.0977761 | 0.5681882 | 0.9388103 | 367.9500 | 1.049017 |
| lambda_9,12 | 0.9411350 | 0.0218011 | 0.8886052 | 0.9732552 | 3948.0018 | 1.005638 |
| lambda_10,1 | 0.9284241 | 0.0145153 | 0.8963610 | 0.9535286 | 4994.7007 | 1.010784 |
| lambda_10,2 | 0.9486204 | 0.0177157 | 0.9067466 | 0.9758480 | 4712.5918 | 1.002348 |
| lambda_10,3 | 0.8770145 | 0.0399378 | 0.7830260 | 0.9400662 | 2815.5707 | 1.007331 |
| lambda_10,4 | 0.5240770 | 0.0882212 | 0.3507286 | 0.6954989 | 1284.7662 | 1.008874 |
| lambda_10,5 | 0.6346966 | 0.0903350 | 0.4365981 | 0.7965103 | 2290.8302 | 1.008902 |
| lambda_10,6 | 0.7489464 | 0.0567478 | 0.6277862 | 0.8460481 | 3601.3415 | 1.006362 |
| lambda_10,7 | 0.8911086 | 0.0351192 | 0.8072925 | 0.9459211 | 4206.4622 | 1.005681 |
| lambda_10,8 | 0.9716897 | 0.0080330 | 0.9515548 | 0.9842704 | 2332.6602 | 1.010736 |
| lambda_10,9 | 0.7842428 | 0.1152297 | 0.4954869 | 0.9428385 | 561.1402 | 1.031605 |
| lambda_10,10 | 0.8392736 | 0.0523061 | 0.7158853 | 0.9202943 | 3261.8049 | 1.009143 |
| lambda_10,11 | 0.8040629 | 0.0996891 | 0.5557117 | 0.9389725 | 358.6888 | 1.050773 |
| lambda_10,12 | 0.9420571 | 0.0171735 | 0.9016498 | 0.9686181 | 4439.6918 | 1.003600 |
| lambda_11,1 | 0.8973802 | 0.0194409 | 0.8524708 | 0.9302170 | 5776.2737 | 1.003024 |
| lambda_11,2 | 0.9569721 | 0.0096997 | 0.9362170 | 0.9732483 | 3949.7401 | 1.006153 |
| lambda_11,3 | 0.8313869 | 0.0484265 | 0.7234495 | 0.9073016 | 2638.6683 | 1.008296 |
| lambda_11,4 | 0.3939758 | 0.0840214 | 0.2427154 | 0.5628603 | 3119.6956 | 1.004495 |
| lambda_11,5 | 0.5897853 | 0.0827535 | 0.4197508 | 0.7484807 | 1294.3172 | 1.014971 |
| lambda_11,6 | 0.7046111 | 0.0462678 | 0.6097646 | 0.7903247 | 2815.3100 | 1.008850 |
| lambda_11,7 | 0.8863984 | 0.0256892 | 0.8301141 | 0.9293581 | 4355.7723 | 1.010844 |
| lambda_11,8 | 0.9652760 | 0.0063556 | 0.9516225 | 0.9762313 | 5933.1074 | 1.002513 |
| lambda_11,9 | 0.7859704 | 0.1160005 | 0.4966574 | 0.9434295 | 532.0298 | 1.033452 |
| lambda_11,10 | 0.8441934 | 0.0345608 | 0.7654326 | 0.9019782 | 4323.0742 | 1.007027 |
| lambda_11,11 | 0.7885626 | 0.0994124 | 0.5498224 | 0.9336716 | 339.2507 | 1.047812 |
| lambda_11,12 | 0.9350431 | 0.0186083 | 0.8936458 | 0.9640697 | 2640.5583 | 1.010610 |
| lambda_12,1 | 0.9259936 | 0.0142727 | 0.8948708 | 0.9499965 | 5752.3813 | 1.006961 |
| lambda_12,2 | 0.9354330 | 0.0139863 | 0.9039584 | 0.9585263 | 5465.4305 | 1.006661 |
| lambda_12,3 | 0.8464242 | 0.0406155 | 0.7585709 | 0.9111856 | 2634.4293 | 1.007109 |
| lambda_12,4 | 0.4008352 | 0.0839653 | 0.2495326 | 0.5756841 | 3288.8847 | 1.006700 |
| lambda_12,5 | 0.6506973 | 0.0775660 | 0.4867831 | 0.7911152 | 2898.8174 | 1.003706 |
| lambda_12,6 | 0.8098252 | 0.0303181 | 0.7447805 | 0.8635114 | 4668.4027 | 1.010408 |
| lambda_12,7 | 0.8771656 | 0.0253874 | 0.8199890 | 0.9199619 | 2737.9176 | 1.008558 |
| lambda_12,8 | 0.9667557 | 0.0061747 | 0.9531337 | 0.9772524 | 6314.6092 | 1.010838 |

Table 23: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| lambda_12,9 | 0.7842881 | 0.1161412 | 0.4901492 | 0.9434400 | 554.8840 | 1.030607 |
| lambda_12,10 | 0.8268597 | 0.0326437 | 0.7546413 | 0.8835496 | 5678.6090 | 1.004862 |
| lambda_12,11 | 0.8279389 | 0.0885702 | 0.6115572 | 0.9449925 | 400.4344 | 1.046053 |
| lambda_12,12 | 0.9377586 | 0.0160685 | 0.9003795 | 0.9639237 | 4996.5520 | 1.008785 |
| lambda_13,1 | 0.8836410 | 0.0221493 | 0.8349947 | 0.9203286 | 3289.9590 | 1.005954 |
| lambda_13,2 | 0.9539894 | 0.0097824 | 0.9315987 | 0.9703705 | 5340.8372 | 1.005268 |
| lambda_13,3 | 0.8405099 | 0.0386762 | 0.7523704 | 0.9058120 | 2852.7938 | 1.005958 |
| lambda_13,4 | 0.4275889 | 0.0785145 | 0.2811415 | 0.5863953 | 3194.2672 | 1.004058 |
| lambda_13,5 | 0.7276384 | 0.0648822 | 0.5874576 | 0.8431888 | 2012.5635 | 1.009660 |
| lambda_13,6 | 0.8041188 | 0.0375614 | 0.7216174 | 0.8702316 | 4964.1550 | 1.008432 |
| lambda_13,7 | 0.9114283 | 0.0240129 | 0.8584259 | 0.9513573 | 3445.1128 | 1.004848 |
| lambda_13,8 | 0.9755515 | 0.0045964 | 0.9655740 | 0.9833696 | 5625.5709 | 1.012109 |
| lambda_13,9 | 0.7839800 | 0.1173043 | 0.4923303 | 0.9428615 | 563.4451 | 1.029977 |
| lambda_13,10 | 0.8313543 | 0.0318518 | 0.7572158 | 0.8846528 | 2273.3012 | 1.014470 |
| lambda_13,11 | 0.8196769 | 0.0887189 | 0.6048038 | 0.9396706 | 365.1878 | 1.045254 |
| lambda_13,12 | 0.9472223 | 0.0143778 | 0.9144704 | 0.9703053 | 5377.0794 | 1.004151 |
| lambda_14,1 | 0.9261272 | 0.0146929 | 0.8936416 | 0.9515974 | 5700.0067 | 1.013049 |
| lambda_14,2 | 0.9567275 | 0.0098496 | 0.9342017 | 0.9734431 | 4382.2753 | 1.006558 |
| lambda_14,3 | 0.8956000 | 0.0293941 | 0.8275369 | 0.9431235 | 2669.9063 | 1.005335 |
| lambda_14,4 | 0.4245838 | 0.0824194 | 0.2679663 | 0.5906290 | 3283.2624 | 1.004553 |
| lambda_14,5 | 0.6030984 | 0.0882788 | 0.4212865 | 0.7627565 | 1841.8535 | 1.007783 |
| lambda_14,6 | 0.7636366 | 0.0538082 | 0.6439710 | 0.8550636 | 4209.6278 | 1.004345 |
| lambda_14,7 | 0.8819393 | 0.0329275 | 0.8053153 | 0.9345623 | 4384.9138 | 1.006126 |
| lambda_14,8 | 0.9640879 | 0.0077059 | 0.9475966 | 0.9767870 | 3134.6616 | 1.012316 |
| lambda_14,9 | 0.7829864 | 0.1158805 | 0.4951786 | 0.9437724 | 578.5948 | 1.029350 |
| lambda_14,10 | 0.8581749 | 0.0362077 | 0.7753323 | 0.9179573 | 4201.7574 | 1.006190 |
| lambda_14,11 | 0.8037751 | 0.0983942 | 0.5690335 | 0.9405769 | 324.8178 | 1.050017 |
| lambda_14,12 | 0.9338386 | 0.0227149 | 0.8792872 | 0.9673965 | 3521.4270 | 1.008138 |
| lambda_15,1 | 0.8598069 | 0.0346827 | 0.7763429 | 0.9143663 | 1335.5282 | 1.012811 |
| lambda_15,2 | 0.9415374 | 0.0197543 | 0.8933487 | 0.9707360 | 4781.0479 | 1.013219 |
| lambda_15,3 | 0.8680910 | 0.0436773 | 0.7636071 | 0.9351278 | 3589.7101 | 1.009244 |
| lambda_15,4 | 0.4097929 | 0.0938119 | 0.2379755 | 0.6029459 | 3181.3013 | 1.004924 |
| lambda_15,5 | 0.6350305 | 0.0918685 | 0.4374855 | 0.7979146 | 2719.9765 | 1.007305 |
| lambda_15,6 | 0.7788194 | 0.0640223 | 0.6306263 | 0.8858059 | 4219.2314 | 1.008513 |
| lambda_15,7 | 0.8872507 | 0.0380581 | 0.8000501 | 0.9463032 | 3672.9793 | 1.008030 |
| lambda_15,8 | 0.9659034 | 0.0123775 | 0.9364515 | 0.9841984 | 4729.9438 | 1.004737 |
| lambda_15,9 | 0.7839199 | 0.1158636 | 0.5069796 | 0.9443343 | 553.9476 | 1.028874 |
| lambda_15,10 | 0.8401490 | 0.0529520 | 0.7174263 | 0.9238774 | 3353.5589 | 1.006417 |
| lambda_15,11 | 0.8043252 | 0.0964030 | 0.5745273 | 0.9416386 | 320.7951 | 1.049949 |
| lambda_15,12 | 0.9410894 | 0.0213149 | 0.8908773 | 0.9717121 | 2609.5336 | 1.012676 |
| lambda_16,1 | 0.9277159 | 0.0230260 | 0.8745217 | 0.9648641 | 4162.9889 | 1.008386 |
| lambda_16,2 | 0.9441456 | 0.0201962 | 0.8953762 | 0.9746171 | 4319.1325 | 1.010193 |
| lambda_16,3 | 0.8402683 | 0.0495841 | 0.7226268 | 0.9178196 | 2887.2373 | 1.006827 |
| lambda_16,4 | 0.4212691 | 0.0865277 | 0.2620479 | 0.5988292 | 3063.1699 | 1.003868 |
| lambda_16,5 | 0.6363644 | 0.0887459 | 0.4495429 | 0.7972378 | 2436.2677 | 1.013145 |
| lambda_16,6 | 0.7799504 | 0.0627902 | 0.6419612 | 0.8890459 | 1811.3878 | 1.008262 |

Table 23: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| lambda_16,7 | 0.8862951 | 0.0382974 | 0.7978546 | 0.9450209 | 3521.0953 | 1.007745 |
| lambda_16,8 | 0.9663255 | 0.0123510 | 0.9366625 | 0.9840430 | 4346.8593 | 1.004992 |
| lambda_16,9 | 0.7835438 | 0.1169486 | 0.4984166 | 0.9439551 | 562.1145 | 1.029345 |
| lambda_16,10 | 0.8242055 | 0.0547247 | 0.6977789 | 0.9100590 | 3337.7637 | 1.004704 |
| lambda_16,11 | 0.8038384 | 0.0970106 | 0.5806234 | 0.9398730 | 375.2227 | 1.046957 |
| lambda_16,12 | 0.9413176 | 0.0216266 | 0.8873646 | 0.9718942 | 4085.6892 | 1.005904 |
| lambda_17,1 | 0.9565553 | 0.0105072 | 0.9331306 | 0.9736109 | 1139.5759 | 1.013245 |
| lambda_17,2 | 0.9609939 | 0.0098378 | 0.9395499 | 0.9774110 | 3086.5956 | 1.005419 |
| lambda_17,3 | 0.8624996 | 0.0468918 | 0.7518858 | 0.9325068 | 2843.8770 | 1.003290 |
| lambda_17,4 | 0.4094999 | 0.0921343 | 0.2431586 | 0.6011415 | 3094.1148 | 1.002377 |
| lambda_17,5 | 0.6364668 | 0.0897601 | 0.4463109 | 0.7994991 | 2643.2754 | 1.008017 |
| lambda_17,6 | 0.7789928 | 0.0603436 | 0.6453330 | 0.8793623 | 3806.7741 | 1.008108 |
| lambda_17,7 | 0.8762136 | 0.0389838 | 0.7828972 | 0.9366250 | 3518.9387 | 1.007202 |
| lambda_17,8 | 0.9659764 | 0.0131601 | 0.9341103 | 0.9845970 | 4151.7285 | 1.007473 |
| lambda_17,9 | 0.7843098 | 0.1159865 | 0.4999327 | 0.9443422 | 564.3555 | 1.030538 |
| lambda_17,10 | 0.8391450 | 0.0511077 | 0.7229286 | 0.9202909 | 3482.9598 | 1.003037 |
| lambda_17,11 | 0.8024535 | 0.0980365 | 0.5694564 | 0.9397731 | 363.1284 | 1.051989 |
| lambda_17,12 | 0.9410961 | 0.0223635 | 0.8856019 | 0.9722698 | 3732.3771 | 1.012338 |
| lambda_18,1 | 0.8985226 | 0.0195457 | 0.8560048 | 0.9314311 | 5995.5736 | 1.003801 |
| lambda_18,2 | 0.9543130 | 0.0100494 | 0.9314219 | 0.9717093 | 3996.7035 | 1.008253 |
| lambda_18,3 | 0.8485055 | 0.0499797 | 0.7302624 | 0.9235402 | 2642.0814 | 1.009136 |
| lambda_18,4 | 0.4080452 | 0.0934294 | 0.2306166 | 0.5991115 | 2977.5075 | 1.004967 |
| lambda_18,5 | 0.6343365 | 0.0904727 | 0.4382543 | 0.7982230 | 2686.2756 | 1.007143 |
| lambda_18,6 | 0.7793636 | 0.0647870 | 0.6235524 | 0.8842989 | 4357.5379 | 1.007345 |
| lambda_18,7 | 0.8693400 | 0.0408024 | 0.7732130 | 0.9315789 | 2761.6630 | 1.013126 |
| lambda_18,8 | 0.9562603 | 0.0140617 | 0.9219498 | 0.9769303 | 2808.2939 | 1.006213 |
| lambda_18,9 | 0.7842987 | 0.1154879 | 0.4989377 | 0.9440407 | 539.6186 | 1.034758 |
| lambda_18,10 | 0.8402683 | 0.0521143 | 0.7178793 | 0.9221701 | 3060.3565 | 1.005505 |
| lambda_18,11 | 0.8041342 | 0.0983784 | 0.5648814 | 0.9402509 | 361.3509 | 1.042853 |
| lambda_18,12 | 0.9410786 | 0.0218042 | 0.8883026 | 0.9733122 | 3189.4141 | 1.005526 |
| lambda_19,1 | 0.9174092 | 0.0191000 | 0.8742395 | 0.9489065 | 5879.5140 | 1.001661 |
| lambda_19,2 | 0.9444737 | 0.0125106 | 0.9163070 | 0.9654030 | 5480.2745 | 1.010558 |
| lambda_19,3 | 0.8564610 | 0.0471770 | 0.7461862 | 0.9296703 | 3032.2669 | 1.005698 |
| lambda_19,4 | 0.4079173 | 0.0940137 | 0.2391212 | 0.5985134 | 2388.0017 | 1.006987 |
| lambda_19,5 | 0.6354066 | 0.0896501 | 0.4485486 | 0.7959165 | 2299.8572 | 1.010720 |
| lambda_19,6 | 0.7772674 | 0.0646332 | 0.6335193 | 0.8850030 | 3957.4974 | 1.012619 |
| lambda_19,7 | 0.8809849 | 0.0347471 | 0.8015990 | 0.9366851 | 3519.0210 | 1.009124 |
| lambda_19,8 | 0.9608813 | 0.0114470 | 0.9333046 | 0.9786084 | 4385.8842 | 1.004662 |
| lambda_19,9 | 0.7845616 | 0.1139355 | 0.5021179 | 0.9416373 | 582.0908 | 1.030529 |
| lambda_19,10 | 0.8391258 | 0.0514544 | 0.7214310 | 0.9203687 | 3599.3419 | 1.004608 |
| lambda_19,11 | 0.8037805 | 0.0999928 | 0.5614543 | 0.9403211 | 374.6280 | 1.050342 |
| lambda_19,12 | 0.9415301 | 0.0208591 | 0.8923308 | 0.9724516 | 3687.6038 | 1.004656 |

Table 24: Estimates for $\phi_{1,g,j}$, intercept parameter for function relating log consumption rate to log size, for each group g and prey type j

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| phi_1_1,1 | 0.8908126 | 0.2365655 | 0.4285161 | 1.3523205 | 921.1255 | 1.022009 |
| phi_1_1,2 | 1.5788821 | 0.2031134 | 1.1759990 | 1.9969605 | 2367.0325 | 1.007053 |
| phi_1_1,3 | 0.5178768 | 0.2040084 | 0.1224827 | 0.9138420 | 819.0472 | 1.020439 |
| phi_1_1,4 | -0.3236060 | 0.4682261 | -1.0173612 | 0.8816741 | 124.6672 | 1.110185 |
| phi_1_1,5 | 0.7263176 | 0.3623058 | 0.0062722 | 1.4847775 | 327.8464 | 1.052436 |
| phi_1_1,6 | 0.3521707 | 0.1965581 | -0.0258458 | 0.7537261 | 1258.8725 | 1.013549 |
| phi_1_1,7 | 0.6423709 | 0.2305491 | 0.1838316 | 1.1019350 | 1038.2685 | 1.017788 |
| phi_1_1,8 | 1.8888569 | 0.1914010 | 1.5069988 | 2.2640715 | 3261.2914 | 1.004019 |
| phi_1_1,9 | -0.0661598 | 0.2365482 | -0.5176990 | 0.4203310 | 964.6246 | 1.012612 |
| phi_1_1,10 | 0.0196710 | 0.2377853 | -0.4300681 | 0.4991925 | 737.8643 | 1.023249 |
| phi_1_1,11 | -0.1733522 | 0.2562655 | -0.6373230 | 0.3961538 | 477.1619 | 1.032420 |
| phi_1_1,12 | 1.2495477 | 0.2459731 | 0.7732056 | 1.7534542 | 966.2275 | 1.016881 |
| phi_1_2,1 | 0.9127500 | 0.1721267 | 0.5849013 | 1.2516202 | 727.5646 | 1.027604 |
| phi_1_2,2 | 1.8155918 | 0.1178640 | 1.5926277 | 2.0552138 | 1272.8744 | 1.012677 |
| phi_1_2,3 | 0.7096588 | 0.1551774 | 0.4077747 | 1.0198592 | 794.0757 | 1.021427 |
| phi_1_2,4 | -0.2725604 | 0.4462482 | -0.8667667 | 0.9066538 | 120.8031 | 1.115292 |
| phi_1_2,5 | 0.7203455 | 0.3257801 | 0.0836672 | 1.3805322 | 295.2553 | 1.059672 |
| phi_1_2,6 | 0.3522782 | 0.1821564 | 0.0030835 | 0.7207234 | 862.5663 | 1.021154 |
| phi_1_2,7 | 0.7451170 | 0.1965361 | 0.3458106 | 1.1254605 | 760.6994 | 1.021498 |
| phi_1_2,8 | 1.8742382 | 0.1063595 | 1.6595480 | 2.0858707 | 4688.4973 | 1.008576 |
| phi_1_2,9 | 0.0682145 | 0.1685834 | -0.2277070 | 0.4311689 | 758.2160 | 1.019436 |
| phi_1_2,10 | 0.2945503 | 0.1610504 | 0.0239086 | 0.6543301 | 717.1671 | 1.025699 |
| phi_1_2,11 | -0.0842765 | 0.2326815 | -0.5081208 | 0.4087747 | 441.8060 | 1.033365 |
| phi_1_2,12 | 1.2913684 | 0.2247064 | 0.8587648 | 1.7571732 | 936.2375 | 1.014037 |
| phi_1_3,1 | 0.9368839 | 0.1835249 | 0.5789088 | 1.2949182 | 858.9328 | 1.022125 |
| phi_1_3,2 | 1.6203180 | 0.1269993 | 1.3754765 | 1.8742195 | 2381.8163 | 1.003713 |
| phi_1_3,3 | 0.7477618 | 0.1754785 | 0.3989328 | 1.1140832 | 530.8928 | 1.027706 |
| phi_1_3,4 | -0.3766931 | 0.4534600 | -1.0136282 | 0.8247798 | 136.7533 | 1.101774 |
| phi_1_3,5 | 0.6922160 | 0.3253475 | 0.0394003 | 1.3427160 | 289.9670 | 1.058004 |
| phi_1_3,6 | 0.2417607 | 0.2092036 | -0.1515630 | 0.6817495 | 764.3399 | 1.027504 |
| phi_1_3,7 | 0.7980581 | 0.2297061 | 0.3486531 | 1.2354987 | 599.0739 | 1.028816 |
| phi_1_3,8 | 1.6832279 | 0.1466456 | 1.3870770 | 1.9564853 | 2264.6679 | 1.008798 |
| phi_1_3,9 | 0.1029211 | 0.1810680 | -0.2314472 | 0.4782828 | 778.9292 | 1.018802 |
| phi_1_3,10 | 0.0367820 | 0.1781598 | -0.2732620 | 0.4250432 | 800.6197 | 1.023866 |
| phi_1_3,11 | -0.1963481 | 0.2484004 | -0.6649120 | 0.3623523 | 440.4775 | 1.031814 |
| phi_1_3,12 | 1.2145559 | 0.1917573 | 0.8599826 | 1.6110697 | 866.1509 | 1.018406 |
| phi_1_4,1 | 0.8433823 | 0.1977344 | 0.4764010 | 1.2275403 | 697.1993 | 1.031936 |
| phi_1_4,2 | 1.5259007 | 0.1323691 | 1.2761180 | 1.7892680 | 1862.7590 | 1.008407 |
| phi_1_4,3 | 0.5593527 | 0.1683475 | 0.2343071 | 0.8963195 | 918.0409 | 1.019667 |
| phi_1_4,4 | -0.3252957 | 0.4579098 | -1.0034985 | 0.8630613 | 130.0082 | 1.106775 |
| phi_1_4,5 | 0.8649670 | 0.3538361 | 0.1561215 | 1.5794655 | 287.6988 | 1.060098 |
| phi_1_4,6 | 0.5089830 | 0.1944468 | 0.1638895 | 0.9210700 | 810.8167 | 1.029848 |
| phi_1_4,7 | 0.7526775 | 0.2411341 | 0.2638702 | 1.2240528 | 721.7678 | 1.022580 |
| phi_1_4,8 | 1.8194270 | 0.1456514 | 1.5324140 | 2.1011107 | 4117.4139 | 1.004963 |
| phi_1_4,9 | -0.0214984 | 0.2037142 | -0.3970683 | 0.3952757 | 929.7780 | 1.012418 |

