Arthropod Model Diagnostics and additional information

Table of arthropod capture success

Arthropods were captured in one of 6 trap types:

- UV = Ultraviolet bucket traps
- FlyY = Yellow vane (flight) traps
- FlyB = Blue vane (flight) traps
- Pit = Pitfall traps
- Malaise = Malaise flight-intercept traps
- BN = Beat-netting of willows (*Salix sp.*)

See methods in main text for trap methods, duration of trapping, etc.

This table is very similar to Table 1 in the main text. We keep it here for completeness of this document, so that it may somewhat stand alone.

UV	FlyY	FlyB	Pit	Malaise	BN	Sum	Order	Percent
57015	365	48	120	7012	11	64571	Lepidoptera	42.41
26749	688	858	1882	12981	232	43390	Diptera	28.50
2751	686	199	7407	1884	233	13160	Hymenoptera	8.64
2307	16	3	6226	1632	13	10197	Collembola	6.70
592	303	75	851	3176	497	5494	Hemiptera	3.61
4793	18	8	47	571	13	5450	Trichoptera	3.58
1103	1063	414	1037	975	138	4730	Coleoptera	3.11
136	25	14	1230	38	100	1543	Araneae	1.01
89	9	7	681	59	3	848	Acari	0.56
45	39	12	0	437	2	535	Raphidioptera	0.35
50	46	5	14	309	24	448	Plecoptera	0.29
13	128	105	61	41	15	363	Thysanoptera	0.24
19	4	0	254	1	1	279	Opiliones	0.18
29	20	21	54	36	113	273	Lep.Larvae	0.18
100	26	19	44	56	25	270	Unknown.Damaged	0.18
86	7	10	106	35	2	246	Dermaptera	0.16
3	0	0	151	0	0	154	Archaeognatha	0.10
21	2	0	80	9	0	112	Orthoptera	0.07
81	0	0	2	23	4	110	Neuroptera	0.07
2	0	0	24	0	0	26	Diplopoda	0.02
2	2	1	1	9	3	18	Ephemeroptera	0.01
1	2	0	5	0	0	8	Pseudoscorpiones	0.01
0	0	0	7	0	0	7	Haplotaxida	0.00
0	0	0	7	0	0	7	Chilopoda	0.00

UV	FlyY	FlyB	Pit	Malaise	BN	Sum	Order	Percent
1	0	0	5	1	0	7	Blattodea	0.00
1	0	0	3	2	0	6	Psocoptera	0.00
0	1	0	4	0	0	5	Zygentoma	0.00
0	0	1	0	2	1	4	Odonata	0.00
0	0	0	1	0	0	1	Siphonaptera	0.00

Metadata descriptions

- Variables appended with ".s" indicates that these values were centered by the mean and then scaled by two standard deviations (Gelman 2008; see main text for reference) to make estimates comparable to categorial predictors.

DayL50.s - Sound Pressure Level L50 (median) dB(A)

Med.s - Median frequency of background spectra

DayL50.s:Med.s - The interaction between the above two predictors

yday.s - Ordinal date (day of year)

Veg.s - % riparian vegetation (see methods in main text)

Elev.s - Elevation (m)

Moon.s - Moon illuminance (see methods in main text)

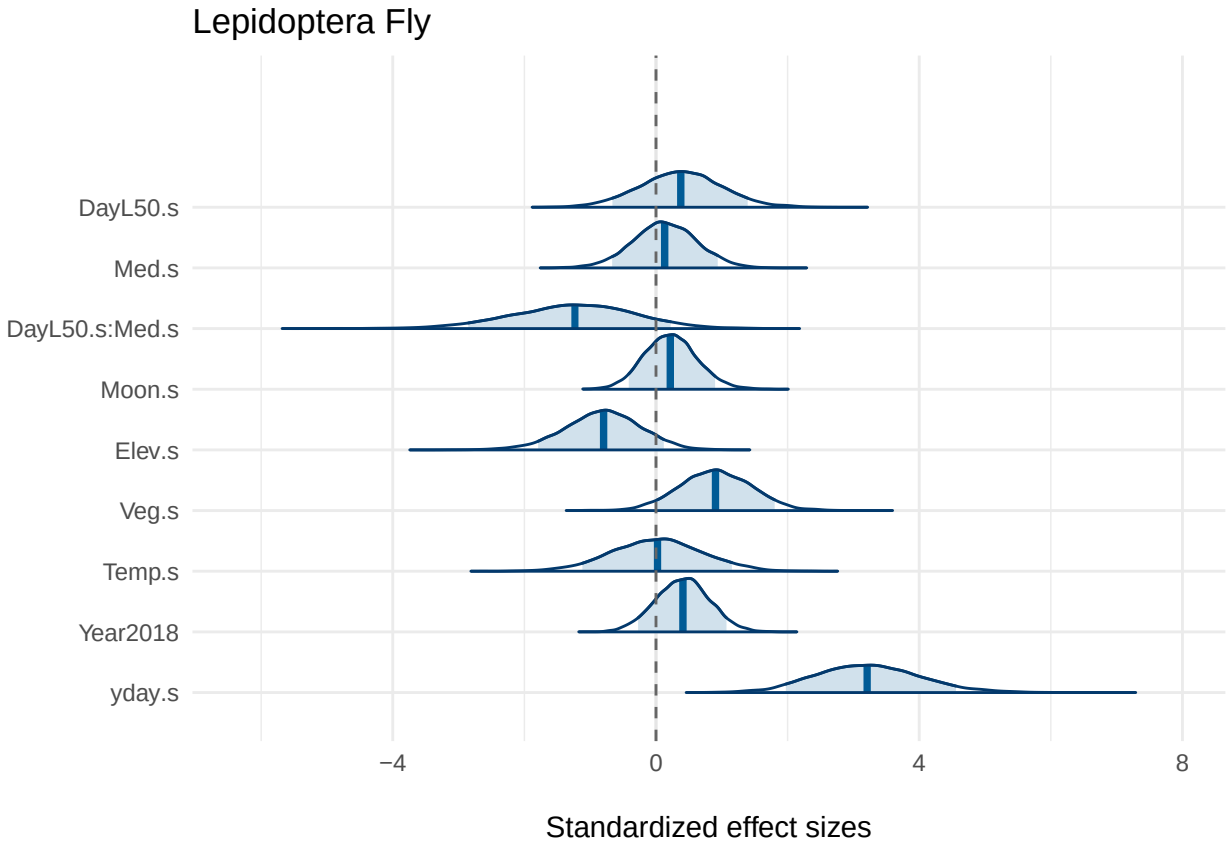
Temp.s - Temperature (C)

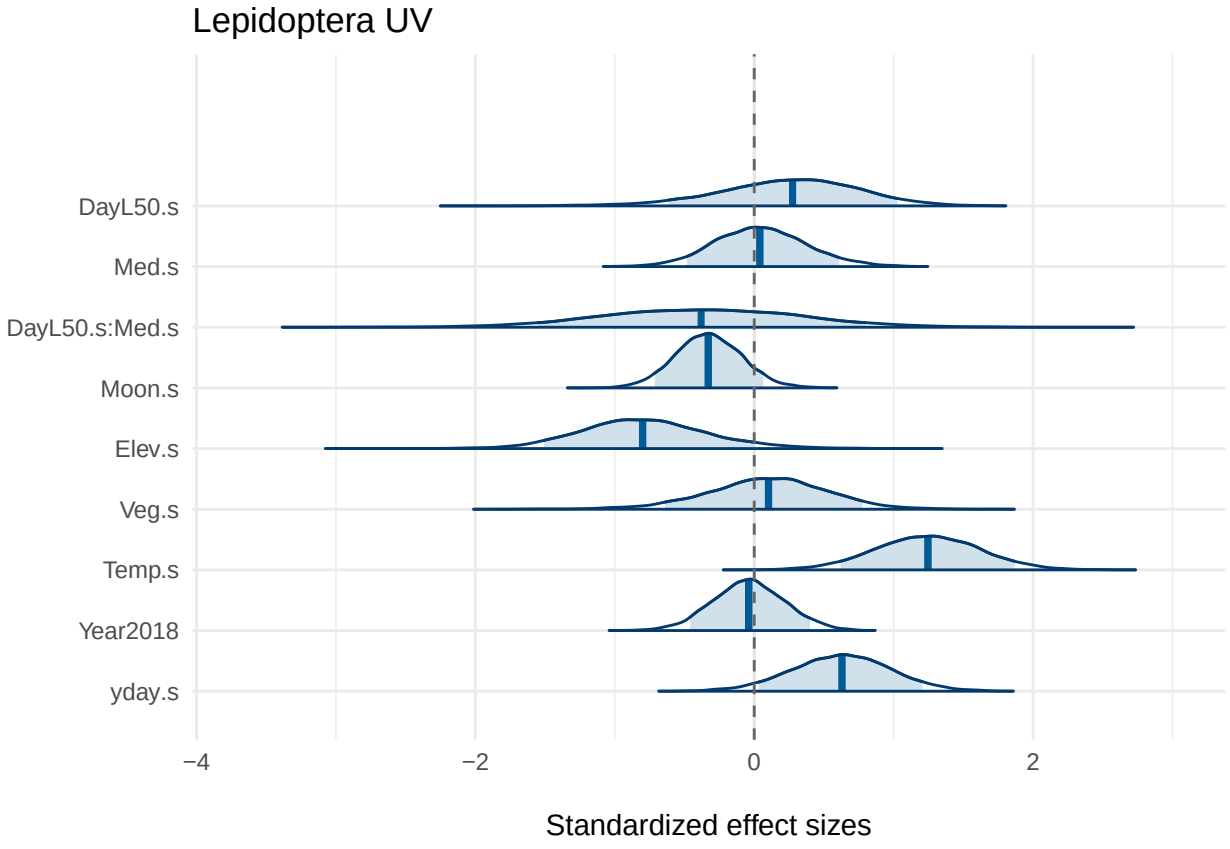
Year - Year of data collection

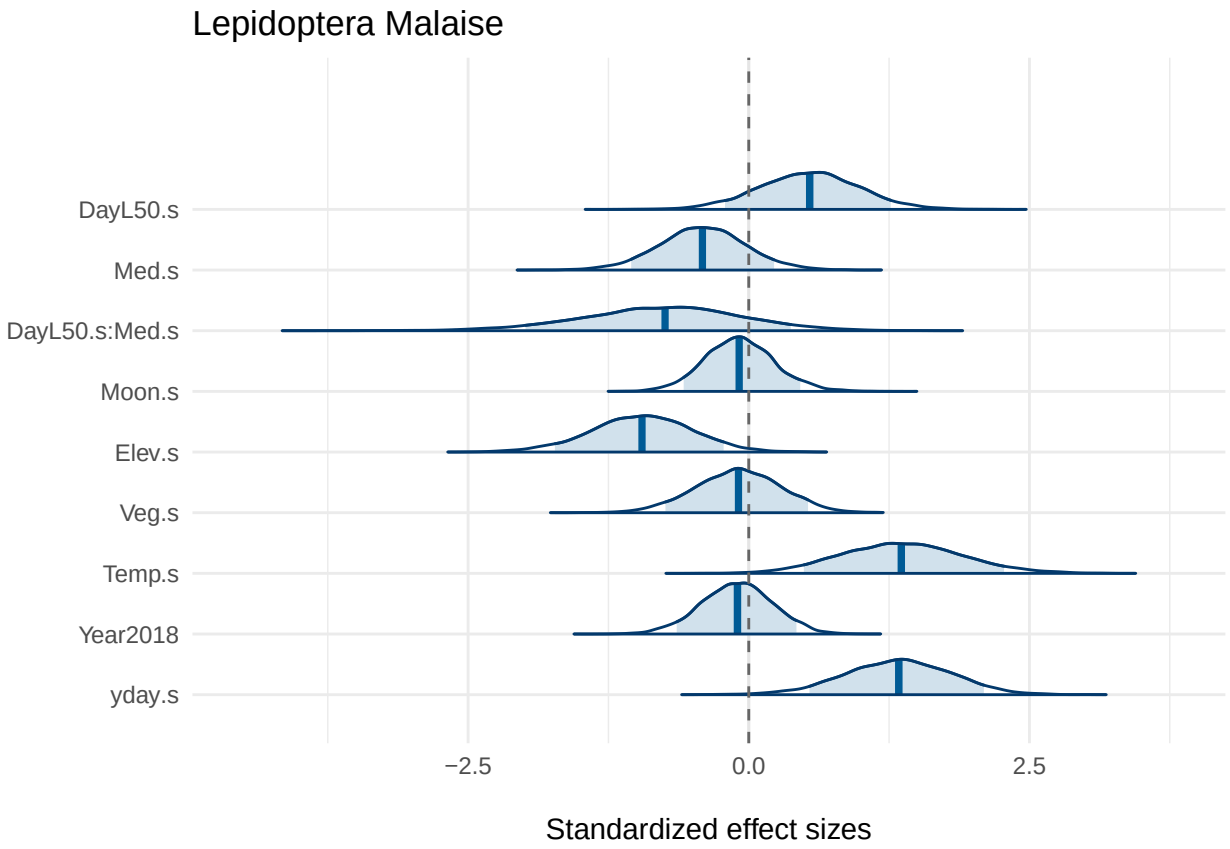
Model estimate plots:

Distribution represents range of posterior draws, while shaded region represents 90% of those draws (90% credible intervals). Thick vertical line is point estimate (median draw).

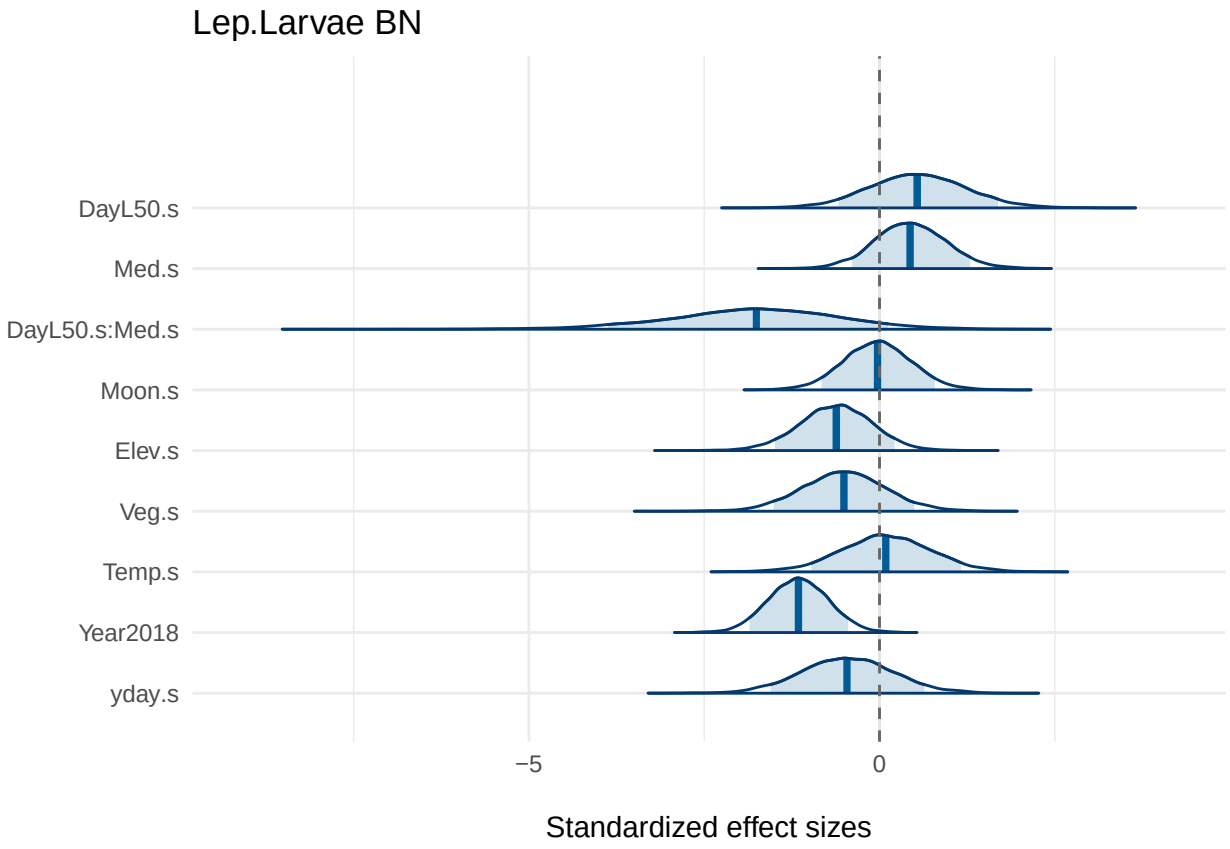
Lepidoptera



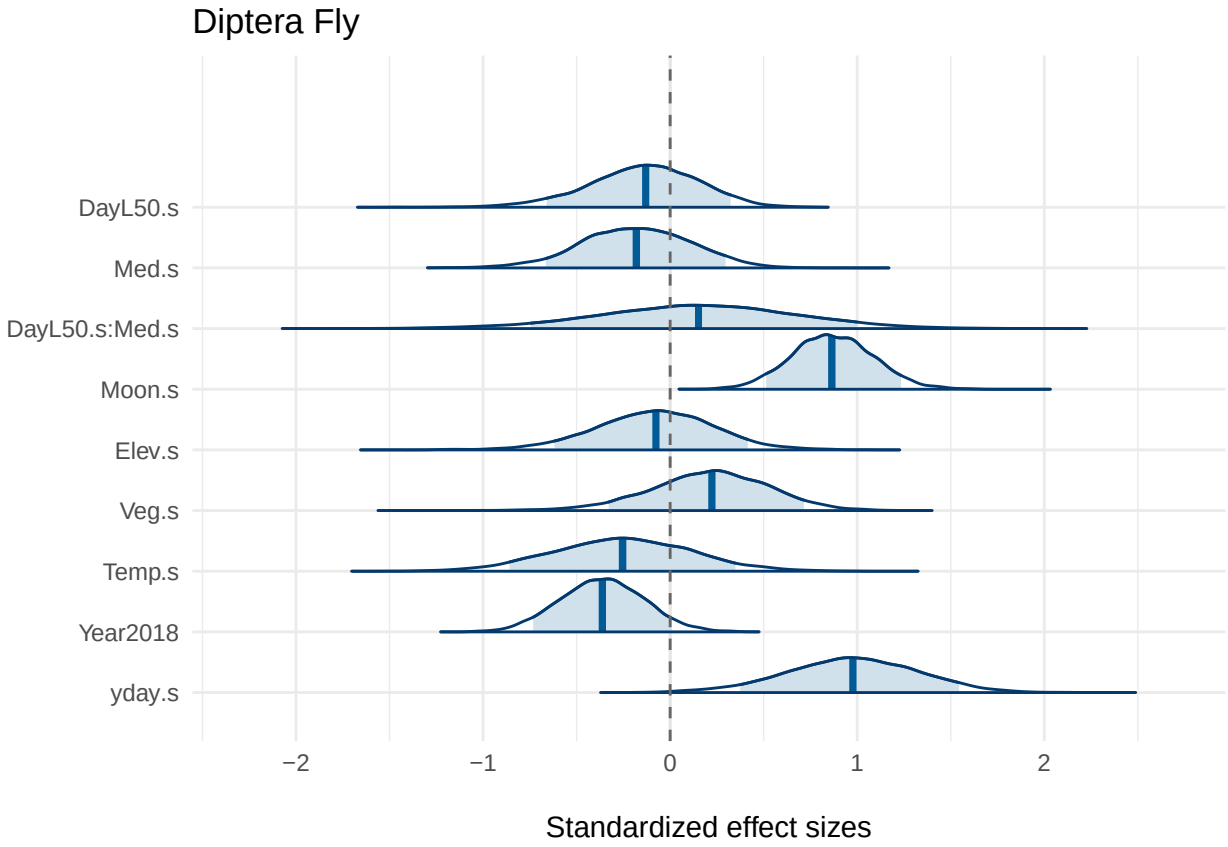


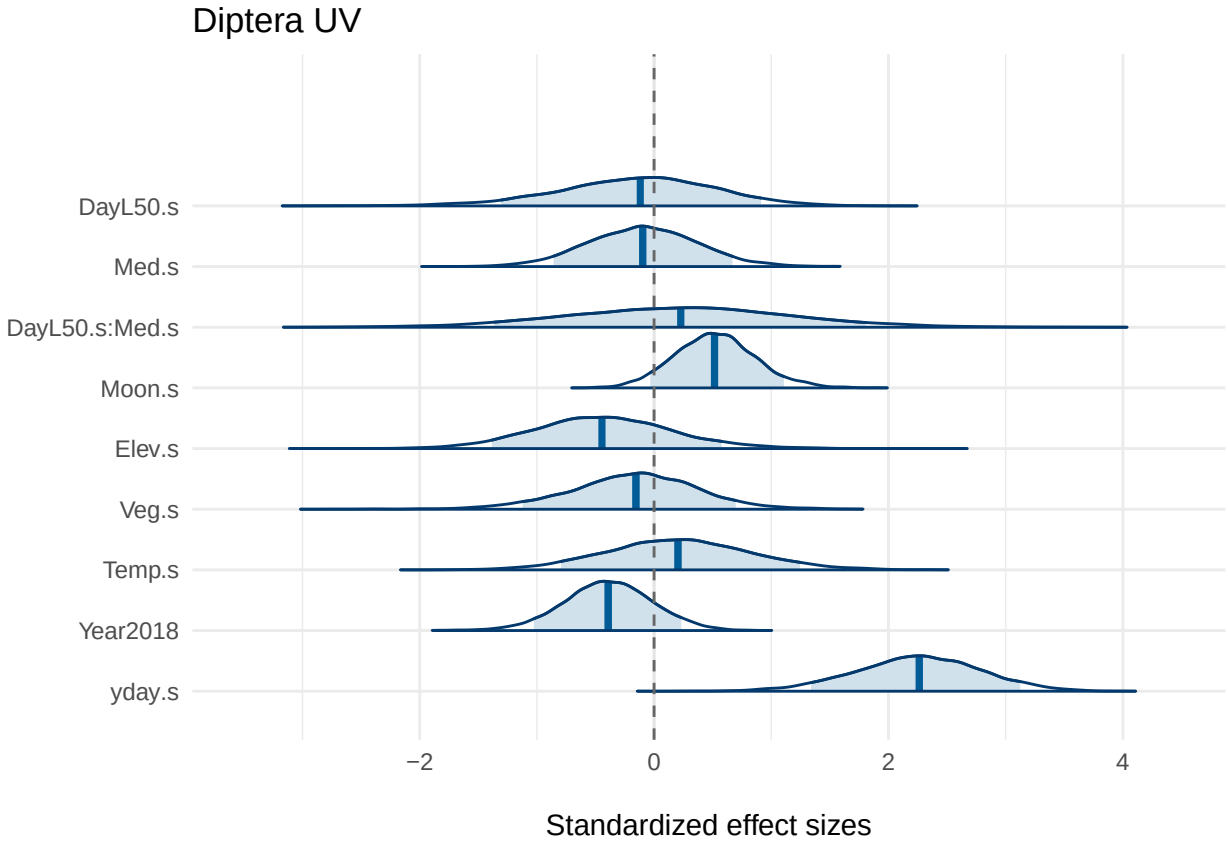

Lepidoptera Malaise
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2.5
0.0
2.5
Standardized effect sizes

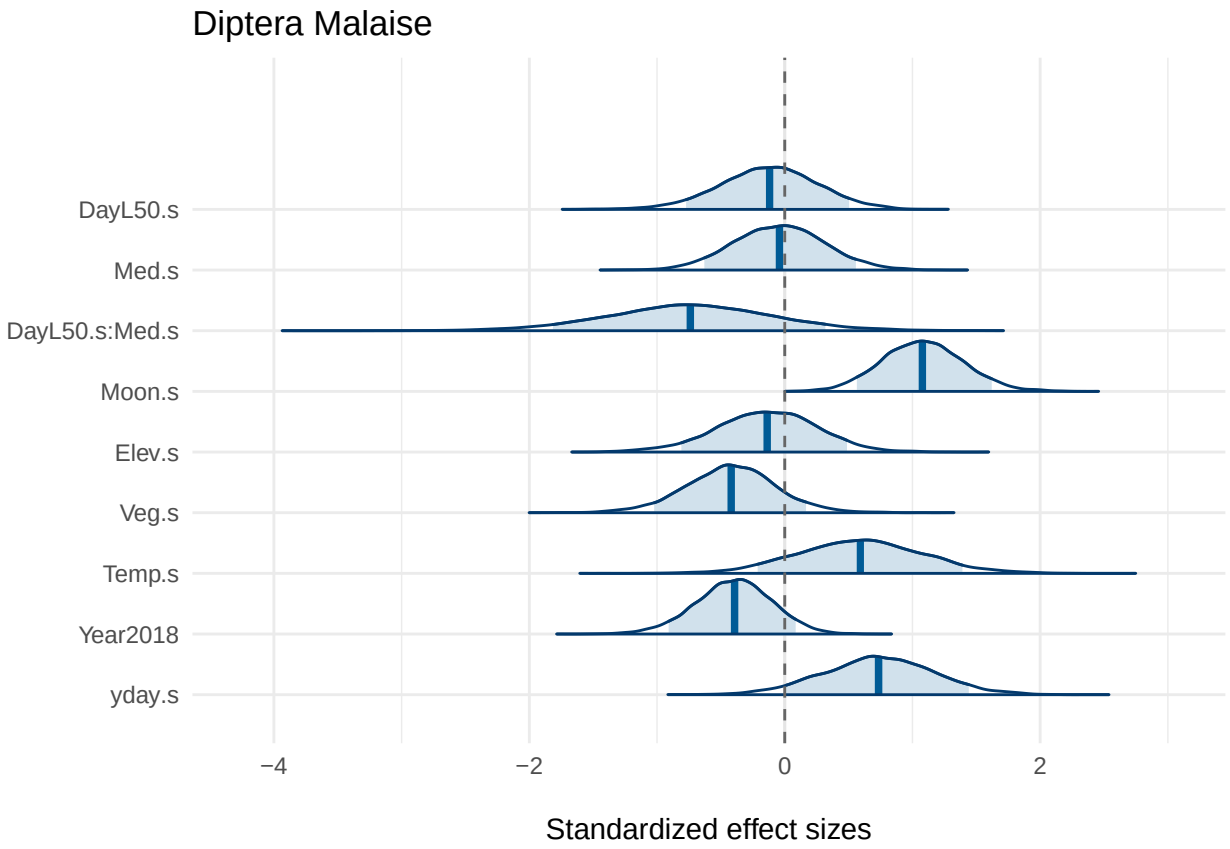
Lepidoptera Larvae

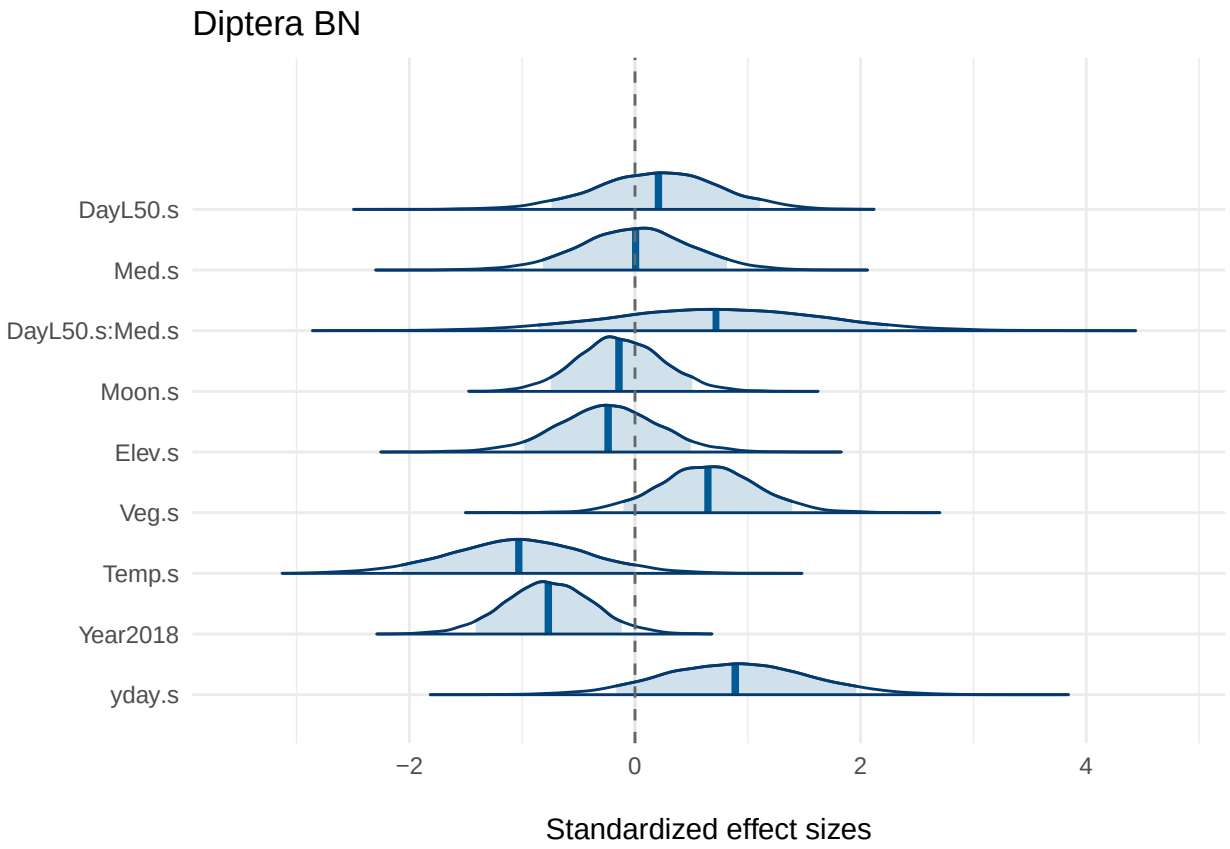


Diptera

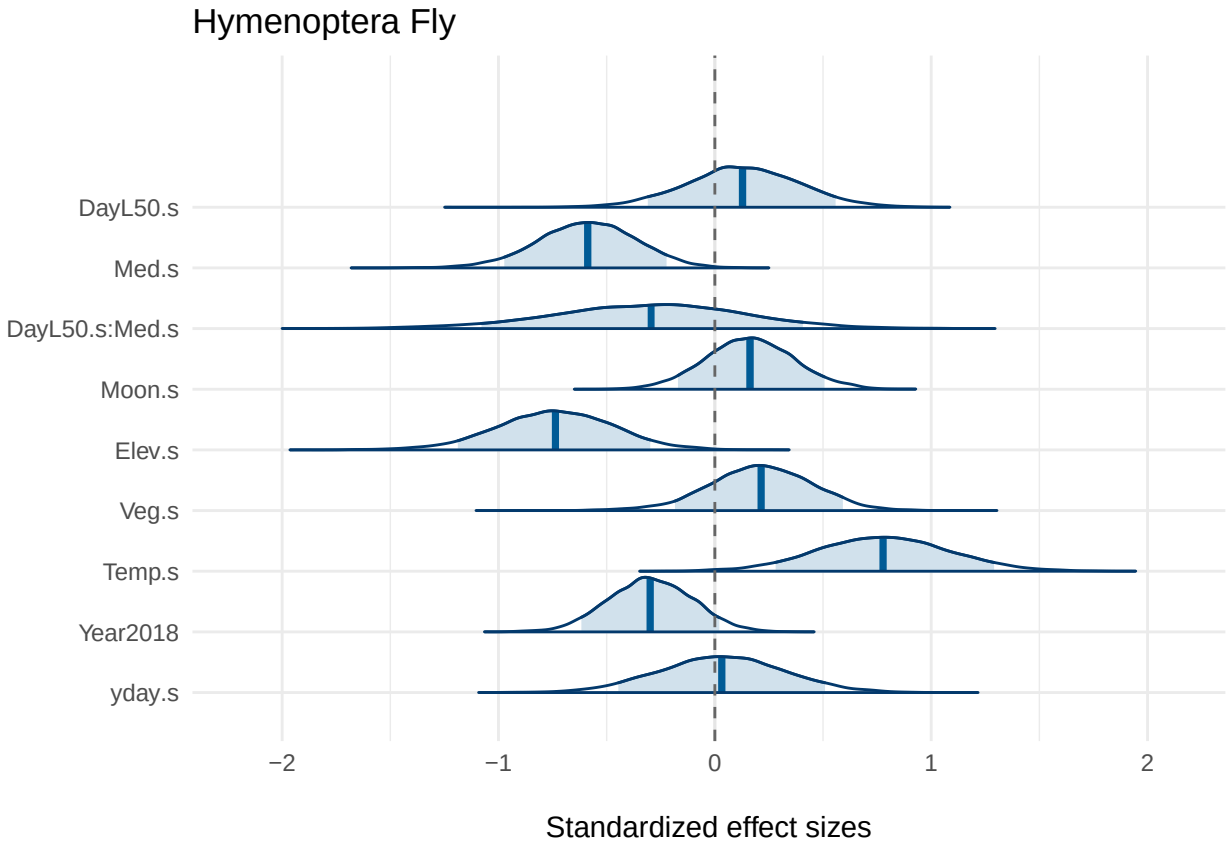

Diptera Fly
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
−1
0
1
2
Standardized effect sizes

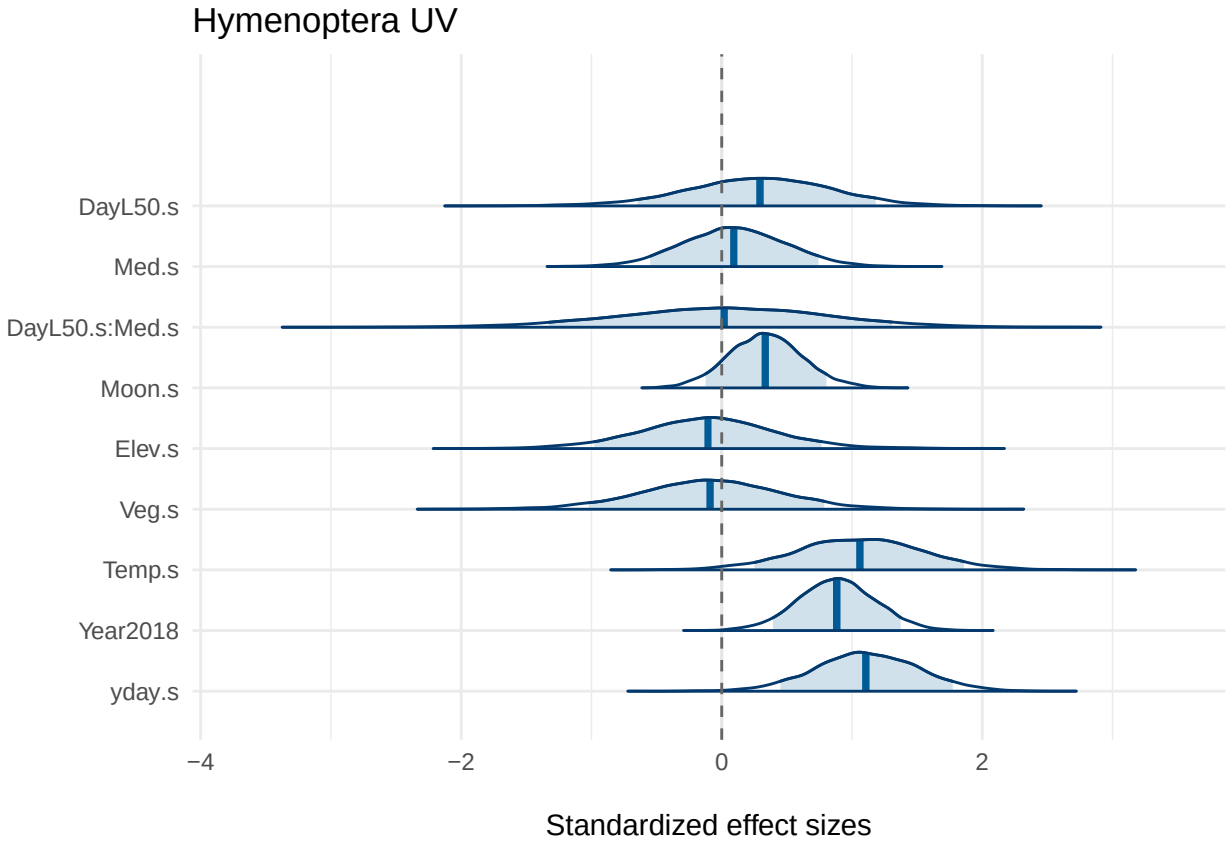

Diptera UV
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
0
2
4
Standardized effect sizes

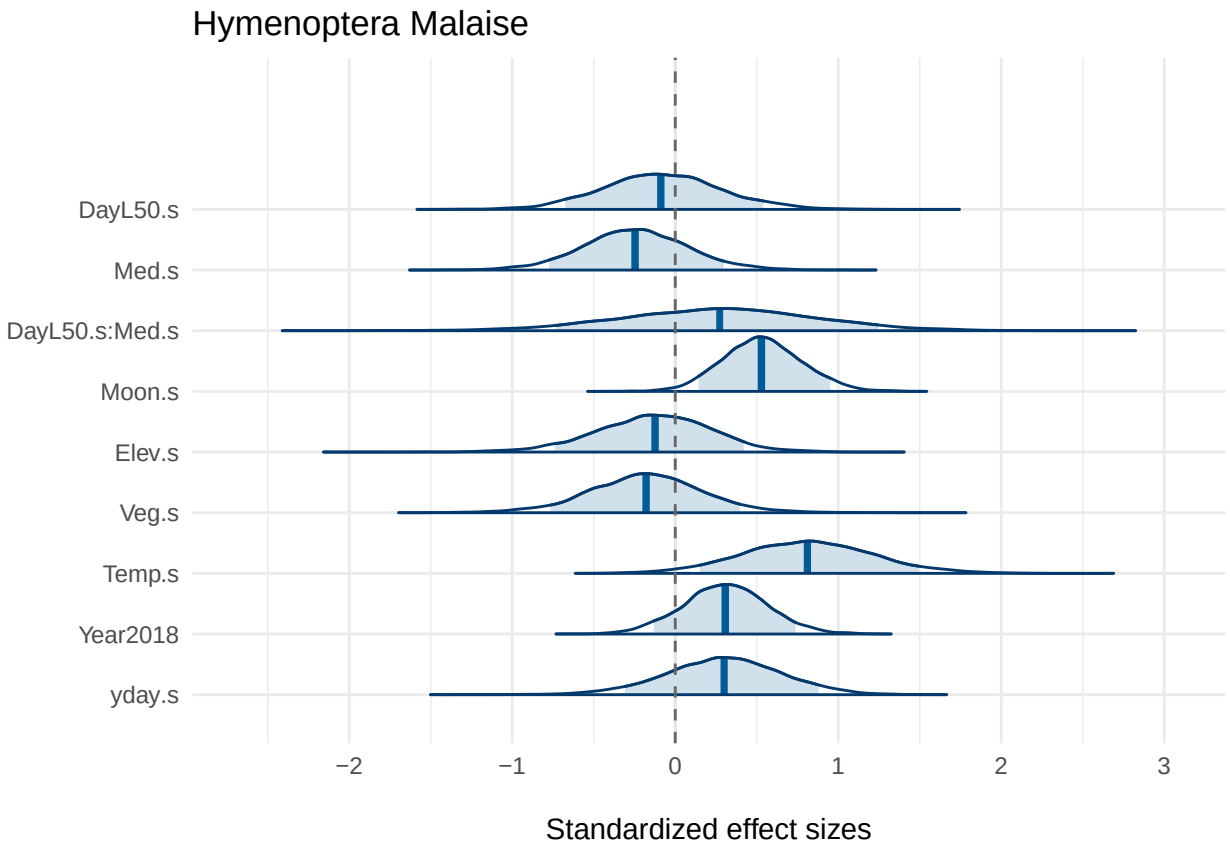

Diptera Malaise
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−4
−2
0
2
Standardized effect sizes

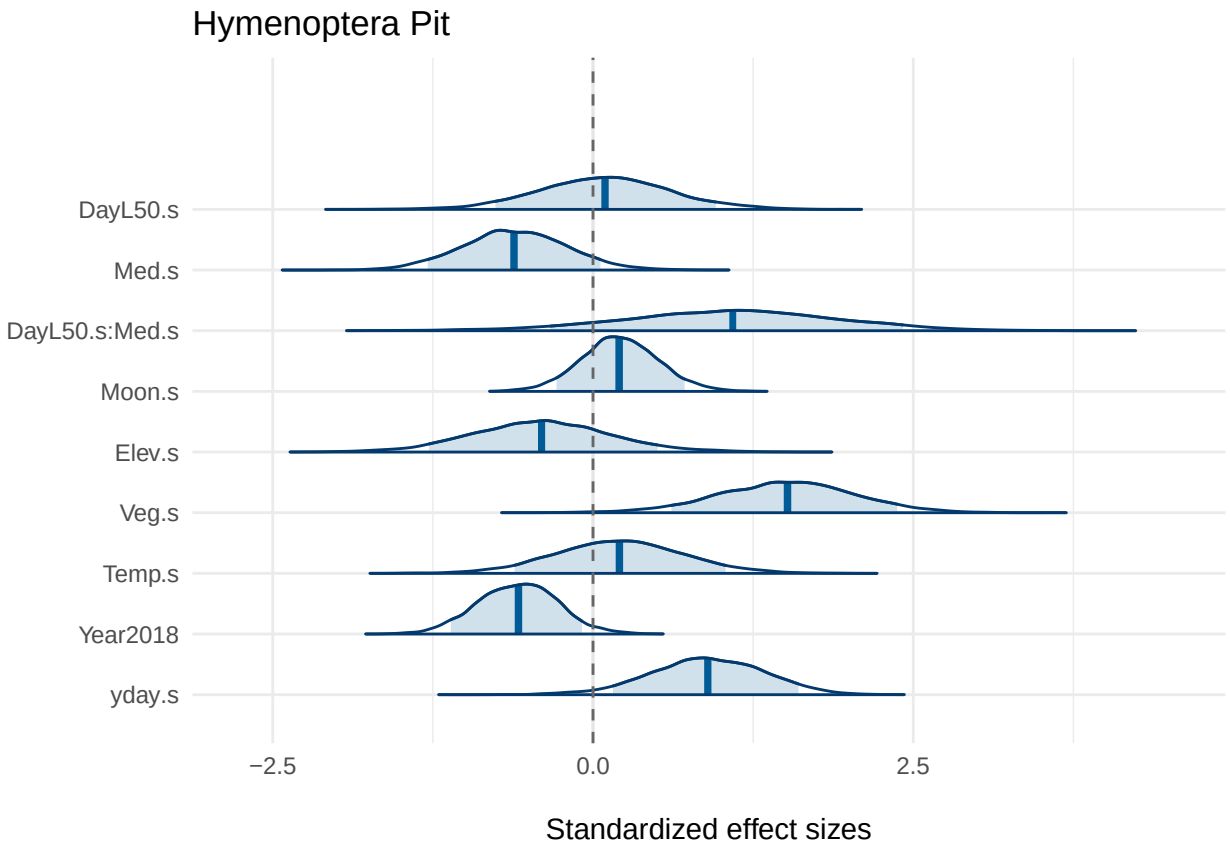

Diptera BN
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
0
2
4
Standardized effect sizes

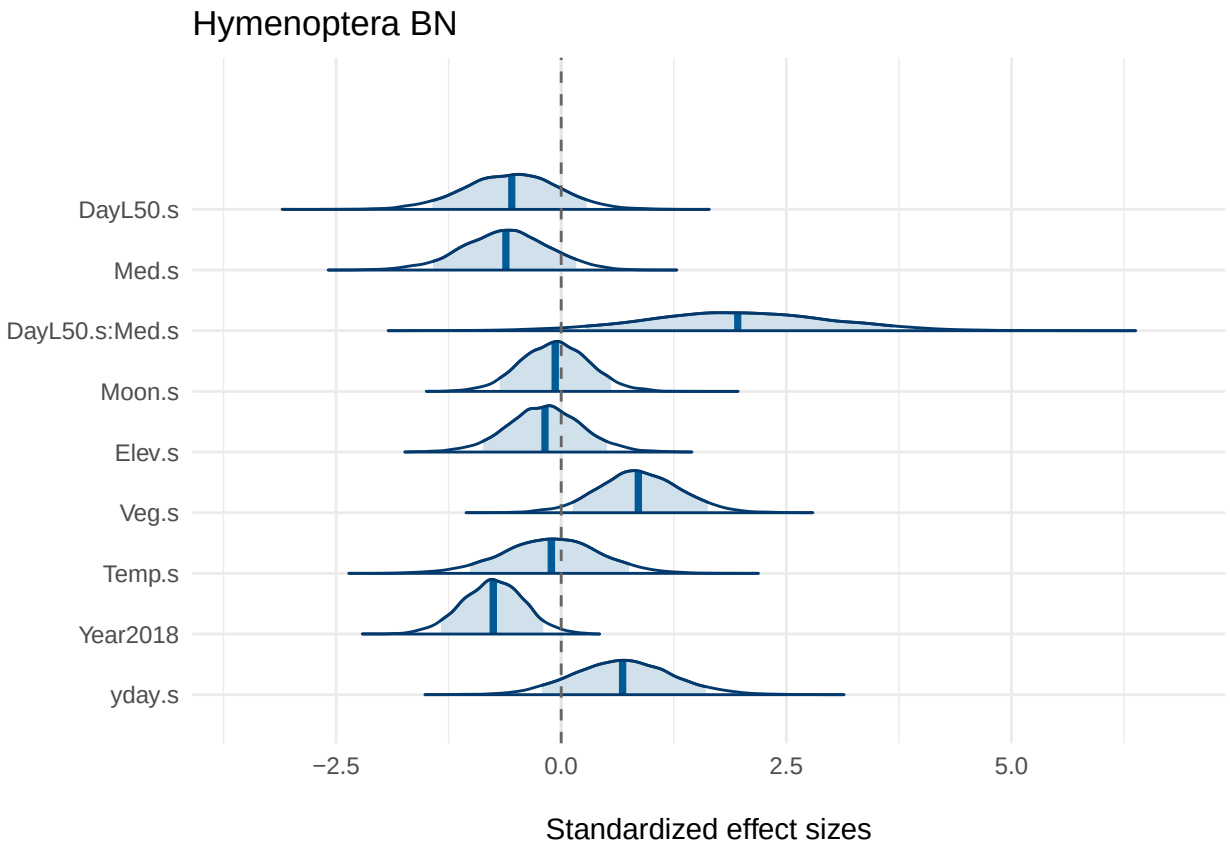
Hymenoptera



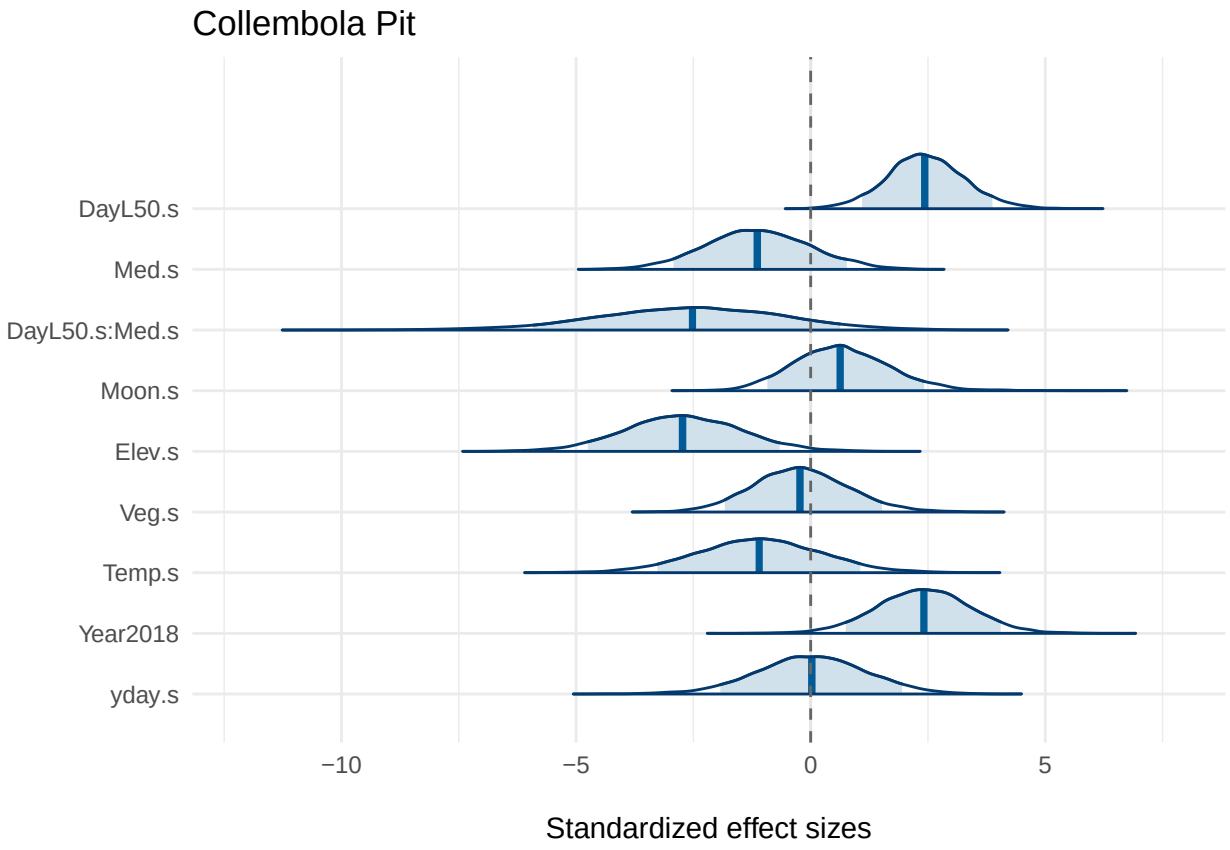



Hymenoptera Malaise
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
−1
0
1
2
3
Standardized effect sizes