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| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| phi_1_4,10 | 0.0184439 | 0.2141410 | -0.3765703 | 0.4626981 | 846.1289 | 1.020350 |
| phi_1_4,11 | -0.2918856 | 0.2451679 | -0.7275961 | 0.2685488 | 430.6589 | 1.035246 |
| phi_1_4,12 | 1.1342631 | 0.2174175 | 0.7226135 | 1.5849480 | 794.2438 | 1.017695 |
| phi_1_5,1 | 0.8689601 | 0.2055746 | 0.4725559 | 1.2679075 | 946.9105 | 1.020441 |
| phi_1_5,2 | 1.7424756 | 0.1492901 | 1.4547162 | 2.0545462 | 1817.8603 | 1.008881 |
| phi_1_5,3 | 0.8174116 | 0.1903537 | 0.4393993 | 1.1922068 | 799.3449 | 1.020630 |
| phi_1_5,4 | -0.4047949 | 0.4094911 | -0.9997513 | 0.6673711 | 130.0877 | 1.108950 |
| phi_1_5,5 | 0.7537341 | 0.3210677 | 0.1080926 | 1.4120555 | 298.7942 | 1.058212 |
| phi_1_5,6 | 0.3758398 | 0.1778631 | 0.0533244 | 0.7495397 | 1028.5912 | 1.020172 |
| phi_1_5,7 | 0.7809485 | 0.2333621 | 0.3130672 | 1.2384108 | 931.2530 | 1.019648 |
| phi_1_5,8 | 1.9848118 | 0.1390565 | 1.7174683 | 2.2603550 | 3768.7101 | 1.005638 |
| phi_1_5,9 | -0.0455984 | 0.1958866 | -0.4023575 | 0.3570502 | 800.6553 | 1.015894 |
| phi_1_5,10 | 0.0100601 | 0.1825496 | -0.3118667 | 0.4010922 | 706.5266 | 1.025858 |
| phi_1_5,11 | -0.3227008 | 0.2422560 | -0.7575934 | 0.2159793 | 336.1320 | 1.042361 |
| phi_1_5,12 | 1.2475759 | 0.2164283 | 0.8330822 | 1.7036890 | 969.3445 | 1.012619 |
| phi_1_6,1 | 0.9262383 | 0.1882954 | 0.5567468 | 1.2882635 | 799.3220 | 1.023170 |
| phi_1_6,2 | 1.7561806 | 0.1569839 | 1.4638185 | 2.0729300 | 1458.2246 | 1.010411 |
| phi_1_6,3 | 0.5455136 | 0.1789390 | 0.2028522 | 0.8938240 | 526.3791 | 1.030527 |
| phi_1_6,4 | -0.3269637 | 0.4661555 | -1.0193540 | 0.8691654 | 136.0299 | 1.102265 |
| phi_1_6,5 | 0.6089520 | 0.3361638 | -0.0470062 | 1.3021642 | 275.4521 | 1.061113 |
| phi_1_6,6 | 0.3277369 | 0.1753620 | 0.0117268 | 0.6910126 | 889.9584 | 1.028200 |
| phi_1_6,7 | 0.5913709 | 0.2176321 | 0.1543391 | 1.0147410 | 786.7918 | 1.023406 |
| phi_1_6,8 | 1.8454998 | 0.1187997 | 1.6126062 | 2.0770080 | 4412.1121 | 1.005762 |
| phi_1_6,9 | -0.1651303 | 0.1855610 | -0.4967441 | 0.2192893 | 805.1680 | 1.018959 |
| phi_1_6,10 | -0.0676888 | 0.2135142 | -0.4625654 | 0.3666214 | 787.0656 | 1.021689 |
| phi_1_6,11 | -0.1368772 | 0.2071115 | -0.4913138 | 0.3139153 | 499.2630 | 1.035461 |
| phi_1_6,12 | 1.3055209 | 0.2135968 | 0.9152626 | 1.7653003 | 911.8968 | 1.010398 |
| phi_1_7,1 | 0.8939871 | 0.2376514 | 0.4348361 | 1.3864722 | 859.1784 | 1.021040 |
| phi_1_7,2 | 1.5808221 | 0.2044276 | 1.1717790 | 1.9772600 | 2008.5468 | 1.007742 |
| phi_1_7,3 | 0.6157575 | 0.2017641 | 0.2145697 | 1.0112552 | 966.9394 | 1.017705 |
| phi_1_7,4 | -0.3261880 | 0.4568342 | -1.0051253 | 0.8657379 | 132.2355 | 1.107320 |
| phi_1_7,5 | 0.7731944 | 0.3503217 | 0.0811662 | 1.4574052 | 316.3864 | 1.053400 |
| phi_1_7,6 | 0.3672874 | 0.2316677 | -0.0599628 | 0.8537433 | 731.2350 | 1.025936 |
| phi_1_7,7 | 0.6591251 | 0.2583810 | 0.1303930 | 1.1543865 | 728.6658 | 1.023466 |
| phi_1_7,8 | 1.9463056 | 0.1848820 | 1.5861240 | 2.3068935 | 2628.6164 | 1.008912 |
| phi_1_7,9 | 0.0317527 | 0.2279483 | -0.3988686 | 0.5021201 | 998.6404 | 1.012338 |
| phi_1_7,10 | 0.0303339 | 0.2356040 | -0.4282848 | 0.5145812 | 739.1892 | 1.019449 |
| phi_1_7,11 | -0.1726210 | 0.2584920 | -0.6479735 | 0.3716210 | 421.6121 | 1.034367 |
| phi_1_7,12 | 1.2508919 | 0.2496442 | 0.7689346 | 1.7535722 | 909.6659 | 1.014039 |
| phi_1_8,1 | 0.8940962 | 0.2407176 | 0.4335552 | 1.3659822 | 906.3579 | 1.022752 |
| phi_1_8,2 | 1.5770369 | 0.2018253 | 1.1835837 | 1.9851295 | 2387.1568 | 1.010634 |
| phi_1_8,3 | 0.6176357 | 0.2226451 | 0.1797778 | 1.0421645 | 938.8291 | 1.018068 |
| phi_1_8,4 | -0.3258542 | 0.4615401 | -1.0100635 | 0.8620813 | 128.9452 | 1.105501 |
| phi_1_8,5 | 0.7212729 | 0.3536039 | 0.0372038 | 1.4452280 | 325.6202 | 1.053190 |
| phi_1_8,6 | 0.3677012 | 0.2298090 | -0.0695345 | 0.8456810 | 1132.3447 | 1.017042 |
| phi_1_8,7 | 0.7254331 | 0.2559774 | 0.2219511 | 1.2126785 | 830.2395 | 1.021885 |

Table 24: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| phi_1_8,8 | 1.8901863 | 0.1948055 | 1.4848090 | 2.2738930 | 2510.2526 | 1.009310 |
| phi_1_8,9 | -0.0346223 | 0.2412813 | -0.4944929 | 0.4624724 | 1006.2409 | 1.016483 |
| phi_1_8,10 | 0.0246849 | 0.2350998 | -0.4275212 | 0.5147668 | 1022.0396 | 1.016922 |
| phi_1_8,11 | -0.1692578 | 0.2641571 | -0.6521353 | 0.4067541 | 441.9620 | 1.034128 |
| phi_1_8,12 | 1.2511910 | 0.2463145 | 0.7861800 | 1.7601825 | 900.1617 | 1.015113 |
| phi_1_9,1 | 0.9065004 | 0.2280592 | 0.4670338 | 1.3627035 | 864.6296 | 1.023909 |
| phi_1_9,2 | 1.5755038 | 0.2004383 | 1.1654620 | 1.9805362 | 2324.3133 | 1.002751 |
| phi_1_9,3 | 0.6219771 | 0.2157126 | 0.1924597 | 1.0455205 | 950.1835 | 1.018005 |
| phi_1_9,4 | -0.3261473 | 0.4592843 | -1.0149810 | 0.8761099 | 128.5706 | 1.106845 |
| phi_1_9,5 | 0.7215710 | 0.3516592 | 0.0367514 | 1.4147795 | 319.1705 | 1.052998 |
| phi_1_9,6 | 0.3642812 | 0.2259893 | -0.0649409 | 0.8363849 | 1203.8024 | 1.018596 |
| phi_1_9,7 | 0.7251316 | 0.2523322 | 0.2332795 | 1.2230165 | 950.1555 | 1.017618 |
| phi_1_9,8 | 1.8944120 | 0.1899080 | 1.5117478 | 2.2717545 | 3399.1321 | 1.009218 |
| phi_1_9,9 | -0.0360805 | 0.2379114 | -0.4903710 | 0.4540125 | 1024.9615 | 1.011189 |
| phi_1_9,10 | -0.0869254 | 0.2270398 | -0.5250337 | 0.3839828 | 832.3103 | 1.019819 |
| phi_1_9,11 | -0.2381604 | 0.2582256 | -0.7187703 | 0.3176875 | 451.4624 | 1.032371 |
| phi_1_9,12 | 1.2477000 | 0.2468745 | 0.7784238 | 1.7683255 | 974.1417 | 1.014133 |
| phi_1_10,1 | 0.8271130 | 0.1947624 | 0.4594815 | 1.2260100 | 617.4760 | 1.036460 |
| phi_1_10,2 | 1.5774768 | 0.2032700 | 1.1849807 | 1.9830265 | 2254.3214 | 1.010095 |
| phi_1_10,3 | 0.6321764 | 0.2073311 | 0.2131628 | 1.0413497 | 851.8133 | 1.021310 |
| phi_1_10,4 | -0.3675004 | 0.4399924 | -1.0141362 | 0.7800147 | 129.9560 | 1.106652 |
| phi_1_10,5 | 0.7192633 | 0.3561938 | 0.0224309 | 1.4314815 | 333.2769 | 1.052199 |
| phi_1_10,6 | 0.4215472 | 0.2094615 | 0.0434093 | 0.8662613 | 779.4839 | 1.028433 |
| phi_1_10,7 | 0.7186609 | 0.2511392 | 0.2415697 | 1.2125442 | 988.3949 | 1.017692 |
| phi_1_10,8 | 1.7060763 | 0.1591191 | 1.3876990 | 2.0055900 | 2120.1941 | 1.007204 |
| phi_1_10,9 | -0.0585467 | 0.2283740 | -0.4970894 | 0.4014533 | 1030.9878 | 1.012151 |
| phi_1_10,10 | 0.0260805 | 0.2334172 | -0.4124751 | 0.4999784 | 911.1566 | 1.019993 |
| phi_1_10,11 | -0.1923927 | 0.2486021 | -0.6526033 | 0.3300331 | 386.8269 | 1.036105 |
| phi_1_10,12 | 1.2106819 | 0.2461526 | 0.7511955 | 1.7291017 | 884.6773 | 1.014228 |
| phi_1_11,1 | 0.8475930 | 0.1913909 | 0.4928276 | 1.2522240 | 583.7899 | 1.035058 |
| phi_1_11,2 | 1.4728374 | 0.1191565 | 1.2505478 | 1.7137280 | 1400.4624 | 1.008663 |
| phi_1_11,3 | 0.5079326 | 0.1763127 | 0.1560297 | 0.8557761 | 646.5031 | 1.025561 |
| phi_1_11,4 | -0.3343978 | 0.4522970 | -0.9954834 | 0.8196695 | 124.0051 | 1.111174 |
| phi_1_11,5 | 0.5533645 | 0.3314521 | -0.0921235 | 1.2197105 | 266.5684 | 1.063731 |
| phi_1_11,6 | 0.3127119 | 0.1828377 | -0.0203728 | 0.7113001 | 836.1430 | 1.023063 |
| phi_1_11,7 | 0.8753806 | 0.2606001 | 0.3676208 | 1.3765405 | 533.3573 | 1.028894 |
| phi_1_11,8 | 2.1149523 | 0.1233619 | 1.8787755 | 2.3526395 | 2030.0180 | 1.006860 |
| phi_1_11,9 | -0.1207110 | 0.2348662 | -0.5695491 | 0.3497278 | 959.3572 | 1.017554 |
| phi_1_11,10 | 0.0036760 | 0.1787040 | -0.2927827 | 0.4086538 | 623.5501 | 1.027029 |
| phi_1_11,11 | -0.1237730 | 0.2184780 | -0.5013547 | 0.3507494 | 540.8385 | 1.032468 |
| phi_1_11,12 | 1.2402142 | 0.2353401 | 0.7884684 | 1.7224707 | 961.2487 | 1.011744 |
| phi_1_12,1 | 0.9487763 | 0.1828489 | 0.6035902 | 1.3062613 | 574.1857 | 1.040179 |
| phi_1_12,2 | 1.7542309 | 0.1241137 | 1.5205150 | 2.0038407 | 1424.6139 | 1.009552 |
| phi_1_12,3 | 0.4714318 | 0.1729463 | 0.1366201 | 0.8119537 | 706.8202 | 1.023000 |
| phi_1_12,4 | -0.2601287 | 0.4641330 | -0.9387297 | 0.9447615 | 122.4109 | 1.113650 |
| phi_1_12,5 | 0.7487972 | 0.3351423 | 0.0931189 | 1.4169920 | 336.3691 | 1.051213 |
| phi_1_12,6 | 0.3926793 | 0.1984193 | 0.0423938 | 0.8232713 | 746.2619 | 1.027281 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| phi_1_12,7 | 0.5613041 | 0.2198487 | 0.1146746 | 0.9855917 | 817.4309 | 1.021130 |
| phi_1_12,8 | 2.0076216 | 0.1217754 | 1.7759570 | 2.2457132 | 2559.1915 | 1.005508 |
| phi_1_12,9 | -0.1549842 | 0.2087670 | -0.5407869 | 0.2912160 | 837.8697 | 1.017725 |
| phi_1_12,10 | -0.0726520 | 0.1730406 | -0.3707512 | 0.3008555 | 594.5888 | 1.028636 |
| phi_1_12,11 | -0.0730027 | 0.2289388 | -0.4979732 | 0.4198592 | 564.5999 | 1.028487 |
| phi_1_12,12 | 1.3141727 | 0.2423221 | 0.8630771 | 1.8215885 | 1071.0509 | 1.011270 |
| phi_1_13,1 | 0.7615601 | 0.1841622 | 0.4166627 | 1.1286525 | 631.2845 | 1.033390 |
| phi_1_13,2 | 1.6438650 | 0.1326563 | 1.4045450 | 1.9205285 | 1213.0009 | 1.011476 |
| phi_1_13,3 | 0.4822651 | 0.1522460 | 0.1830910 | 0.7756298 | 557.1668 | 1.028051 |
| phi_1_13,4 | -0.2653269 | 0.4491768 | -0.9060467 | 0.8908775 | 124.3780 | 1.108526 |
| phi_1_13,5 | 0.7557375 | 0.2998044 | 0.1642689 | 1.3692898 | 309.9837 | 1.057426 |
| phi_1_13,6 | 0.3420749 | 0.1995511 | -0.0365419 | 0.7591938 | 853.5616 | 1.025048 |
| phi_1_13,7 | 0.7789007 | 0.2305374 | 0.3110803 | 1.2182660 | 996.1454 | 1.019515 |
| phi_1_13,8 | 1.8445546 | 0.1144807 | 1.6198440 | 2.0677335 | 2564.3478 | 1.003868 |
| phi_1_13,9 | -0.0089420 | 0.2233905 | -0.4401088 | 0.4423054 | 994.9402 | 1.014372 |
| phi_1_13,10 | 0.0418004 | 0.1567969 | -0.2295479 | 0.3838357 | 789.8220 | 1.022185 |
| phi_1_13,11 | -0.1722566 | 0.2317819 | -0.5900650 | 0.3157058 | 496.8620 | 1.034111 |
| phi_1_13,12 | 1.3013229 | 0.2302123 | 0.8608643 | 1.7787637 | 936.7551 | 1.016465 |
| phi_1_14,1 | 0.9857402 | 0.1951692 | 0.6033478 | 1.3696910 | 680.2864 | 1.029827 |
| phi_1_14,2 | 1.5213492 | 0.1385108 | 1.2700020 | 1.8094380 | 1212.4577 | 1.013365 |
| phi_1_14,3 | 0.8480619 | 0.1792331 | 0.4949828 | 1.1952728 | 451.3253 | 1.032383 |
| phi_1_14,4 | -0.3257951 | 0.4613702 | -1.0133035 | 0.8915493 | 137.8938 | 1.100226 |
| phi_1_14,5 | 0.7505273 | 0.3568429 | 0.0595318 | 1.4805855 | 326.9778 | 1.054308 |
| phi_1_14,6 | 0.3712203 | 0.1904914 | 0.0154840 | 0.7730300 | 1082.0678 | 1.021095 |
| phi_1_14,7 | 0.7496984 | 0.2242417 | 0.2974710 | 1.1806327 | 985.8983 | 1.020528 |
| phi_1_14,8 | 1.8642829 | 0.1413165 | 1.5830702 | 2.1452810 | 3088.6686 | 1.006775 |
| phi_1_14,9 | -0.0322370 | 0.2224190 | -0.4570112 | 0.4193423 | 986.8436 | 1.013405 |
| phi_1_14,10 | 0.1445667 | 0.1957226 | -0.2088693 | 0.5608236 | 860.0486 | 1.019340 |
| phi_1_14,11 | -0.0935152 | 0.2446951 | -0.5201348 | 0.4478342 | 540.9588 | 1.031729 |
| phi_1_14,12 | 1.2519198 | 0.2505182 | 0.7771978 | 1.7691337 | 803.3670 | 1.019143 |
| phi_1_15,1 | 0.9751663 | 0.2163617 | 0.5771670 | 1.4304590 | 667.8384 | 1.029685 |
| phi_1_15,2 | 1.5021788 | 0.1914747 | 1.1293990 | 1.8817665 | 1834.1176 | 1.008483 |
| phi_1_15,3 | 0.7302983 | 0.2192927 | 0.2971739 | 1.1552137 | 811.9787 | 1.020056 |
| phi_1_15,4 | -0.3233933 | 0.4625639 | -1.0125022 | 0.8796872 | 125.2710 | 1.110729 |
| phi_1_15,5 | 0.7238326 | 0.3537647 | 0.0349650 | 1.4058828 | 289.0827 | 1.057865 |
| phi_1_15,6 | 0.3646967 | 0.2287534 | -0.0776293 | 0.8468830 | 735.9632 | 1.024636 |
| phi_1_15,7 | 0.7256723 | 0.2521786 | 0.2123087 | 1.2103338 | 984.0475 | 1.019987 |
| phi_1_15,8 | 1.8888722 | 0.1891994 | 1.5057410 | 2.2582130 | 3078.6670 | 1.014617 |
| phi_1_15,9 | -0.0419963 | 0.2354198 | -0.4995500 | 0.4298197 | 1004.5742 | 1.013668 |
| phi_1_15,10 | 0.0237971 | 0.2331244 | -0.4122970 | 0.4944503 | 999.7509 | 1.017777 |
| phi_1_15,11 | -0.1736378 | 0.2598126 | -0.6454998 | 0.3885500 | 539.2699 | 1.031665 |
| phi_1_15,12 | 1.2464340 | 0.2510874 | 0.7707560 | 1.7715745 | 995.3304 | 1.013475 |
| phi_1_16,1 | 0.9908525 | 0.2389309 | 0.5458262 | 1.5160900 | 567.4376 | 1.031702 |
| phi_1_16,2 | 1.5754134 | 0.1981151 | 1.1766873 | 1.9566300 | 2552.5130 | 1.003904 |
| phi_1_16,3 | 0.4336803 | 0.2070000 | 0.0215002 | 0.8312419 | 583.9671 | 1.026522 |
| phi_1_16,4 | -0.3280781 | 0.4614228 | -1.0286612 | 0.8663492 | 132.2289 | 1.101989 |
| phi_1_16,5 | 0.7202762 | 0.3545416 | 0.0210282 | 1.4292357 | 331.8411 | 1.052304 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| phi_1_16,6 | 0.3728252 | 0.2309134 | -0.0764147 | 0.8334269 | 451.8719 | 1.034011 |
| phi_1_16,7 | 0.7240905 | 0.2529842 | 0.2362638 | 1.2240075 | 1055.1094 | 1.016690 |
| phi_1_16,8 | 1.8861037 | 0.1945206 | 1.4953353 | 2.2701517 | 3392.2396 | 1.010765 |
| phi_1_16,9 | -0.0388011 | 0.2360750 | -0.4977439 | 0.4405824 | 991.6100 | 1.016139 |
| phi_1_16,10 | -0.0436696 | 0.2254358 | -0.4739412 | 0.4013995 | 748.1949 | 1.021029 |
| phi_1_16,11 | -0.1735206 | 0.2595462 | -0.6669435 | 0.3519989 | 548.0919 | 1.029932 |
| phi_1_16,12 | 1.2438878 | 0.2472790 | 0.7803124 | 1.7585638 | 908.6122 | 1.015767 |
| phi_1_17,1 | 0.8402631 | 0.1959466 | 0.4452068 | 1.2177837 | 890.6321 | 1.021325 |
| phi_1_17,2 | 1.3136000 | 0.1493637 | 1.0036028 | 1.6022640 | 906.1708 | 1.017265 |
| phi_1_17,3 | 0.6176456 | 0.2308401 | 0.1670658 | 1.1108037 | 689.3154 | 1.023618 |
| phi_1_17,4 | -0.3220607 | 0.4693548 | -1.0126782 | 0.8990842 | 128.7364 | 1.105362 |
| phi_1_17,5 | 0.7240819 | 0.3576803 | 0.0263160 | 1.4542575 | 327.0329 | 1.051813 |
| phi_1_17,6 | 0.4096850 | 0.2193494 | 0.0055434 | 0.8622018 | 552.5898 | 1.028622 |
| phi_1_17,7 | 0.7254799 | 0.2523891 | 0.2366517 | 1.2341960 | 441.1380 | 1.032410 |
| phi_1_17,8 | 1.8865251 | 0.1968208 | 1.4879660 | 2.2679728 | 3224.9281 | 1.008329 |
| phi_1_17,9 | -0.0380508 | 0.2343624 | -0.4759387 | 0.4398808 | 1073.4533 | 1.013270 |
| phi_1_17,10 | 0.0229748 | 0.2342527 | -0.4231165 | 0.5153349 | 1006.8090 | 1.016801 |
| phi_1_17,11 | -0.1706803 | 0.2640777 | -0.6639314 | 0.4051803 | 556.0898 | 1.028812 |
| phi_1_17,12 | 1.2502744 | 0.2490843 | 0.7673556 | 1.7660227 | 889.5765 | 1.015626 |
| phi_1_18,1 | 0.8009472 | 0.2052885 | 0.4194664 | 1.2107052 | 704.9452 | 1.029273 |
| phi_1_18,2 | 1.4654287 | 0.1652288 | 1.1362035 | 1.7933160 | 1720.6788 | 1.007265 |
| phi_1_18,3 | 0.6390869 | 0.2130664 | 0.2184125 | 1.0869835 | 580.6322 | 1.025443 |
| phi_1_18,4 | -0.3256342 | 0.4602086 | -1.0259868 | 0.8699002 | 127.8172 | 1.105566 |
| phi_1_18,5 | 0.7251882 | 0.3584323 | 0.0280206 | 1.4412587 | 299.6470 | 1.056183 |
| phi_1_18,6 | 0.3650816 | 0.2307077 | -0.0677380 | 0.8395591 | 1200.0996 | 1.019678 |
| phi_1_18,7 | 0.7268275 | 0.2541067 | 0.2327343 | 1.2311802 | 849.2425 | 1.021039 |
| phi_1_18,8 | 1.8352681 | 0.1853773 | 1.4490795 | 2.1980890 | 2817.1451 | 1.008842 |
| phi_1_18,9 | -0.0393716 | 0.2412771 | -0.5036620 | 0.4433577 | 1078.4009 | 1.012077 |
| phi_1_18,10 | 0.0291765 | 0.2382207 | -0.4236680 | 0.5053381 | 1009.2903 | 1.018528 |
| phi_1_18,11 | -0.1459983 | 0.2609264 | -0.6132430 | 0.4302496 | 397.5881 | 1.034914 |
| phi_1_18,12 | 1.2511018 | 0.2431229 | 0.7890306 | 1.7421930 | 909.9243 | 1.016747 |
| phi_1_19,1 | 0.8850530 | 0.2259158 | 0.4519918 | 1.3230480 | 744.7126 | 1.030847 |
| phi_1_19,2 | 1.4295479 | 0.1925949 | 1.0409962 | 1.8040297 | 1633.8106 | 1.009065 |
| phi_1_19,3 | 0.6208225 | 0.2284796 | 0.1707545 | 1.0716077 | 984.8189 | 1.016053 |
| phi_1_19,4 | -0.3266009 | 0.4591729 | -1.0071703 | 0.8800582 | 129.7552 | 1.106283 |
| phi_1_19,5 | 0.7263859 | 0.3562373 | 0.0381178 | 1.4453847 | 330.9114 | 1.051497 |
| phi_1_19,6 | 0.3671463 | 0.2266682 | -0.0559881 | 0.8533262 | 1166.4731 | 1.015750 |
| phi_1_19,7 | 0.7580516 | 0.2440788 | 0.2708362 | 1.2325055 | 995.2952 | 1.018531 |
| phi_1_19,8 | 2.0801175 | 0.1801578 | 1.7378295 | 2.4542437 | 1982.5927 | 1.008131 |
| phi_1_19,9 | -0.0417870 | 0.2410611 | -0.5052870 | 0.4384477 | 903.7877 | 1.017644 |
| phi_1_19,10 | 0.0243178 | 0.2349436 | -0.4269076 | 0.4923305 | 1048.2981 | 1.017102 |
| phi_1_19,11 | -0.1783875 | 0.2522382 | -0.6421303 | 0.3657768 | 613.1916 | 1.029036 |
| phi_1_19,12 | 1.2492258 | 0.2520870 | 0.7718827 | 1.7573095 | 964.7272 | 1.015725 |

Table 25: Estimates for $\psi_{1,g,j}$, intercept parameter for function relating log handling time to log size, for each group g and prey type j