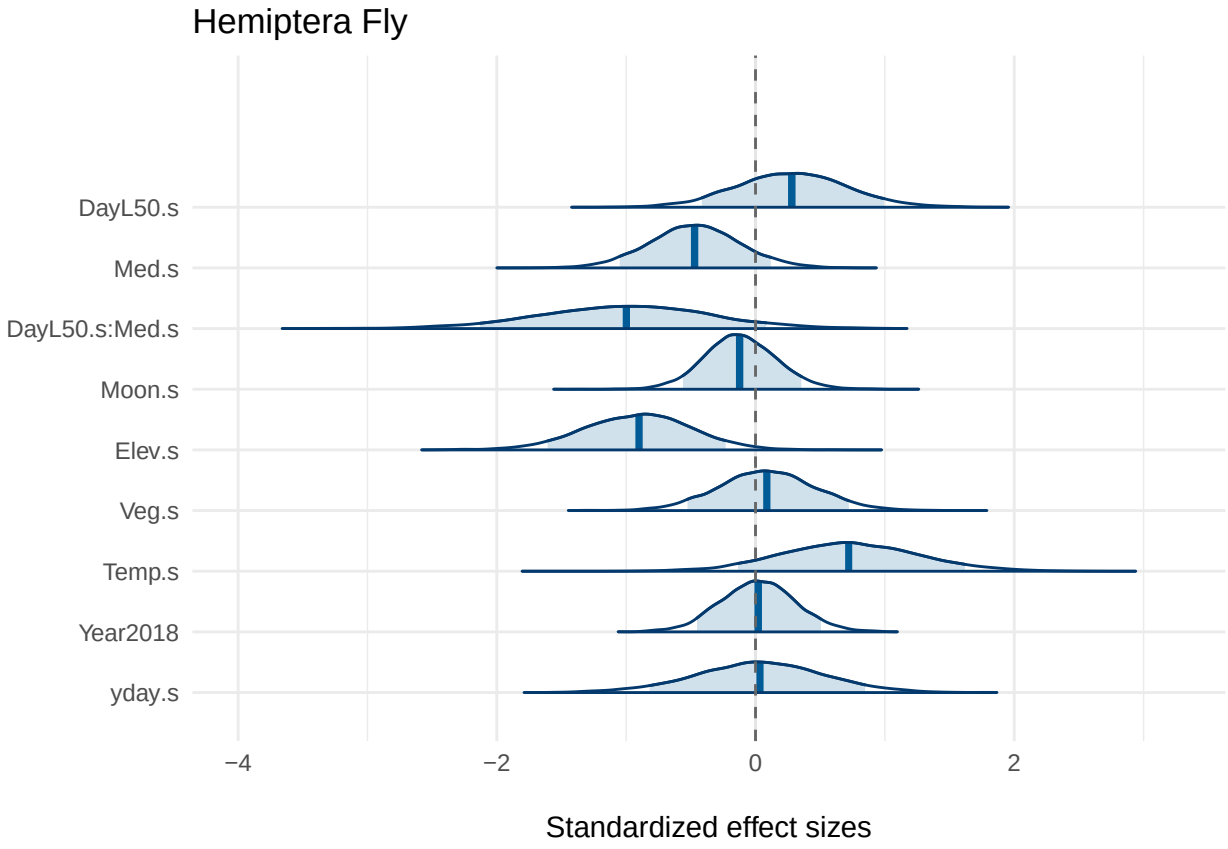

Hymenoptera Pit
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2.5
0.0
2.5
Standardized effect sizes

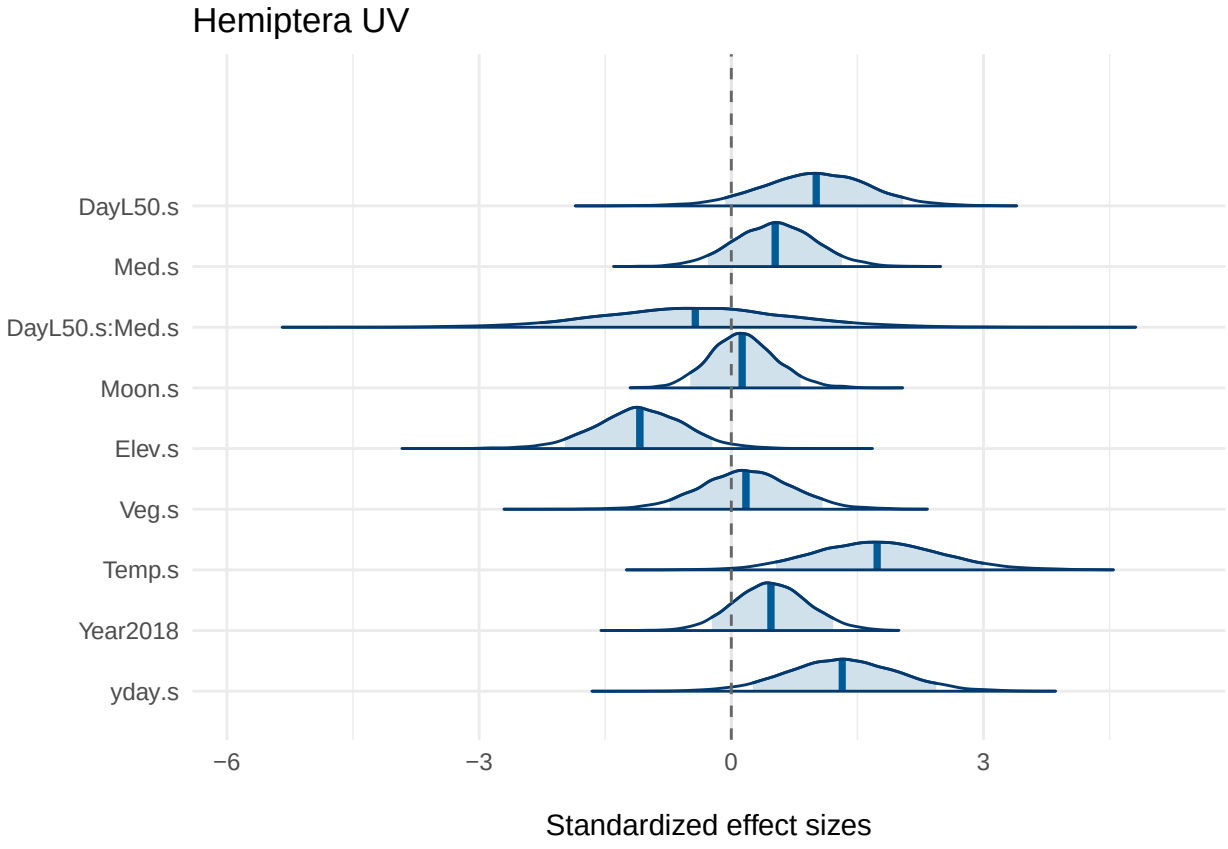

Hymenoptera BN
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2.5
0.0
2.5
5.0
Standardized effect sizes

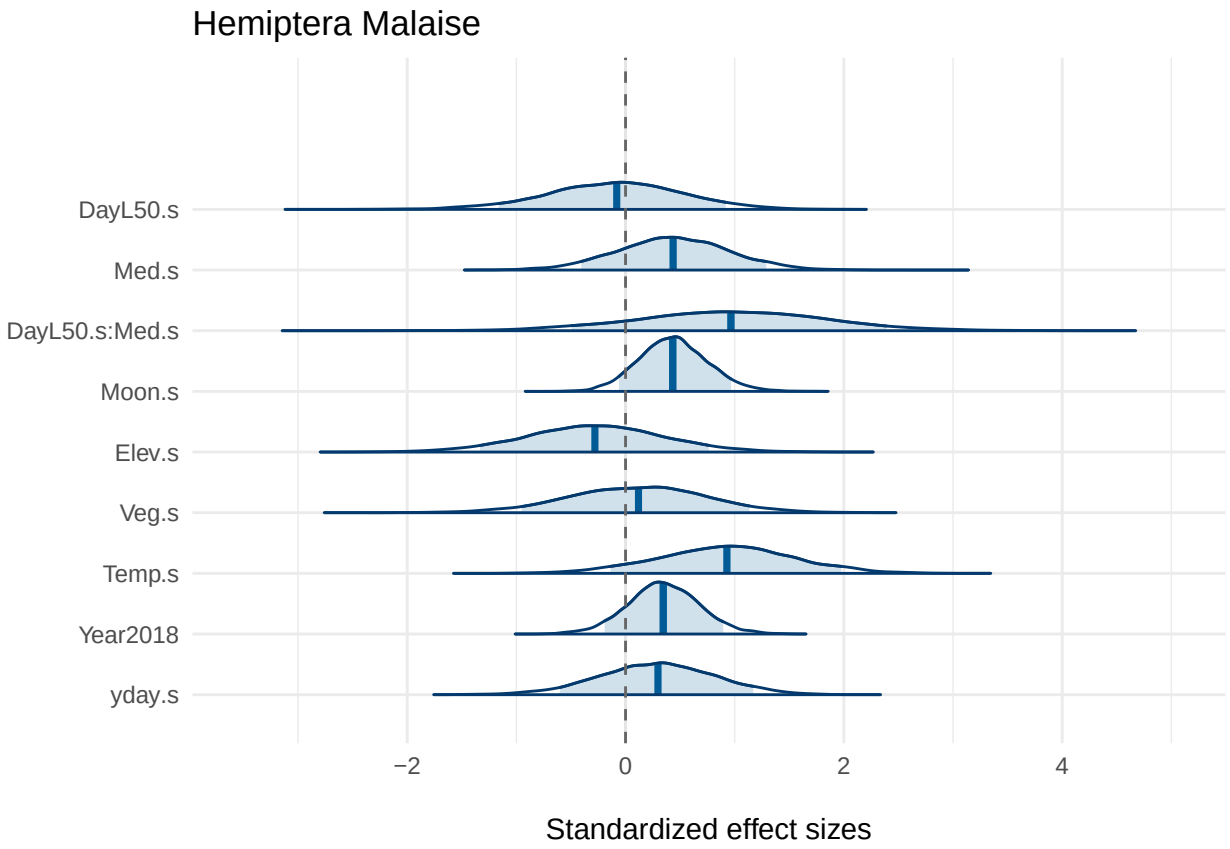
Collembola

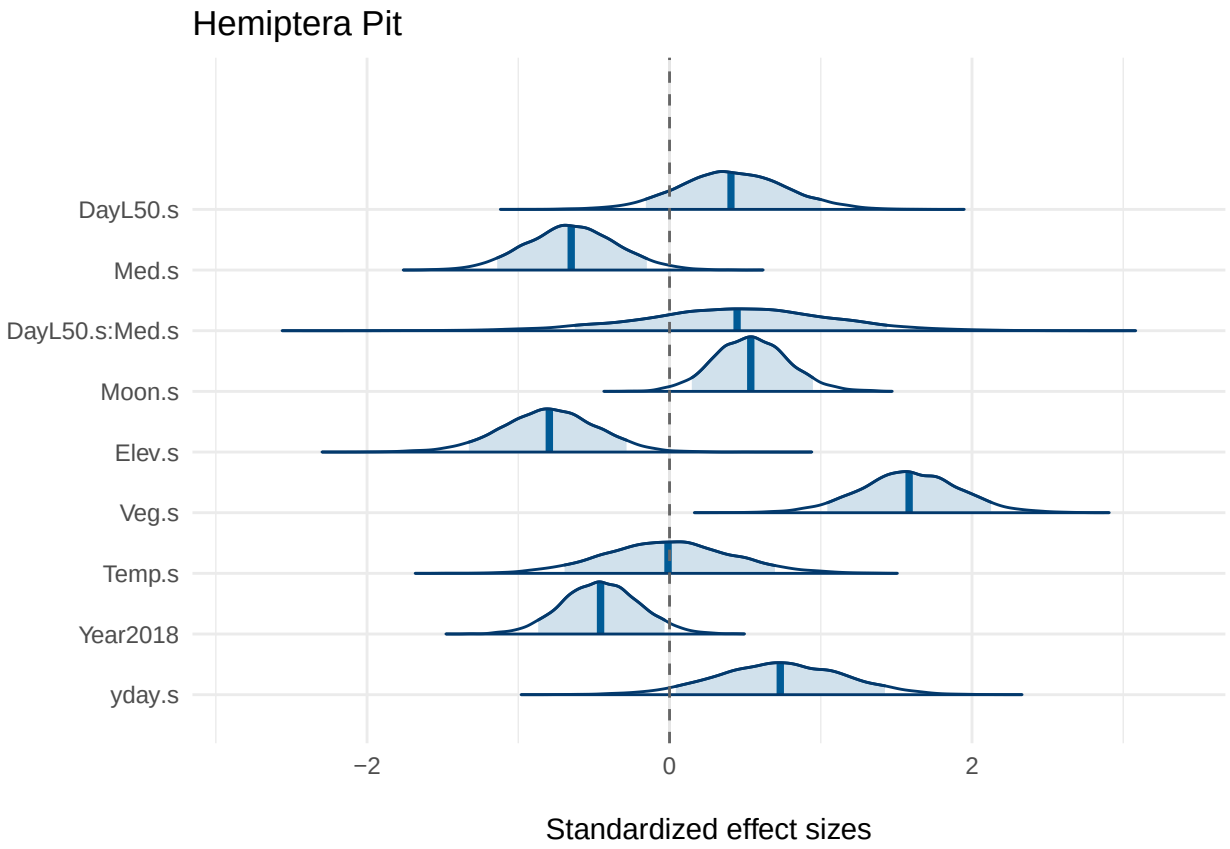

Collembola Pit
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−10
−5
0
5
Standardized effect sizes

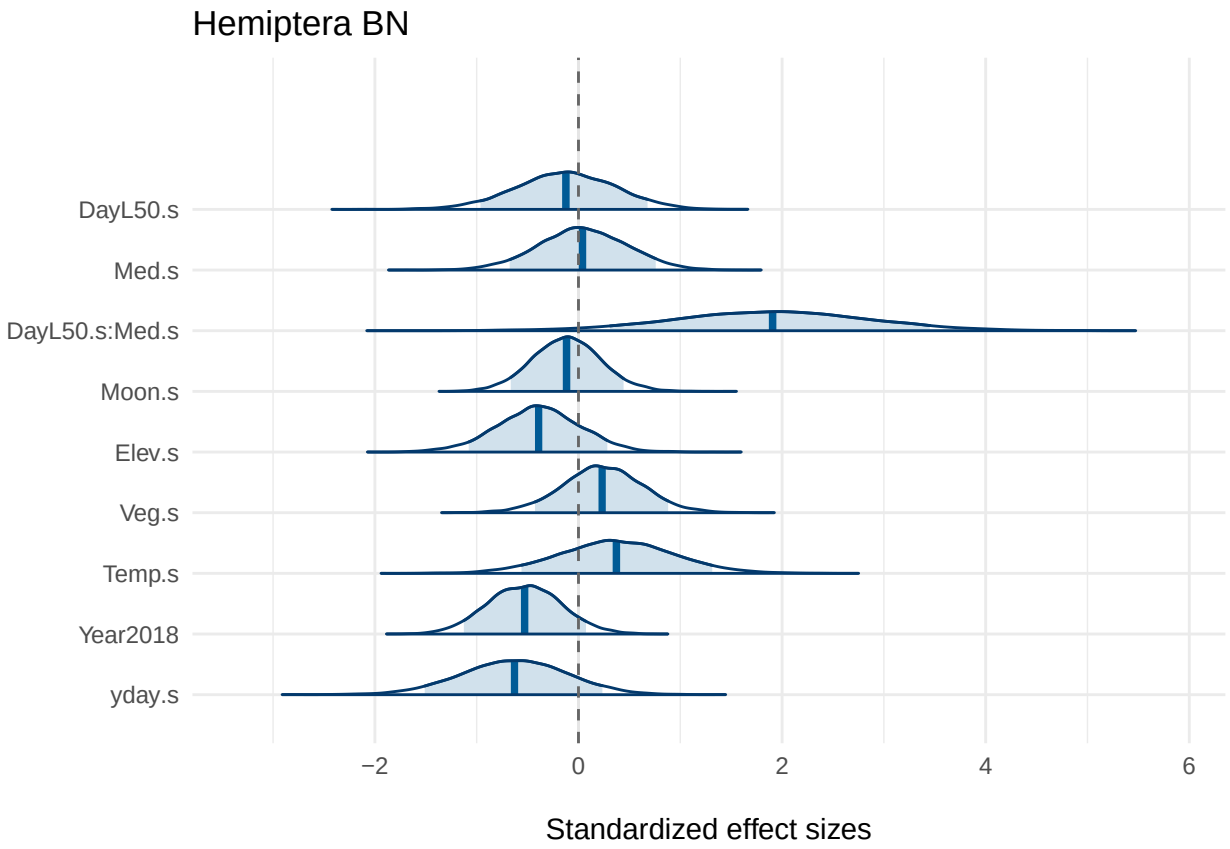
Hemiptera


Hemiptera Fly
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−4
−2
0
2
Standardized effect sizes

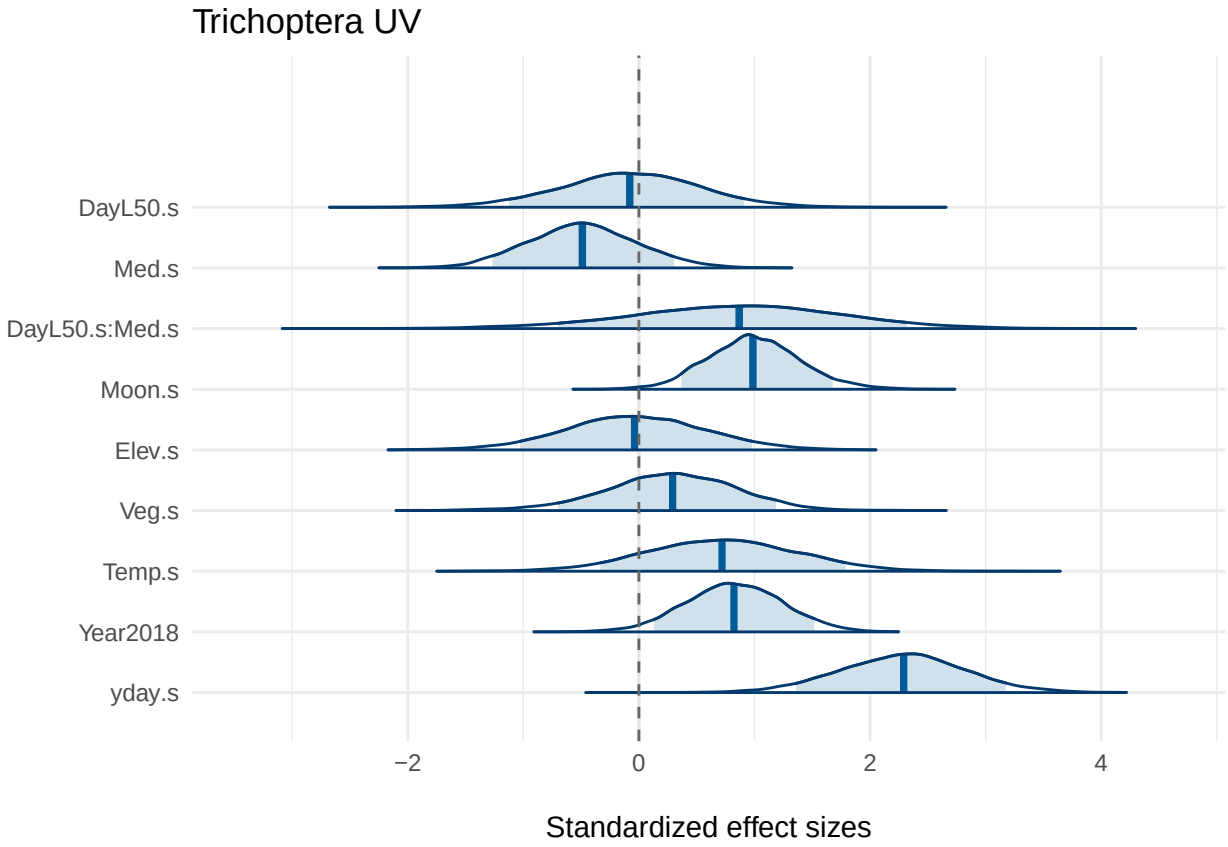

Hemiptera UV
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−6
−3
0
3
Standardized effect sizes

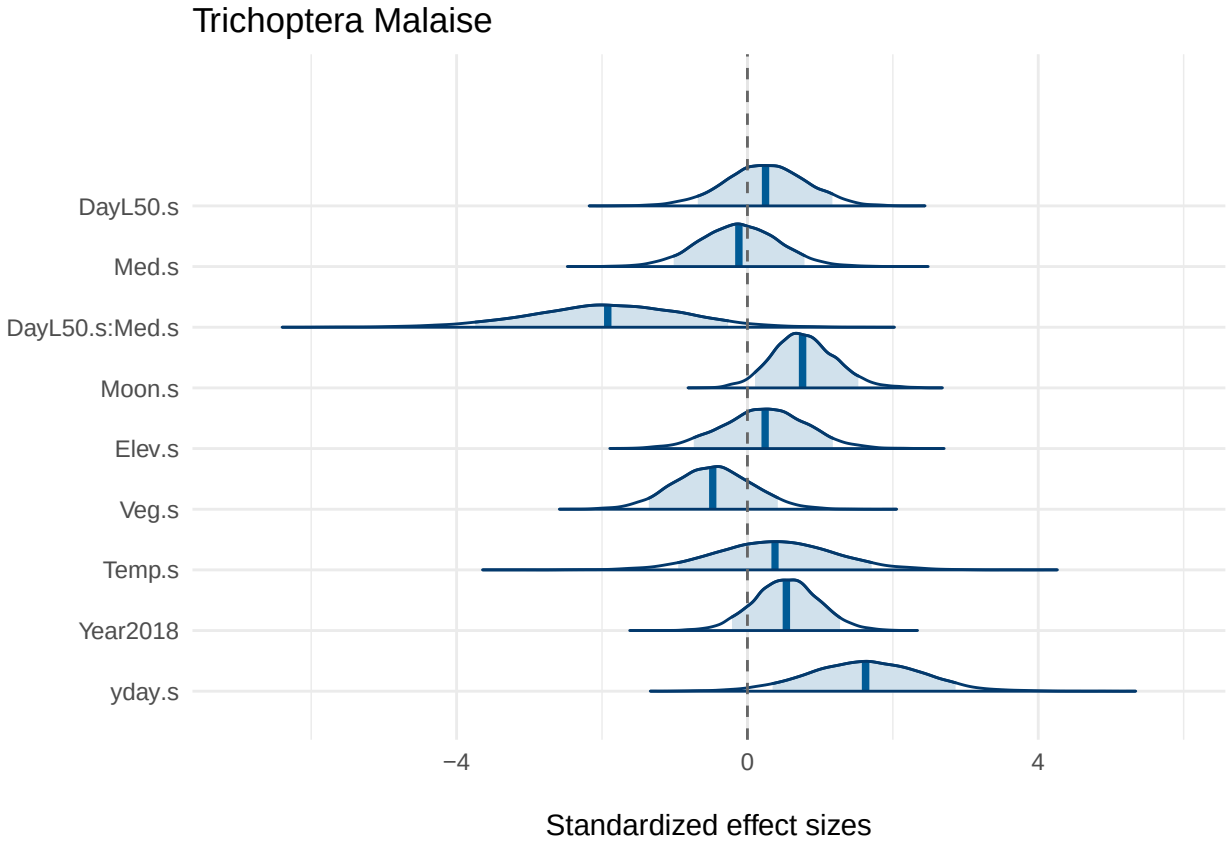

Hemiptera Malaise
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
0
2
4
Standardized effect sizes


Hemiptera Pit
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
0
2
Standardized effect sizes

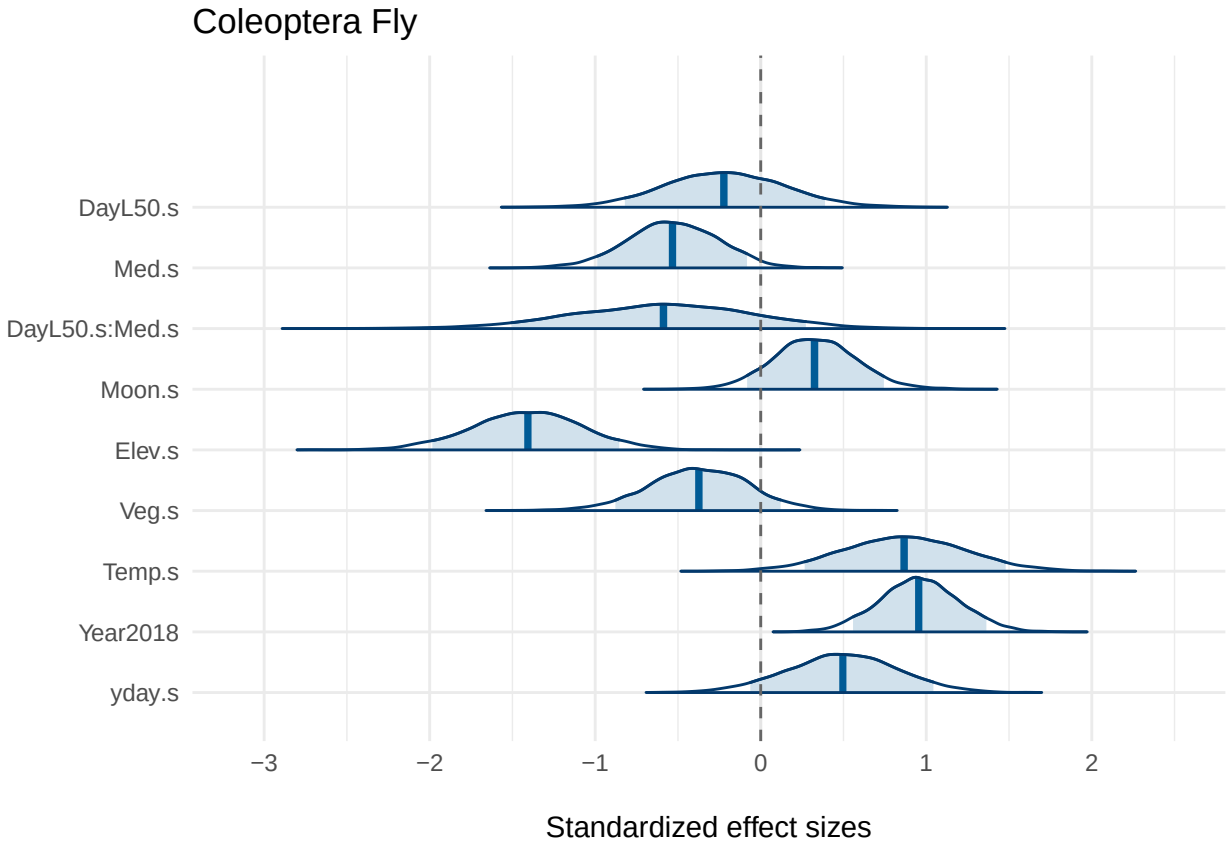

Hemiptera BN
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
0
2
4
6
Standardized effect sizes

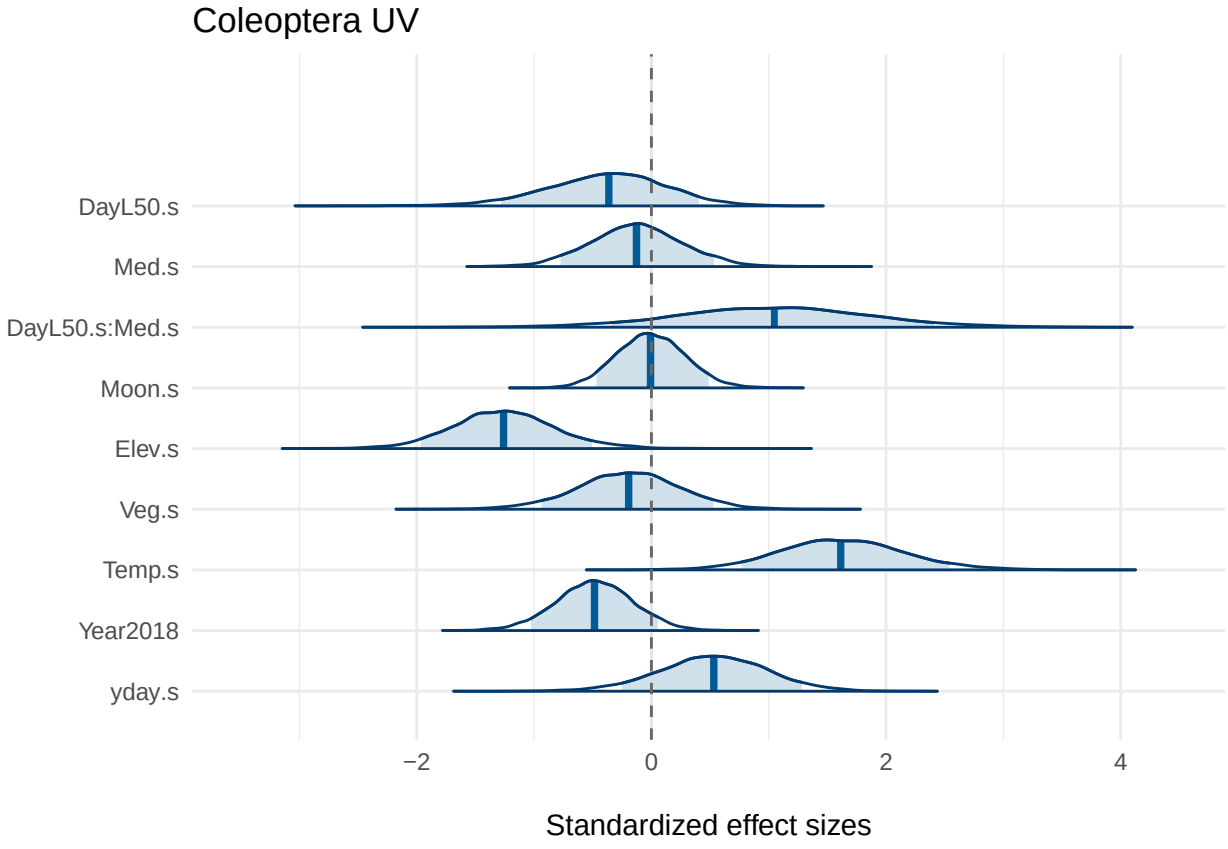
Trichoptera

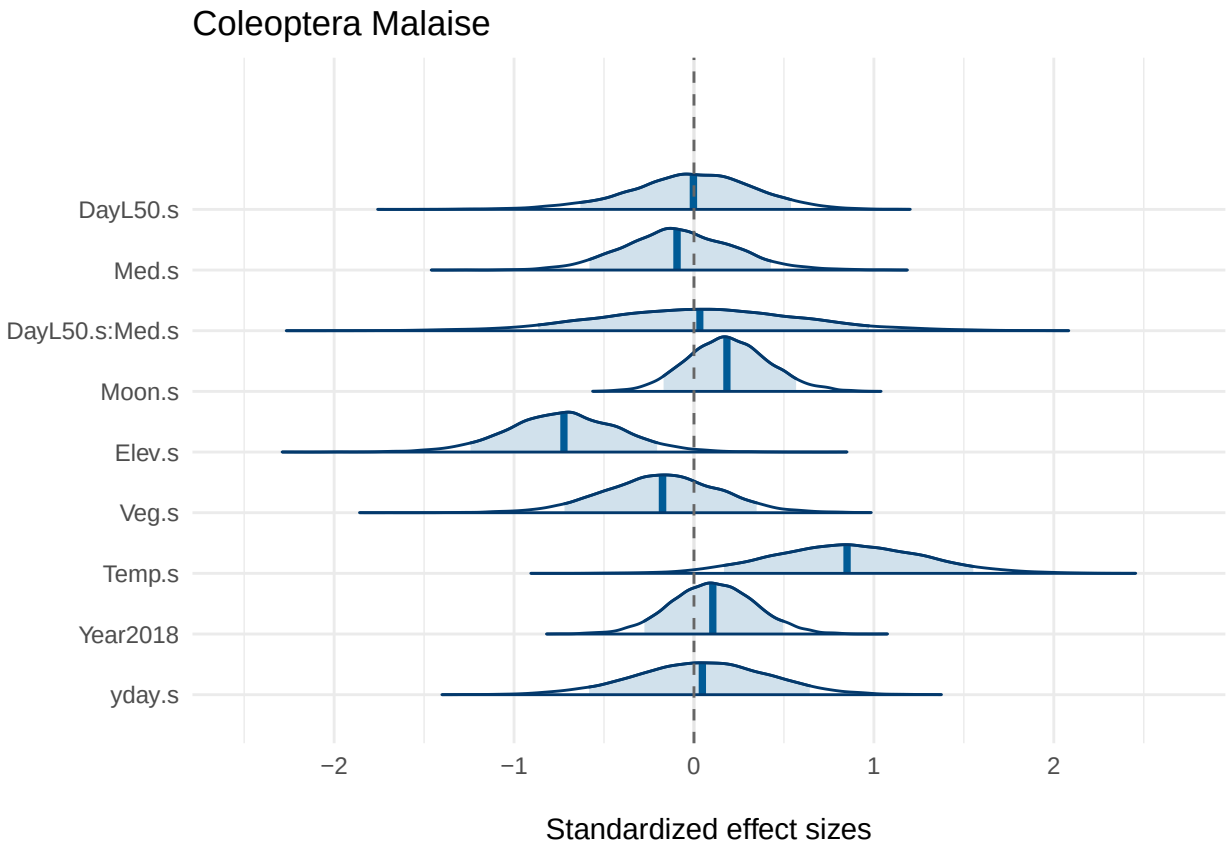


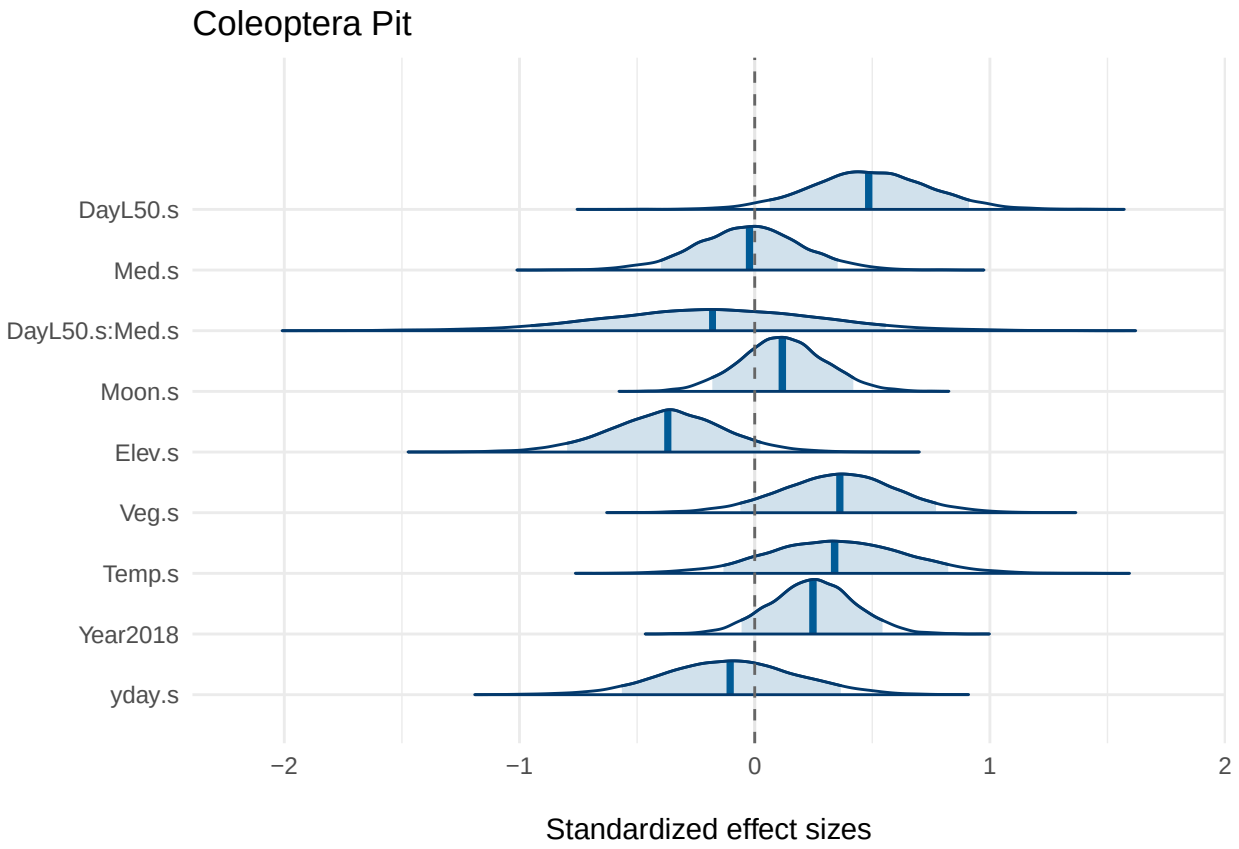


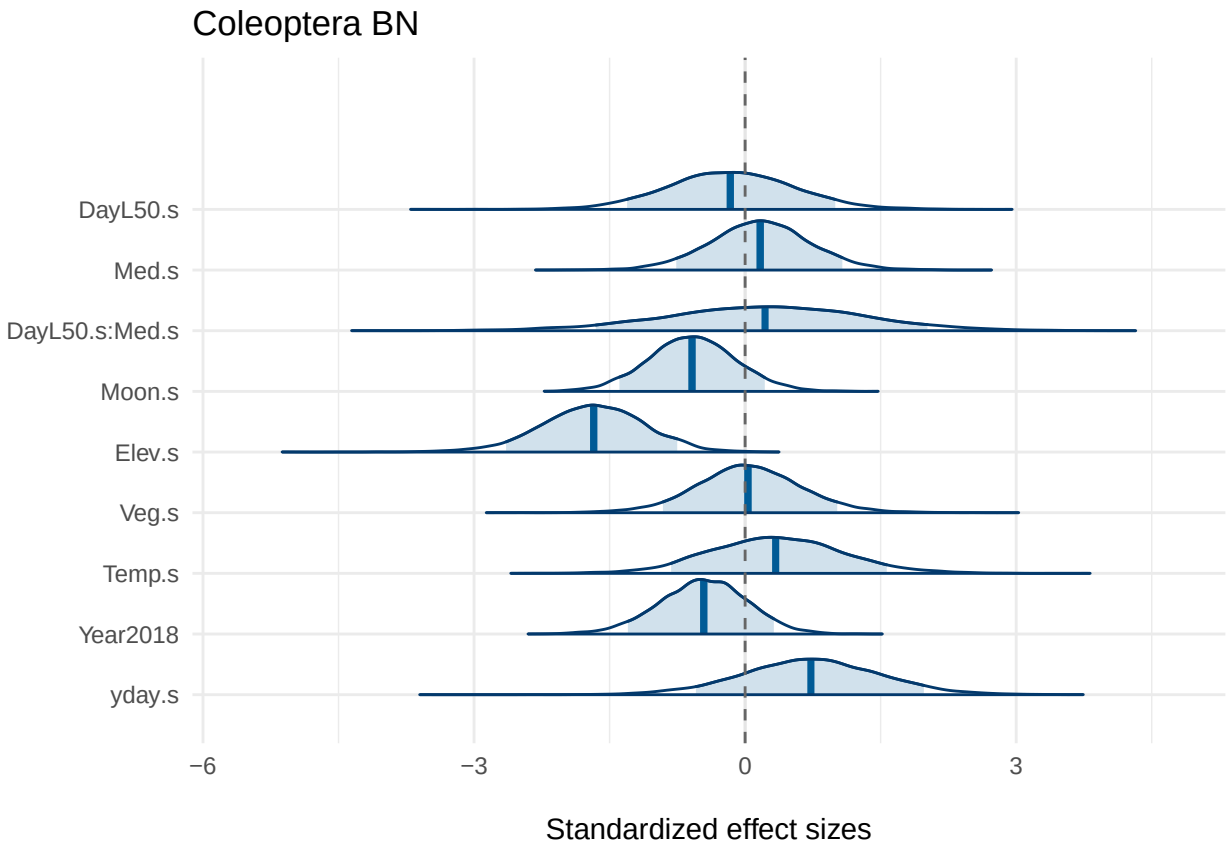
Coleoptera


Coleoptera Fly
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−3
−2
−1
0
1
2
Standardized effect sizes

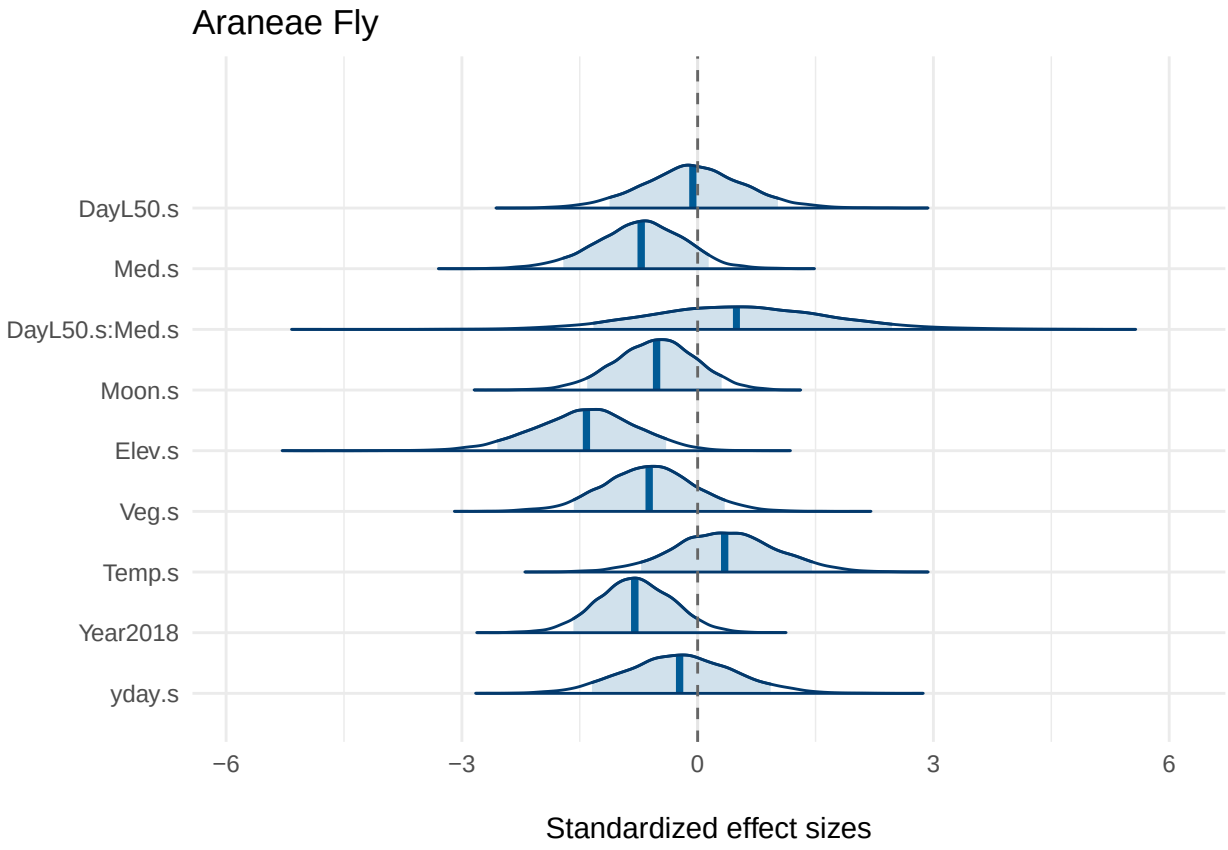

Coleoptera UV
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
0
2
4
Standardized effect sizes

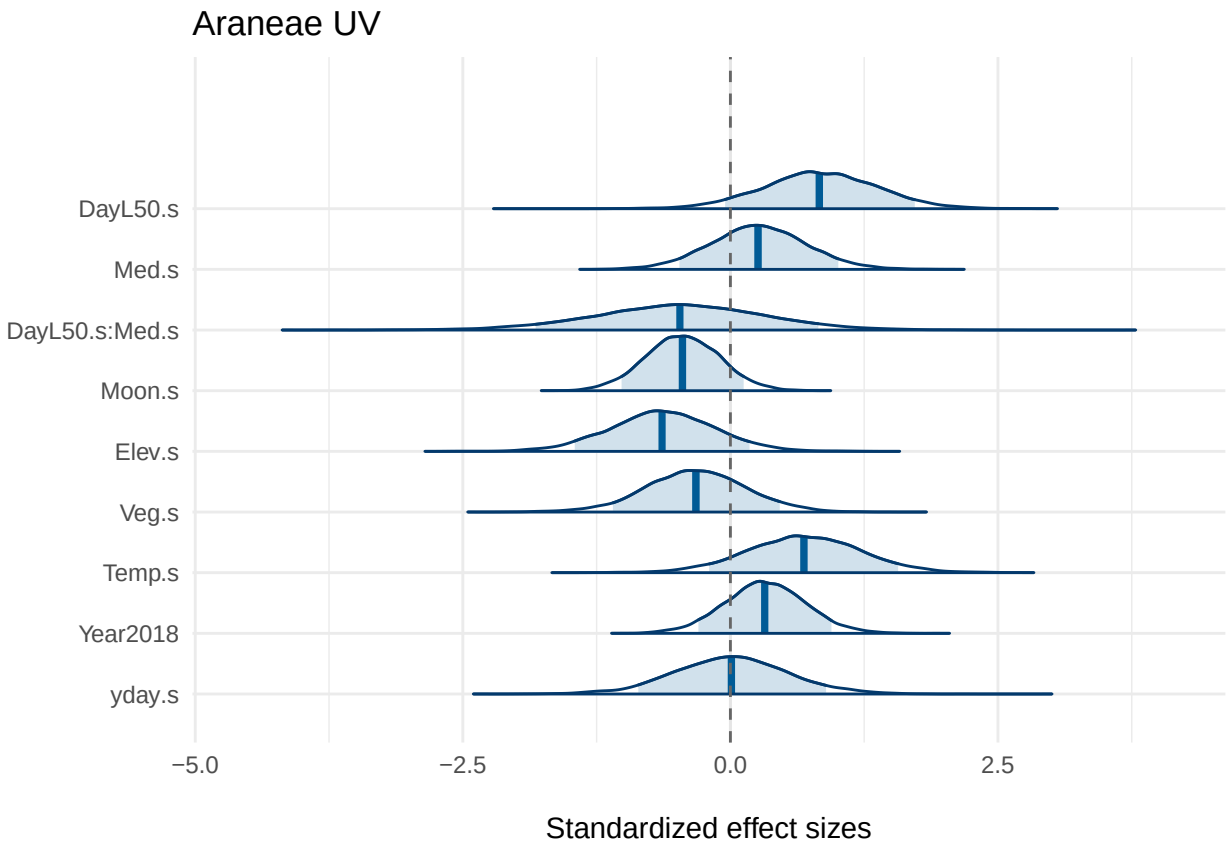

Coleoptera Malaise
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
−1
0
1
2
Standardized effect sizes