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| psi_1_1,1 | 3.006943 | 0.1591324 | 2.699236 | 3.320357 | 1912.6356 | 1.007819 |
| psi_1_1,2 | 2.737789 | 0.1673142 | 2.408727 | 3.071986 | 2235.9531 | 1.008903 |
| psi_1_1,3 | 3.137545 | 0.2022732 | 2.748411 | 3.540449 | 807.0393 | 1.022629 |
| psi_1_1,4 | 2.566556 | 0.4765432 | 1.659649 | 3.531579 | 160.6592 | 1.091222 |
| psi_1_1,5 | 2.410812 | 0.2366745 | 1.949690 | 2.870850 | 579.0274 | 1.027806 |
| psi_1_1,6 | 3.122457 | 0.1486558 | 2.835186 | 3.414699 | 1471.5828 | 1.014391 |
| psi_1_1,7 | 2.792730 | 0.1961638 | 2.399939 | 3.178123 | 1139.4709 | 1.013665 |
| psi_1_1,8 | 2.539318 | 0.1583952 | 2.217733 | 2.850535 | 4232.8272 | 1.007837 |
| psi_1_1,9 | 3.517483 | 0.2478449 | 3.032939 | 4.001376 | 591.6501 | 1.034836 |
| psi_1_1,10 | 3.218290 | 0.2335910 | 2.728353 | 3.644556 | 556.5382 | 1.038911 |
| psi_1_1,11 | 3.818549 | 0.3515107 | 3.126960 | 4.474505 | 385.2754 | 1.050506 |
| psi_1_1,12 | 2.875577 | 0.1841882 | 2.492138 | 3.224125 | 1458.7240 | 1.006741 |
| psi_1_2,1 | 2.913117 | 0.0855142 | 2.749702 | 3.082183 | 1106.4276 | 1.014022 |
| psi_1_2,2 | 2.603489 | 0.0868037 | 2.431727 | 2.778691 | 1396.5827 | 1.011051 |
| psi_1_2,3 | 3.113556 | 0.1681560 | 2.784397 | 3.432621 | 664.2922 | 1.024108 |
| psi_1_2,4 | 2.656775 | 0.4656469 | 1.771964 | 3.589620 | 157.5199 | 1.094797 |
| psi_1_2,5 | 2.468197 | 0.1934233 | 2.106346 | 2.843504 | 409.5791 | 1.043783 |
| psi_1_2,6 | 3.070916 | 0.1218469 | 2.834360 | 3.308305 | 816.7802 | 1.025107 |
| psi_1_2,7 | 2.869598 | 0.1697125 | 2.541778 | 3.201879 | 981.6703 | 1.022036 |
| psi_1_2,8 | 2.633020 | 0.0689207 | 2.497272 | 2.766071 | 5637.9835 | 1.004248 |
| psi_1_2,9 | 3.443497 | 0.1945306 | 3.064939 | 3.838646 | 529.6383 | 1.038398 |
| psi_1_2,10 | 3.237208 | 0.1796222 | 2.851822 | 3.544253 | 411.6959 | 1.049835 |
| psi_1_2,11 | 3.793601 | 0.3388857 | 3.123328 | 4.421455 | 411.5439 | 1.046771 |
| psi_1_2,12 | 2.848298 | 0.1426897 | 2.558720 | 3.116423 | 1404.0776 | 1.011074 |
| psi_1_3,1 | 3.099982 | 0.0943867 | 2.910141 | 3.282250 | 1462.7721 | 1.007627 |
| psi_1_3,2 | 2.732658 | 0.0862991 | 2.562031 | 2.903723 | 1908.3381 | 1.008597 |
| psi_1_3,3 | 3.036385 | 0.1776694 | 2.671360 | 3.378174 | 644.5162 | 1.027464 |
| psi_1_3,4 | 2.603182 | 0.4704486 | 1.711779 | 3.568699 | 161.1988 | 1.092326 |
| psi_1_3,5 | 2.406727 | 0.1902715 | 2.051369 | 2.793602 | 417.6628 | 1.041115 |
| psi_1_3,6 | 3.325376 | 0.1255990 | 3.083221 | 3.578043 | 1010.7372 | 1.019545 |
| psi_1_3,7 | 2.812006 | 0.1794222 | 2.462532 | 3.160671 | 919.8386 | 1.021070 |
| psi_1_3,8 | 2.660324 | 0.0946417 | 2.479878 | 2.851308 | 4079.1372 | 1.002700 |
| psi_1_3,9 | 3.721296 | 0.1966165 | 3.347204 | 4.110097 | 554.9180 | 1.032829 |
| psi_1_3,10 | 3.278660 | 0.1878211 | 2.885003 | 3.601311 | 423.8873 | 1.048220 |
| psi_1_3,11 | 3.852717 | 0.3391312 | 3.183288 | 4.494578 | 373.1291 | 1.050546 |
| psi_1_3,12 | 2.998878 | 0.1107913 | 2.774346 | 3.207511 | 1461.4874 | 1.010472 |
| psi_1_4,1 | 2.925060 | 0.1050843 | 2.719332 | 3.134107 | 1195.0311 | 1.012726 |
| psi_1_4,2 | 2.864589 | 0.1026832 | 2.660994 | 3.062056 | 1396.5108 | 1.010214 |
| psi_1_4,3 | 3.273878 | 0.1625157 | 2.961297 | 3.607363 | 743.0665 | 1.022092 |
| psi_1_4,4 | 2.574793 | 0.4770482 | 1.667688 | 3.564217 | 168.7195 | 1.090651 |
| psi_1_4,5 | 2.519471 | 0.2176997 | 2.094336 | 2.954460 | 451.0338 | 1.036795 |
| psi_1_4,6 | 3.093934 | 0.1347092 | 2.833067 | 3.357144 | 580.1916 | 1.030330 |
| psi_1_4,7 | 2.687438 | 0.1945370 | 2.323921 | 3.097342 | 540.5136 | 1.034237 |
| psi_1_4,8 | 2.615656 | 0.1015663 | 2.425865 | 2.818321 | 3098.4291 | 1.003747 |
| psi_1_4,9 | 3.654993 | 0.2236779 | 3.229986 | 4.093818 | 595.5964 | 1.033897 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| psi_1_4,10 | 3.288528 | 0.2198038 | 2.833112 | 3.693617 | 508.9678 | 1.039715 |
| psi_1_4,11 | 3.802601 | 0.3481215 | 3.106398 | 4.440813 | 411.8375 | 1.046060 |
| psi_1_4,12 | 3.000120 | 0.1340552 | 2.730199 | 3.250742 | 1497.3033 | 1.011256 |
| psi_1_5,1 | 3.013078 | 0.1166271 | 2.775656 | 3.237106 | 1536.4025 | 1.013988 |
| psi_1_5,2 | 2.718075 | 0.1042011 | 2.506096 | 2.912354 | 1491.7213 | 1.007703 |
| psi_1_5,3 | 3.130880 | 0.1757129 | 2.786278 | 3.474441 | 794.9958 | 1.020318 |
| psi_1_5,4 | 2.552396 | 0.4349537 | 1.727669 | 3.423643 | 159.7241 | 1.093958 |
| psi_1_5,5 | 2.386531 | 0.1870534 | 2.032494 | 2.753260 | 410.6542 | 1.042310 |
| psi_1_5,6 | 3.121858 | 0.1228410 | 2.883069 | 3.359208 | 672.0158 | 1.028455 |
| psi_1_5,7 | 2.789333 | 0.1803717 | 2.431439 | 3.137882 | 1026.9908 | 1.012736 |
| psi_1_5,8 | 2.483833 | 0.0845839 | 2.313259 | 2.647363 | 4021.4871 | 1.003594 |
| psi_1_5,9 | 3.642450 | 0.2213035 | 3.212159 | 4.090811 | 573.1912 | 1.034643 |
| psi_1_5,10 | 3.142722 | 0.1913993 | 2.743320 | 3.476894 | 440.4218 | 1.046253 |
| psi_1_5,11 | 3.843814 | 0.3356641 | 3.187573 | 4.473178 | 313.1802 | 1.056230 |
| psi_1_5,12 | 2.911089 | 0.1498756 | 2.604136 | 3.186244 | 1446.5021 | 1.008198 |
| psi_1_6,1 | 2.988637 | 0.1043982 | 2.785023 | 3.193065 | 1239.9836 | 1.011331 |
| psi_1_6,2 | 2.631393 | 0.1143814 | 2.408082 | 2.860851 | 851.9704 | 1.018800 |
| psi_1_6,3 | 3.212730 | 0.1789794 | 2.869874 | 3.572347 | 566.3108 | 1.030436 |
| psi_1_6,4 | 2.680322 | 0.4945958 | 1.743081 | 3.680629 | 167.6953 | 1.091224 |
| psi_1_6,5 | 2.399116 | 0.1930438 | 2.033218 | 2.789665 | 401.2931 | 1.043234 |
| psi_1_6,6 | 3.189999 | 0.1195433 | 2.960839 | 3.419114 | 848.7735 | 1.023184 |
| psi_1_6,7 | 2.821219 | 0.1863194 | 2.469238 | 3.183443 | 968.1090 | 1.022190 |
| psi_1_6,8 | 2.594580 | 0.0748972 | 2.448717 | 2.738697 | 4867.1732 | 1.002368 |
| psi_1_6,9 | 3.585083 | 0.2020169 | 3.201260 | 3.982152 | 583.5655 | 1.035113 |
| psi_1_6,10 | 3.252551 | 0.2143235 | 2.795419 | 3.625443 | 493.8810 | 1.041845 |
| psi_1_6,11 | 3.901723 | 0.3262061 | 3.252203 | 4.503216 | 371.0767 | 1.051997 |
| psi_1_6,12 | 2.781548 | 0.1503170 | 2.470528 | 3.055877 | 1216.4985 | 1.010452 |
| psi_1_7,1 | 2.998949 | 0.1707816 | 2.668559 | 3.335652 | 2184.0873 | 1.010560 |
| psi_1_7,2 | 2.734687 | 0.1709148 | 2.395020 | 3.076793 | 2051.9590 | 1.007811 |
| psi_1_7,3 | 3.106613 | 0.2044271 | 2.682460 | 3.498663 | 641.1246 | 1.027648 |
| psi_1_7,4 | 2.569932 | 0.4734523 | 1.667024 | 3.539487 | 165.5876 | 1.091861 |
| psi_1_7,5 | 2.410632 | 0.2212426 | 1.987939 | 2.843160 | 503.8683 | 1.031599 |
| psi_1_7,6 | 3.088872 | 0.1888379 | 2.712383 | 3.462971 | 1148.2446 | 1.018657 |
| psi_1_7,7 | 2.750254 | 0.2101836 | 2.350036 | 3.168146 | 1009.3860 | 1.018397 |
| psi_1_7,8 | 2.453227 | 0.1487041 | 2.152029 | 2.732536 | 2674.5327 | 1.011394 |
| psi_1_7,9 | 3.612579 | 0.2398284 | 3.152276 | 4.082655 | 685.0508 | 1.025492 |
| psi_1_7,10 | 3.219711 | 0.2348237 | 2.739633 | 3.659505 | 564.8610 | 1.033854 |
| psi_1_7,11 | 3.823084 | 0.3471354 | 3.128147 | 4.466019 | 391.1412 | 1.050397 |
| psi_1_7,12 | 2.870284 | 0.1858817 | 2.493557 | 3.217338 | 1371.5145 | 1.010866 |
| psi_1_8,1 | 2.994022 | 0.1724865 | 2.652299 | 3.326586 | 2006.3094 | 1.007789 |
| psi_1_8,2 | 2.728189 | 0.1675343 | 2.408587 | 3.057862 | 1857.3957 | 1.007457 |
| psi_1_8,3 | 3.140201 | 0.2087860 | 2.703481 | 3.544438 | 631.6171 | 1.027036 |
| psi_1_8,4 | 2.571801 | 0.4759972 | 1.662337 | 3.539059 | 169.1106 | 1.089122 |
| psi_1_8,5 | 2.415472 | 0.2385850 | 1.957463 | 2.891251 | 534.9821 | 1.033350 |
| psi_1_8,6 | 3.081225 | 0.1891565 | 2.694278 | 3.446783 | 1253.3469 | 1.015053 |
| psi_1_8,7 | 2.732542 | 0.2086068 | 2.324636 | 3.145666 | 722.5517 | 1.027829 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| psi_1_8,8 | 2.533579 | 0.1607389 | 2.194796 | 2.837571 | 1209.8589 | 1.019578 |
| psi_1_8,9 | 3.609383 | 0.2447936 | 3.133665 | 4.099541 | 662.0007 | 1.029502 |
| psi_1_8,10 | 3.222891 | 0.2298724 | 2.743667 | 3.648594 | 516.5210 | 1.041302 |
| psi_1_8,11 | 3.819960 | 0.3478724 | 3.139298 | 4.478380 | 391.8448 | 1.051339 |
| psi_1_8,12 | 2.863980 | 0.1892167 | 2.487940 | 3.217439 | 1198.0078 | 1.010075 |
| psi_1_9,1 | 2.967217 | 0.1412882 | 2.686951 | 3.247153 | 1946.2384 | 1.006225 |
| psi_1_9,2 | 2.729256 | 0.1706316 | 2.387859 | 3.064724 | 1734.2457 | 1.008088 |
| psi_1_9,3 | 3.203229 | 0.2111153 | 2.773491 | 3.625349 | 672.8096 | 1.023624 |
| psi_1_9,4 | 2.572620 | 0.4747232 | 1.676651 | 3.533295 | 158.6700 | 1.093442 |
| psi_1_9,5 | 2.408167 | 0.2367739 | 1.951428 | 2.883809 | 535.1186 | 1.031338 |
| psi_1_9,6 | 3.092480 | 0.1893135 | 2.712528 | 3.464009 | 937.2239 | 1.018467 |
| psi_1_9,7 | 2.736032 | 0.2101204 | 2.325836 | 3.150744 | 1098.7218 | 1.024629 |
| psi_1_9,8 | 2.547717 | 0.1613087 | 2.227062 | 2.860968 | 4283.9665 | 1.008656 |
| psi_1_9,9 | 3.565485 | 0.2386665 | 3.102451 | 4.028305 | 655.8564 | 1.029286 |
| psi_1_9,10 | 3.266302 | 0.2212606 | 2.812693 | 3.673802 | 512.3651 | 1.040628 |
| psi_1_9,11 | 3.809481 | 0.3482573 | 3.114896 | 4.466280 | 335.2468 | 1.053238 |
| psi_1_9,12 | 2.872919 | 0.1853361 | 2.502979 | 3.226330 | 1454.5016 | 1.010694 |
| psi_1_10,1 | 2.908427 | 0.1021810 | 2.705455 | 3.106766 | 936.2938 | 1.014447 |
| psi_1_10,2 | 2.742571 | 0.1725121 | 2.403673 | 3.092520 | 1551.3080 | 1.009837 |
| psi_1_10,3 | 3.293773 | 0.2094713 | 2.872608 | 3.713429 | 782.4466 | 1.017774 |
| psi_1_10,4 | 2.483687 | 0.4552718 | 1.603348 | 3.407427 | 167.3210 | 1.090738 |
| psi_1_10,5 | 2.406164 | 0.2337946 | 1.964678 | 2.874719 | 563.5260 | 1.027679 |
| psi_1_10,6 | 2.965288 | 0.1764084 | 2.603349 | 3.284497 | 600.4827 | 1.031212 |
| psi_1_10,7 | 2.735883 | 0.2023452 | 2.352447 | 3.131088 | 946.3202 | 1.017117 |
| psi_1_10,8 | 2.618395 | 0.1115674 | 2.396913 | 2.845187 | 4727.1372 | 1.003069 |
| psi_1_10,9 | 3.615931 | 0.2393098 | 3.145487 | 4.079859 | 681.8043 | 1.028243 |
| psi_1_10,10 | 3.218910 | 0.2347193 | 2.759841 | 3.660175 | 582.0463 | 1.035178 |
| psi_1_10,11 | 3.955972 | 0.3374031 | 3.296085 | 4.612517 | 409.6035 | 1.046918 |
| psi_1_10,12 | 2.984268 | 0.1767334 | 2.634909 | 3.331615 | 1374.5239 | 1.009751 |
| psi_1_11,1 | 3.076895 | 0.1002011 | 2.885758 | 3.280932 | 863.1514 | 1.016475 |
| psi_1_11,2 | 2.640701 | 0.0995495 | 2.446895 | 2.832345 | 1070.3706 | 1.016121 |
| psi_1_11,3 | 3.016393 | 0.1769664 | 2.678688 | 3.358582 | 691.0983 | 1.024829 |
| psi_1_11,4 | 2.525305 | 0.4619930 | 1.645561 | 3.473492 | 159.7205 | 1.093263 |
| psi_1_11,5 | 2.302532 | 0.2049576 | 1.915293 | 2.716973 | 434.1481 | 1.038784 |
| psi_1_11,6 | 2.972661 | 0.1404987 | 2.696483 | 3.243668 | 513.2727 | 1.035085 |
| psi_1_11,7 | 2.258675 | 0.2117018 | 1.845555 | 2.669540 | 450.8155 | 1.039539 |
| psi_1_11,8 | 2.346868 | 0.0779378 | 2.191919 | 2.497388 | 3228.1859 | 1.006161 |
| psi_1_11,9 | 3.683435 | 0.2413128 | 3.223815 | 4.157522 | 607.5738 | 1.029656 |
| psi_1_11,10 | 3.106409 | 0.1977191 | 2.688043 | 3.443451 | 424.2188 | 1.046477 |
| psi_1_11,11 | 3.646329 | 0.3417779 | 2.985059 | 4.293801 | 378.4135 | 1.051063 |
| psi_1_11,12 | 2.865826 | 0.1552861 | 2.554375 | 3.158652 | 1367.1798 | 1.009130 |
| psi_1_12,1 | 2.991213 | 0.0974295 | 2.802994 | 3.188086 | 895.4950 | 1.016422 |
| psi_1_12,2 | 2.577272 | 0.1090424 | 2.363715 | 2.784600 | 795.3083 | 1.021287 |
| psi_1_12,3 | 3.192996 | 0.1766020 | 2.839981 | 3.536692 | 638.3003 | 1.025433 |
| psi_1_12,4 | 2.630889 | 0.4775091 | 1.734997 | 3.593358 | 168.1381 | 1.089954 |
| psi_1_12,5 | 2.414453 | 0.2053368 | 2.015560 | 2.826760 | 413.8921 | 1.039358 |
| psi_1_12,6 | 2.940972 | 0.1301792 | 2.682991 | 3.192161 | 674.6081 | 1.029897 |

Table 25: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| psi__1_12,7 | 2.792004 | 0.1722382 | 2.452031 | 3.132588 | 928.8119 | 1.021523 |
| psi__1_12,8 | 2.391715 | 0.0811682 | 2.233448 | 2.547203 | 3222.0236 | 1.008575 |
| psi__1_12,9 | 3.758529 | 0.2367792 | 3.302948 | 4.242258 | 576.2683 | 1.034140 |
| psi__1_12,10 | 3.295986 | 0.1898927 | 2.884183 | 3.627285 | 427.1035 | 1.048142 |
| psi__1_12,11 | 3.760169 | 0.3325089 | 3.116088 | 4.369249 | 346.9597 | 1.051773 |
| psi__1_12,12 | 2.747803 | 0.1518203 | 2.446122 | 3.032171 | 1234.2155 | 1.011430 |
| psi__1_13,1 | 3.022981 | 0.0935259 | 2.843935 | 3.204794 | 902.3141 | 1.015843 |
| psi__1_13,2 | 2.760345 | 0.1081351 | 2.546744 | 2.964510 | 948.4710 | 1.017571 |
| psi__1_13,3 | 3.181422 | 0.1621196 | 2.861990 | 3.503423 | 613.9030 | 1.026663 |
| psi__1_13,4 | 2.489913 | 0.4541153 | 1.638166 | 3.412148 | 153.5598 | 1.095348 |
| psi__1_13,5 | 2.341068 | 0.1787860 | 1.997333 | 2.701595 | 461.5131 | 1.037633 |
| psi__1_13,6 | 3.116351 | 0.1239467 | 2.864047 | 3.354221 | 813.3788 | 1.024510 |
| psi__1_13,7 | 2.776770 | 0.1845789 | 2.414977 | 3.146535 | 1133.4297 | 1.013926 |
| psi__1_13,8 | 2.694032 | 0.0745947 | 2.548687 | 2.836781 | 3334.3393 | 1.002488 |
| psi__1_13,9 | 3.553165 | 0.2243376 | 3.106080 | 4.001740 | 642.3441 | 1.030262 |
| psi__1_13,10 | 3.198556 | 0.1675913 | 2.844276 | 3.487536 | 430.4846 | 1.047631 |
| psi__1_13,11 | 3.797678 | 0.3358460 | 3.117892 | 4.420305 | 373.6291 | 1.051272 |
| psi__1_13,12 | 2.693606 | 0.1597023 | 2.379675 | 2.995752 | 916.2053 | 1.017277 |
| psi__1_14,1 | 2.962890 | 0.1005826 | 2.769439 | 3.164083 | 932.3196 | 1.016373 |
| psi__1_14,2 | 2.605434 | 0.1106281 | 2.386314 | 2.821960 | 965.0012 | 1.021294 |
| psi__1_14,3 | 3.021406 | 0.1841701 | 2.645509 | 3.383462 | 562.8455 | 1.032282 |
| psi__1_14,4 | 2.505777 | 0.4776263 | 1.594728 | 3.482302 | 159.1023 | 1.093377 |
| psi__1_14,5 | 2.454798 | 0.2137888 | 2.058825 | 2.888025 | 460.0661 | 1.036112 |
| psi__1_14,6 | 3.076676 | 0.1406863 | 2.798414 | 3.350200 | 887.5387 | 1.021284 |
| psi__1_14,7 | 2.689737 | 0.1833078 | 2.317558 | 3.044716 | 1115.8551 | 1.016506 |
| psi__1_14,8 | 2.553834 | 0.0974064 | 2.364092 | 2.740483 | 3107.0005 | 1.004313 |
| psi__1_14,9 | 3.612254 | 0.2310106 | 3.161137 | 4.059569 | 625.7792 | 1.028694 |
| psi__1_14,10 | 3.191391 | 0.1974690 | 2.770928 | 3.543363 | 481.9387 | 1.042730 |
| psi__1_14,11 | 3.858087 | 0.3429916 | 3.194702 | 4.493676 | 406.4248 | 1.049023 |
| psi__1_14,12 | 2.874299 | 0.1867742 | 2.505717 | 3.241271 | 1405.0603 | 1.009254 |
| psi__1_15,1 | 3.128862 | 0.1291779 | 2.881159 | 3.380171 | 1152.5704 | 1.014837 |
| psi__1_15,2 | 2.795665 | 0.1599822 | 2.489722 | 3.114169 | 1688.0296 | 1.007866 |
| psi__1_15,3 | 3.066751 | 0.2066078 | 2.662097 | 3.461926 | 700.3464 | 1.024555 |
| psi__1_15,4 | 2.564891 | 0.4810791 | 1.650356 | 3.546448 | 163.7512 | 1.088429 |
| psi__1_15,5 | 2.406324 | 0.2330144 | 1.950395 | 2.858859 | 501.2046 | 1.033478 |
| psi__1_15,6 | 3.084952 | 0.1855235 | 2.706886 | 3.437263 | 1105.8002 | 1.017644 |
| psi__1_15,7 | 2.732692 | 0.2032584 | 2.337224 | 3.139562 | 1174.0394 | 1.014150 |
| psi__1_15,8 | 2.547458 | 0.1605863 | 2.226073 | 2.851948 | 3640.7735 | 1.008082 |
| psi__1_15,9 | 3.609482 | 0.2447693 | 3.108897 | 4.078635 | 671.9111 | 1.027481 |
| psi__1_15,10 | 3.221589 | 0.2332008 | 2.742761 | 3.665772 | 580.0273 | 1.034056 |
| psi__1_15,11 | 3.819349 | 0.3499279 | 3.123133 | 4.476472 | 393.7398 | 1.047858 |
| psi__1_15,12 | 2.878025 | 0.1857098 | 2.500929 | 3.241345 | 1653.5391 | 1.008576 |
| psi__1_16,1 | 2.948575 | 0.1478080 | 2.645110 | 3.225683 | 1466.3090 | 1.010329 |
| psi__1_16,2 | 2.722767 | 0.1745653 | 2.376155 | 3.069494 | 1975.8852 | 1.006338 |
| psi__1_16,3 | 3.091082 | 0.1992536 | 2.707218 | 3.481934 | 688.9395 | 1.025957 |
| psi__1_16,4 | 2.566214 | 0.4777616 | 1.652092 | 3.561536 | 157.0806 | 1.094961 |
| psi__1_16,5 | 2.409556 | 0.2337503 | 1.970893 | 2.895543 | 550.1213 | 1.030719 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| psi_1_16,6 | 3.096369 | 0.1891955 | 2.717630 | 3.454412 | 1205.3224 | 1.017895 |
| psi_1_16,7 | 2.731731 | 0.2059643 | 2.332370 | 3.137872 | 1161.9014 | 1.015822 |
| psi_1_16,8 | 2.540107 | 0.1649913 | 2.207340 | 2.858442 | 4050.4456 | 1.003350 |
| psi_1_16,9 | 3.609108 | 0.2469350 | 3.135406 | 4.091222 | 635.1764 | 1.028852 |
| psi_1_16,10 | 3.188843 | 0.2212304 | 2.744833 | 3.609492 | 546.0194 | 1.036623 |
| psi_1_16,11 | 3.824025 | 0.3534867 | 3.126691 | 4.485446 | 393.0861 | 1.048418 |
| psi_1_16,12 | 2.871007 | 0.1895375 | 2.489209 | 3.231244 | 1363.6405 | 1.011303 |
| psi_1_17,1 | 3.022599 | 0.1101112 | 2.811585 | 3.243078 | 1302.9328 | 1.008338 |
| psi_1_17,2 | 2.871005 | 0.1088957 | 2.664215 | 3.077796 | 1241.6372 | 1.012683 |
| psi_1_17,3 | 3.140285 | 0.2094808 | 2.707048 | 3.552564 | 701.1816 | 1.023837 |
| psi_1_17,4 | 2.567081 | 0.4777481 | 1.645241 | 3.530950 | 167.8207 | 1.088531 |
| psi_1_17,5 | 2.405665 | 0.2354338 | 1.962115 | 2.882793 | 575.4856 | 1.029403 |
| psi_1_17,6 | 3.122311 | 0.1629503 | 2.796873 | 3.436193 | 1231.6866 | 1.016147 |
| psi_1_17,7 | 2.792311 | 0.1964382 | 2.413635 | 3.179366 | 1115.3133 | 1.014080 |
| psi_1_17,8 | 2.556239 | 0.1572974 | 2.238805 | 2.867631 | 3598.1792 | 1.003055 |
| psi_1_17,9 | 3.609396 | 0.2399287 | 3.156142 | 4.097728 | 690.0107 | 1.028548 |
| psi_1_17,10 | 3.218540 | 0.2308327 | 2.750761 | 3.645002 | 588.0338 | 1.035592 |
| psi_1_17,11 | 3.813996 | 0.3458562 | 3.112796 | 4.466130 | 411.3439 | 1.047804 |
| psi_1_17,12 | 2.878309 | 0.1821209 | 2.501537 | 3.230594 | 1402.7371 | 1.010435 |
| psi_1_18,1 | 3.019523 | 0.1059858 | 2.815526 | 3.229696 | 901.7470 | 1.015716 |
| psi_1_18,2 | 2.904661 | 0.1132108 | 2.675382 | 3.122268 | 1009.1324 | 1.017453 |
| psi_1_18,3 | 3.140375 | 0.2081170 | 2.730847 | 3.549066 | 871.7733 | 1.015881 |
| psi_1_18,4 | 2.564962 | 0.4794297 | 1.647400 | 3.543174 | 166.6069 | 1.091596 |
| psi_1_18,5 | 2.401327 | 0.2315118 | 1.950227 | 2.866125 | 548.0780 | 1.030528 |
| psi_1_18,6 | 3.081642 | 0.1893184 | 2.700144 | 3.456338 | 1325.2744 | 1.014800 |
| psi_1_18,7 | 2.727562 | 0.2017432 | 2.329553 | 3.117858 | 749.9867 | 1.029650 |
| psi_1_18,8 | 2.497900 | 0.1394686 | 2.222182 | 2.769621 | 4776.9715 | 1.011704 |
| psi_1_18,9 | 3.611980 | 0.2473065 | 3.136191 | 4.093373 | 609.4746 | 1.032536 |
| psi_1_18,10 | 3.220948 | 0.2333501 | 2.752722 | 3.651472 | 554.6002 | 1.036077 |
| psi_1_18,11 | 3.828086 | 0.3449232 | 3.140671 | 4.469697 | 362.7084 | 1.049387 |
| psi_1_18,12 | 2.879012 | 0.1876378 | 2.509872 | 3.232492 | 1236.0565 | 1.009998 |
| psi_1_19,1 | 2.894903 | 0.1278349 | 2.642930 | 3.136652 | 1180.3340 | 1.012531 |
| psi_1_19,2 | 2.645838 | 0.1345201 | 2.379373 | 2.921001 | 860.3753 | 1.017050 |
| psi_1_19,3 | 3.183068 | 0.2056641 | 2.791398 | 3.586117 | 754.9316 | 1.021220 |
| psi_1_19,4 | 2.565229 | 0.4779063 | 1.652241 | 3.532110 | 160.7179 | 1.092289 |
| psi_1_19,5 | 2.401123 | 0.2361261 | 1.959658 | 2.889225 | 476.8188 | 1.037730 |
| psi_1_19,6 | 3.079981 | 0.1871950 | 2.708406 | 3.440893 | 1360.1637 | 1.014803 |
| psi_1_19,7 | 2.696139 | 0.2014029 | 2.292568 | 3.088508 | 1186.4442 | 1.014540 |
| psi_1_19,8 | 2.367738 | 0.1320146 | 2.101458 | 2.616140 | 2402.6885 | 1.007997 |
| psi_1_19,9 | 3.609586 | 0.2432551 | 3.134880 | 4.087289 | 670.1351 | 1.027913 |
| psi_1_19,10 | 3.223023 | 0.2323208 | 2.747589 | 3.654742 | 578.8824 | 1.034597 |
| psi_1_19,11 | 3.818188 | 0.3541252 | 3.124352 | 4.482411 | 337.8596 | 1.051954 |
| psi_1_19,12 | 2.872989 | 0.1833184 | 2.486711 | 3.214444 | 1402.2389 | 1.007681 |