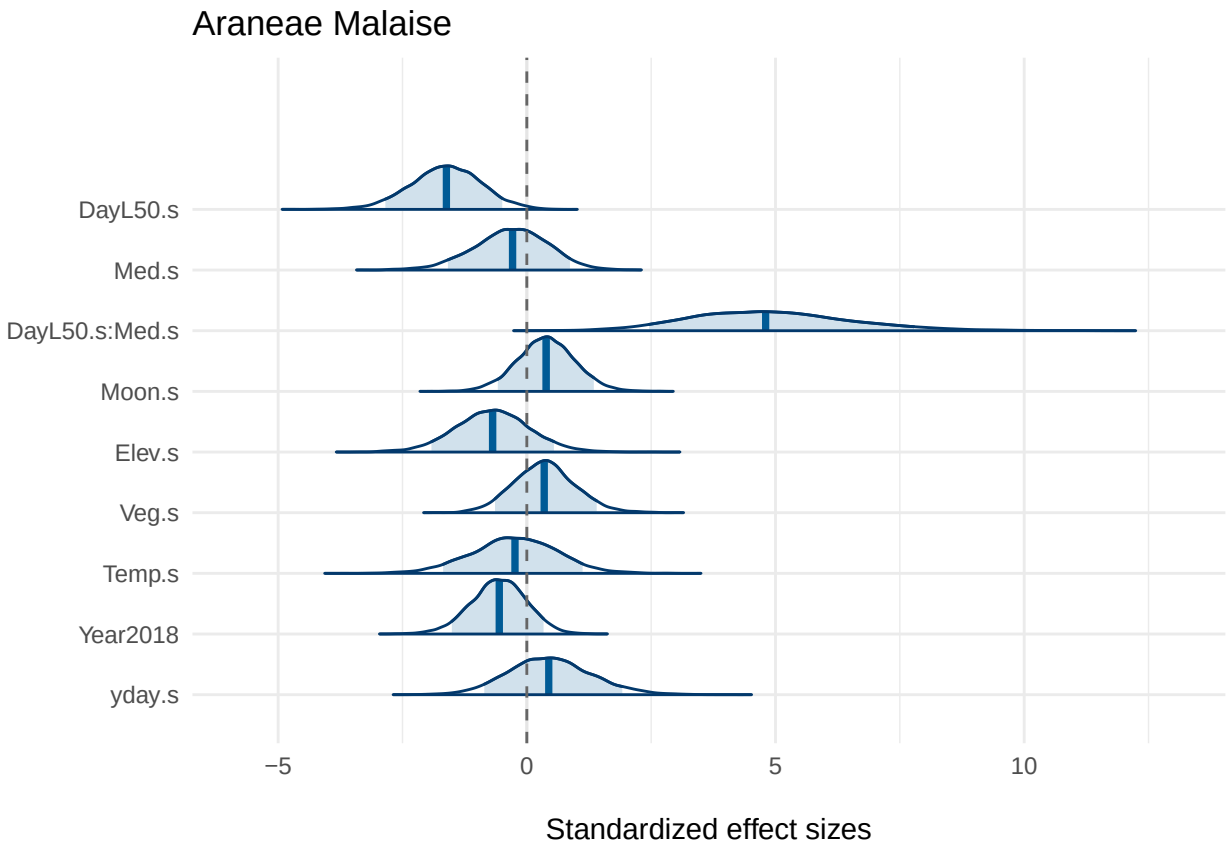

Coleoptera Pit
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
−1
0
1
2
Standardized effect sizes

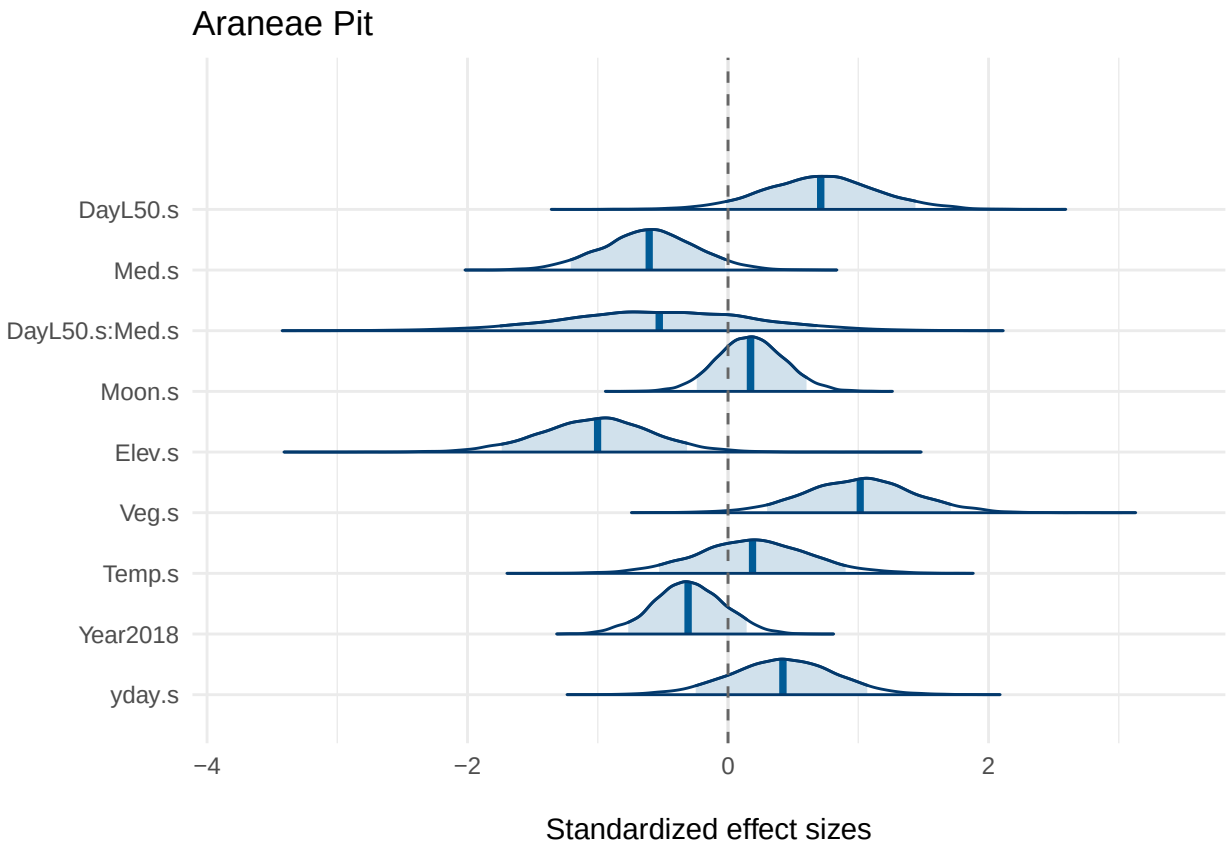

Coleoptera BN
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−6
−3
0
3
Standardized effect sizes

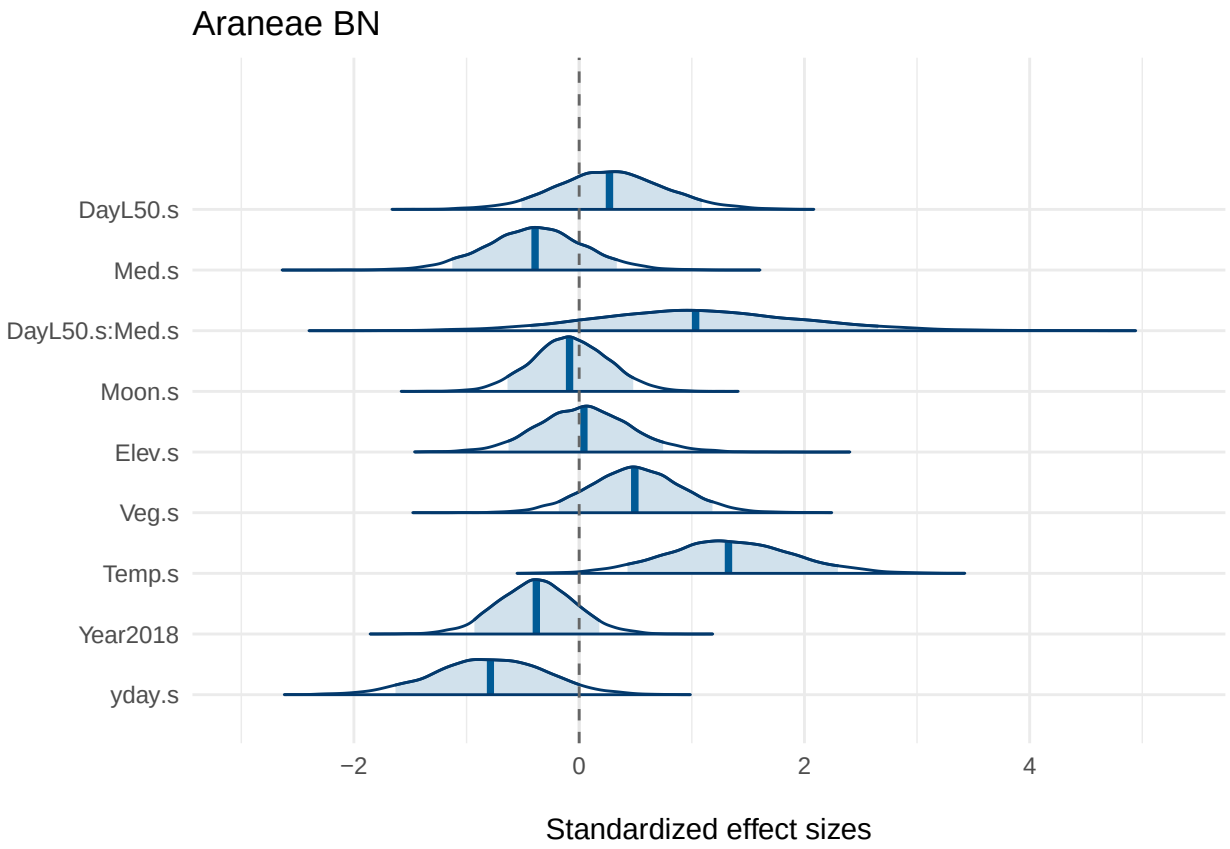
Araneae


Araneae Fly
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−6
−3
0
3
6
Standardized effect sizes

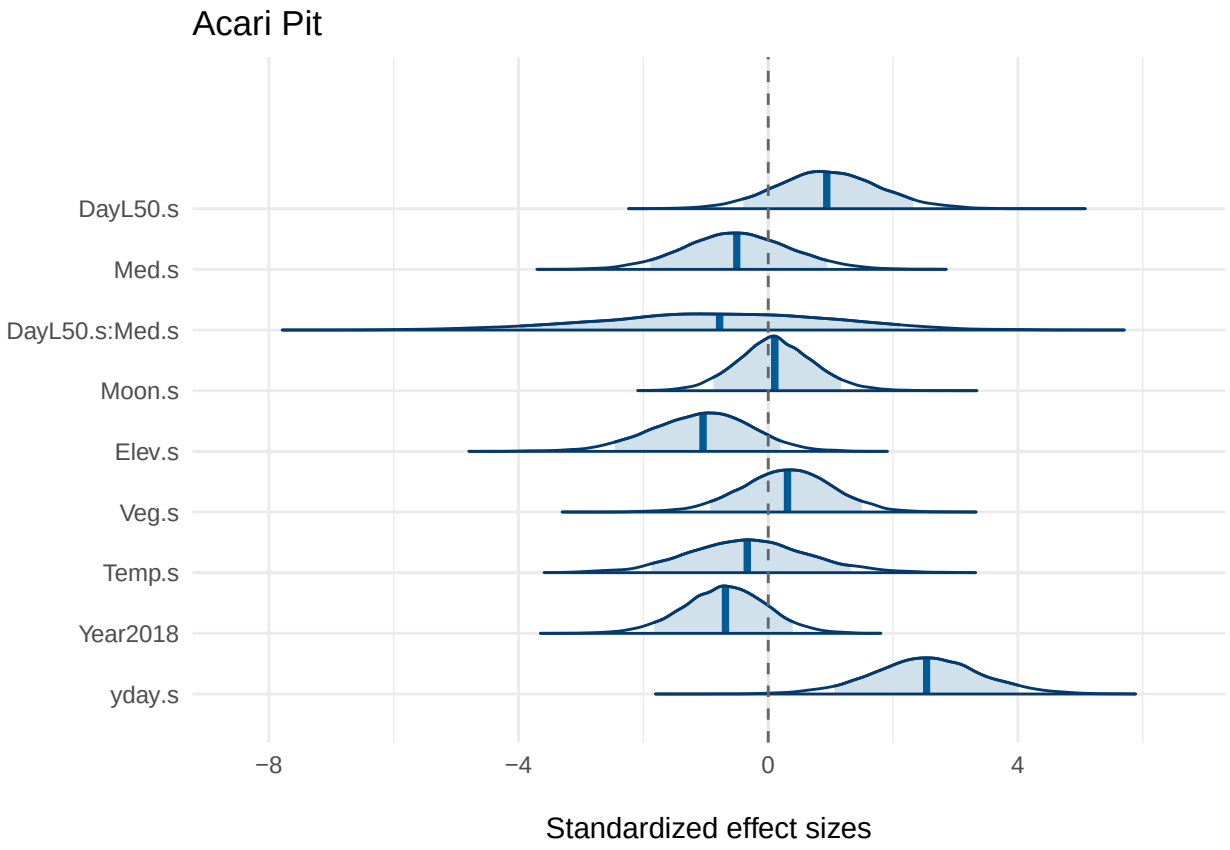

Araneae UV
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−5.0
−2.5
0.0
2.5
Standardized effect sizes


Araneae Malaise
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−5
0
5
10
Standardized effect sizes

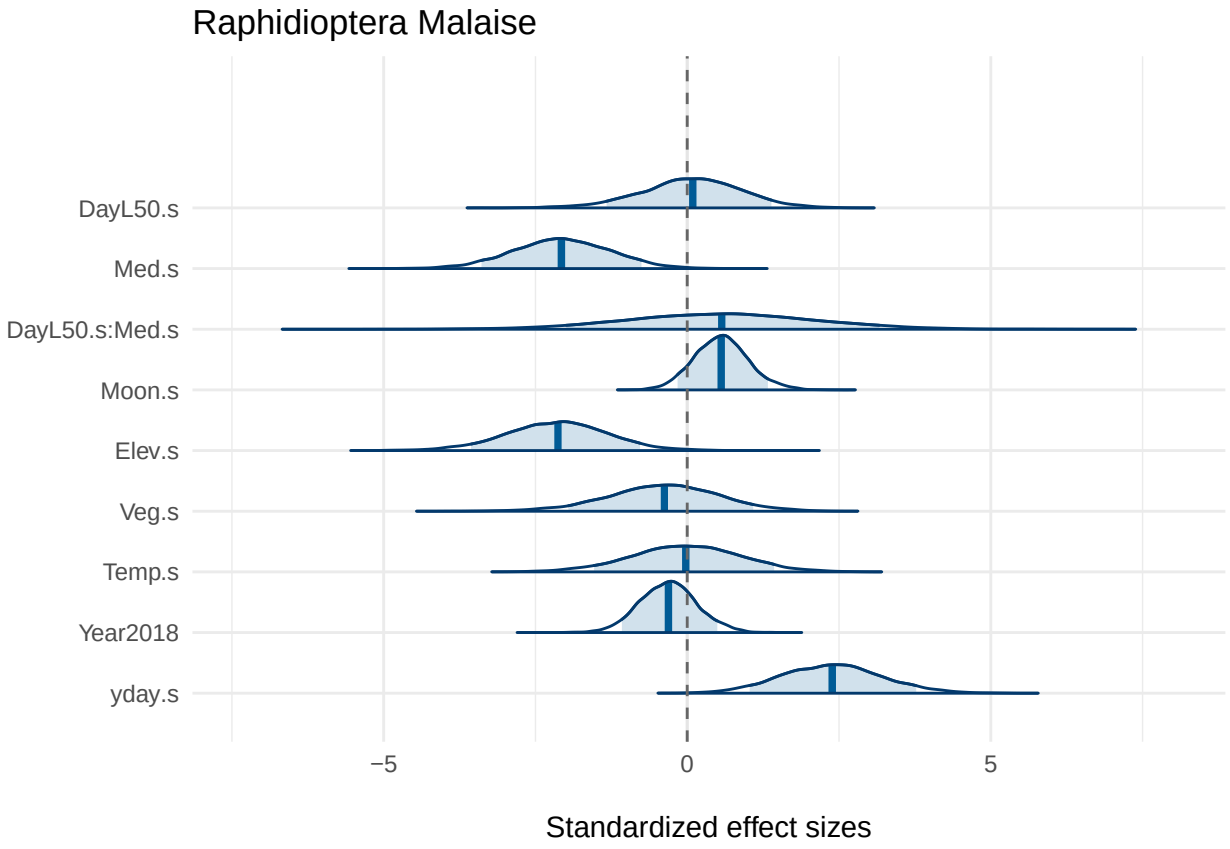

Araneae Pit
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−4
−2
0
2
Standardized effect sizes


Araneae BN
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−2
0
2
4
Standardized effect sizes

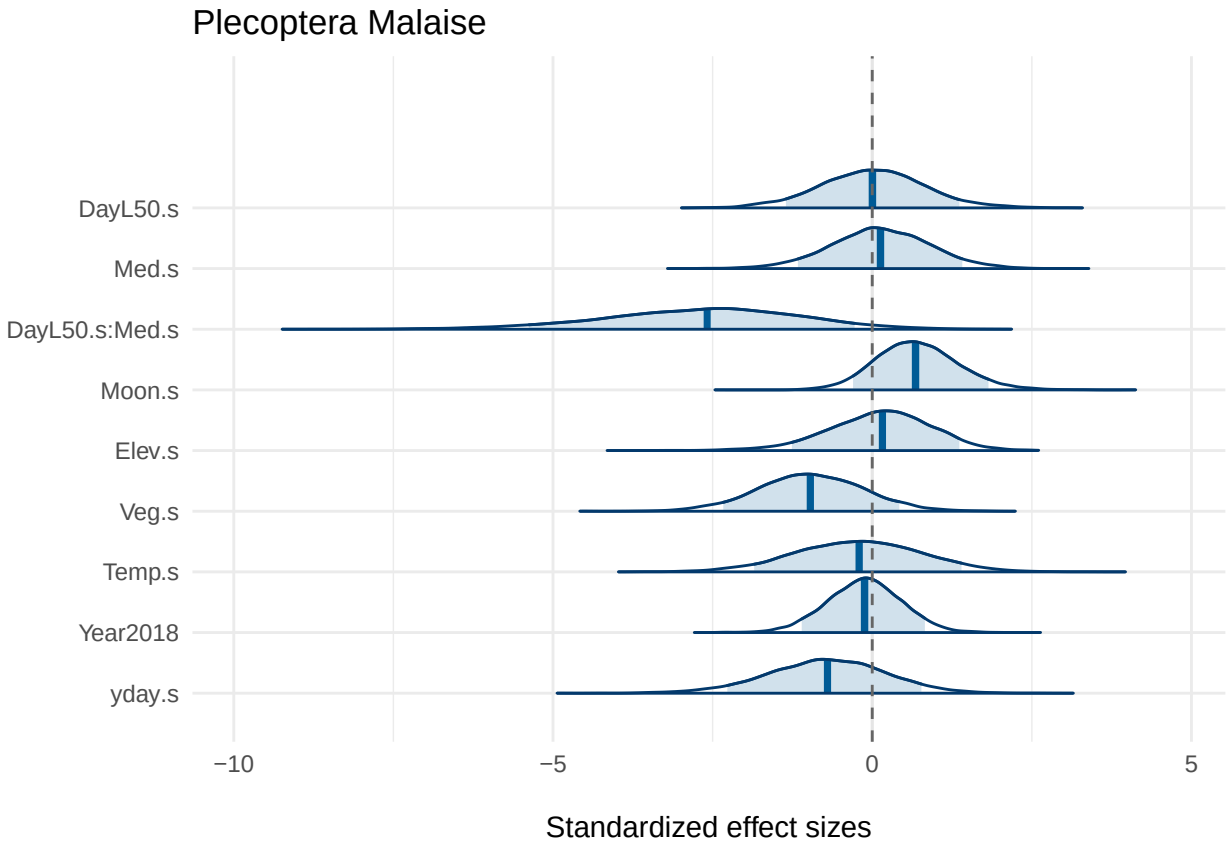
Acari


Acari Pit
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−8
−4
0
4
Standardized effect sizes

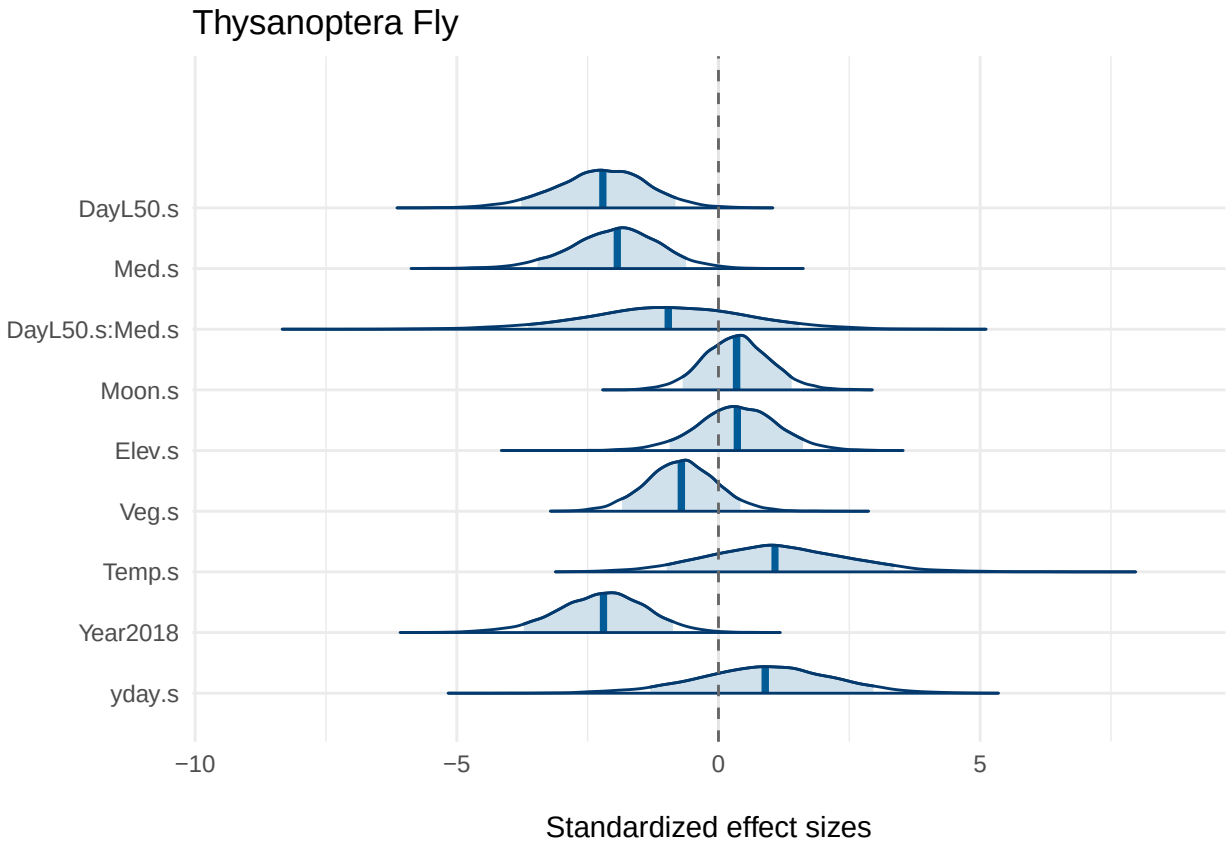
Raphidioptera



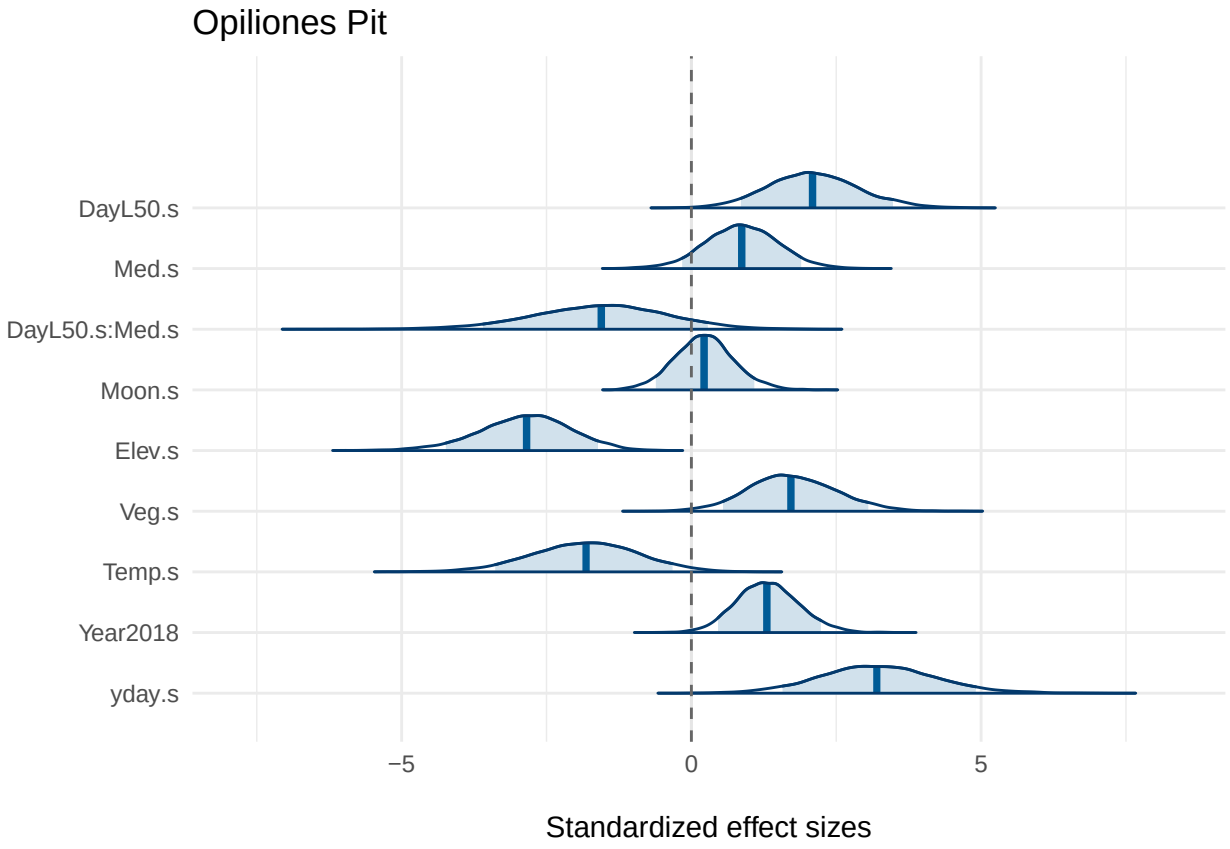
Plecoptera


Plecoptera Malaise
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−10
−5
0
5
Standardized effect sizes

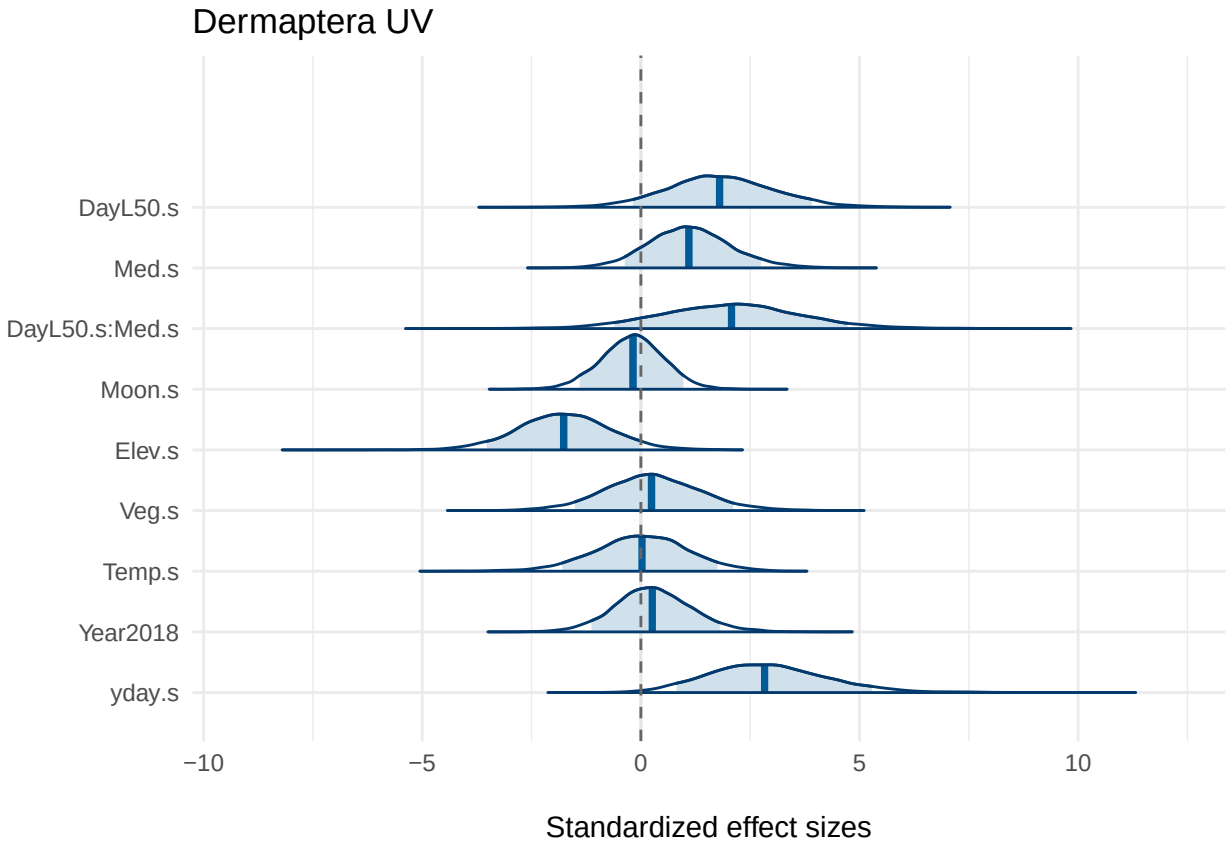
Thysanoptera

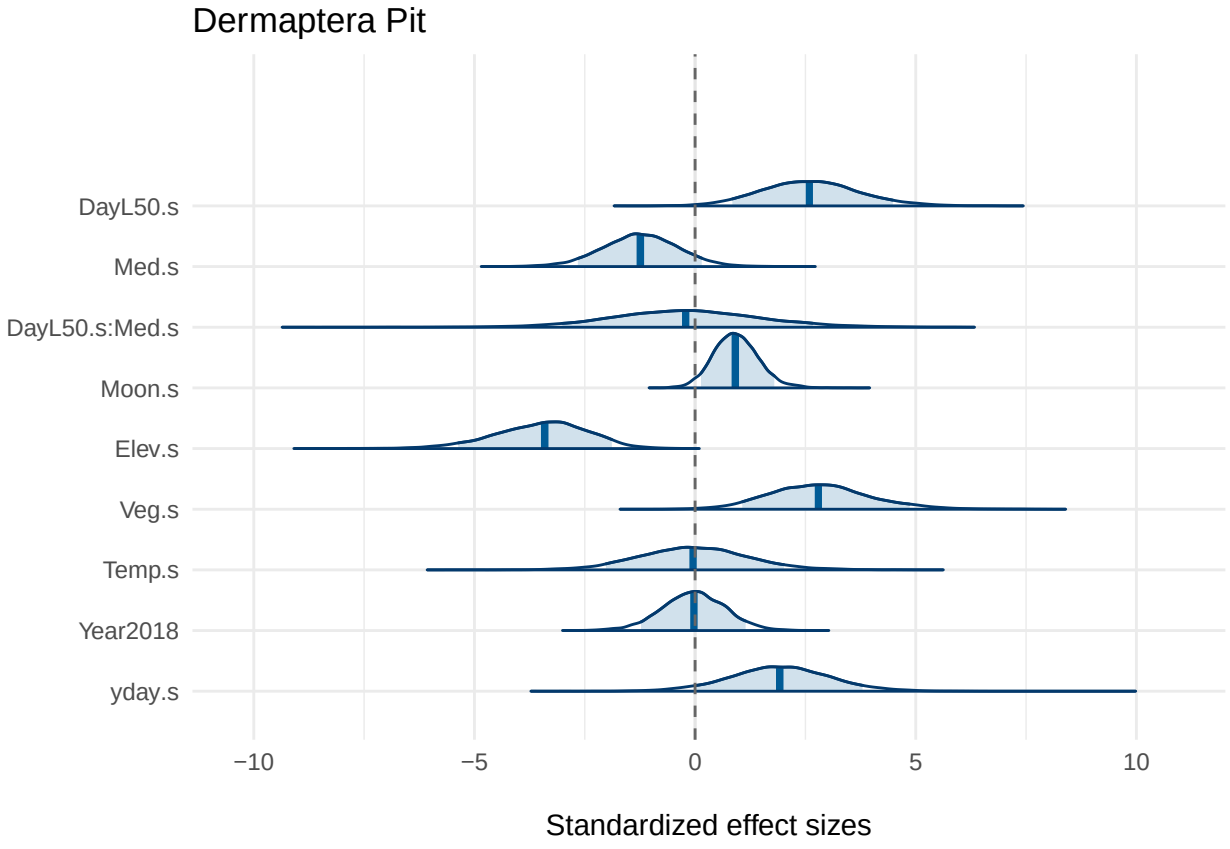


Opiliones

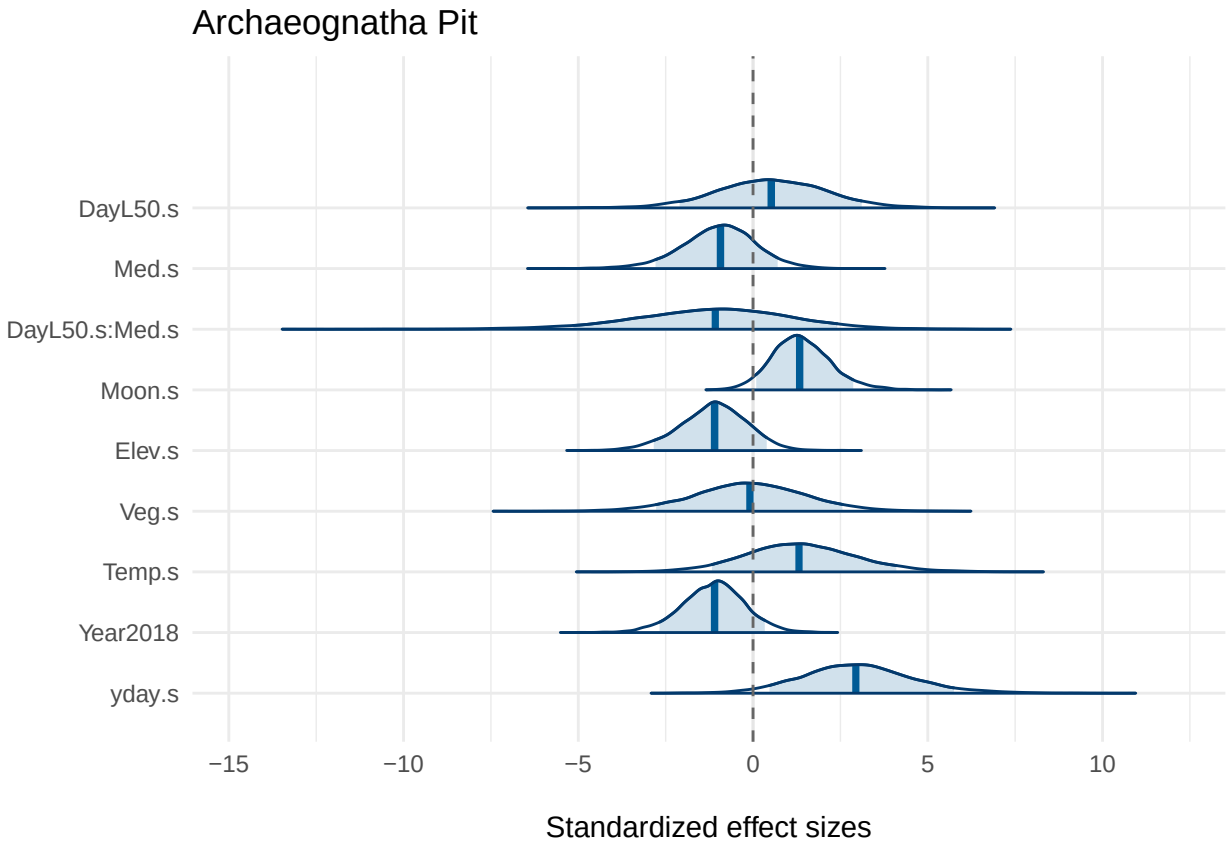

Opiliones Pit
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−5
0
5
Standardized effect sizes

Dermaptera

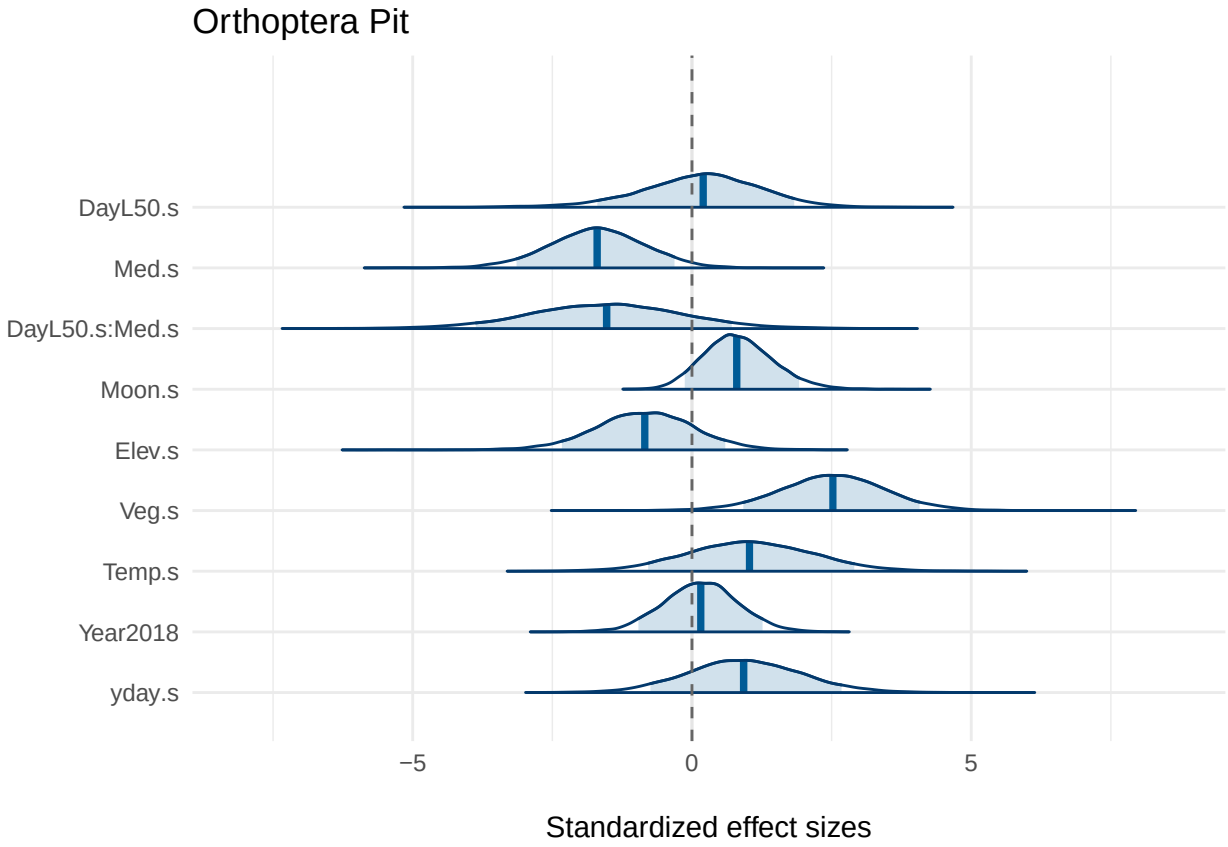

Dermaptera UV
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−10
−5
0
5
10
Standardized effect sizes

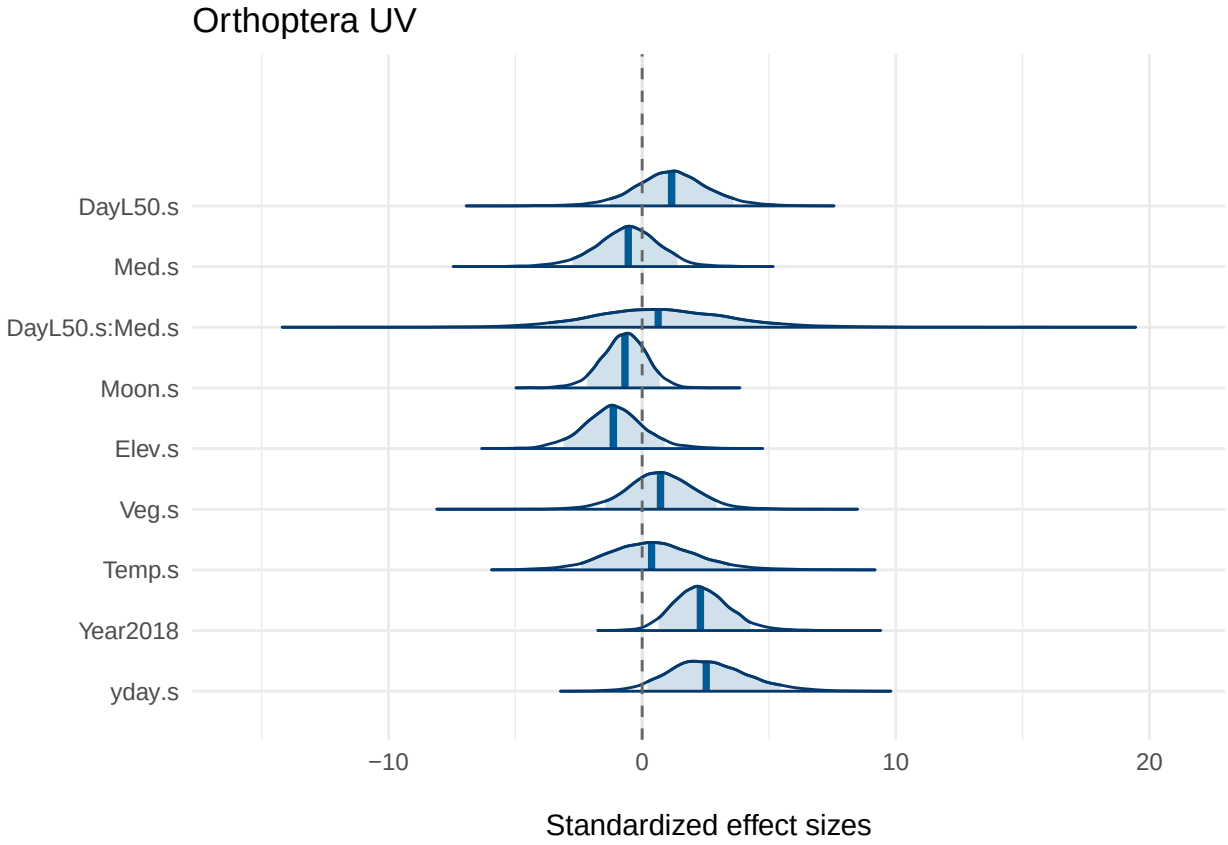

Dermaptera Pit
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−10
−5
0
5
10
Standardized effect sizes

Archaeognatha

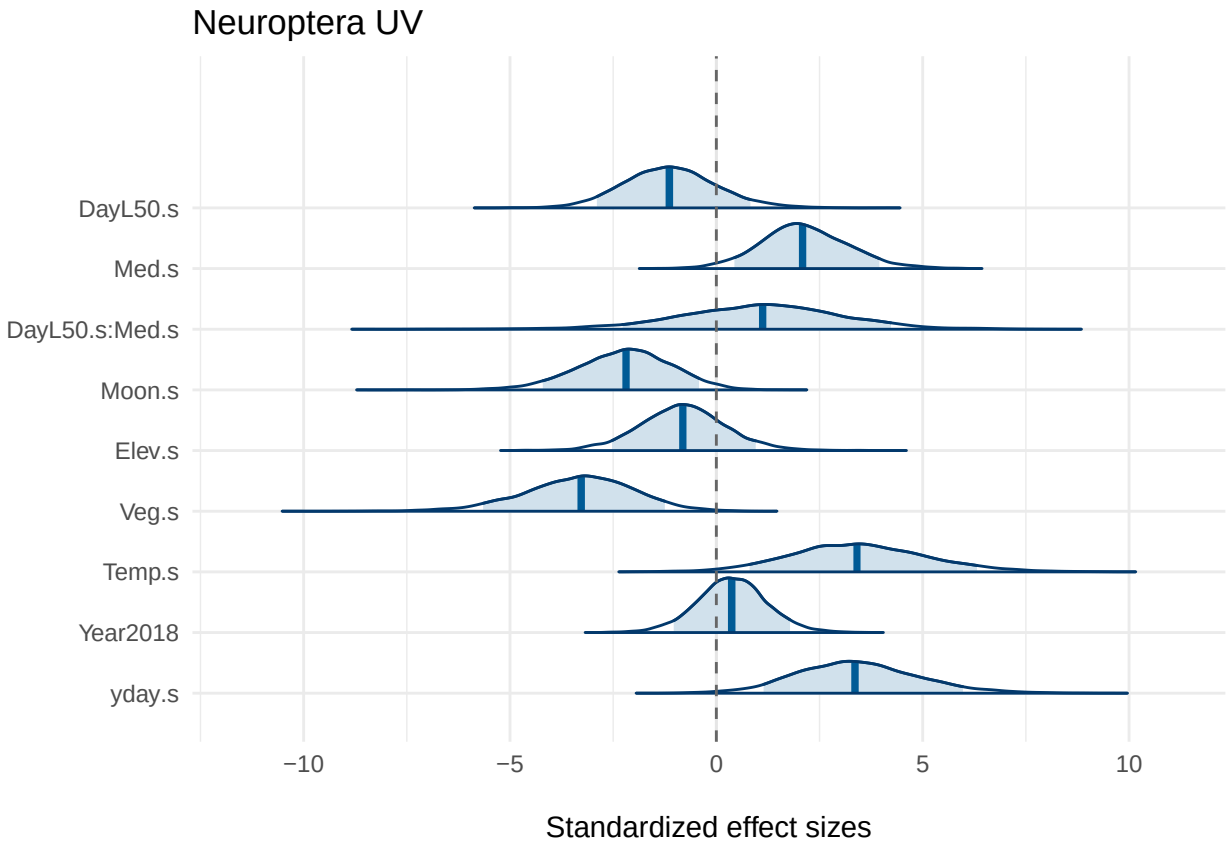


Orthoptera


Orthoptera Pit
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−5
0
5
Standardized effect sizes


Orthoptera UV
DayL50.s
Med.s
DayL50.s:Med.s
Moon.s
Elev.s
Veg.s
Temp.s
Year2018
yday.s
−10
0
10
20
Standardized effect sizes

Neuroptera



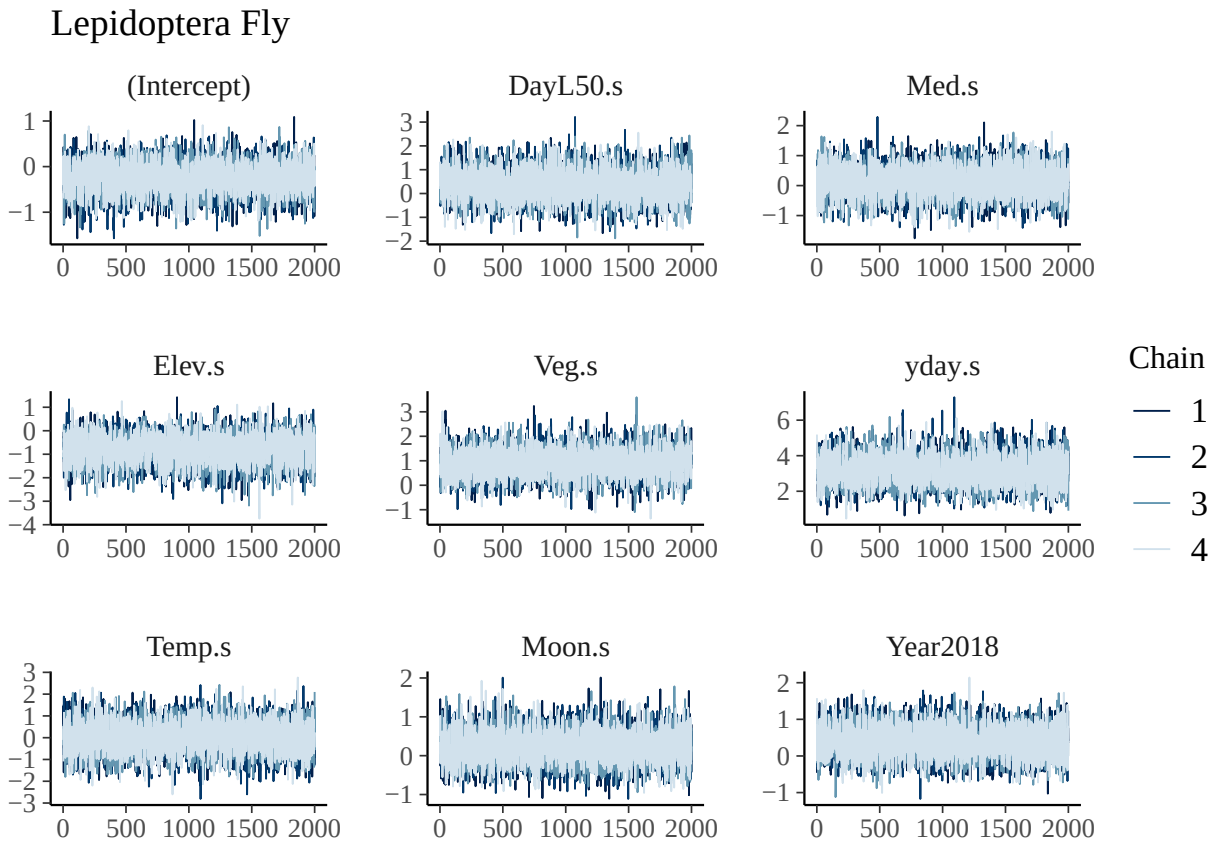
Diagnostic plots:

- The first output contains variance inflation factor (VIF) scores for model variables; all VIF scores are well within reason.
- The second output is plots of chains for each variable; all chains appear well mixed with no divergences.
- The third output is comparing the observed outcome variable `y` to simulated datasets `yrep` from the posterior predictive distribution; the observed outcome reasonably sits within the simulated datasets.
- The fourth (and final) output is similar to the third, but it is modelling the number of zeros in the dataset - as a way to check for zero-inflation; all models appear well-specified.