Table 26: Estimates for $\eta_{g,j}$, proportional allocation of effort to prey type j, for each group level g

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|----|------|-------|-------|------|
| eta_1,1 | 0.1667440 | 0.0561466 | 0.0715030 | 0.2877520 | 4451.228 | 1.0028836 |
| eta_1,2 | 0.0810628 | 0.0399262 | 0.0212192 | 0.1744113 | 4837.253 | 1.0040666 |
| eta_1,3 | 0.0455995 | 0.0287754 | 0.0061367 | 0.1152214 | 4488.673 | 1.0066274 |
| eta_1,4 | 0.0236893 | 0.0211183 | 0.0011929 | 0.0809840 | 1238.151 | 1.0132392 |
| eta_1,5 | 0.1298023 | 0.0474730 | 0.0522927 | 0.2373187 | 4972.128 | 1.0025512 |
| eta_1,6 | 0.1762298 | 0.0593218 | 0.0784169 | 0.3064579 | 4794.148 | 1.0052808 |
| eta_1,7 | 0.1996666 | 0.0627075 | 0.0908313 | 0.3352722 | 5495.953 | 1.0041072 |
| eta_1,8 | 0.0496791 | 0.0318980 | 0.0066222 | 0.1283906 | 4540.273 | 1.0054828 |
| eta_1,9 | 0.0312080 | 0.0232991 | 0.0031068 | 0.0878781 | 4788.607 | 1.0041342 |
| eta_1,10 | 0.0422846 | 0.0261125 | 0.0074903 | 0.1071003 | 5749.103 | 1.0013473 |
| eta_1,11 | 0.0100224 | 0.0127942 | 0.0000273 | 0.0439405 | 4078.067 | 1.0014696 |
| eta_1,12 | 0.0440115 | 0.0283394 | 0.0061512 | 0.1160436 | 5367.483 | 1.0044836 |
| eta_2,1 | 0.1602887 | 0.0183067 | 0.1266636 | 0.1972799 | 4136.638 | 1.0043264 |
| eta_2,2 | 0.0989680 | 0.0144273 | 0.0727690 | 0.1277952 | 5756.273 | 1.0015358 |
| eta_2,3 | 0.0891305 | 0.0134695 | 0.0652598 | 0.1174352 | 5017.229 | 1.0053508 |
| eta_2,4 | 0.0559357 | 0.0086164 | 0.0406965 | 0.0738356 | 5817.579 | 1.0067914 |
| eta_2,5 | 0.0964758 | 0.0119985 | 0.0738672 | 0.1214896 | 4212.372 | 1.0069892 |
| eta_2,6 | 0.0898854 | 0.0128612 | 0.0672594 | 0.1174013 | 5325.737 | 1.0087826 |
| eta_2,7 | 0.1615780 | 0.0190785 | 0.1255199 | 0.2000458 | 4504.539 | 1.0039811 |
| eta_2,8 | 0.0641513 | 0.0119198 | 0.0429278 | 0.0899850 | 5364.469 | 1.0042257 |
| eta_2,9 | 0.0652981 | 0.0113847 | 0.0451895 | 0.0897609 | 4506.552 | 1.0093802 |
| eta_2,10 | 0.0618332 | 0.0094686 | 0.0448423 | 0.0817214 | 8370.047 | 1.0057324 |
| eta_2,11 | 0.0097325 | 0.0035331 | 0.0042205 | 0.0178140 | 5422.386 | 1.0078956 |
| eta_2,12 | 0.0467227 | 0.0093057 | 0.0303269 | 0.0669202 | 5716.336 | 1.0039757 |
| eta_3,1 | 0.1674974 | 0.0183742 | 0.1331070 | 0.2058905 | 3596.919 | 1.0055192 |
| eta_3,2 | 0.0793872 | 0.0123788 | 0.0565267 | 0.1051712 | 6077.749 | 1.0062044 |
| eta_3,3 | 0.0832458 | 0.0128575 | 0.0602380 | 0.1113172 | 2613.805 | 1.0068841 |
| eta_3,4 | 0.0404884 | 0.0075785 | 0.0269883 | 0.0563357 | 5971.339 | 1.0055241 |
| eta_3,5 | 0.0917964 | 0.0119461 | 0.0700063 | 0.1167718 | 7054.648 | 1.0068565 |
| eta_3,6 | 0.0798952 | 0.0111693 | 0.0598014 | 0.1031602 | 5931.224 | 1.0029375 |
| eta_3,7 | 0.1197467 | 0.0153175 | 0.0920870 | 0.1513910 | 5489.562 | 1.0067623 |
| eta_3,8 | 0.0637250 | 0.0116761 | 0.0428377 | 0.0877230 | 6097.933 | 1.0091759 |
| eta_3,9 | 0.0388968 | 0.0076384 | 0.0255485 | 0.0554151 | 6017.150 | 1.0030437 |
| eta_3,10 | 0.0600447 | 0.0095259 | 0.0426815 | 0.0795956 | 6299.575 | 1.0074894 |
| eta_3,11 | 0.0045462 | 0.0024247 | 0.0010791 | 0.0104027 | 6020.425 | 1.0033211 |
| eta_3,12 | 0.1707301 | 0.0195200 | 0.1343665 | 0.2108152 | 4885.345 | 1.0043009 |
| eta_4,1 | 0.1915069 | 0.0223303 | 0.1495446 | 0.2359133 | 5664.658 | 1.0074709 |
| eta_4,2 | 0.0659964 | 0.0139735 | 0.0412331 | 0.0957366 | 4943.180 | 1.0030990 |
| eta_4,3 | 0.0694201 | 0.0132255 | 0.0459890 | 0.0970794 | 4660.584 | 1.0026316 |
| eta_4,4 | 0.0324879 | 0.0077159 | 0.0190230 | 0.0493597 | 6356.482 | 1.0039968 |
| eta_4,5 | 0.1188179 | 0.0155100 | 0.0899877 | 0.1511341 | 7145.694 | 1.0058835 |
| eta_4,6 | 0.1515229 | 0.0192782 | 0.1159756 | 0.1907304 | 6159.288 | 1.0071740 |
| eta_4,7 | 0.1492390 | 0.0198782 | 0.1121870 | 0.1904730 | 5458.479 | 1.0099481 |
| eta_4,8 | 0.0420032 | 0.0103643 | 0.0239748 | 0.0648166 | 6343.103 | 1.0042048 |
| eta_4,9 | 0.0248034 | 0.0072689 | 0.0128423 | 0.0407365 | 5164.468 | 1.0053504 |
| eta_4,10 | 0.0260843 | 0.0065822 | 0.0145563 | 0.0405519 | 7815.067 | 1.0020989 |

Table 26: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| eta_4,11 | 0.0133256 | 0.0049033 | 0.0054035 | 0.0243162 | 6051.999 | 1.0090998 |
| eta_4,12 | 0.1147923 | 0.0177266 | 0.0820298 | 0.1514071 | 5682.398 | 1.0058770 |
| eta_5,1 | 0.1388316 | 0.0199274 | 0.1014299 | 0.1805938 | 4725.693 | 1.0033124 |
| eta_5,2 | 0.0538044 | 0.0128334 | 0.0317981 | 0.0806527 | 5813.754 | 1.0041672 |
| eta_5,3 | 0.0918829 | 0.0159981 | 0.0631335 | 0.1249842 | 4402.270 | 1.0055924 |
| eta_5,4 | 0.0250722 | 0.0068122 | 0.0137738 | 0.0399494 | 6930.445 | 1.0042885 |
| eta_5,5 | 0.1145834 | 0.0165175 | 0.0846423 | 0.1503015 | 6245.345 | 1.0037211 |
| eta_5,6 | 0.1562723 | 0.0197073 | 0.1202512 | 0.1967613 | 4528.891 | 1.0043431 |
| eta_5,7 | 0.1743750 | 0.0228039 | 0.1319360 | 0.2205453 | 4258.693 | 1.0081665 |
| eta_5,8 | 0.0540308 | 0.0125821 | 0.0323972 | 0.0815513 | 5637.266 | 1.0045527 |
| eta_5,9 | 0.0289445 | 0.0075582 | 0.0163869 | 0.0460942 | 6119.331 | 1.0038134 |
| eta_5,10 | 0.0524029 | 0.0104141 | 0.0337458 | 0.0748071 | 8211.280 | 1.0068490 |
| eta_5,11 | 0.0176121 | 0.0056482 | 0.0084470 | 0.0305104 | 6928.779 | 1.0064480 |
| eta_5,12 | 0.0921878 | 0.0167749 | 0.0634046 | 0.1277576 | 2743.141 | 1.0090618 |
| eta_6,1 | 0.1889749 | 0.0216830 | 0.1482292 | 0.2332625 | 5394.872 | 1.0054494 |
| eta_6,2 | 0.0494770 | 0.0110015 | 0.0305624 | 0.0727112 | 3426.032 | 1.0100280 |
| eta_6,3 | 0.0801240 | 0.0127077 | 0.0576251 | 0.1069626 | 5070.561 | 1.0046012 |
| eta_6,4 | 0.0198941 | 0.0049563 | 0.0113306 | 0.0307908 | 6961.024 | 1.0072843 |
| eta_6,5 | 0.1172120 | 0.0135698 | 0.0928377 | 0.1450984 | 5055.880 | 1.0081548 |
| eta_6,6 | 0.1454523 | 0.0172115 | 0.1139854 | 0.1814021 | 5421.514 | 1.0098370 |
| eta_6,7 | 0.1726195 | 0.0213475 | 0.1331310 | 0.2166076 | 2997.170 | 1.0031967 |
| eta_6,8 | 0.0713646 | 0.0144530 | 0.0464325 | 0.1029420 | 3637.975 | 1.0024536 |
| eta_6,9 | 0.0245955 | 0.0064646 | 0.0141586 | 0.0389724 | 4276.106 | 1.0021470 |
| eta_6,10 | 0.0318510 | 0.0064577 | 0.0204124 | 0.0453106 | 8808.377 | 1.0054858 |
| eta_6,11 | 0.0218701 | 0.0055162 | 0.0124692 | 0.0341115 | 6467.608 | 1.0061699 |
| eta_6,12 | 0.0765648 | 0.0130515 | 0.0536607 | 0.1061641 | 2451.078 | 1.0132804 |
| eta_7,1 | 0.1912282 | 0.0553372 | 0.0922378 | 0.3081783 | 5408.088 | 1.0147185 |
| eta_7,2 | 0.0812003 | 0.0397124 | 0.0215998 | 0.1724912 | 4109.950 | 1.0047580 |
| eta_7,3 | 0.0676456 | 0.0360740 | 0.0149732 | 0.1547172 | 4993.203 | 1.0059965 |
| eta_7,4 | 0.0233709 | 0.0190978 | 0.0012203 | 0.0711234 | 5089.955 | 1.0033084 |
| eta_7,5 | 0.0719597 | 0.0354863 | 0.0179724 | 0.1542410 | 4727.562 | 1.0032243 |
| eta_7,6 | 0.1157514 | 0.0448428 | 0.0436648 | 0.2151820 | 4754.771 | 1.0045544 |
| eta_7,7 | 0.1667613 | 0.0547497 | 0.0758691 | 0.2892741 | 5523.964 | 1.0033813 |
| eta_7,8 | 0.0969637 | 0.0447264 | 0.0290885 | 0.1993585 | 5449.654 | 1.0022634 |
| eta_7,9 | 0.0310844 | 0.0228895 | 0.0032197 | 0.0901254 | 5860.705 | 1.0034995 |
| eta_7,10 | 0.0809865 | 0.0360680 | 0.0254445 | 0.1634865 | 2810.469 | 1.0066048 |
| eta_7,11 | 0.0100973 | 0.0130660 | 0.0000147 | 0.0464764 | 3146.640 | 1.0041520 |
| eta_7,12 | 0.0629507 | 0.0335689 | 0.0146045 | 0.1428515 | 5616.421 | 1.0064569 |
| eta_8,1 | 0.2545609 | 0.0667360 | 0.1353896 | 0.3971548 | 6025.465 | 1.0068074 |
| eta_8,2 | 0.0975939 | 0.0437786 | 0.0294256 | 0.1949517 | 4308.229 | 1.0033380 |
| eta_8,3 | 0.0551655 | 0.0343553 | 0.0088375 | 0.1404993 | 5441.107 | 1.0019053 |
| eta_8,4 | 0.0535852 | 0.0334688 | 0.0088507 | 0.1324639 | 6308.181 | 1.0034882 |
| eta_8,5 | 0.1259620 | 0.0509444 | 0.0426957 | 0.2431505 | 5605.574 | 1.0063291 |
| eta_8,6 | 0.0845802 | 0.0422948 | 0.0220447 | 0.1867180 | 3863.918 | 1.0136798 |
| eta_8,7 | 0.1113427 | 0.0487772 | 0.0337438 | 0.2205268 | 3727.623 | 1.0091123 |
| eta_8,8 | 0.0530914 | 0.0336278 | 0.0075079 | 0.1342844 | 3688.490 | 1.0043849 |
| eta_8,9 | 0.0163655 | 0.0191391 | 0.0000960 | 0.0698933 | 2050.233 | 1.0085785 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| eta__8,10 | 0.0551811 | 0.0343231 | 0.0095836 | 0.1407558 | 4578.036 | 1.0021010 |
| eta__8,11 | 0.0123275 | 0.0156690 | 0.0000141 | 0.0551154 | 3041.860 | 1.0042367 |
| eta__8,12 | 0.0802441 | 0.0422230 | 0.0190690 | 0.1814609 | 5873.688 | 1.0041488 |
| eta__9,1 | 0.2881360 | 0.0551889 | 0.1852251 | 0.4001661 | 6312.791 | 1.0041190 |
| eta__9,2 | 0.0736599 | 0.0282389 | 0.0273395 | 0.1386852 | 4761.963 | 1.0030678 |
| eta__9,3 | 0.0251551 | 0.0162817 | 0.0032168 | 0.0655253 | 3737.125 | 1.0038438 |
| eta__9,4 | 0.0625798 | 0.0262583 | 0.0217988 | 0.1271095 | 5058.412 | 1.0039276 |
| eta__9,5 | 0.1278759 | 0.0388391 | 0.0611569 | 0.2118810 | 4808.248 | 1.0118136 |
| eta__9,6 | 0.1008151 | 0.0337483 | 0.0448269 | 0.1754728 | 5608.336 | 1.0056264 |
| eta__9,7 | 0.1279943 | 0.0380309 | 0.0652538 | 0.2109959 | 5860.979 | 1.0037534 |
| eta__9,8 | 0.0270168 | 0.0177358 | 0.0035676 | 0.0714417 | 3891.062 | 1.0038140 |
| eta__9,9 | 0.0269295 | 0.0160099 | 0.0047039 | 0.0655371 | 5001.995 | 1.0054105 |
| eta__9,10 | 0.0552413 | 0.0251316 | 0.0170089 | 0.1153343 | 5545.254 | 1.0063773 |
| eta__9,11 | 0.0162281 | 0.0129805 | 0.0012049 | 0.0494916 | 4585.902 | 1.0011388 |
| eta__9,12 | 0.0683683 | 0.0268754 | 0.0251363 | 0.1278929 | 4756.124 | 1.0051755 |
| eta__10,1 | 0.3430066 | 0.0407353 | 0.2637728 | 0.4222854 | 5516.698 | 1.0069055 |
| eta__10,2 | 0.0311252 | 0.0131361 | 0.0109389 | 0.0613205 | 4036.950 | 1.0078652 |
| eta__10,3 | 0.0542165 | 0.0170369 | 0.0258078 | 0.0927923 | 5619.713 | 0.9998828 |
| eta__10,4 | 0.0789526 | 0.0193307 | 0.0445836 | 0.1199777 | 6564.487 | 1.0074968 |
| eta__10,5 | 0.0670388 | 0.0171464 | 0.0379750 | 0.1041209 | 7172.527 | 1.0056829 |
| eta__10,6 | 0.0795527 | 0.0194651 | 0.0458257 | 0.1213106 | 5637.347 | 1.0007701 |
| eta__10,7 | 0.1042471 | 0.0243487 | 0.0627839 | 0.1570930 | 5151.601 | 1.0030886 |
| eta__10,8 | 0.1188756 | 0.0272628 | 0.0698938 | 0.1776908 | 4710.711 | 1.0092885 |
| eta__10,9 | 0.0033427 | 0.0039861 | 0.0000115 | 0.0146216 | 3203.530 | 1.0028600 |
| eta__10,10 | 0.0106227 | 0.0064412 | 0.0018507 | 0.0261110 | 4890.106 | 1.0061931 |
| eta__10,11 | 0.0105671 | 0.0064545 | 0.0019349 | 0.0262977 | 5166.657 | 1.0072181 |
| eta__10,12 | 0.0984526 | 0.0217747 | 0.0606292 | 0.1457599 | 6390.344 | 1.0026677 |
| eta__11,1 | 0.2842580 | 0.0230587 | 0.2406283 | 0.3319478 | 4469.161 | 1.0071813 |
| eta__11,2 | 0.1557968 | 0.0177905 | 0.1224672 | 0.1915985 | 5617.277 | 1.0114884 |
| eta__11,3 | 0.0393912 | 0.0088568 | 0.0236903 | 0.0578644 | 6530.176 | 1.0056051 |
| eta__11,4 | 0.0300513 | 0.0062891 | 0.0189669 | 0.0436988 | 6087.947 | 1.0078145 |
| eta__11,5 | 0.0493271 | 0.0086518 | 0.0339276 | 0.0676213 | 6652.943 | 1.0057547 |
| eta__11,6 | 0.1066450 | 0.0133064 | 0.0823363 | 0.1339912 | 5837.320 | 1.0073702 |
| eta__11,7 | 0.1227484 | 0.0150664 | 0.0945997 | 0.1543072 | 5848.434 | 1.0048006 |
| eta__11,8 | 0.0866484 | 0.0123225 | 0.0634325 | 0.1119867 | 6279.469 | 1.0047091 |
| eta__11,9 | 0.0059818 | 0.0031321 | 0.0014276 | 0.0135404 | 6099.374 | 1.0051767 |
| eta__11,10 | 0.0461697 | 0.0083158 | 0.0313403 | 0.0640297 | 4735.030 | 1.0049339 |
| eta__11,11 | 0.0132390 | 0.0046146 | 0.0057928 | 0.0236428 | 5899.303 | 1.0090978 |
| eta__11,12 | 0.0597433 | 0.0107138 | 0.0406500 | 0.0824842 | 5594.323 | 1.0034419 |
| eta__12,1 | 0.2158764 | 0.0151777 | 0.1863601 | 0.2464623 | 4981.869 | 1.0021976 |
| eta__12,2 | 0.2807566 | 0.0177286 | 0.2473912 | 0.3158422 | 3155.310 | 1.0076770 |
| eta__12,3 | 0.0595265 | 0.0083566 | 0.0443142 | 0.0763827 | 5501.722 | 1.0080021 |
| eta__12,4 | 0.0215285 | 0.0041000 | 0.0142184 | 0.0302980 | 6892.498 | 1.0053049 |
| eta__12,5 | 0.0521011 | 0.0067746 | 0.0383922 | 0.0660448 | 2512.937 | 1.0073441 |
| eta__12,6 | 0.0707852 | 0.0085292 | 0.0551234 | 0.0887159 | 5313.716 | 1.0066695 |
| eta__12,7 | 0.1153902 | 0.0113221 | 0.0943774 | 0.1385710 | 6707.067 | 1.0066746 |
| eta__12,8 | 0.0796048 | 0.0093530 | 0.0625161 | 0.0994110 | 6287.910 | 1.0015920 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| eta__12,9 | 0.0071553 | 0.0025790 | 0.0030430 | 0.0129049 | 5936.430 | 1.0007481 |
| eta__12,10 | 0.0404345 | 0.0060801 | 0.0292557 | 0.0528534 | 6853.446 | 1.0077384 |
| eta__12,11 | 0.0048530 | 0.0020457 | 0.0017289 | 0.0096931 | 7078.889 | 1.0084540 |
| eta__12,12 | 0.0519879 | 0.0074204 | 0.0386321 | 0.0674129 | 5466.693 | 1.0039563 |
| eta__13,1 | 0.2080590 | 0.0165456 | 0.1759821 | 0.2404335 | 1875.475 | 1.0161718 |
| eta__13,2 | 0.2730977 | 0.0187773 | 0.2369809 | 0.3098233 | 4689.655 | 1.0081498 |
| eta__13,3 | 0.0738387 | 0.0094962 | 0.0562030 | 0.0931289 | 4635.598 | 1.0087561 |
| eta__13,4 | 0.0235809 | 0.0049405 | 0.0147606 | 0.0342374 | 5896.619 | 1.0047852 |
| eta__13,5 | 0.0707707 | 0.0088908 | 0.0545543 | 0.0892897 | 6474.243 | 1.0062109 |
| eta__13,6 | 0.0763301 | 0.0094053 | 0.0588911 | 0.0950647 | 6226.124 | 1.0032117 |
| eta__13,7 | 0.0911847 | 0.0107142 | 0.0706664 | 0.1129712 | 6055.795 | 1.0040642 |
| eta__13,8 | 0.0717325 | 0.0102987 | 0.0531609 | 0.0932111 | 4039.495 | 1.0063580 |
| eta__13,9 | 0.0051737 | 0.0024438 | 0.0015435 | 0.0108617 | 3296.189 | 1.0125514 |
| eta__13,10 | 0.0597694 | 0.0078764 | 0.0454991 | 0.0763672 | 6176.762 | 1.0016804 |
| eta__13,11 | 0.0087199 | 0.0029631 | 0.0039576 | 0.0153524 | 9297.984 | 1.0074967 |
| eta__13,12 | 0.0377426 | 0.0064817 | 0.0262803 | 0.0517338 | 6049.404 | 1.0043159 |
| eta__14,1 | 0.1941324 | 0.0236632 | 0.1514299 | 0.2416623 | 5077.391 | 1.0056314 |
| eta__14,2 | 0.2794716 | 0.0294767 | 0.2250598 | 0.3385315 | 5064.578 | 1.0082607 |
| eta__14,3 | 0.0873206 | 0.0158617 | 0.0581588 | 0.1199091 | 5771.611 | 1.0047606 |
| eta__14,4 | 0.0323159 | 0.0085558 | 0.0181744 | 0.0513814 | 5234.589 | 1.0074758 |
| eta__14,5 | 0.0656996 | 0.0125941 | 0.0435138 | 0.0920893 | 6216.034 | 1.0029490 |
| eta__14,6 | 0.0781431 | 0.0153840 | 0.0505386 | 0.1105087 | 6537.424 | 1.0044530 |
| eta__14,7 | 0.0856673 | 0.0160486 | 0.0565408 | 0.1191473 | 5510.550 | 1.0068940 |
| eta__14,8 | 0.0867393 | 0.0167972 | 0.0575842 | 0.1214277 | 5256.226 | 1.0044236 |
| eta__14,9 | 0.0074342 | 0.0044854 | 0.0014678 | 0.0193246 | 2332.084 | 1.0111985 |
| eta__14,10 | 0.0516320 | 0.0114281 | 0.0317245 | 0.0765772 | 6970.446 | 1.0056847 |
| eta__14,11 | 0.0040258 | 0.0031533 | 0.0003355 | 0.0118509 | 5310.263 | 1.0050834 |
| eta__14,12 | 0.0274182 | 0.0088860 | 0.0126264 | 0.0468231 | 5722.883 | 1.0129112 |
| eta__15,1 | 0.3680355 | 0.0727317 | 0.2348176 | 0.5195259 | 5575.780 | 1.0066612 |
| eta__15,2 | 0.1382644 | 0.0475523 | 0.0592885 | 0.2411203 | 5579.653 | 1.0079235 |
| eta__15,3 | 0.0625874 | 0.0329389 | 0.0144813 | 0.1381011 | 4838.802 | 1.0052383 |
| eta__15,4 | 0.0233478 | 0.0186897 | 0.0014800 | 0.0707582 | 5396.900 | 1.0044346 |
| eta__15,5 | 0.0495290 | 0.0278108 | 0.0098283 | 0.1182308 | 5673.911 | 1.0028118 |
| eta__15,6 | 0.0869117 | 0.0382546 | 0.0279602 | 0.1752835 | 5787.815 | 1.0057810 |
| eta__15,7 | 0.1335377 | 0.0468689 | 0.0565621 | 0.2352261 | 5042.351 | 1.0050178 |
| eta__15,8 | 0.0450513 | 0.0297055 | 0.0056748 | 0.1156616 | 1724.569 | 1.0100112 |
| eta__15,9 | 0.0131566 | 0.0153802 | 0.0000409 | 0.0549912 | 3554.634 | 1.0039499 |
| eta__15,10 | 0.0257117 | 0.0205727 | 0.0014271 | 0.0777443 | 4965.544 | 1.0078611 |
| eta__15,11 | 0.0099342 | 0.0125122 | 0.0000189 | 0.0455671 | 3771.236 | 1.0028835 |
| eta__15,12 | 0.0439327 | 0.0278479 | 0.0059829 | 0.1135574 | 4749.529 | 1.0032130 |
| eta__16,1 | 0.2729303 | 0.0708913 | 0.1486476 | 0.4204110 | 6401.750 | 1.0043993 |
| eta__16,2 | 0.1035585 | 0.0482160 | 0.0300733 | 0.2129025 | 3658.489 | 1.0062741 |
| eta__16,3 | 0.0806982 | 0.0422503 | 0.0180161 | 0.1768514 | 4814.174 | 1.0068945 |
| eta__16,4 | 0.0595108 | 0.0372986 | 0.0095536 | 0.1486905 | 3845.551 | 1.0094638 |
| eta__16,5 | 0.0717288 | 0.0408051 | 0.0138857 | 0.1694398 | 5627.490 | 1.0037774 |
| eta__16,6 | 0.1156959 | 0.0503641 | 0.0384472 | 0.2352364 | 4243.048 | 1.0064626 |

Table 26: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| eta__16,7 | 0.1144277 | 0.0497635 | 0.0351679 | 0.2261376 | 4643.709 | 1.0006214 |
| eta__16,8 | 0.0561105 | 0.0354803 | 0.0075236 | 0.1406321 | 4835.095 | 1.0016049 |
| eta__16,9 | 0.0181865 | 0.0198054 | 0.0001114 | 0.0734114 | 2480.262 | 1.0060050 |
| eta__16,10 | 0.0372144 | 0.0301540 | 0.0026072 | 0.1127453 | 4089.631 | 1.0040129 |
| eta__16,11 | 0.0138533 | 0.0181897 | 0.0000140 | 0.0651314 | 2730.545 | 1.0080000 |
| eta__16,12 | 0.0560851 | 0.0363948 | 0.0077157 | 0.1473711 | 4895.374 | 1.0055984 |
| eta__17,1 | 0.3821688 | 0.0543897 | 0.2750977 | 0.4892547 | 5550.176 | 1.0042520 |
| eta__17,2 | 0.2864332 | 0.0512082 | 0.1915289 | 0.3928272 | 6109.153 | 1.0038396 |
| eta__17,3 | 0.0223539 | 0.0150431 | 0.0028930 | 0.0606053 | 4727.014 | 1.0047532 |
| eta__17,4 | 0.0108923 | 0.0092532 | 0.0005516 | 0.0343933 | 4181.078 | 1.0019885 |
| eta__17,5 | 0.0320988 | 0.0161610 | 0.0081166 | 0.0703008 | 5190.813 | 1.0047946 |
| eta__17,6 | 0.0935395 | 0.0296425 | 0.0440874 | 0.1586094 | 5569.810 | 1.0076167 |
| eta__17,7 | 0.1031144 | 0.0315169 | 0.0496647 | 0.1738554 | 5496.336 | 1.0047105 |
| eta__17,8 | 0.0241916 | 0.0161719 | 0.0031940 | 0.0632894 | 3697.341 | 1.0109917 |
| eta__17,9 | 0.0066166 | 0.0076049 | 0.0000379 | 0.0275648 | 3080.919 | 1.0052988 |
| eta__17,10 | 0.0119804 | 0.0096273 | 0.0007604 | 0.0362705 | 4109.997 | 1.0022987 |
| eta__17,11 | 0.0046851 | 0.0062272 | 0.0000050 | 0.0218321 | 3321.351 | 1.0016104 |
| eta__17,12 | 0.0219255 | 0.0148758 | 0.0029379 | 0.0592244 | 1361.036 | 1.0111219 |
| eta__18,1 | 0.3998249 | 0.0432178 | 0.3146660 | 0.4854124 | 6067.560 | 1.0055185 |
| eta__18,2 | 0.1823506 | 0.0323790 | 0.1233597 | 0.2490913 | 7516.966 | 1.0040311 |
| eta__18,3 | 0.0736476 | 0.0205613 | 0.0388828 | 0.1185901 | 5557.952 | 1.0035135 |
| eta__18,4 | 0.0152535 | 0.0081397 | 0.0036892 | 0.0343880 | 5777.409 | 1.0076010 |
| eta__18,5 | 0.0424497 | 0.0141296 | 0.0193655 | 0.0744644 | 6307.596 | 1.0097896 |
| eta__18,6 | 0.0817020 | 0.0211258 | 0.0453154 | 0.1279278 | 5933.136 | 1.0048816 |
| eta__18,7 | 0.1056796 | 0.0258460 | 0.0617725 | 0.1625777 | 3655.837 | 1.0061139 |
| eta__18,8 | 0.0347269 | 0.0138306 | 0.0129958 | 0.0666541 | 6627.589 | 1.0073777 |
| eta__18,9 | 0.0038475 | 0.0044419 | 0.0000267 | 0.0157184 | 3142.507 | 1.0023626 |
| eta__18,10 | 0.0168924 | 0.0089484 | 0.0041272 | 0.0385228 | 6387.420 | 1.0029383 |
| eta__18,11 | 0.0078186 | 0.0066045 | 0.0006778 | 0.0256361 | 2011.596 | 1.0140347 |
| eta__18,12 | 0.0358069 | 0.0140309 | 0.0137012 | 0.0681290 | 5246.588 | 1.0017260 |
| eta__19,1 | 0.2789184 | 0.0450363 | 0.1949859 | 0.3726277 | 6272.303 | 1.0056659 |
| eta__19,2 | 0.1880747 | 0.0399633 | 0.1150625 | 0.2711190 | 6593.638 | 1.0058795 |
| eta__19,3 | 0.0674632 | 0.0242732 | 0.0284661 | 0.1224583 | 5761.223 | 1.0050769 |
| eta__19,4 | 0.0394866 | 0.0172602 | 0.0125823 | 0.0796665 | 2422.583 | 1.0082963 |
| eta__19,5 | 0.0533474 | 0.0195975 | 0.0218392 | 0.0969891 | 6643.929 | 1.0042617 |
| eta__19,6 | 0.0707364 | 0.0238834 | 0.0316016 | 0.1242896 | 6933.525 | 1.0069256 |
| eta__19,7 | 0.1435404 | 0.0346732 | 0.0829568 | 0.2173268 | 6881.435 | 1.0078797 |
| eta__19,8 | 0.0763636 | 0.0250933 | 0.0343644 | 0.1328484 | 6367.575 | 1.0062059 |
| eta__19,9 | 0.0061982 | 0.0069146 | 0.0000520 | 0.0251564 | 3962.755 | 1.0019666 |
| eta__19,10 | 0.0126986 | 0.0103676 | 0.0007769 | 0.0391122 | 3809.441 | 1.0061818 |
| eta__19,11 | 0.0045659 | 0.0057622 | 0.0000061 | 0.0213118 | 3663.886 | 1.0031746 |
| eta__19,12 | 0.0586065 | 0.0224178 | 0.0224630 | 0.1082640 | 6449.460 | 1.0037575 |

Table 27: Estimates for $\pi_{g,j}$, proportion of diet (consumed biomass) consisting of prey type j, for each group level g

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| pi_1,1 | 0.1643277 | 0.0582250 | 0.0688475 | 0.2953866 | 5072.406 | 1.002960 |
| pi_1,2 | 0.0654082 | 0.0339447 | 0.0158930 | 0.1454753 | 4975.505 | 1.004437 |
| pi_1,3 | 0.0508332 | 0.0324406 | 0.0066866 | 0.1291007 | 4619.690 | 1.003275 |
| pi_1,4 | 0.0502597 | 0.0443467 | 0.0025627 | 0.1674667 | 1208.227 | 1.014814 |
| pi_1,5 | 0.1941426 | 0.0696905 | 0.0788856 | 0.3494834 | 4450.564 | 1.002747 |
| pi_1,6 | 0.1862946 | 0.0666002 | 0.0719193 | 0.3317293 | 2372.892 | 1.005796 |
| pi_1,7 | 0.1286599 | 0.0484463 | 0.0512644 | 0.2410050 | 5080.256 | 1.003146 |
| pi_1,8 | 0.0231987 | 0.0158767 | 0.0028741 | 0.0631310 | 4343.156 | 1.002887 |
| pi_1,9 | 0.0395836 | 0.0304646 | 0.0038167 | 0.1218553 | 4173.061 | 1.003767 |
| pi_1,10 | 0.0319147 | 0.0208412 | 0.0052627 | 0.0851779 | 6113.671 | 1.001713 |
| pi_1,11 | 0.0245723 | 0.0301982 | 0.0000683 | 0.1043762 | 4122.666 | 1.001291 |
| pi_1,12 | 0.0408049 | 0.0273152 | 0.0056000 | 0.1098265 | 5456.032 | 1.002274 |
| pi_2,1 | 0.1550266 | 0.0233063 | 0.1128537 | 0.2037264 | 3281.669 | 1.006582 |
| pi_2,2 | 0.0872454 | 0.0150469 | 0.0604632 | 0.1189700 | 5172.071 | 1.002542 |
| pi_2,3 | 0.1022594 | 0.0184837 | 0.0699469 | 0.1411012 | 4585.180 | 1.004188 |
| pi_2,4 | 0.1109246 | 0.0198745 | 0.0758407 | 0.1530674 | 4043.738 | 1.002148 |
| pi_2,5 | 0.1315597 | 0.0215707 | 0.0932146 | 0.1757732 | 3229.212 | 1.004771 |
| pi_2,6 | 0.0906174 | 0.0173985 | 0.0613099 | 0.1290384 | 3933.781 | 1.002947 |
| pi_2,7 | 0.0970609 | 0.0175059 | 0.0663327 | 0.1346127 | 4272.198 | 1.001257 |
| pi_2,8 | 0.0259249 | 0.0058162 | 0.0159101 | 0.0388014 | 3808.479 | 1.006469 |
| pi_2,9 | 0.0848342 | 0.0174441 | 0.0552422 | 0.1228772 | 3383.184 | 1.004225 |
| pi_2,10 | 0.0505670 | 0.0093151 | 0.0341824 | 0.0701001 | 5671.810 | 1.004700 |
| pi_2,11 | 0.0227583 | 0.0081826 | 0.0098432 | 0.0415088 | 5537.990 | 1.008298 |
| pi_2,12 | 0.0412214 | 0.0098526 | 0.0244374 | 0.0634664 | 4893.553 | 1.005011 |
| pi_3,1 | 0.1636862 | 0.0257428 | 0.1157909 | 0.2176027 | 1696.814 | 1.010551 |
| pi_3,2 | 0.0658752 | 0.0122289 | 0.0443306 | 0.0929320 | 5485.222 | 1.006782 |
| pi_3,3 | 0.1083767 | 0.0203771 | 0.0728599 | 0.1539740 | 1427.843 | 1.013074 |
| pi_3,4 | 0.0854815 | 0.0184585 | 0.0527715 | 0.1247307 | 3977.128 | 1.003449 |
| pi_3,5 | 0.1393416 | 0.0236383 | 0.0970160 | 0.1893242 | 3909.203 | 1.004331 |
| pi_3,6 | 0.0734165 | 0.0146532 | 0.0484192 | 0.1053271 | 4334.389 | 1.002431 |
| pi_3,7 | 0.0828179 | 0.0160452 | 0.0553273 | 0.1172042 | 3307.494 | 1.006024 |
| pi_3,8 | 0.0254528 | 0.0057884 | 0.0159128 | 0.0382464 | 4933.872 | 1.006221 |
| pi_3,9 | 0.0493227 | 0.0117536 | 0.0294942 | 0.0757644 | 3531.100 | 1.005100 |
| pi_3,10 | 0.0451387 | 0.0089122 | 0.0293872 | 0.0647507 | 4939.487 | 1.003510 |
| pi_3,11 | 0.0114588 | 0.0060886 | 0.0027307 | 0.0265648 | 6068.467 | 1.002733 |
| pi_3,12 | 0.1496314 | 0.0247656 | 0.1054260 | 0.2025670 | 2995.533 | 1.005483 |
| pi_4,1 | 0.1851003 | 0.0291693 | 0.1324154 | 0.2459697 | 5955.238 | 1.006119 |
| pi_4,2 | 0.0465108 | 0.0113022 | 0.0275616 | 0.0711765 | 5013.069 | 1.004658 |
| pi_4,3 | 0.0737342 | 0.0166820 | 0.0456933 | 0.1103632 | 4415.653 | 1.003305 |
| pi_4,4 | 0.0669524 | 0.0176906 | 0.0372849 | 0.1066455 | 5366.059 | 1.003067 |
| pi_4,5 | 0.1707541 | 0.0279174 | 0.1191355 | 0.2280639 | 4445.676 | 1.006191 |
| pi_4,6 | 0.1657457 | 0.0283115 | 0.1151004 | 0.2244773 | 3319.206 | 1.005672 |
| pi_4,7 | 0.1015895 | 0.0200745 | 0.0669730 | 0.1446652 | 5228.623 | 1.001739 |
| pi_4,8 | 0.0173830 | 0.0049242 | 0.0093448 | 0.0287361 | 6123.410 | 1.002264 |
| pi_4,9 | 0.0291591 | 0.0096750 | 0.0140385 | 0.0521431 | 4170.335 | 1.002471 |

Table 27: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| pi_4,10 | 0.0183788 | 0.0053695 | 0.0095830 | 0.0305528 | 6267.660 | 1.002517 |
| pi_4,11 | 0.0318253 | 0.0116060 | 0.0131887 | 0.0581931 | 5725.864 | 1.009399 |
| pi_4,12 | 0.0928670 | 0.0188947 | 0.0601703 | 0.1343410 | 3558.526 | 1.005144 |
| pi_5,1 | 0.1295221 | 0.0235694 | 0.0878427 | 0.1800940 | 5294.734 | 1.002750 |
| pi_5,2 | 0.0444537 | 0.0114879 | 0.0250363 | 0.0695985 | 5671.099 | 1.004962 |
| pi_5,3 | 0.1135764 | 0.0232395 | 0.0724493 | 0.1616204 | 3469.444 | 1.006662 |
| pi_5,4 | 0.0502314 | 0.0148909 | 0.0260954 | 0.0835649 | 5242.906 | 1.004776 |
| pi_5,5 | 0.1690359 | 0.0286054 | 0.1177382 | 0.2316852 | 4466.526 | 1.004902 |
| pi_5,6 | 0.1595007 | 0.0270980 | 0.1087188 | 0.2145244 | 2028.931 | 1.009526 |
| pi_5,7 | 0.1141756 | 0.0215252 | 0.0760445 | 0.1606378 | 3908.639 | 1.002653 |
| pi_5,8 | 0.0256747 | 0.0067915 | 0.0144044 | 0.0403230 | 5058.331 | 1.005220 |
| pi_5,9 | 0.0337062 | 0.0103317 | 0.0170852 | 0.0573227 | 3476.373 | 1.005313 |
| pi_5,10 | 0.0383804 | 0.0090338 | 0.0227634 | 0.0586866 | 7077.376 | 1.001734 |
| pi_5,11 | 0.0415789 | 0.0131358 | 0.0200173 | 0.0707719 | 6837.956 | 1.004282 |
| pi_5,12 | 0.0801640 | 0.0171638 | 0.0501927 | 0.1159746 | 4106.125 | 1.003142 |
| pi_6,1 | 0.1906010 | 0.0289252 | 0.1371704 | 0.2492654 | 5251.825 | 1.001557 |
| pi_6,2 | 0.0449751 | 0.0106664 | 0.0269350 | 0.0684731 | 4155.753 | 1.006672 |
| pi_6,3 | 0.0889562 | 0.0172273 | 0.0597483 | 0.1258765 | 3100.645 | 1.008236 |
| pi_6,4 | 0.0411536 | 0.0115495 | 0.0220436 | 0.0666106 | 5175.072 | 1.003935 |
| pi_6,5 | 0.1707618 | 0.0257741 | 0.1240179 | 0.2259537 | 4211.496 | 1.003116 |
| pi_6,6 | 0.1463416 | 0.0248570 | 0.1018774 | 0.1983635 | 4243.397 | 1.002753 |
| pi_6,7 | 0.1057059 | 0.0201221 | 0.0700491 | 0.1484196 | 4568.222 | 1.001539 |
| pi_6,8 | 0.0312767 | 0.0075720 | 0.0185944 | 0.0482085 | 3789.101 | 1.001884 |
| pi_6,9 | 0.0287598 | 0.0088449 | 0.0152975 | 0.0490203 | 2960.597 | 1.004166 |
| pi_6,10 | 0.0222514 | 0.0056034 | 0.0129122 | 0.0349180 | 6744.636 | 1.001321 |
| pi_6,11 | 0.0542748 | 0.0134860 | 0.0307641 | 0.0836803 | 6661.419 | 1.006364 |
| pi_6,12 | 0.0749421 | 0.0156640 | 0.0470968 | 0.1088578 | 4232.723 | 1.003834 |
| pi_7,1 | 0.1972207 | 0.0623728 | 0.0903174 | 0.3380173 | 5748.339 | 1.007905 |
| pi_7,2 | 0.0683914 | 0.0355570 | 0.0169972 | 0.1524146 | 4147.845 | 1.005543 |
| pi_7,3 | 0.0830966 | 0.0451143 | 0.0178311 | 0.1906551 | 4944.930 | 1.006541 |
| pi_7,4 | 0.0512761 | 0.0413004 | 0.0028241 | 0.1569632 | 4966.675 | 1.003493 |
| pi_7,5 | 0.1136122 | 0.0552595 | 0.0284341 | 0.2430847 | 4651.019 | 1.003493 |
| pi_7,6 | 0.1298166 | 0.0531812 | 0.0459646 | 0.2534396 | 4999.294 | 1.005755 |
| pi_7,7 | 0.1145979 | 0.0441705 | 0.0475551 | 0.2168273 | 5119.655 | 1.004494 |
| pi_7,8 | 0.0506649 | 0.0262299 | 0.0141160 | 0.1151125 | 5642.174 | 1.001733 |
| pi_7,9 | 0.0409336 | 0.0304728 | 0.0042805 | 0.1175177 | 5403.011 | 1.003877 |
| pi_7,10 | 0.0640179 | 0.0315177 | 0.0185511 | 0.1376507 | 3358.968 | 1.006862 |
| pi_7,11 | 0.0256158 | 0.0320709 | 0.0000393 | 0.1173367 | 3199.245 | 1.004003 |
| pi_7,12 | 0.0607564 | 0.0339997 | 0.0130489 | 0.1435346 | 5283.747 | 1.010106 |
| pi_8,1 | 0.2393301 | 0.0704155 | 0.1182209 | 0.3922178 | 6164.776 | 1.004085 |
| pi_8,2 | 0.0751033 | 0.0367783 | 0.0204112 | 0.1621114 | 4076.410 | 1.002288 |
| pi_8,3 | 0.0614444 | 0.0396487 | 0.0093563 | 0.1605441 | 5352.992 | 1.002481 |
| pi_8,4 | 0.1062733 | 0.0631185 | 0.0177037 | 0.2528888 | 6171.225 | 1.002908 |
| pi_8,5 | 0.1774763 | 0.0714355 | 0.0594998 | 0.3353792 | 5289.871 | 1.007312 |
| pi_8,6 | 0.0864441 | 0.0445798 | 0.0214482 | 0.1894010 | 4957.825 | 1.006548 |
| pi_8,7 | 0.0725270 | 0.0358182 | 0.0204270 | 0.1572031 | 3653.163 | 1.005799 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| pi_8,8 | 0.0235760 | 0.0162019 | 0.0030364 | 0.0636589 | 3922.837 | 1.003011 |
| pi_8,9 | 0.0190714 | 0.0228388 | 0.0001117 | 0.0823515 | 1994.567 | 1.009604 |
| pi_8,10 | 0.0395639 | 0.0263583 | 0.0063965 | 0.1055362 | 5105.008 | 1.001278 |
| pi_8,11 | 0.0284891 | 0.0349706 | 0.0000366 | 0.1253278 | 3054.070 | 1.004118 |
| pi_8,12 | 0.0707010 | 0.0394913 | 0.0156735 | 0.1690108 | 6035.559 | 1.004805 |
| pi_9,1 | 0.2675282 | 0.0595805 | 0.1596513 | 0.3926196 | 5776.016 | 1.003693 |
| pi_9,2 | 0.0547011 | 0.0229293 | 0.0189318 | 0.1081751 | 4715.790 | 1.003731 |
| pi_9,3 | 0.0267679 | 0.0177702 | 0.0035373 | 0.0703392 | 3772.114 | 1.003162 |
| pi_9,4 | 0.1218514 | 0.0502156 | 0.0427886 | 0.2373241 | 4742.032 | 1.002920 |
| pi_9,5 | 0.1761676 | 0.0553589 | 0.0812777 | 0.2943023 | 4431.095 | 1.012471 |
| pi_9,6 | 0.0998145 | 0.0369427 | 0.0407425 | 0.1842539 | 4810.391 | 1.006486 |
| pi_9,7 | 0.0805387 | 0.0284973 | 0.0367337 | 0.1460491 | 4961.727 | 1.004473 |
| pi_9,8 | 0.0114936 | 0.0080231 | 0.0014856 | 0.0324905 | 3868.171 | 1.003587 |
| pi_9,9 | 0.0311526 | 0.0194067 | 0.0053227 | 0.0803103 | 4611.746 | 1.006039 |
| pi_9,10 | 0.0351138 | 0.0175194 | 0.0098081 | 0.0774034 | 6082.121 | 1.006609 |
| pi_9,11 | 0.0367492 | 0.0287542 | 0.0027596 | 0.1096059 | 4729.330 | 1.001144 |
| pi_9,12 | 0.0581215 | 0.0248259 | 0.0205190 | 0.1155492 | 4520.547 | 1.002397 |
| pi_10,1 | 0.3308139 | 0.0482599 | 0.2384120 | 0.4280353 | 5838.904 | 1.005120 |
| pi_10,2 | 0.0240242 | 0.0107225 | 0.0082373 | 0.0494576 | 4457.880 | 1.005678 |
| pi_10,3 | 0.0591937 | 0.0200858 | 0.0263572 | 0.1061728 | 5153.221 | 1.001835 |
| pi_10,4 | 0.1635611 | 0.0405831 | 0.0913022 | 0.2499820 | 5676.736 | 1.002046 |
| pi_10,5 | 0.0975224 | 0.0280837 | 0.0501020 | 0.1594031 | 5008.605 | 1.002650 |
| pi_10,6 | 0.0903146 | 0.0256172 | 0.0483523 | 0.1469869 | 2986.312 | 1.007678 |
| pi_10,7 | 0.0684421 | 0.0197031 | 0.0370226 | 0.1136425 | 5691.707 | 1.005272 |
| pi_10,8 | 0.0468900 | 0.0134087 | 0.0251697 | 0.0779646 | 4720.306 | 1.002923 |
| pi_10,9 | 0.0039351 | 0.0048115 | 0.0000138 | 0.0173726 | 3205.010 | 1.002762 |
| pi_10,10 | 0.0077604 | 0.0049731 | 0.0012358 | 0.0197444 | 3149.712 | 1.012642 |
| pi_10,11 | 0.0250493 | 0.0150967 | 0.0047384 | 0.0613881 | 5227.354 | 1.007687 |
| pi_10,12 | 0.0824931 | 0.0220625 | 0.0459704 | 0.1329665 | 4876.842 | 1.002018 |
| pi_11,1 | 0.2696348 | 0.0324220 | 0.2090139 | 0.3360908 | 4423.911 | 1.002824 |
| pi_11,2 | 0.1286310 | 0.0191084 | 0.0942246 | 0.1689550 | 4559.264 | 1.005595 |
| pi_11,3 | 0.0457541 | 0.0117959 | 0.0262367 | 0.0721394 | 4702.771 | 1.008390 |
| pi_11,4 | 0.0658956 | 0.0156648 | 0.0395473 | 0.0997235 | 4530.741 | 1.004123 |
| pi_11,5 | 0.0747525 | 0.0156961 | 0.0478638 | 0.1076268 | 4424.265 | 1.004358 |
| pi_11,6 | 0.1213306 | 0.0208847 | 0.0852888 | 0.1657874 | 3270.765 | 1.005381 |
| pi_11,7 | 0.1112046 | 0.0204234 | 0.0744495 | 0.1553656 | 3487.590 | 1.006069 |
| pi_11,8 | 0.0497400 | 0.0094064 | 0.0331956 | 0.0703922 | 4805.983 | 1.006352 |
| pi_11,9 | 0.0069711 | 0.0039479 | 0.0015763 | 0.0167249 | 5144.071 | 1.003314 |
| pi_11,10 | 0.0360150 | 0.0077380 | 0.0229972 | 0.0533566 | 4501.197 | 1.004242 |
| pi_11,11 | 0.0340261 | 0.0116723 | 0.0150301 | 0.0599898 | 5905.989 | 1.009778 |
| pi_11,12 | 0.0560446 | 0.0127730 | 0.0350044 | 0.0842229 | 4033.766 | 1.003792 |
| pi_12,1 | 0.2271975 | 0.0265512 | 0.1778683 | 0.2820170 | 4175.419 | 1.003714 |
| pi_12,2 | 0.2725393 | 0.0266401 | 0.2236033 | 0.3260027 | 3700.385 | 1.003645 |
| pi_12,3 | 0.0660530 | 0.0123238 | 0.0445102 | 0.0920305 | 3648.368 | 1.004487 |
| pi_12,4 | 0.0478886 | 0.0107559 | 0.0294988 | 0.0710399 | 4759.756 | 1.003545 |
| pi_12,5 | 0.0814996 | 0.0145830 | 0.0554563 | 0.1127226 | 3796.254 | 1.005166 |
| pi_12,6 | 0.0858766 | 0.0146686 | 0.0598674 | 0.1169963 | 4702.210 | 1.004739 |