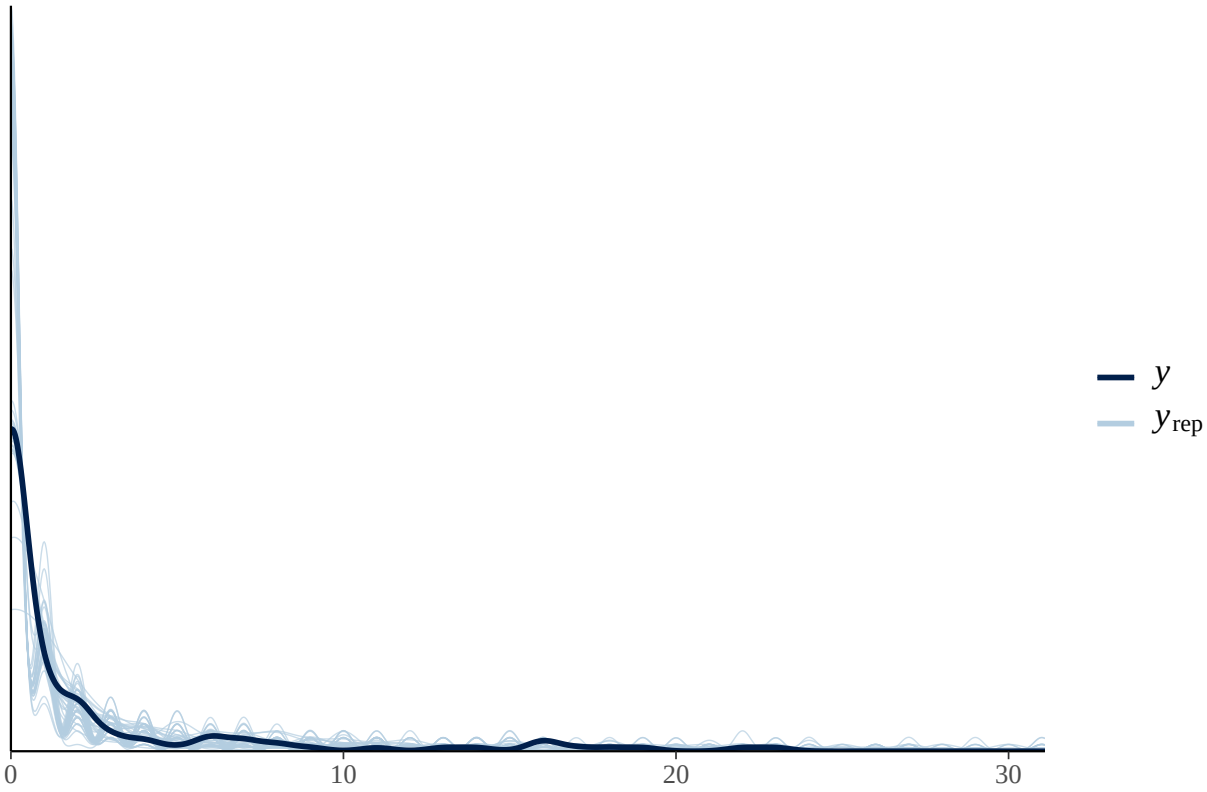
Lepidoptera

```
## [1] "Lepidoptera Fly"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.11         1.45
```

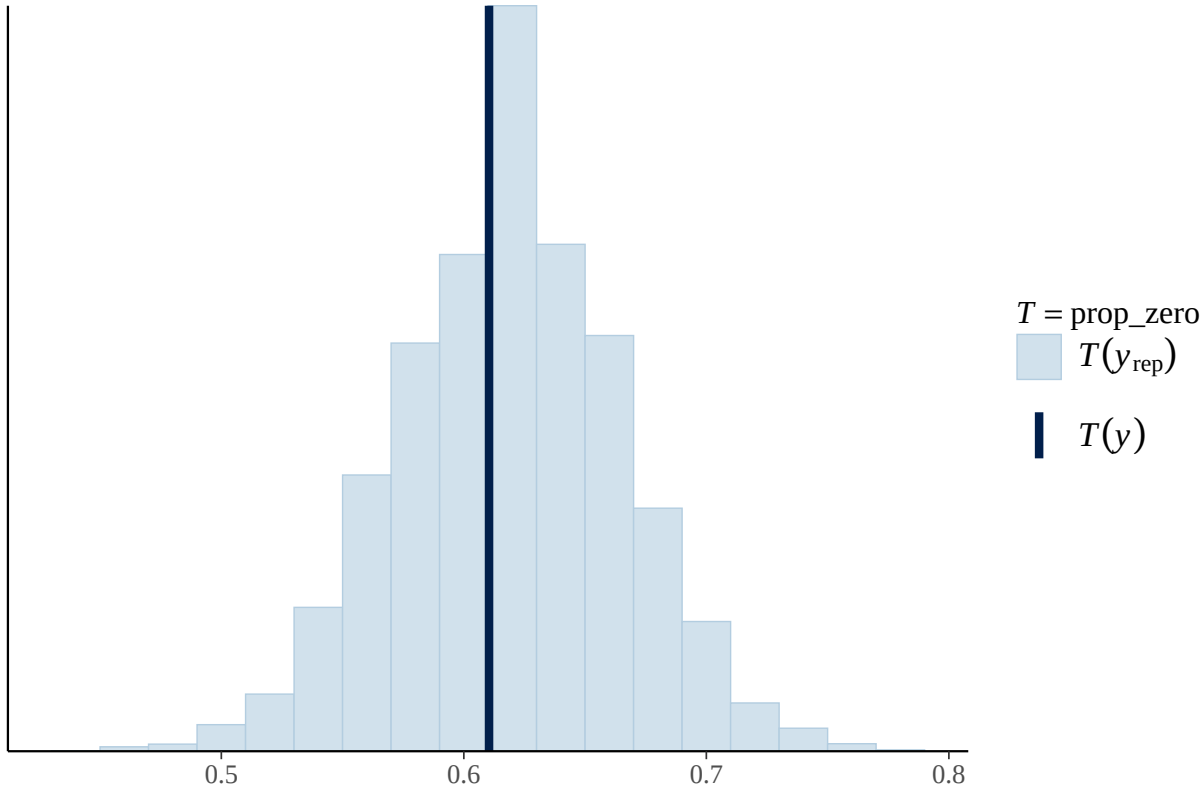
```
##            Med.s 1.53         1.24
##           yday.s 2.74         1.66
##            Veg.s 1.68         1.30
##           Elev.s 1.60         1.27
##           Moon.s 1.31         1.15
##           Temp.s 2.90         1.70
##             Year 1.24         1.11
##  DayL50.s:Med.s 1.38         1.17
```



Lepidoptera Fly

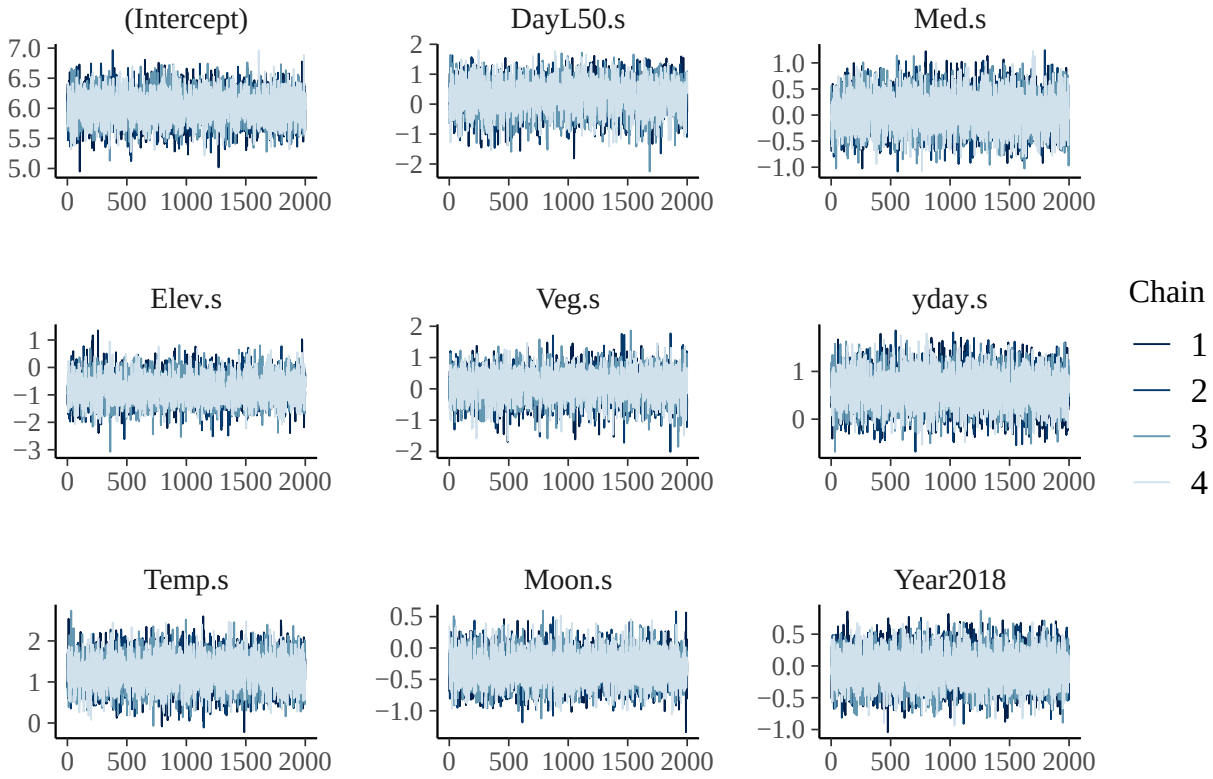


Lepidoptera Fly

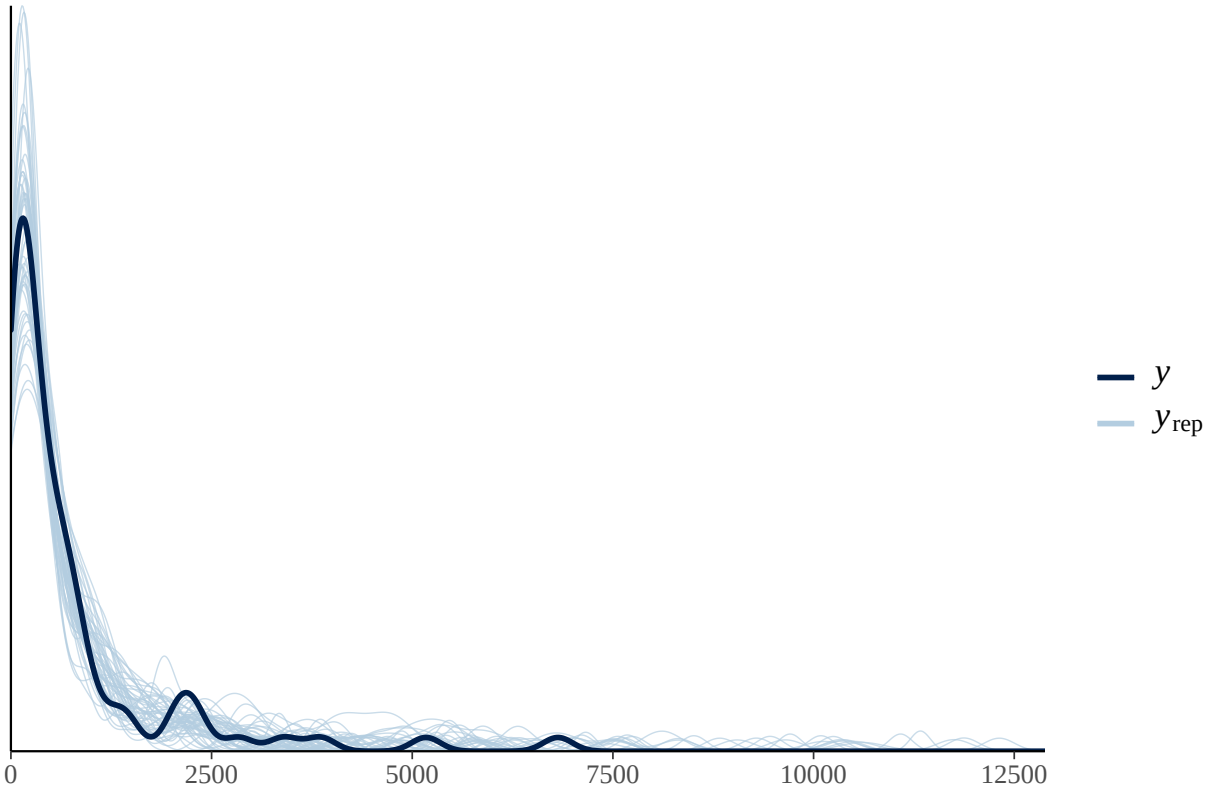


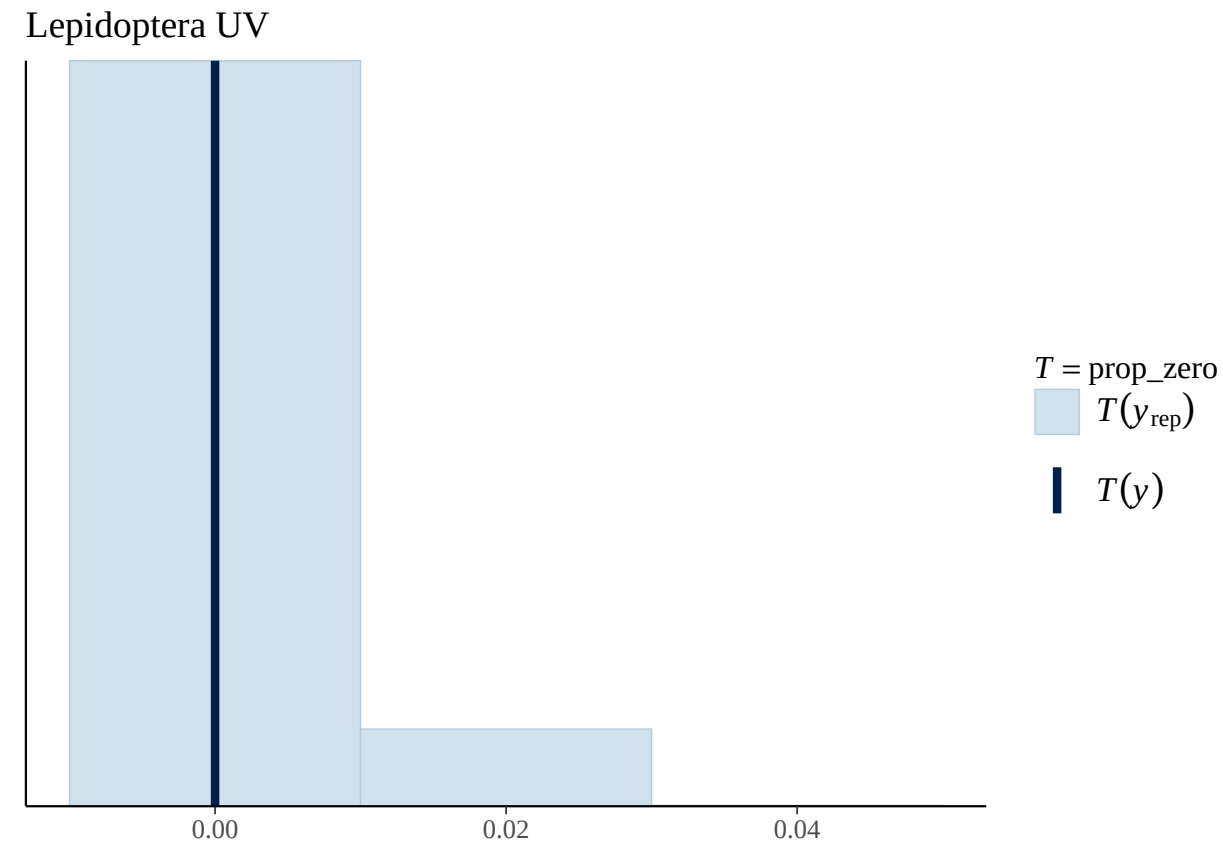

```
## [1] "Lepidoptera UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.81         1.35
##           Med.s 1.55         1.24
##          yday.s 2.52         1.59
##           Veg.s 1.35         1.16
##          Elev.s 1.41         1.19
##          Moon.s 1.09         1.05
##          Temp.s 2.65         1.63
##            Year 1.56         1.25
##  DayL50.s:Med.s 1.38         1.17
```