Table 27: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| pi_12,7 | 0.0728636 | 0.0128717 | 0.0506659 | 0.1012971 | 3587.644 | 1.006317 |
| pi_12,8 | 0.0432692 | 0.0073667 | 0.0310266 | 0.0591129 | 3886.142 | 1.002965 |
| pi_12,9 | 0.0080365 | 0.0032507 | 0.0031125 | 0.0156701 | 4149.945 | 1.002314 |
| pi_12,10 | 0.0286152 | 0.0055348 | 0.0191251 | 0.0407180 | 4814.663 | 1.006145 |
| pi_12,11 | 0.0126447 | 0.0053293 | 0.0044563 | 0.0252449 | 7233.089 | 1.010788 |
| pi_12,12 | 0.0535163 | 0.0105945 | 0.0349374 | 0.0757827 | 3149.801 | 1.005235 |
| pi_13,1 | 0.2032299 | 0.0255788 | 0.1548747 | 0.2557232 | 1730.268 | 1.013936 |
| pi_13,2 | 0.2347349 | 0.0255302 | 0.1872502 | 0.2859444 | 3836.867 | 1.001809 |
| pi_13,3 | 0.0849993 | 0.0146928 | 0.0590497 | 0.1156410 | 3345.271 | 1.004555 |
| pi_13,4 | 0.0562000 | 0.0134133 | 0.0329327 | 0.0850048 | 3362.712 | 1.005186 |
| pi_13,5 | 0.1181807 | 0.0197743 | 0.0824756 | 0.1602121 | 3926.065 | 1.002634 |
| pi_13,6 | 0.0854149 | 0.0154144 | 0.0584430 | 0.1180341 | 4597.505 | 1.004490 |
| pi_13,7 | 0.0664568 | 0.0129295 | 0.0438813 | 0.0945867 | 3655.183 | 1.003717 |
| pi_13,8 | 0.0315384 | 0.0059544 | 0.0213063 | 0.0444853 | 3038.069 | 1.004512 |
| pi_13,9 | 0.0070445 | 0.0035377 | 0.0020132 | 0.0156287 | 3076.677 | 1.008049 |
| pi_13,10 | 0.0484155 | 0.0082761 | 0.0339231 | 0.0661842 | 3794.118 | 1.005990 |
| pi_13,11 | 0.0231153 | 0.0077875 | 0.0104219 | 0.0402854 | 9349.919 | 1.006191 |
| pi_13,12 | 0.0406698 | 0.0089356 | 0.0253783 | 0.0612247 | 4439.187 | 1.000951 |
| pi_14,1 | 0.2044190 | 0.0314468 | 0.1482054 | 0.2704388 | 5410.690 | 1.006171 |
| pi_14,2 | 0.2369975 | 0.0323450 | 0.1783638 | 0.3034494 | 4947.475 | 1.004674 |
| pi_14,3 | 0.1179245 | 0.0240893 | 0.0756673 | 0.1679021 | 3123.856 | 1.006787 |
| pi_14,4 | 0.0704333 | 0.0200136 | 0.0376964 | 0.1140162 | 3952.582 | 1.005821 |
| pi_14,5 | 0.0979912 | 0.0220883 | 0.0606508 | 0.1454796 | 4620.610 | 1.006412 |
| pi_14,6 | 0.0853331 | 0.0205010 | 0.0499236 | 0.1311568 | 3651.418 | 1.005541 |
| pi_14,7 | 0.0604881 | 0.0146071 | 0.0352800 | 0.0929835 | 4980.056 | 1.002555 |
| pi_14,8 | 0.0393887 | 0.0094847 | 0.0237801 | 0.0603341 | 4501.621 | 1.003893 |
| pi_14,9 | 0.0091891 | 0.0057266 | 0.0017178 | 0.0236762 | 2488.899 | 1.009456 |
| pi_14,10 | 0.0423692 | 0.0110469 | 0.0242282 | 0.0669186 | 6345.685 | 1.005081 |
| pi_14,11 | 0.0100701 | 0.0078376 | 0.0008486 | 0.0296911 | 5292.190 | 1.004788 |
| pi_14,12 | 0.0253963 | 0.0091001 | 0.0109906 | 0.0463236 | 5564.601 | 1.011725 |
| pi_15,1 | 0.3661562 | 0.0793935 | 0.2196168 | 0.5300617 | 5626.511 | 1.007927 |
| pi_15,2 | 0.1081397 | 0.0411233 | 0.0427903 | 0.2012859 | 5279.649 | 1.008088 |
| pi_15,3 | 0.0811149 | 0.0425647 | 0.0188338 | 0.1790753 | 5048.797 | 1.005583 |
| pi_15,4 | 0.0509628 | 0.0396623 | 0.0032535 | 0.1511928 | 5231.154 | 1.003914 |
| pi_15,5 | 0.0766382 | 0.0429804 | 0.0158255 | 0.1840196 | 5474.743 | 1.002731 |
| pi_15,6 | 0.0970686 | 0.0455106 | 0.0299430 | 0.2031115 | 5596.623 | 1.000964 |
| pi_15,7 | 0.0946996 | 0.0379114 | 0.0366840 | 0.1799774 | 4404.480 | 1.004329 |
| pi_15,8 | 0.0216076 | 0.0152468 | 0.0024405 | 0.0597702 | 1830.293 | 1.010128 |
| pi_15,9 | 0.0165974 | 0.0196093 | 0.0000492 | 0.0699288 | 3560.727 | 1.003898 |
| pi_15,10 | 0.0200553 | 0.0167753 | 0.0011222 | 0.0636928 | 4917.126 | 1.004709 |
| pi_15,11 | 0.0251087 | 0.0306976 | 0.0000500 | 0.1107056 | 3848.443 | 1.002831 |
| pi_15,12 | 0.0418509 | 0.0274811 | 0.0057645 | 0.1074251 | 4667.043 | 1.005672 |
| pi_16,1 | 0.2734781 | 0.0780644 | 0.1410953 | 0.4454234 | 5508.261 | 1.005152 |
| pi_16,2 | 0.0798842 | 0.0405108 | 0.0209837 | 0.1817237 | 3895.179 | 1.006670 |
| pi_16,3 | 0.0824254 | 0.0444240 | 0.0179334 | 0.1852765 | 4517.618 | 1.007599 |
| pi_16,4 | 0.1179766 | 0.0704115 | 0.0191319 | 0.2846121 | 3598.429 | 1.008308 |
| pi_16,5 | 0.1010399 | 0.0570505 | 0.0193369 | 0.2391903 | 5417.704 | 1.001792 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| pi__16,6 | 0.1178629 | 0.0542217 | 0.0365316 | 0.2426479 | 4175.565 | 1.001423 |
| pi__16,7 | 0.0744963 | 0.0364737 | 0.0206684 | 0.1589433 | 4686.048 | 1.001797 |
| pi__16,8 | 0.0248230 | 0.0172340 | 0.0030893 | 0.0688859 | 4516.119 | 1.002209 |
| pi__16,9 | 0.0211624 | 0.0236944 | 0.0001262 | 0.0859827 | 2393.790 | 1.006609 |
| pi__16,10 | 0.0258402 | 0.0222801 | 0.0016266 | 0.0839896 | 4129.024 | 1.005391 |
| pi__16,11 | 0.0318086 | 0.0399774 | 0.0000333 | 0.1454435 | 2763.742 | 1.007900 |
| pi__16,12 | 0.0492024 | 0.0333630 | 0.0066827 | 0.1338903 | 5030.538 | 1.002843 |
| pi__17,1 | 0.4123756 | 0.0652981 | 0.2887172 | 0.5391904 | 4127.707 | 1.001530 |
| pi__17,2 | 0.2175612 | 0.0486383 | 0.1332306 | 0.3212263 | 5583.566 | 1.001599 |
| pi__17,3 | 0.0296823 | 0.0204391 | 0.0038415 | 0.0808015 | 4739.684 | 1.005745 |
| pi__17,4 | 0.0262780 | 0.0222925 | 0.0012831 | 0.0838138 | 4087.626 | 1.001641 |
| pi__17,5 | 0.0546694 | 0.0280680 | 0.0135908 | 0.1195107 | 4840.057 | 1.004536 |
| pi__17,6 | 0.1138032 | 0.0388187 | 0.0507632 | 0.2021451 | 5330.209 | 1.008529 |
| pi__17,7 | 0.0777482 | 0.0274717 | 0.0340560 | 0.1392147 | 3226.397 | 1.008268 |
| pi__17,8 | 0.0125309 | 0.0087476 | 0.0016246 | 0.0342405 | 4053.063 | 1.006948 |
| pi__17,9 | 0.0092675 | 0.0110003 | 0.0000487 | 0.0391451 | 2967.689 | 1.005708 |
| pi__17,10 | 0.0101706 | 0.0084560 | 0.0006595 | 0.0316820 | 4272.071 | 1.002041 |
| pi__17,11 | 0.0130789 | 0.0171049 | 0.0000149 | 0.0602110 | 3335.494 | 1.001540 |
| pi__17,12 | 0.0228342 | 0.0157642 | 0.0030533 | 0.0643947 | 1500.974 | 1.010711 |
| pi__18,1 | 0.4019540 | 0.0536832 | 0.2981118 | 0.5085034 | 5344.665 | 1.004152 |
| pi__18,2 | 0.1360712 | 0.0291682 | 0.0851397 | 0.1999573 | 6856.832 | 1.006121 |
| pi__18,3 | 0.0934854 | 0.0284472 | 0.0467922 | 0.1577112 | 5372.360 | 1.003970 |
| pi__18,4 | 0.0348970 | 0.0190803 | 0.0085669 | 0.0810734 | 5584.766 | 1.009694 |
| pi__18,5 | 0.0687090 | 0.0242982 | 0.0302520 | 0.1234417 | 5229.830 | 1.011059 |
| pi__18,6 | 0.0948442 | 0.0289534 | 0.0476899 | 0.1592700 | 5977.859 | 1.009611 |
| pi__18,7 | 0.0778048 | 0.0236743 | 0.0402326 | 0.1321814 | 4129.469 | 1.003919 |
| pi__18,8 | 0.0172257 | 0.0076091 | 0.0060318 | 0.0356128 | 6078.141 | 1.003130 |
| pi__18,9 | 0.0051203 | 0.0061202 | 0.0000353 | 0.0219595 | 3003.173 | 1.003198 |
| pi__18,10 | 0.0136372 | 0.0076363 | 0.0032038 | 0.0320075 | 6494.172 | 1.002822 |
| pi__18,11 | 0.0208490 | 0.0174796 | 0.0017855 | 0.0666295 | 1945.650 | 1.014030 |
| pi__18,12 | 0.0354023 | 0.0149444 | 0.0130480 | 0.0709765 | 5323.637 | 1.003142 |
| pi__19,1 | 0.2926564 | 0.0551425 | 0.1938109 | 0.4080142 | 6294.752 | 1.003123 |
| pi__19,2 | 0.1525202 | 0.0385600 | 0.0863095 | 0.2350994 | 6325.348 | 1.004168 |
| pi__19,3 | 0.0794274 | 0.0301425 | 0.0315563 | 0.1484838 | 5918.499 | 1.004745 |
| pi__19,4 | 0.0851490 | 0.0370844 | 0.0281218 | 0.1714032 | 3099.604 | 1.007173 |
| pi__19,5 | 0.0819152 | 0.0316918 | 0.0314755 | 0.1545215 | 6846.299 | 1.010951 |
| pi__19,6 | 0.0781322 | 0.0295947 | 0.0327165 | 0.1472389 | 6501.826 | 1.004844 |
| pi__19,7 | 0.1032410 | 0.0311515 | 0.0520905 | 0.1733591 | 6052.224 | 1.002714 |
| pi__19,8 | 0.0429778 | 0.0162598 | 0.0180310 | 0.0817621 | 5959.614 | 1.007278 |
| pi__19,9 | 0.0077781 | 0.0088941 | 0.0000619 | 0.0321040 | 3792.744 | 1.002388 |
| pi__19,10 | 0.0096948 | 0.0081786 | 0.0005799 | 0.0309461 | 3887.681 | 1.005527 |
| pi__19,11 | 0.0114564 | 0.0142408 | 0.0000164 | 0.0526189 | 3661.970 | 1.003146 |
| pi__19,12 | 0.0550514 | 0.0225684 | 0.0197036 | 0.1066338 | 5687.229 | 1.003965 |

Table 28: Estimates for $\omega_{g,j}$, probability that prey type j is positively identified (and thus not recorded as 'Un-ID' prey) for each group level g, and $\upsilon_{g,j}$, relative contribution of prey type j to 'Un-ID' prey category for each group level g

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| omega_1,1 | 0.3433749 | 0.1729374 | 0.0728132 | 0.7237601 | 3471.749 | 1.004393 |
| omega_1,2 | 0.2992782 | 0.1469279 | 0.0760127 | 0.6331885 | 4051.631 | 1.001950 |
| omega_1,3 | 0.2881437 | 0.1334382 | 0.0859268 | 0.5949856 | 4718.400 | 1.004922 |
| omega_1,4 | 0.0125477 | 0.0169558 | 0.0003331 | 0.0616472 | 4423.136 | 1.003762 |
| omega_1,5 | 0.0585671 | 0.0477910 | 0.0063834 | 0.1823874 | 4730.038 | 1.008901 |
| omega_1,6 | 0.3748264 | 0.1291121 | 0.1462810 | 0.6329756 | 3227.802 | 1.009643 |
| omega_1,7 | 0.4520184 | 0.1355012 | 0.1944467 | 0.7175096 | 5465.200 | 1.005003 |
| omega_1,8 | 0.4740060 | 0.1590235 | 0.1932768 | 0.8029660 | 4160.783 | 1.004817 |
| omega_1,9 | 0.1388954 | 0.1064068 | 0.0122201 | 0.4030786 | 2829.019 | 1.005716 |
| omega_1,10 | 0.0312120 | 0.0323762 | 0.0018892 | 0.1203081 | 4625.698 | 1.003386 |
| omega_1,11 | 0.0560824 | 0.0605541 | 0.0022156 | 0.2214888 | 2042.382 | 1.007086 |
| omega_1,12 | 0.2830559 | 0.1436388 | 0.0656904 | 0.6176162 | 4440.973 | 1.007427 |
| omega_2,1 | 0.3924491 | 0.0345138 | 0.3270304 | 0.4608104 | 5181.511 | 1.002211 |
| omega_2,2 | 0.3295429 | 0.0388909 | 0.2563554 | 0.4078052 | 4373.849 | 1.004130 |
| omega_2,3 | 0.2955920 | 0.0468214 | 0.2056977 | 0.3887657 | 5019.349 | 1.001830 |
| omega_2,4 | 0.0079537 | 0.0057629 | 0.0016955 | 0.0234599 | 4919.954 | 1.001821 |
| omega_2,5 | 0.0418449 | 0.0171406 | 0.0164036 | 0.0821735 | 5626.752 | 1.006829 |
| omega_2,6 | 0.2655431 | 0.0439246 | 0.1842530 | 0.3557987 | 4915.881 | 1.002536 |
| omega_2,7 | 0.4330336 | 0.0398109 | 0.3558361 | 0.5091957 | 2240.724 | 1.004800 |
| omega_2,8 | 0.3819894 | 0.0466425 | 0.2941751 | 0.4787795 | 3789.545 | 1.006371 |
| omega_2,9 | 0.2408020 | 0.0629119 | 0.1271028 | 0.3735736 | 2657.886 | 1.006317 |
| omega_2,10 | 0.0437747 | 0.0135277 | 0.0218703 | 0.0746189 | 7292.984 | 1.004716 |
| omega_2,11 | 0.0660394 | 0.0520899 | 0.0058562 | 0.2022899 | 1830.634 | 1.006032 |
| omega_2,12 | 0.2315295 | 0.0464503 | 0.1479690 | 0.3275553 | 6170.372 | 1.002886 |
| omega_3,1 | 0.3282478 | 0.0321308 | 0.2688275 | 0.3952686 | 6368.055 | 1.001899 |
| omega_3,2 | 0.3130345 | 0.0347960 | 0.2474100 | 0.3851813 | 7177.959 | 1.003313 |
| omega_3,3 | 0.2154093 | 0.0391883 | 0.1417404 | 0.2951088 | 4773.746 | 1.007679 |
| omega_3,4 | 0.0131008 | 0.0092208 | 0.0028134 | 0.0366647 | 4266.555 | 1.002920 |
| omega_3,5 | 0.0680691 | 0.0255560 | 0.0277768 | 0.1259740 | 6257.666 | 1.006638 |
| omega_3,6 | 0.1621025 | 0.0367298 | 0.0967419 | 0.2388291 | 5347.594 | 1.002390 |
| omega_3,7 | 0.3330517 | 0.0367356 | 0.2632211 | 0.4074220 | 4871.284 | 1.008434 |
| omega_3,8 | 0.3464464 | 0.0426033 | 0.2685149 | 0.4346825 | 2611.168 | 1.005461 |
| omega_3,9 | 0.1301164 | 0.0450343 | 0.0581465 | 0.2341252 | 3597.053 | 1.005192 |
| omega_3,10 | 0.0266506 | 0.0095032 | 0.0118830 | 0.0483358 | 6017.426 | 1.003059 |
| omega_3,11 | 0.0503458 | 0.0399229 | 0.0043492 | 0.1527001 | 1916.259 | 1.005208 |
| omega_3,12 | 0.3098138 | 0.0326988 | 0.2473318 | 0.3771372 | 5389.409 | 1.005927 |
| omega_4,1 | 0.3739311 | 0.0364940 | 0.3047947 | 0.4502146 | 2193.175 | 1.008249 |
| omega_4,2 | 0.3755466 | 0.0412436 | 0.2977655 | 0.4572257 | 3219.634 | 1.003333 |
| omega_4,3 | 0.3162966 | 0.0445749 | 0.2332102 | 0.4060032 | 4019.058 | 1.006455 |
| omega_4,4 | 0.0209483 | 0.0205713 | 0.0015807 | 0.0778083 | 3914.996 | 1.006548 |
| omega_4,5 | 0.0408495 | 0.0200776 | 0.0126902 | 0.0900105 | 4184.621 | 1.008595 |
| omega_4,6 | 0.2021092 | 0.0346837 | 0.1373787 | 0.2709570 | 5224.752 | 1.001981 |
| omega_4,7 | 0.3807710 | 0.0410619 | 0.3006432 | 0.4654775 | 1946.074 | 1.010638 |
| omega_4,8 | 0.3356731 | 0.0500098 | 0.2427371 | 0.4363053 | 5181.629 | 1.004909 |
| omega_4,9 | 0.1628447 | 0.0736639 | 0.0395929 | 0.3182991 | 2325.347 | 1.005351 |

Table 28: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|-----------|------|-----|------|-------|-------|------|
| omega__4,10 | 0.0348037 | 0.0172648 | 0.0106436 | 0.0762426 | 5965.053 | 1.002708 |
| omega__4,11 | 0.0644061 | 0.0448826 | 0.0097273 | 0.1776756 | 2017.320 | 1.005788 |
| omega__4,12 | 0.3145534 | 0.0406230 | 0.2380042 | 0.3991580 | 3210.665 | 1.005152 |
| omega__5,1 | 0.3741999 | 0.0457872 | 0.2894178 | 0.4653068 | 4574.279 | 1.003418 |
| omega__5,2 | 0.3852208 | 0.0540973 | 0.2848331 | 0.4928094 | 3633.520 | 1.003334 |
| omega__5,3 | 0.3054192 | 0.0530072 | 0.2070401 | 0.4138537 | 5433.896 | 1.008637 |
| omega__5,4 | 0.0271472 | 0.0169186 | 0.0067550 | 0.0698050 | 4943.874 | 1.005272 |
| omega__5,5 | 0.0652769 | 0.0275408 | 0.0245005 | 0.1292664 | 5274.606 | 1.002292 |
| omega__5,6 | 0.2240057 | 0.0407526 | 0.1508788 | 0.3102479 | 5708.264 | 1.002976 |
| omega__5,7 | 0.4095633 | 0.0478437 | 0.3153754 | 0.5041569 | 4219.389 | 1.005625 |
| omega__5,8 | 0.3723137 | 0.0555824 | 0.2724219 | 0.4848909 | 4696.114 | 1.002508 |
| omega__5,9 | 0.1149733 | 0.0646380 | 0.0300481 | 0.2761814 | 3236.780 | 1.002830 |
| omega__5,10 | 0.0516586 | 0.0175775 | 0.0241398 | 0.0933743 | 6823.445 | 1.008431 |
| omega__5,11 | 0.0642560 | 0.0507359 | 0.0055578 | 0.1955377 | 1827.732 | 1.007527 |
| omega__5,12 | 0.3254499 | 0.0535642 | 0.2249011 | 0.4362201 | 3351.806 | 1.002653 |
| omega__6,1 | 0.4443508 | 0.0382156 | 0.3691477 | 0.5195396 | 5069.453 | 1.002664 |
| omega__6,2 | 0.4264121 | 0.0560647 | 0.3201050 | 0.5404042 | 1648.295 | 1.014095 |
| omega__6,3 | 0.2791754 | 0.0473226 | 0.1892481 | 0.3765824 | 5171.551 | 1.004784 |
| omega__6,4 | 0.0084103 | 0.0080660 | 0.0010735 | 0.0307677 | 4014.521 | 1.006535 |
| omega__6,5 | 0.0660276 | 0.0242173 | 0.0290341 | 0.1209635 | 4537.754 | 1.006108 |
| omega__6,6 | 0.2493861 | 0.0419495 | 0.1709337 | 0.3331961 | 4419.950 | 1.002855 |
| omega__6,7 | 0.5022584 | 0.0428718 | 0.4156450 | 0.5832534 | 4297.914 | 1.003399 |
| omega__6,8 | 0.4875055 | 0.0517290 | 0.3871041 | 0.5935644 | 3884.497 | 1.003106 |
| omega__6,9 | 0.1599191 | 0.0760609 | 0.0515898 | 0.3364991 | 2916.271 | 1.004208 |
| omega__6,10 | 0.0383264 | 0.0173583 | 0.0138171 | 0.0802186 | 5069.551 | 1.004702 |
| omega__6,11 | 0.1112918 | 0.0509208 | 0.0396234 | 0.2382648 | 2771.215 | 1.006093 |
| omega__6,12 | 0.3154436 | 0.0489314 | 0.2231153 | 0.4134290 | 3922.836 | 1.005846 |
| omega__7,1 | 0.3185590 | 0.1436910 | 0.0840318 | 0.6373278 | 4629.785 | 1.003771 |
| omega__7,2 | 0.3014066 | 0.1389872 | 0.0854178 | 0.6205658 | 4798.953 | 1.002933 |
| omega__7,3 | 0.2713689 | 0.1174351 | 0.0867375 | 0.5352281 | 4618.030 | 1.002274 |
| omega__7,4 | 0.0150867 | 0.0196186 | 0.0004184 | 0.0700921 | 4516.632 | 1.003375 |
| omega__7,5 | 0.0650737 | 0.0479966 | 0.0085848 | 0.1890038 | 4444.784 | 1.004689 |
| omega__7,6 | 0.2336379 | 0.1148537 | 0.0575774 | 0.4987673 | 4686.701 | 1.004868 |
| omega__7,7 | 0.3675734 | 0.1260790 | 0.1466534 | 0.6296479 | 2995.566 | 1.005930 |
| omega__7,8 | 0.3962621 | 0.1322896 | 0.1604606 | 0.6669108 | 4785.294 | 1.006578 |
| omega__7,9 | 0.1471244 | 0.1058278 | 0.0129139 | 0.4118220 | 2787.145 | 1.005285 |
| omega__7,10 | 0.0371637 | 0.0370418 | 0.0022345 | 0.1336484 | 3934.066 | 1.008188 |
| omega__7,11 | 0.0635765 | 0.0645690 | 0.0023614 | 0.2370788 | 2207.603 | 1.004126 |
| omega__7,12 | 0.2735512 | 0.1306127 | 0.0724292 | 0.5703165 | 4017.422 | 1.008247 |
| omega__8,1 | 0.4350503 | 0.1486449 | 0.1612740 | 0.7225961 | 5155.151 | 1.002791 |
| omega__8,2 | 0.4461974 | 0.1557139 | 0.1596250 | 0.7510904 | 4498.237 | 1.004916 |
| omega__8,3 | 0.4082967 | 0.1474350 | 0.1400720 | 0.7070920 | 5076.680 | 1.002239 |
| omega__8,4 | 0.0511170 | 0.0519446 | 0.0028082 | 0.1946410 | 4971.661 | 1.007100 |
| omega__8,5 | 0.1013780 | 0.0710269 | 0.0144493 | 0.2836569 | 5005.399 | 1.007313 |
| omega__8,6 | 0.2996760 | 0.1410259 | 0.0834212 | 0.6325466 | 4693.309 | 1.004876 |
| omega__8,7 | 0.4961295 | 0.1610488 | 0.1903494 | 0.8081001 | 4954.894 | 1.005453 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| omega__8,8 | 0.3934057 | 0.1649940 | 0.1114264 | 0.7439019 | 5089.549 | 1.002741 |
| omega__8,9 | 0.2772192 | 0.1318287 | 0.0656941 | 0.5557287 | 3574.505 | 1.003011 |
| omega__8,10 | 0.1405439 | 0.1057546 | 0.0161255 | 0.4088926 | 3437.139 | 1.004681 |
| omega__8,11 | 0.1552716 | 0.1004972 | 0.0196146 | 0.3922026 | 2573.466 | 1.001540 |
| omega__8,12 | 0.4096431 | 0.1476009 | 0.1447499 | 0.7081283 | 5184.936 | 1.002971 |
| omega__9,1 | 0.2495661 | 0.0737870 | 0.1191377 | 0.4095550 | 5717.130 | 1.003309 |
| omega__9,2 | 0.2244544 | 0.0847852 | 0.0840456 | 0.4148268 | 5260.709 | 1.006463 |
| omega__9,3 | 0.1708115 | 0.0713528 | 0.0578161 | 0.3349811 | 4513.635 | 1.003222 |
| omega__9,4 | 0.0151797 | 0.0176282 | 0.0004772 | 0.0617028 | 3961.603 | 1.004328 |
| omega__9,5 | 0.0480827 | 0.0350549 | 0.0063956 | 0.1397339 | 4404.858 | 1.002995 |
| omega__9,6 | 0.1965806 | 0.0777518 | 0.0751667 | 0.3796740 | 5231.027 | 1.002316 |
| omega__9,7 | 0.2955094 | 0.0919558 | 0.1397523 | 0.5014006 | 4409.061 | 1.002099 |
| omega__9,8 | 0.2972658 | 0.1166396 | 0.1166230 | 0.5764514 | 3184.852 | 1.002796 |
| omega__9,9 | 0.1233073 | 0.0741840 | 0.0163887 | 0.2997950 | 2587.625 | 1.005383 |
| omega__9,10 | 0.0317361 | 0.0265764 | 0.0031699 | 0.1035270 | 5591.704 | 1.004423 |
| omega__9,11 | 0.0568647 | 0.0481689 | 0.0032092 | 0.1767445 | 2709.336 | 1.005681 |
| omega__9,12 | 0.2057169 | 0.0817747 | 0.0736722 | 0.3877291 | 4769.508 | 1.003808 |
| omega__10,1 | 0.2204678 | 0.0419756 | 0.1420489 | 0.3074153 | 5986.401 | 1.002945 |
| omega__10,2 | 0.2238111 | 0.0694505 | 0.1016060 | 0.3676052 | 3115.348 | 1.004949 |
| omega__10,3 | 0.2566228 | 0.0622023 | 0.1463171 | 0.3897637 | 4615.313 | 1.004175 |
| omega__10,4 | 0.0238811 | 0.0162947 | 0.0043402 | 0.0671241 | 4549.069 | 1.006092 |
| omega__10,5 | 0.0574907 | 0.0385568 | 0.0090862 | 0.1550995 | 4517.254 | 1.005570 |
| omega__10,6 | 0.1106355 | 0.0398255 | 0.0461124 | 0.1981262 | 5942.382 | 1.000954 |
| omega__10,7 | 0.3312349 | 0.0652336 | 0.2094235 | 0.4678925 | 2023.392 | 1.009743 |
| omega__10,8 | 0.3253469 | 0.0762273 | 0.1902697 | 0.4856355 | 3838.688 | 1.001179 |
| omega__10,9 | 0.1395483 | 0.0758271 | 0.0257706 | 0.3087281 | 2542.492 | 1.008311 |
| omega__10,10 | 0.0427238 | 0.0322642 | 0.0053151 | 0.1268081 | 3534.961 | 1.005075 |
| omega__10,11 | 0.0590826 | 0.0446832 | 0.0054896 | 0.1733356 | 1951.255 | 1.006981 |
| omega__10,12 | 0.1716200 | 0.0490778 | 0.0853665 | 0.2710622 | 4447.928 | 1.003722 |
| omega__11,1 | 0.3364545 | 0.0241411 | 0.2905446 | 0.3851525 | 5747.182 | 1.001481 |
| omega__11,2 | 0.3457109 | 0.0267782 | 0.2931090 | 0.3994926 | 6711.178 | 1.005585 |
| omega__11,3 | 0.3306175 | 0.0336484 | 0.2616188 | 0.3934860 | 4918.323 | 1.002049 |
| omega__11,4 | 0.0594499 | 0.0323231 | 0.0149131 | 0.1400704 | 4257.209 | 1.005721 |
| omega__11,5 | 0.0822395 | 0.0350310 | 0.0295844 | 0.1649521 | 4553.269 | 1.004380 |
| omega__11,6 | 0.1875839 | 0.0292105 | 0.1357918 | 0.2490160 | 4772.620 | 1.002362 |
| omega__11,7 | 0.3493278 | 0.0297186 | 0.2896910 | 0.4045605 | 3071.467 | 1.006519 |
| omega__11,8 | 0.2424488 | 0.0297377 | 0.1857572 | 0.3025635 | 6708.277 | 1.007043 |
| omega__11,9 | 0.2157902 | 0.0505574 | 0.1104370 | 0.3104880 | 2042.271 | 1.007203 |
| omega__11,10 | 0.0954191 | 0.0238614 | 0.0545261 | 0.1474951 | 5975.660 | 1.005060 |
| omega__11,11 | 0.1655042 | 0.0519351 | 0.0707807 | 0.2695633 | 2055.985 | 1.007768 |
| omega__11,12 | 0.3393099 | 0.0328046 | 0.2718361 | 0.4017022 | 4738.718 | 1.005999 |
| omega__12,1 | 0.2925718 | 0.0199192 | 0.2547601 | 0.3327490 | 4815.922 | 1.003188 |
| omega__12,2 | 0.2484080 | 0.0203724 | 0.2094564 | 0.2890476 | 3446.398 | 1.005286 |
| omega__12,3 | 0.2621666 | 0.0266700 | 0.2094919 | 0.3136641 | 5867.711 | 1.005302 |
| omega__12,4 | 0.0238890 | 0.0185125 | 0.0029698 | 0.0713117 | 4221.562 | 1.002418 |
| omega__12,5 | 0.0538867 | 0.0260290 | 0.0164680 | 0.1142124 | 4886.180 | 1.004509 |
| omega__12,6 | 0.1913217 | 0.0249566 | 0.1445252 | 0.2414290 | 5172.811 | 1.005415 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| omega__12,7 | 0.2907767 | 0.0237172 | 0.2441599 | 0.3377608 | 4019.458 | 1.003837 |
| omega__12,8 | 0.2254843 | 0.0258381 | 0.1767288 | 0.2766011 | 5001.595 | 1.001945 |
| omega__12,9 | 0.1642192 | 0.0436013 | 0.0760417 | 0.2472108 | 2244.241 | 1.006989 |
| omega__12,10 | 0.0946892 | 0.0189507 | 0.0605962 | 0.1340882 | 5631.895 | 1.004290 |
| omega__12,11 | 0.1124345 | 0.0428529 | 0.0382941 | 0.2031796 | 1821.335 | 1.008506 |
| omega__12,12 | 0.2564535 | 0.0287693 | 0.1978513 | 0.3101701 | 4830.173 | 1.003279 |
| omega__13,1 | 0.2549761 | 0.0205474 | 0.2174147 | 0.2966685 | 3357.392 | 1.009111 |
| omega__13,2 | 0.2017423 | 0.0208397 | 0.1613264 | 0.2421632 | 3839.222 | 1.002884 |
| omega__13,3 | 0.2236151 | 0.0246778 | 0.1762430 | 0.2715432 | 4982.255 | 1.002732 |
| omega__13,4 | 0.0262156 | 0.0153213 | 0.0061019 | 0.0651378 | 4169.433 | 1.005628 |
| omega__13,5 | 0.1214104 | 0.0314371 | 0.0631497 | 0.1862360 | 4355.098 | 1.003917 |
| omega__13,6 | 0.1624117 | 0.0273103 | 0.1129997 | 0.2194905 | 5218.546 | 1.003827 |
| omega__13,7 | 0.2765602 | 0.0256364 | 0.2275120 | 0.3283294 | 3053.706 | 1.004509 |
| omega__13,8 | 0.2705591 | 0.0298267 | 0.2136714 | 0.3311999 | 3448.758 | 1.003876 |
| omega__13,9 | 0.1493479 | 0.0523462 | 0.0490104 | 0.2494620 | 2420.646 | 1.004500 |
| omega__13,10 | 0.0914147 | 0.0184469 | 0.0582277 | 0.1301656 | 5324.239 | 1.002762 |
| omega__13,11 | 0.0699794 | 0.0333173 | 0.0208897 | 0.1507063 | 2531.552 | 1.011644 |
| omega__13,12 | 0.1987877 | 0.0316537 | 0.1376869 | 0.2604801 | 4054.262 | 1.003390 |
| omega__14,1 | 0.2572698 | 0.0300034 | 0.2004772 | 0.3192216 | 6769.041 | 1.002029 |
| omega__14,2 | 0.1997508 | 0.0272837 | 0.1492292 | 0.2578258 | 6719.647 | 1.004764 |
| omega__14,3 | 0.2196009 | 0.0336001 | 0.1547011 | 0.2879336 | 7173.566 | 1.007836 |
| omega__14,4 | 0.0205422 | 0.0145537 | 0.0036661 | 0.0594464 | 3779.628 | 1.003203 |
| omega__14,5 | 0.0453069 | 0.0258186 | 0.0105275 | 0.1091019 | 3398.786 | 1.004409 |
| omega__14,6 | 0.1982703 | 0.0408438 | 0.1239235 | 0.2816949 | 5185.253 | 1.007408 |
| omega__14,7 | 0.2937929 | 0.0386525 | 0.2242192 | 0.3740226 | 4470.533 | 1.002806 |
| omega__14,8 | 0.2716065 | 0.0392903 | 0.2000952 | 0.3521054 | 4894.750 | 1.001971 |
| omega__14,9 | 0.1524765 | 0.0536844 | 0.0532077 | 0.2613058 | 2500.258 | 1.006072 |
| omega__14,10 | 0.0908400 | 0.0284978 | 0.0429504 | 0.1529205 | 6165.236 | 1.007808 |
| omega__14,11 | 0.0796614 | 0.0438978 | 0.0129011 | 0.1769489 | 1908.728 | 1.006660 |
| omega__14,12 | 0.2250266 | 0.0449992 | 0.1373738 | 0.3165896 | 5056.356 | 1.005843 |
| omega__15,1 | 0.2599092 | 0.0887946 | 0.1069052 | 0.4535469 | 3091.972 | 1.009258 |
| omega__15,2 | 0.2990232 | 0.1084217 | 0.1157774 | 0.5366102 | 1674.131 | 1.010175 |
| omega__15,3 | 0.2468523 | 0.1014686 | 0.0821290 | 0.4657228 | 3778.243 | 1.003007 |
| omega__15,4 | 0.0259405 | 0.0328274 | 0.0005355 | 0.1170597 | 3188.889 | 1.004322 |
| omega__15,5 | 0.0750492 | 0.0575077 | 0.0088054 | 0.2265052 | 3433.141 | 1.003476 |
| omega__15,6 | 0.2266694 | 0.1116019 | 0.0648686 | 0.4848293 | 3506.388 | 1.004700 |
| omega__15,7 | 0.3827936 | 0.1240371 | 0.1765703 | 0.6480823 | 3366.912 | 1.006679 |
| omega__15,8 | 0.3638937 | 0.1580049 | 0.1029860 | 0.7087849 | 2618.810 | 1.005981 |
| omega__15,9 | 0.1690437 | 0.0997721 | 0.0188014 | 0.3907909 | 2408.865 | 1.007645 |
| omega__15,10 | 0.0697825 | 0.0766631 | 0.0034918 | 0.2730263 | 3476.489 | 1.002550 |
| omega__15,11 | 0.0881068 | 0.0749198 | 0.0040586 | 0.2724899 | 2034.244 | 1.009334 |
| omega__15,12 | 0.2877952 | 0.1200658 | 0.0949335 | 0.5713916 | 2003.200 | 1.010715 |
| omega__16,1 | 0.1512734 | 0.1067985 | 0.0151905 | 0.4138377 | 6037.726 | 1.001989 |
| omega__16,2 | 0.1830186 | 0.1259961 | 0.0203094 | 0.4894610 | 6351.826 | 1.003381 |
| omega__16,3 | 0.1550139 | 0.1070518 | 0.0176147 | 0.4231411 | 6411.679 | 1.004108 |
| omega__16,4 | 0.0157882 | 0.0210483 | 0.0003255 | 0.0761636 | 4330.094 | 1.005426 |
| omega__16,5 | 0.0446751 | 0.0451211 | 0.0025062 | 0.1669706 | 5022.560 | 1.002223 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| omega__16,6 | 0.1325352 | 0.0972547 | 0.0126055 | 0.3872448 | 6096.524 | 1.003380 |
| omega__16,7 | 0.2410691 | 0.1524898 | 0.0312374 | 0.6138009 | 6322.920 | 1.006805 |
| omega__16,8 | 0.2269610 | 0.1549580 | 0.0241808 | 0.6026309 | 5451.848 | 1.006591 |
| omega__16,9 | 0.1051980 | 0.0875475 | 0.0054480 | 0.3331946 | 4989.451 | 1.005096 |
| omega__16,10 | 0.0451299 | 0.0542389 | 0.0013343 | 0.1879343 | 3595.473 | 1.006803 |
| omega__16,11 | 0.0528425 | 0.0581779 | 0.0012937 | 0.2173732 | 3045.482 | 1.002896 |
| omega__16,12 | 0.1771956 | 0.1228737 | 0.0191025 | 0.4797314 | 6544.416 | 1.002284 |
| omega__17,1 | 0.2242601 | 0.0486382 | 0.1377167 | 0.3282131 | 5384.328 | 1.003690 |
| omega__17,2 | 0.2570475 | 0.0540438 | 0.1621021 | 0.3719644 | 3318.570 | 1.008095 |
| omega__17,3 | 0.1988549 | 0.0735759 | 0.0800796 | 0.3666297 | 4810.705 | 1.002152 |
| omega__17,4 | 0.0118492 | 0.0141635 | 0.0004530 | 0.0517208 | 4019.293 | 1.003707 |
| omega__17,5 | 0.0481099 | 0.0356409 | 0.0062307 | 0.1392058 | 3548.006 | 1.004766 |
| omega__17,6 | 0.1924934 | 0.0744655 | 0.0726936 | 0.3597580 | 3047.901 | 1.009612 |
| omega__17,7 | 0.3295359 | 0.0872832 | 0.1914617 | 0.5304597 | 3603.838 | 1.003096 |
| omega__17,8 | 0.3144748 | 0.1094183 | 0.1508176 | 0.5749394 | 3313.273 | 1.003936 |
| omega__17,9 | 0.1131828 | 0.0708461 | 0.0143242 | 0.2747896 | 2651.456 | 1.005612 |
| omega__17,10 | 0.0305568 | 0.0269160 | 0.0025705 | 0.1001779 | 4745.022 | 1.000975 |
| omega__17,11 | 0.0476021 | 0.0412171 | 0.0032330 | 0.1577017 | 2263.400 | 1.006966 |
| omega__17,12 | 0.2060144 | 0.0817315 | 0.0761629 | 0.3949540 | 4338.433 | 1.002287 |
| omega__18,1 | 0.2756725 | 0.0391787 | 0.2029918 | 0.3536197 | 4162.614 | 1.006964 |
| omega__18,2 | 0.2837273 | 0.0431125 | 0.2041129 | 0.3704213 | 3670.828 | 1.006702 |
| omega__18,3 | 0.2726750 | 0.0492703 | 0.1804228 | 0.3718074 | 3924.801 | 1.004508 |
| omega__18,4 | 0.0416944 | 0.0337217 | 0.0042711 | 0.1275343 | 2159.065 | 1.004574 |
| omega__18,5 | 0.0821976 | 0.0502271 | 0.0137468 | 0.2070058 | 4928.550 | 1.004720 |
| omega__18,6 | 0.1901236 | 0.0636941 | 0.0798908 | 0.3245571 | 5158.714 | 1.001489 |
| omega__18,7 | 0.3233815 | 0.0533044 | 0.2276664 | 0.4379573 | 3942.800 | 1.005433 |
| omega__18,8 | 0.2479082 | 0.0663666 | 0.1294787 | 0.3878435 | 3734.453 | 1.002920 |
| omega__18,9 | 0.1949238 | 0.0608074 | 0.0804197 | 0.3193516 | 2148.901 | 1.008420 |
| omega__18,10 | 0.1128804 | 0.0563621 | 0.0285090 | 0.2432256 | 4069.976 | 1.002910 |
| omega__18,11 | 0.1168154 | 0.0552316 | 0.0246587 | 0.2360494 | 1455.105 | 1.010519 |
| omega__18,12 | 0.2895608 | 0.0573548 | 0.1796938 | 0.4053315 | 3246.261 | 1.004890 |
| omega__19,1 | 0.3245714 | 0.0549066 | 0.2229308 | 0.4373403 | 7190.355 | 1.005033 |
| omega__19,2 | 0.3055522 | 0.0577885 | 0.1975490 | 0.4245803 | 7165.596 | 1.006328 |
| omega__19,3 | 0.2986742 | 0.0599362 | 0.1838345 | 0.4177658 | 6599.293 | 1.003068 |
| omega__19,4 | 0.0640533 | 0.0457754 | 0.0086092 | 0.1835703 | 4520.845 | 1.004812 |
| omega__19,5 | 0.0917631 | 0.0556252 | 0.0163047 | 0.2279979 | 4859.663 | 1.006038 |
| omega__19,6 | 0.1735725 | 0.0617082 | 0.0695502 | 0.3106399 | 6135.613 | 1.006538 |
| omega__19,7 | 0.3194433 | 0.0594901 | 0.2068190 | 0.4450370 | 6189.512 | 1.008756 |
| omega__19,8 | 0.2444809 | 0.0602631 | 0.1370765 | 0.3722188 | 5976.932 | 1.007948 |
| omega__19,9 | 0.2153797 | 0.0575709 | 0.1092000 | 0.3381944 | 3744.203 | 1.004728 |
| omega__19,10 | 0.1862558 | 0.0737136 | 0.0615692 | 0.3428143 | 4942.933 | 1.007067 |
| omega__19,11 | 0.1632466 | 0.0599675 | 0.0559286 | 0.2855644 | 2323.487 | 1.005076 |
| omega__19,12 | 0.3177045 | 0.0599956 | 0.2053169 | 0.4410949 | 5248.355 | 1.003178 |
| upsilon__1,1 | 0.2126485 | 0.1049734 | 0.0534102 | 0.4455216 | 3928.820 | 1.004223 |
| upsilon__1,2 | 0.1656467 | 0.0924538 | 0.0332581 | 0.3881932 | 4130.339 | 1.002358 |
| upsilon__1,3 | 0.0357569 | 0.0285118 | 0.0033827 | 0.1096798 | 4260.610 | 1.003886 |

Table 28: (continued)

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| upsilon_1,4 | 0.0002682 | 0.0005014 | 0.0000025 | 0.0015401 | 3424.408 | 1.004451 |
| upsilon_1,5 | 0.0081068 | 0.0074011 | 0.0007558 | 0.0288700 | 4907.120 | 1.005586 |
| upsilon_1,6 | 0.1432886 | 0.0736957 | 0.0407688 | 0.3241831 | 4728.497 | 1.005169 |
| upsilon_1,7 | 0.1084766 | 0.0518100 | 0.0359409 | 0.2325603 | 4524.370 | 1.003657 |
| upsilon_1,8 | 0.2032059 | 0.1172712 | 0.0313008 | 0.4780847 | 4098.167 | 1.007717 |
| upsilon_1,9 | 0.0070570 | 0.0085280 | 0.0002238 | 0.0309153 | 4277.453 | 1.004455 |
| upsilon_1,10 | 0.0048030 | 0.0058838 | 0.0001869 | 0.0214943 | 5718.801 | 1.006585 |
| upsilon_1,11 | 0.0000747 | 0.0001601 | 0.0000001 | 0.0004793 | 2737.806 | 1.009767 |
| upsilon_1,12 | 0.1106672 | 0.0800132 | 0.0114963 | 0.3145340 | 4946.209 | 1.008069 |
| upsilon_2,1 | 0.2319818 | 0.0384909 | 0.1629236 | 0.3112651 | 4149.664 | 1.005061 |
| upsilon_2,2 | 0.2502506 | 0.0434968 | 0.1696286 | 0.3365278 | 3333.635 | 1.006303 |
| upsilon_2,3 | 0.0714207 | 0.0188802 | 0.0398196 | 0.1124174 | 4483.924 | 1.001858 |
| upsilon_2,4 | 0.0003787 | 0.0002909 | 0.0000741 | 0.0011397 | 5223.825 | 1.002096 |
| upsilon_2,5 | 0.0037569 | 0.0017983 | 0.0012701 | 0.0080750 | 5039.229 | 1.004021 |
| upsilon_2,6 | 0.0468105 | 0.0139021 | 0.0245987 | 0.0792545 | 4014.256 | 1.007265 |
| upsilon_2,7 | 0.0745022 | 0.0166182 | 0.0466112 | 0.1107019 | 4555.637 | 1.002782 |
| upsilon_2,8 | 0.1911771 | 0.0447439 | 0.1135086 | 0.2891251 | 3502.006 | 1.004869 |
| upsilon_2,9 | 0.0250976 | 0.0094667 | 0.0107561 | 0.0473900 | 4121.848 | 1.005592 |
| upsilon_2,10 | 0.0109310 | 0.0039994 | 0.0049987 | 0.0207120 | 6777.975 | 1.001712 |
| upsilon_2,11 | 0.0000790 | 0.0000793 | 0.0000055 | 0.0003034 | 2052.356 | 1.005719 |
| upsilon_2,12 | 0.0936137 | 0.0283461 | 0.0476319 | 0.1563971 | 5038.156 | 1.005636 |
| upsilon_3,1 | 0.1775706 | 0.0323338 | 0.1217998 | 0.2465664 | 2999.815 | 1.006740 |
| upsilon_3,2 | 0.1558165 | 0.0303877 | 0.1017339 | 0.2190633 | 5034.578 | 1.003409 |
| upsilon_3,3 | 0.0477819 | 0.0138869 | 0.0259322 | 0.0797687 | 1182.349 | 1.013889 |
| upsilon_3,4 | 0.0004144 | 0.0003131 | 0.0000805 | 0.0012218 | 5076.855 | 1.008423 |
| upsilon_3,5 | 0.0056043 | 0.0025059 | 0.0019782 | 0.0115645 | 6258.416 | 1.004892 |
| upsilon_3,6 | 0.0201227 | 0.0070939 | 0.0093298 | 0.0370237 | 4712.956 | 1.001692 |
| upsilon_3,7 | 0.0422940 | 0.0100021 | 0.0257476 | 0.0648352 | 3121.953 | 1.012540 |
| upsilon_3,8 | 0.1472607 | 0.0341102 | 0.0887632 | 0.2217806 | 4336.762 | 1.004435 |
| upsilon_3,9 | 0.0068458 | 0.0032188 | 0.0024389 | 0.0148327 | 4914.744 | 1.004684 |
| upsilon_3,10 | 0.0051568 | 0.0021763 | 0.0020447 | 0.0104805 | 5268.135 | 1.005043 |
| upsilon_3,11 | 0.0000263 | 0.0000297 | 0.0000013 | 0.0001075 | 2399.908 | 1.008047 |
| upsilon_3,12 | 0.3911060 | 0.0533707 | 0.2894662 | 0.4971413 | 4006.932 | 1.005043 |
| upsilon_4,1 | 0.2594507 | 0.0429169 | 0.1813361 | 0.3489901 | 4997.182 | 1.005662 |
| upsilon_4,2 | 0.1495238 | 0.0347989 | 0.0886464 | 0.2236908 | 4446.843 | 1.002900 |
| upsilon_4,3 | 0.0541737 | 0.0152756 | 0.0297249 | 0.0893491 | 5343.329 | 1.001926 |
| upsilon_4,4 | 0.0005881 | 0.0006157 | 0.0000421 | 0.0023244 | 4334.386 | 1.005566 |
| upsilon_4,5 | 0.0047170 | 0.0026757 | 0.0013002 | 0.0116468 | 4416.583 | 1.008060 |
| upsilon_4,6 | 0.0643050 | 0.0188723 | 0.0340000 | 0.1067771 | 2702.670 | 1.006015 |
| upsilon_4,7 | 0.0673771 | 0.0155724 | 0.0408130 | 0.1016958 | 4724.987 | 1.003896 |
| upsilon_4,8 | 0.1108880 | 0.0331758 | 0.0561363 | 0.1832383 | 5300.834 | 1.001801 |
| upsilon_4,9 | 0.0058125 | 0.0036748 | 0.0010811 | 0.0152424 | 3386.233 | 1.003518 |
| upsilon_4,10 | 0.0031100 | 0.0018278 | 0.0007445 | 0.0077963 | 5946.861 | 1.002531 |
| upsilon_4,11 | 0.0001045 | 0.0000916 | 0.0000114 | 0.0003458 | 2406.990 | 1.003842 |
| upsilon_4,12 | 0.2799496 | 0.0525303 | 0.1859054 | 0.3890153 | 4726.232 | 1.001730 |
| upsilon_5,1 | 0.1797109 | 0.0391083 | 0.1126986 | 0.2626986 | 3592.587 | 1.004287 |
| upsilon_5,2 | 0.1447618 | 0.0389178 | 0.0783364 | 0.2260086 | 5079.944 | 1.002753 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| upsilon_5,3 | 0.0796992 | 0.0232931 | 0.0411658 | 0.1305827 | 4525.612 | 1.003471 |
| upsilon_5,4 | 0.0005705 | 0.0004165 | 0.0001173 | 0.0016326 | 5827.294 | 1.002590 |
| upsilon_5,5 | 0.0073283 | 0.0036234 | 0.0023625 | 0.0162201 | 5542.011 | 1.003548 |
| upsilon_5,6 | 0.0677259 | 0.0205174 | 0.0352010 | 0.1138317 | 2790.592 | 1.007888 |
| upsilon_5,7 | 0.0807392 | 0.0202773 | 0.0460029 | 0.1249734 | 3991.503 | 1.001780 |
| upsilon_5,8 | 0.1783498 | 0.0474282 | 0.0971762 | 0.2807853 | 4387.794 | 1.002937 |
| upsilon_5,9 | 0.0047364 | 0.0034956 | 0.0009242 | 0.0141140 | 3736.403 | 1.003655 |
| upsilon_5,10 | 0.0095247 | 0.0040397 | 0.0036388 | 0.0195030 | 7275.147 | 1.007629 |
| upsilon_5,11 | 0.0001351 | 0.0001301 | 0.0000092 | 0.0004897 | 2018.342 | 1.006602 |
| upsilon_5,12 | 0.2467182 | 0.0563393 | 0.1481314 | 0.3625537 | 3272.411 | 1.004306 |
| upsilon_6,1 | 0.2569092 | 0.0454727 | 0.1725310 | 0.3487023 | 4468.705 | 1.001684 |
| upsilon_6,2 | 0.1330548 | 0.0349167 | 0.0752229 | 0.2136592 | 2519.024 | 1.014282 |
| upsilon_6,3 | 0.0468484 | 0.0141268 | 0.0241403 | 0.0795594 | 4016.177 | 1.004300 |
| upsilon_6,4 | 0.0001187 | 0.0001256 | 0.0000133 | 0.0004516 | 4619.107 | 1.004751 |
| upsilon_6,5 | 0.0061103 | 0.0026669 | 0.0023194 | 0.0126073 | 4973.579 | 1.004555 |
| upsilon_6,6 | 0.0566212 | 0.0169566 | 0.0295403 | 0.0956447 | 4356.633 | 1.004448 |
| upsilon_6,7 | 0.0750166 | 0.0183416 | 0.0444995 | 0.1155054 | 4134.593 | 1.001625 |
| upsilon_6,8 | 0.2332913 | 0.0546694 | 0.1392360 | 0.3485277 | 2951.787 | 1.004004 |
| upsilon_6,9 | 0.0046465 | 0.0032171 | 0.0010164 | 0.0131343 | 2875.408 | 1.004634 |
| upsilon_6,10 | 0.0033564 | 0.0018208 | 0.0010207 | 0.0080014 | 5835.755 | 1.004541 |
| upsilon_6,11 | 0.0002479 | 0.0001491 | 0.0000680 | 0.0006415 | 3191.426 | 1.009687 |
| upsilon_6,12 | 0.1837787 | 0.0443079 | 0.1063098 | 0.2800240 | 4172.081 | 1.002315 |
| upsilon_7,1 | 0.2065285 | 0.0938925 | 0.0567299 | 0.4196645 | 4546.181 | 1.006268 |
| upsilon_7,2 | 0.1503704 | 0.0842578 | 0.0308768 | 0.3463056 | 4171.247 | 1.003708 |
| upsilon_7,3 | 0.0468056 | 0.0325655 | 0.0072803 | 0.1311870 | 4654.910 | 1.002882 |
| upsilon_7,4 | 0.0002982 | 0.0005765 | 0.0000023 | 0.0016779 | 4202.155 | 1.001684 |
| upsilon_7,5 | 0.0045052 | 0.0042226 | 0.0003770 | 0.0155912 | 4492.564 | 1.005408 |
| upsilon_7,6 | 0.0524559 | 0.0346432 | 0.0097527 | 0.1410755 | 4921.743 | 1.001376 |
| upsilon_7,7 | 0.0665686 | 0.0343527 | 0.0211003 | 0.1525094 | 4889.160 | 1.003207 |
| upsilon_7,8 | 0.3190713 | 0.1314537 | 0.1026860 | 0.6022588 | 4719.870 | 1.001771 |
| upsilon_7,9 | 0.0065048 | 0.0075307 | 0.0002464 | 0.0274099 | 4157.043 | 1.003080 |
| upsilon_7,10 | 0.0098287 | 0.0108526 | 0.0005732 | 0.0390849 | 5174.413 | 1.005140 |
| upsilon_7,11 | 0.0000794 | 0.0001699 | 0.0000000 | 0.0005283 | 2005.414 | 1.006773 |
| upsilon_7,12 | 0.1369833 | 0.0839640 | 0.0215267 | 0.3365665 | 5364.906 | 1.006393 |
| upsilon_8,1 | 0.2934582 | 0.0966889 | 0.1235282 | 0.5004936 | 4824.717 | 1.002740 |
| upsilon_8,2 | 0.2096387 | 0.0927928 | 0.0577253 | 0.4103507 | 2853.109 | 1.004047 |
| upsilon_8,3 | 0.0441710 | 0.0318607 | 0.0061498 | 0.1257462 | 5165.340 | 1.002532 |
| upsilon_8,4 | 0.0018365 | 0.0025543 | 0.0000556 | 0.0084861 | 5589.289 | 1.002751 |
| upsilon_8,5 | 0.0095736 | 0.0086728 | 0.0010586 | 0.0323656 | 5223.099 | 1.002954 |
| upsilon_8,6 | 0.0380272 | 0.0271690 | 0.0063816 | 0.1040181 | 5231.125 | 1.005693 |
| upsilon_8,7 | 0.0476430 | 0.0261377 | 0.0121552 | 0.1104215 | 3930.337 | 1.007140 |
| upsilon_8,8 | 0.1282142 | 0.0870708 | 0.0146274 | 0.3446691 | 3772.443 | 1.003674 |
| upsilon_8,9 | 0.0049025 | 0.0068100 | 0.0000237 | 0.0231232 | 1913.402 | 1.009990 |
| upsilon_8,10 | 0.0205885 | 0.0216615 | 0.0011330 | 0.0807693 | 2585.361 | 1.006700 |
| upsilon_8,11 | 0.0001749 | 0.0002780 | 0.0000001 | 0.0009795 | 2528.308 | 1.003976 |
| upsilon_8,12 | 0.2017717 | 0.1012672 | 0.0486835 | 0.4287536 | 4850.958 | 1.002426 |
| upsilon_9,1 | 0.3929635 | 0.0979485 | 0.2036602 | 0.5857374 | 4694.082 | 1.006343 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| upsilon_9,2 | 0.1620259 | 0.0712145 | 0.0495494 | 0.3200545 | 4313.304 | 1.003793 |
| upsilon_9,3 | 0.0167007 | 0.0131132 | 0.0017145 | 0.0500851 | 3269.068 | 1.003563 |
| upsilon_9,4 | 0.0012606 | 0.0016579 | 0.0000331 | 0.0059233 | 3313.423 | 1.005828 |
| upsilon_9,5 | 0.0091171 | 0.0075449 | 0.0010035 | 0.0295478 | 4984.100 | 1.002283 |
| upsilon_9,6 | 0.0601076 | 0.0328027 | 0.0158136 | 0.1384601 | 5512.892 | 1.004349 |
| upsilon_9,7 | 0.0661875 | 0.0304302 | 0.0243913 | 0.1408134 | 5411.907 | 1.003583 |
| upsilon_9,8 | 0.0996253 | 0.0706649 | 0.0114366 | 0.2849897 | 3580.939 | 1.002870 |
| upsilon_9,9 | 0.0072619 | 0.0064226 | 0.0005038 | 0.0238550 | 3697.313 | 1.005068 |
| upsilon_9,10 | 0.0085810 | 0.0090002 | 0.0006171 | 0.0314620 | 4137.268 | 1.004786 |
| upsilon_9,11 | 0.0001691 | 0.0002240 | 0.0000032 | 0.0007852 | 2802.075 | 1.004282 |
| upsilon_9,12 | 0.1759996 | 0.0789381 | 0.0521238 | 0.3526955 | 5119.964 | 1.002362 |
| upsilon_10,1 | 0.3254327 | 0.0743726 | 0.1888011 | 0.4776678 | 4403.654 | 1.003105 |
| upsilon_10,2 | 0.0543559 | 0.0283765 | 0.0147680 | 0.1237082 | 3711.449 | 1.003214 |
| upsilon_10,3 | 0.0420941 | 0.0186208 | 0.0150734 | 0.0864717 | 4267.869 | 1.001550 |
| upsilon_10,4 | 0.0019971 | 0.0015823 | 0.0003115 | 0.0062224 | 5133.980 | 1.003134 |
| upsilon_10,5 | 0.0045578 | 0.0036786 | 0.0005645 | 0.0143468 | 4344.241 | 1.003050 |
| upsilon_10,6 | 0.0228022 | 0.0114689 | 0.0073608 | 0.0503404 | 4776.188 | 1.004643 |
| upsilon_10,7 | 0.0467751 | 0.0163763 | 0.0225092 | 0.0847972 | 5144.019 | 1.008090 |
| upsilon_10,8 | 0.3383624 | 0.0979681 | 0.1664576 | 0.5440698 | 3741.289 | 1.002739 |
| upsilon_10,9 | 0.0007991 | 0.0012348 | 0.0000019 | 0.0042790 | 2884.817 | 1.003742 |
| upsilon_10,10 | 0.0018947 | 0.0021122 | 0.0001212 | 0.0075664 | 4413.804 | 1.004031 |
| upsilon_10,11 | 0.0000899 | 0.0001026 | 0.0000046 | 0.0003537 | 2551.328 | 1.004685 |
| upsilon_10,12 | 0.1608390 | 0.0565773 | 0.0677434 | 0.2878527 | 4341.300 | 1.004707 |
| upsilon_11,1 | 0.2612330 | 0.0363460 | 0.1938602 | 0.3351987 | 4883.721 | 1.001774 |
| upsilon_11,2 | 0.2922509 | 0.0383068 | 0.2197669 | 0.3707221 | 4291.261 | 1.004601 |
| upsilon_11,3 | 0.0268573 | 0.0076540 | 0.0143302 | 0.0440348 | 4652.568 | 1.005820 |
| upsilon_11,4 | 0.0012876 | 0.0008384 | 0.0002831 | 0.0034810 | 5077.392 | 1.003937 |
| upsilon_11,5 | 0.0031841 | 0.0016863 | 0.0009670 | 0.0074264 | 4616.768 | 1.002472 |
| upsilon_11,6 | 0.0333471 | 0.0091089 | 0.0190421 | 0.0539835 | 3083.894 | 1.005787 |
| upsilon_11,7 | 0.0517378 | 0.0105515 | 0.0329506 | 0.0752705 | 3621.342 | 1.004315 |
| upsilon_11,8 | 0.1754937 | 0.0347760 | 0.1126934 | 0.2504576 | 4511.896 | 1.004548 |
| upsilon_11,9 | 0.0013980 | 0.0009274 | 0.0002548 | 0.0037418 | 4917.898 | 1.003534 |
| upsilon_11,10 | 0.0128491 | 0.0044424 | 0.0061026 | 0.0232318 | 5679.756 | 1.006167 |
| upsilon_11,11 | 0.0002175 | 0.0001124 | 0.0000610 | 0.0004973 | 3547.597 | 1.005260 |
| upsilon_11,12 | 0.1401438 | 0.0304093 | 0.0880258 | 0.2050809 | 4140.677 | 1.004392 |
| upsilon_12,1 | 0.1958627 | 0.0272954 | 0.1450827 | 0.2528158 | 2574.804 | 1.007039 |
| upsilon_12,2 | 0.4556303 | 0.0416872 | 0.3755179 | 0.5399127 | 1733.298 | 1.010839 |
| upsilon_12,3 | 0.0314520 | 0.0070570 | 0.0194068 | 0.0464913 | 4620.054 | 1.003154 |
| upsilon_12,4 | 0.0003808 | 0.0003248 | 0.0000427 | 0.0012144 | 4895.654 | 1.002658 |
| upsilon_12,5 | 0.0023347 | 0.0013345 | 0.0005966 | 0.0057169 | 4638.443 | 1.002675 |
| upsilon_12,6 | 0.0245453 | 0.0060150 | 0.0144728 | 0.0377929 | 4666.844 | 1.004384 |
| upsilon_12,7 | 0.0289387 | 0.0060851 | 0.0183668 | 0.0424855 | 4537.903 | 1.003756 |
| upsilon_12,8 | 0.1455851 | 0.0277347 | 0.0979779 | 0.2049464 | 2245.515 | 1.006840 |
| upsilon_12,9 | 0.0012452 | 0.0006436 | 0.0003545 | 0.0028132 | 4773.152 | 1.001950 |
| upsilon_12,10 | 0.0103534 | 0.0030241 | 0.0054760 | 0.0172801 | 5052.132 | 1.003897 |
| upsilon_12,11 | 0.0000559 | 0.0000349 | 0.0000126 | 0.0001450 | 2725.593 | 1.004783 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| upsilon_12,12 | 0.1036159 | 0.0213380 | 0.0670555 | 0.1496042 | 3571.240 | 1.003800 |
| upsilon_13,1 | 0.1992345 | 0.0288283 | 0.1459310 | 0.2616949 | 2750.062 | 1.009690 |
| upsilon_13,2 | 0.4159646 | 0.0456724 | 0.3251772 | 0.5025176 | 3243.483 | 1.005562 |
| upsilon_13,3 | 0.0450327 | 0.0094330 | 0.0287059 | 0.0649748 | 3581.115 | 1.005558 |
| upsilon_13,4 | 0.0006403 | 0.0004274 | 0.0001343 | 0.0017865 | 4343.832 | 1.008083 |
| upsilon_13,5 | 0.0098532 | 0.0034007 | 0.0044463 | 0.0174373 | 4460.276 | 1.003922 |
| upsilon_13,6 | 0.0271851 | 0.0078749 | 0.0148848 | 0.0453092 | 4204.849 | 1.002183 |
| upsilon_13,7 | 0.0327830 | 0.0074623 | 0.0203917 | 0.0490407 | 3306.007 | 1.004249 |
| upsilon_13,8 | 0.1662283 | 0.0331945 | 0.1093119 | 0.2376744 | 3494.020 | 1.002948 |
| upsilon_13,9 | 0.0013037 | 0.0008623 | 0.0002447 | 0.0034877 | 2743.666 | 1.003592 |
| upsilon_13,10 | 0.0220535 | 0.0059844 | 0.0124488 | 0.0353212 | 4099.154 | 1.004388 |
| upsilon_13,11 | 0.0000836 | 0.0000545 | 0.0000172 | 0.0002257 | 3687.142 | 1.008785 |
| upsilon_13,12 | 0.0796376 | 0.0196999 | 0.0467821 | 0.1225975 | 4511.028 | 1.004207 |
| upsilon_14,1 | 0.1959133 | 0.0344082 | 0.1346874 | 0.2681098 | 5672.054 | 1.000802 |
| upsilon_14,2 | 0.4022857 | 0.0555214 | 0.2969377 | 0.5098211 | 4590.402 | 1.002661 |
| upsilon_14,3 | 0.0595390 | 0.0153786 | 0.0337908 | 0.0947634 | 2473.535 | 1.008605 |
| upsilon_14,4 | 0.0006075 | 0.0004859 | 0.0000946 | 0.0018771 | 4579.807 | 1.002825 |
| upsilon_14,5 | 0.0029787 | 0.0019624 | 0.0006087 | 0.0082411 | 2879.116 | 1.007463 |
| upsilon_14,6 | 0.0322611 | 0.0115220 | 0.0143845 | 0.0591025 | 5226.621 | 1.003366 |
| upsilon_14,7 | 0.0307183 | 0.0085322 | 0.0165168 | 0.0501243 | 4514.492 | 1.004657 |
| upsilon_14,8 | 0.2009488 | 0.0475723 | 0.1188747 | 0.3014179 | 4671.753 | 1.001885 |
| upsilon_14,9 | 0.0016730 | 0.0012850 | 0.0002395 | 0.0049576 | 3385.618 | 1.006728 |
| upsilon_14,10 | 0.0186029 | 0.0077031 | 0.0073734 | 0.0367012 | 5628.200 | 1.005214 |
| upsilon_14,11 | 0.0000407 | 0.0000444 | 0.0000017 | 0.0001634 | 2896.512 | 1.005953 |
| upsilon_14,12 | 0.0544309 | 0.0209257 | 0.0218649 | 0.1034190 | 5141.992 | 1.003723 |
| upsilon_15,1 | 0.3381752 | 0.1014606 | 0.1468528 | 0.5462527 | 3908.844 | 1.004862 |
| upsilon_15,2 | 0.2558360 | 0.0957024 | 0.0919312 | 0.4564439 | 3599.726 | 1.010160 |
| upsilon_15,3 | 0.0442526 | 0.0288747 | 0.0080031 | 0.1139901 | 4475.118 | 1.010932 |
| upsilon_15,4 | 0.0005258 | 0.0009366 | 0.0000045 | 0.0030375 | 3589.716 | 1.002552 |
| upsilon_15,5 | 0.0037226 | 0.0038907 | 0.0002418 | 0.0143625 | 5408.313 | 1.002124 |
| upsilon_15,6 | 0.0408173 | 0.0292989 | 0.0066716 | 0.1124952 | 5071.386 | 1.001349 |
| upsilon_15,7 | 0.0612977 | 0.0328574 | 0.0190765 | 0.1426329 | 4897.059 | 1.002943 |
| upsilon_15,8 | 0.1390042 | 0.1043132 | 0.0128000 | 0.4054836 | 1921.374 | 1.011594 |
| upsilon_15,9 | 0.0033203 | 0.0052753 | 0.0000062 | 0.0175189 | 3166.597 | 1.004654 |
| upsilon_15,10 | 0.0066194 | 0.0124224 | 0.0000960 | 0.0363544 | 3865.129 | 1.005477 |
| upsilon_15,11 | 0.0001087 | 0.0002009 | 0.0000001 | 0.0006671 | 2987.532 | 1.006830 |
| upsilon_15,12 | 0.1063200 | 0.0720307 | 0.0124232 | 0.2829999 | 4541.982 | 1.002129 |
| upsilon_16,1 | 0.2728824 | 0.1074048 | 0.0847212 | 0.4927935 | 4765.868 | 1.006650 |
| upsilon_16,2 | 0.2128595 | 0.1012798 | 0.0557192 | 0.4408975 | 3425.484 | 1.006345 |
| upsilon_16,3 | 0.0534458 | 0.0348991 | 0.0094660 | 0.1421733 | 3431.360 | 1.008305 |
| upsilon_16,4 | 0.0014694 | 0.0022652 | 0.0000349 | 0.0072676 | 2994.613 | 1.006237 |
| upsilon_16,5 | 0.0055626 | 0.0056512 | 0.0003235 | 0.0213963 | 4776.821 | 1.007827 |
| upsilon_16,6 | 0.0555636 | 0.0390165 | 0.0093527 | 0.1582566 | 3594.606 | 1.002549 |
| upsilon_16,7 | 0.0575448 | 0.0339610 | 0.0136063 | 0.1449486 | 4483.989 | 1.001431 |
| upsilon_16,8 | 0.1843072 | 0.1250104 | 0.0208024 | 0.4938264 | 3929.803 | 1.003995 |
| upsilon_16,9 | 0.0048103 | 0.0066379 | 0.0000156 | 0.0239487 | 2095.736 | 1.008964 |
| upsilon_16,10 | 0.0097425 | 0.0144792 | 0.0001900 | 0.0458515 | 3908.195 | 1.003778 |

| Parameter | mean | sd | q2.5 | q97.5 | N_eff | rhat |
|---|---|---|---|---|---|---|
| upsilon__16,11 | 0.0001579 | 0.0002894 | 0.0000001 | 0.0009349 | 2232.999 | 1.008391 |
| upsilon__16,12 | 0.1416540 | 0.0908942 | 0.0187282 | 0.3617152 | 5092.816 | 1.003789 |
| upsilon__17,1 | 0.3328068 | 0.0738261 | 0.1969213 | 0.4813052 | 5152.578 | 1.002108 |
| upsilon__17,2 | 0.4524582 | 0.0788718 | 0.2980912 | 0.6057277 | 5014.762 | 1.004783 |
| upsilon__17,3 | 0.0131762 | 0.0105753 | 0.0013016 | 0.0415733 | 4707.897 | 1.004557 |
| upsilon__17,4 | 0.0001245 | 0.0002143 | 0.0000013 | 0.0007028 | 3679.212 | 1.003471 |
| upsilon__17,5 | 0.0017043 | 0.0017354 | 0.0001338 | 0.0060134 | 4297.485 | 1.003435 |
| upsilon__17,6 | 0.0407636 | 0.0228627 | 0.0104710 | 0.0973892 | 4765.595 | 1.002353 |
| upsilon__17,7 | 0.0430400 | 0.0195013 | 0.0161783 | 0.0916543 | 4077.397 | 1.003360 |
| upsilon__17,8 | 0.0703496 | 0.0521590 | 0.0081717 | 0.2073253 | 3554.604 | 1.005592 |
| upsilon__17,9 | 0.0012116 | 0.0019171 | 0.0000038 | 0.0063550 | 2862.896 | 1.007063 |
| upsilon__17,10 | 0.0014576 | 0.0019297 | 0.0000303 | 0.0066628 | 4032.329 | 1.002975 |
| upsilon__17,11 | 0.0000297 | 0.0000584 | 0.0000000 | 0.0001820 | 2742.477 | 1.003465 |
| upsilon__17,12 | 0.0428779 | 0.0329615 | 0.0045997 | 0.1320369 | 1778.065 | 1.009190 |
| upsilon__18,1 | 0.3862985 | 0.0610987 | 0.2721579 | 0.5096539 | 5763.175 | 1.007093 |
| upsilon__18,2 | 0.3060826 | 0.0595308 | 0.1959007 | 0.4311588 | 6101.496 | 1.004894 |
| upsilon__18,3 | 0.0550485 | 0.0196763 | 0.0238309 | 0.1004973 | 5537.126 | 1.005191 |
| upsilon__18,4 | 0.0005851 | 0.0006686 | 0.0000371 | 0.0023551 | 3496.811 | 1.002455 |
| upsilon__18,5 | 0.0036205 | 0.0029276 | 0.0004360 | 0.0111554 | 5111.261 | 1.007418 |
| upsilon__18,6 | 0.0328249 | 0.0171094 | 0.0093022 | 0.0750318 | 5777.356 | 1.001162 |
| upsilon__18,7 | 0.0409152 | 0.0145767 | 0.0182958 | 0.0751446 | 4800.493 | 1.002078 |
| upsilon__18,8 | 0.0756278 | 0.0379985 | 0.0217614 | 0.1662344 | 4986.716 | 1.005888 |
| upsilon__18,9 | 0.0011471 | 0.0015392 | 0.0000050 | 0.0052998 | 2783.560 | 1.004456 |
| upsilon__18,10 | 0.0070338 | 0.0057470 | 0.0008399 | 0.0221790 | 5488.855 | 1.004242 |
| upsilon__18,11 | 0.0001117 | 0.0001137 | 0.0000063 | 0.0004089 | 3852.570 | 1.001460 |
| upsilon__18,12 | 0.0907043 | 0.0377990 | 0.0324824 | 0.1795940 | 5026.856 | 1.001748 |
| upsilon__19,1 | 0.2799782 | 0.0604289 | 0.1725998 | 0.4086815 | 6122.459 | 1.005250 |
| upsilon__19,2 | 0.3106039 | 0.0706861 | 0.1788486 | 0.4522268 | 5536.708 | 1.005100 |
| upsilon__19,3 | 0.0433151 | 0.0185493 | 0.0156099 | 0.0867003 | 5649.234 | 1.003842 |
| upsilon__19,4 | 0.0018654 | 0.0017437 | 0.0001784 | 0.0066058 | 4146.744 | 1.005227 |
| upsilon__19,5 | 0.0040618 | 0.0032911 | 0.0004962 | 0.0127288 | 5776.513 | 1.009114 |
| upsilon__19,6 | 0.0209756 | 0.0124601 | 0.0049408 | 0.0524245 | 6484.615 | 1.006647 |
| upsilon__19,7 | 0.0454229 | 0.0164844 | 0.0196328 | 0.0834750 | 6256.183 | 1.004262 |
| upsilon__19,8 | 0.1546478 | 0.0590268 | 0.0610103 | 0.2863014 | 5126.140 | 1.007862 |
| upsilon__19,9 | 0.0015933 | 0.0019386 | 0.0000126 | 0.0070104 | 3895.655 | 1.001178 |
| upsilon__19,10 | 0.0069616 | 0.0068433 | 0.0003174 | 0.0254761 | 3673.664 | 1.006049 |
| upsilon__19,11 | 0.0000755 | 0.0001067 | 0.0000001 | 0.0003909 | 3333.066 | 1.004968 |
| upsilon__19,12 | 0.1304987 | 0.0505404 | 0.0495024 | 0.2430320 | 5396.666 | 1.002670 |