Lepidoptera UV



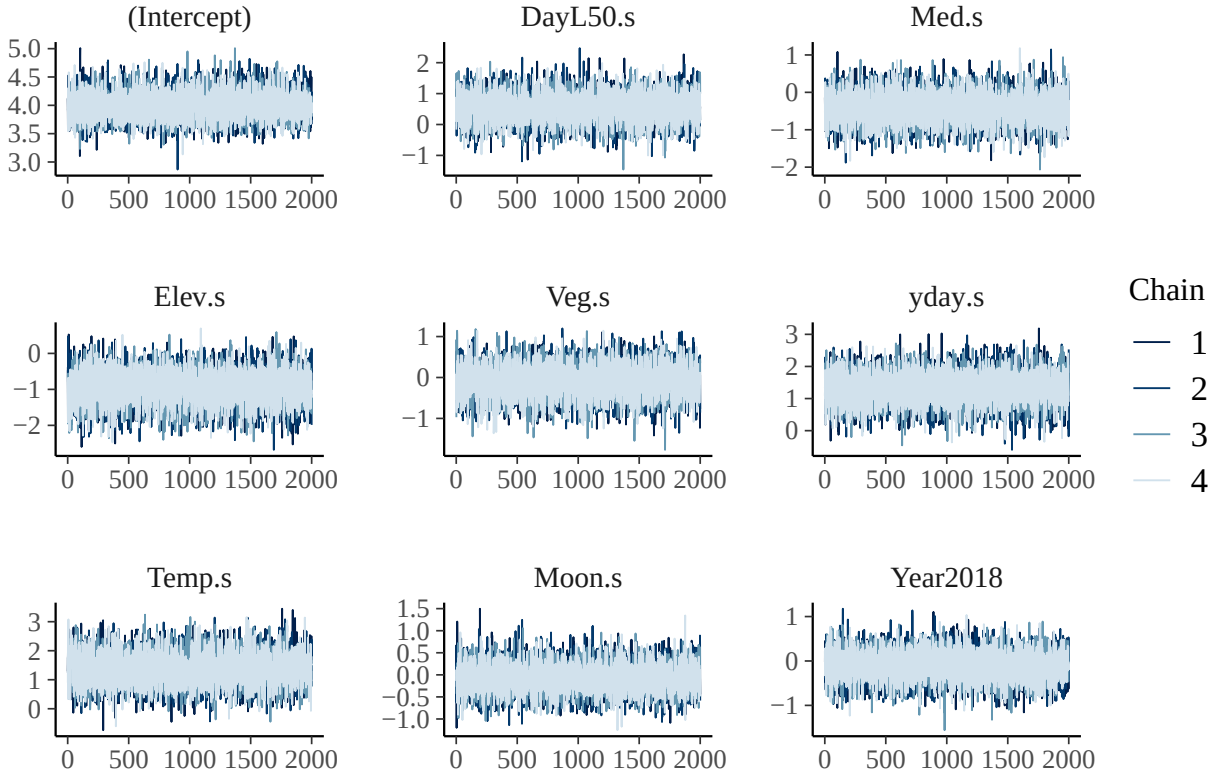
Lepidoptera UV



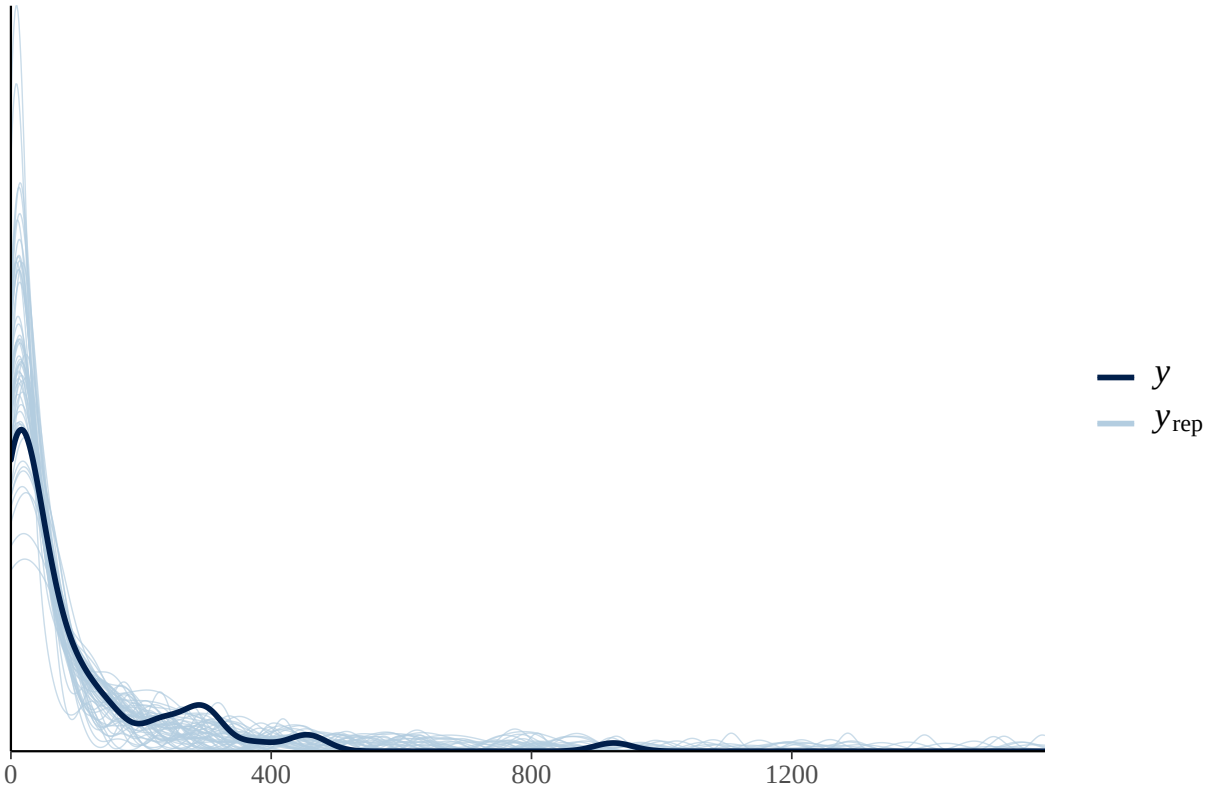


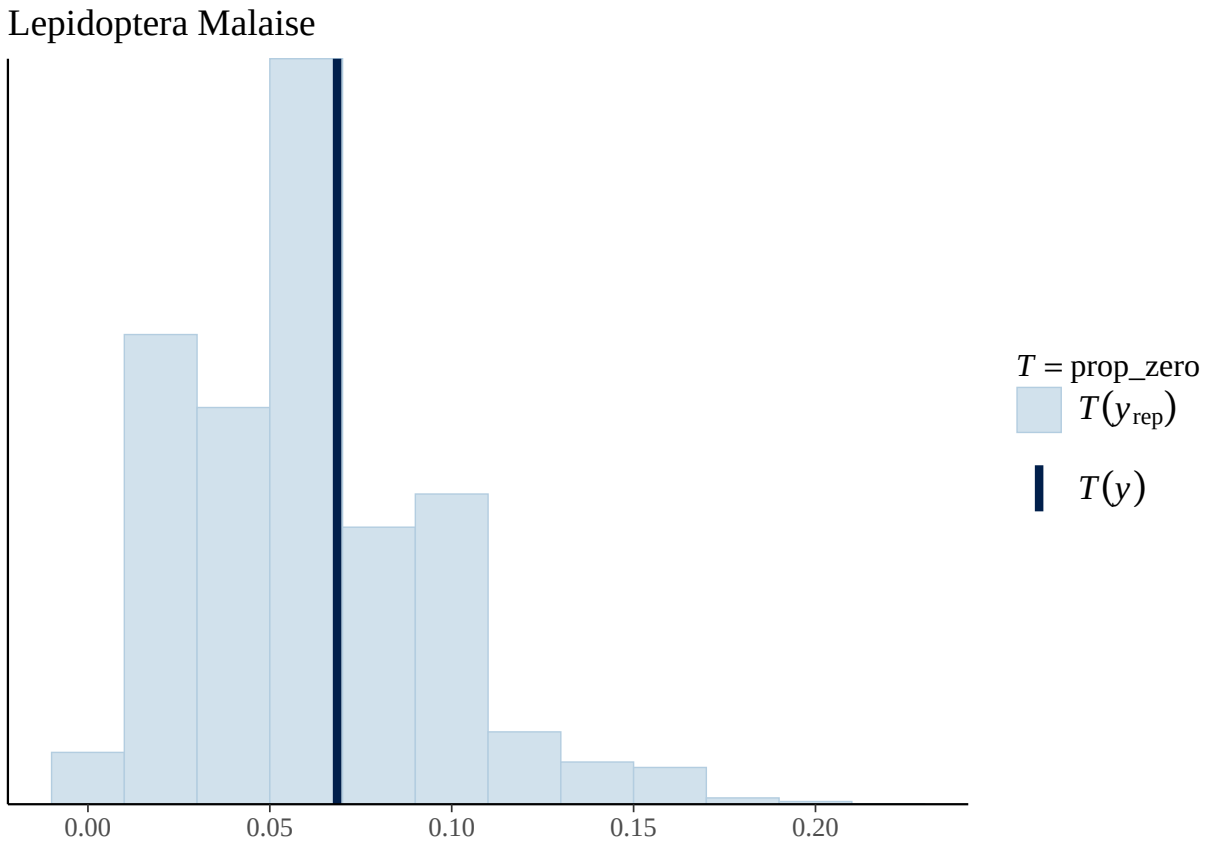

```
## [1] "Lepidoptera Malaise"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.10         1.45
##           Med.s 1.56         1.25
##          yday.s 2.91         1.71
##           Veg.s 1.51         1.23
##          Elev.s 2.17         1.47
##          Moon.s 1.25         1.12
##          Temp.s 3.79         1.95
##            Year 1.23         1.11
##  DayL50.s:Med.s 1.48         1.22
```

Lepidoptera Malaise



Lepidoptera Malaise

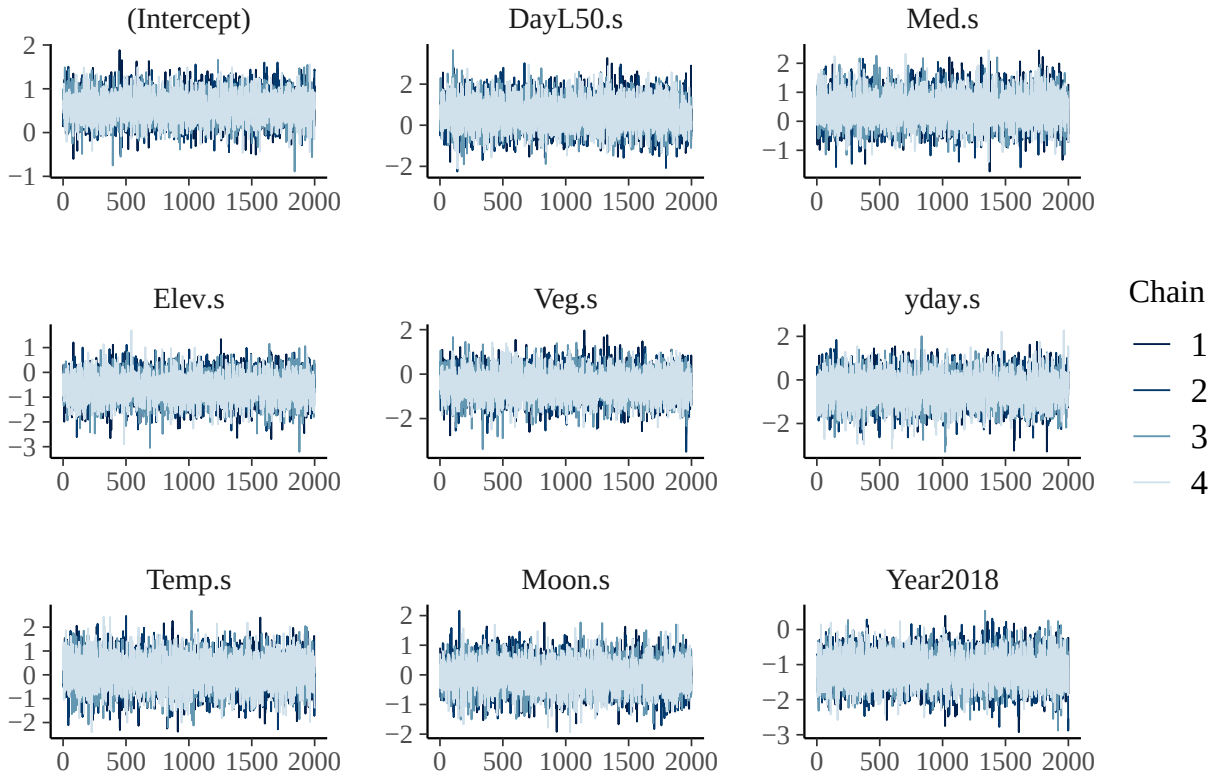


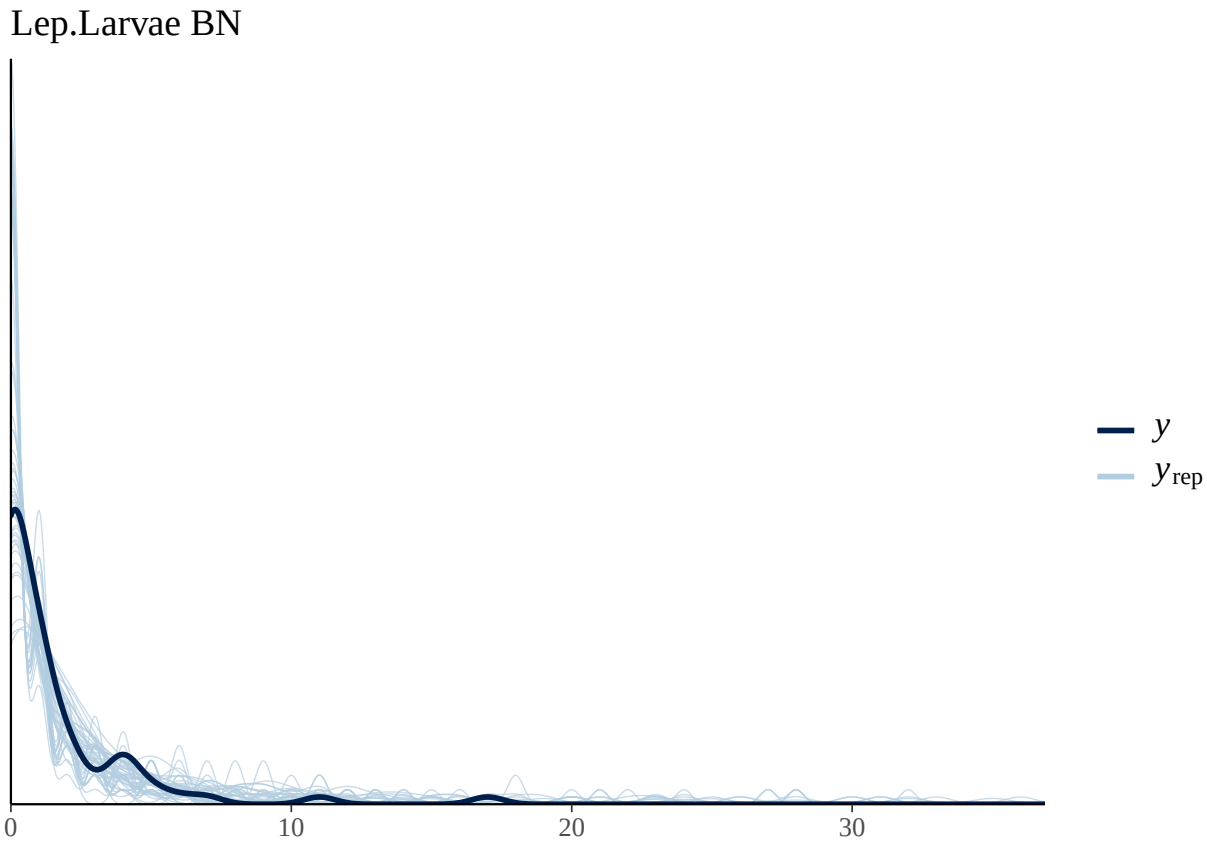


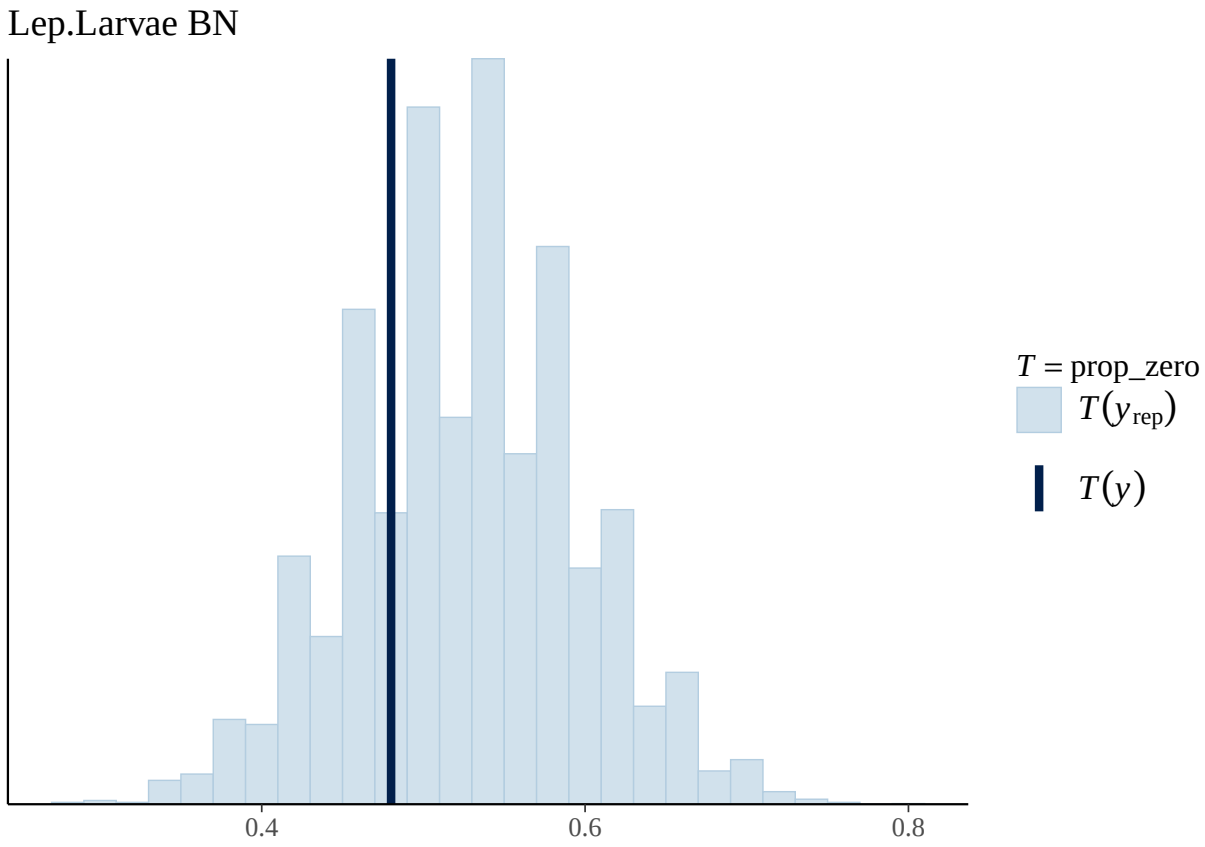
Lepidoptera Larvae

```
## [1] "Lep.Larvae BN"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.22         1.49
##           Med.s 1.39         1.18
##          yday.s 2.43         1.56
##           Veg.s 1.63         1.28
##          Elev.s 1.51         1.23
##          Moon.s 1.54         1.24
##          Temp.s 2.40         1.55
##            Year 1.18         1.08
##  DayL50.s:Med.s 1.73         1.31
```

Lep.Larvae BN



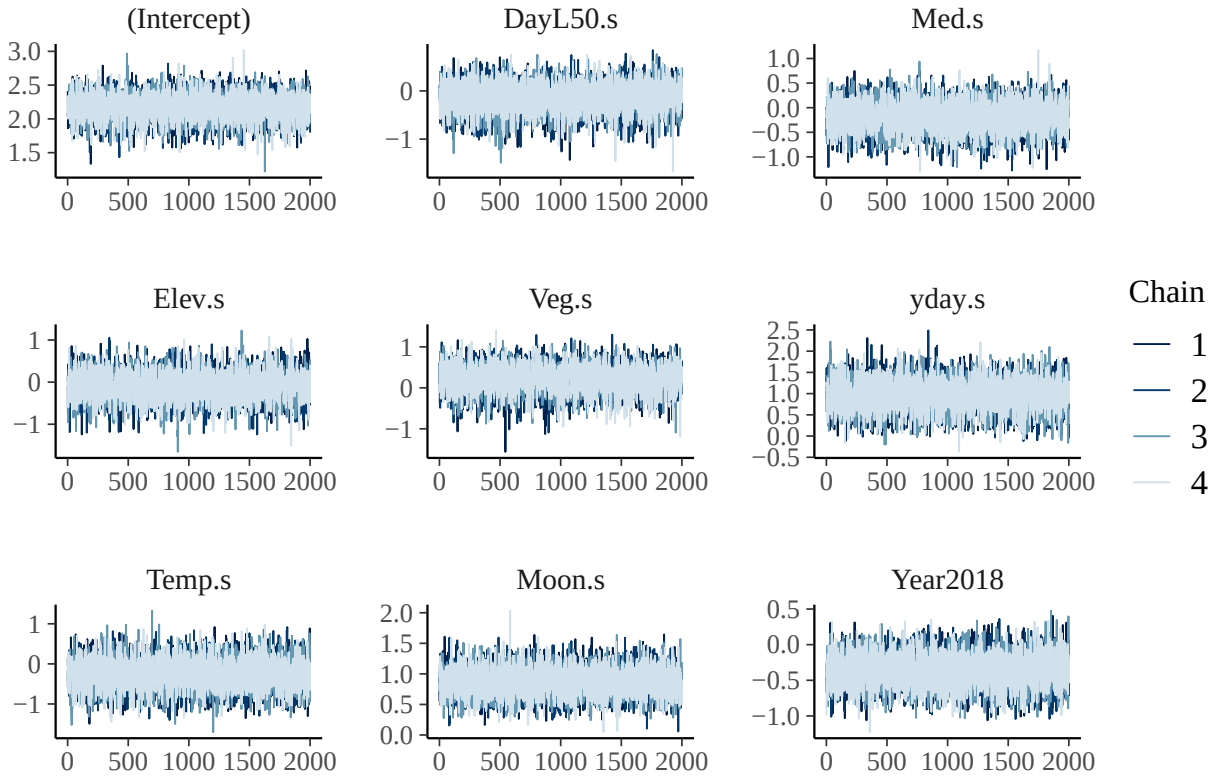

Lep.Larvae BN
0
10
20
30
y
y rep



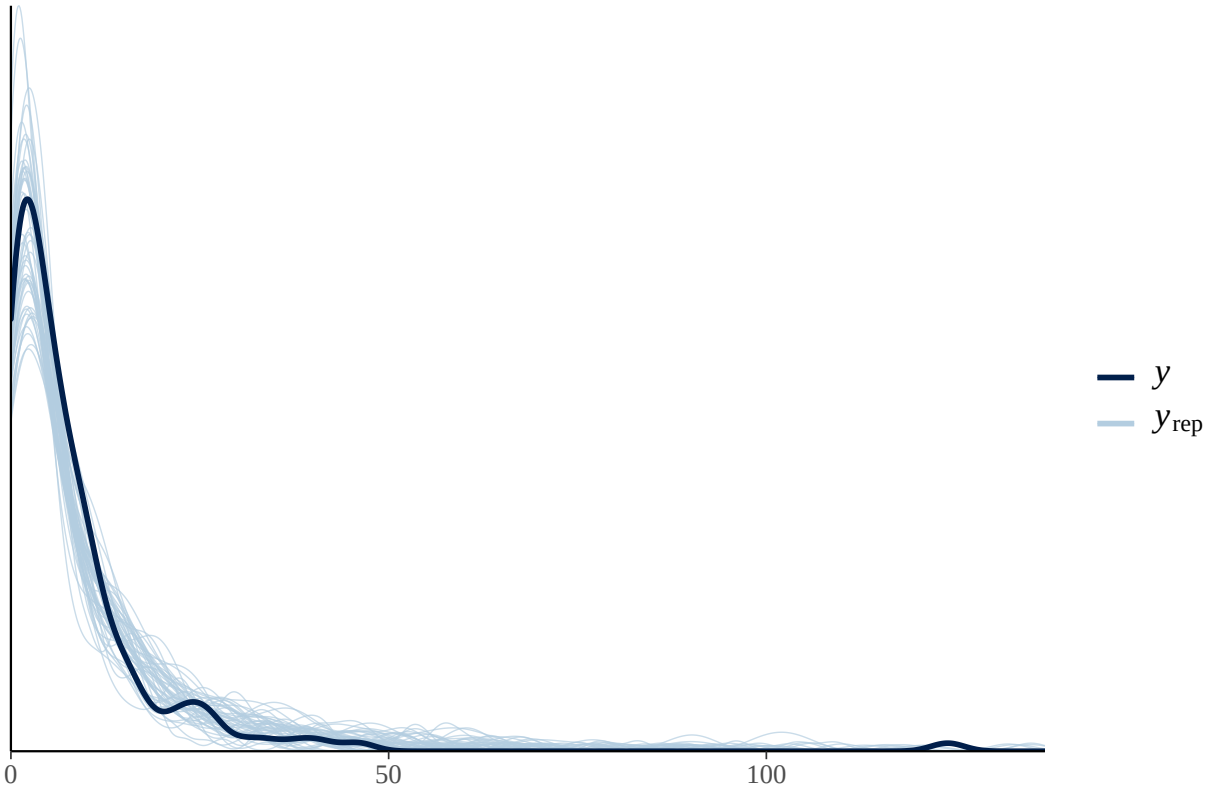
Diptera

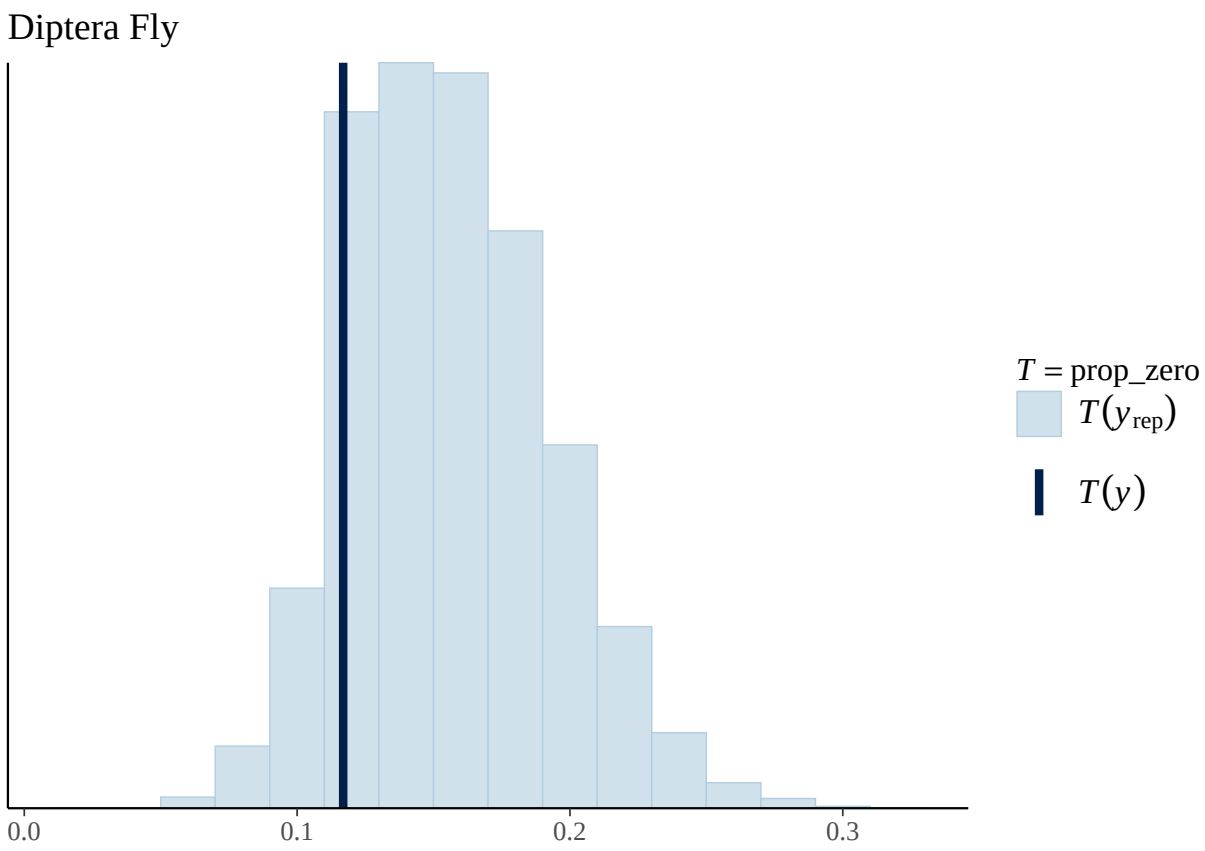
```
## [1] "Diptera Fly"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.36         1.17
##           Med.s 1.41         1.19
##          yday.s 3.10         1.76
##           Veg.s 1.48         1.22
##          Elev.s 1.36         1.16
##          Moon.s 1.11         1.05
##          Temp.s 3.27         1.81
##            Year 1.37         1.17
##  DayL50.s:Med.s 1.31         1.15
```

Diptera Fly


(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

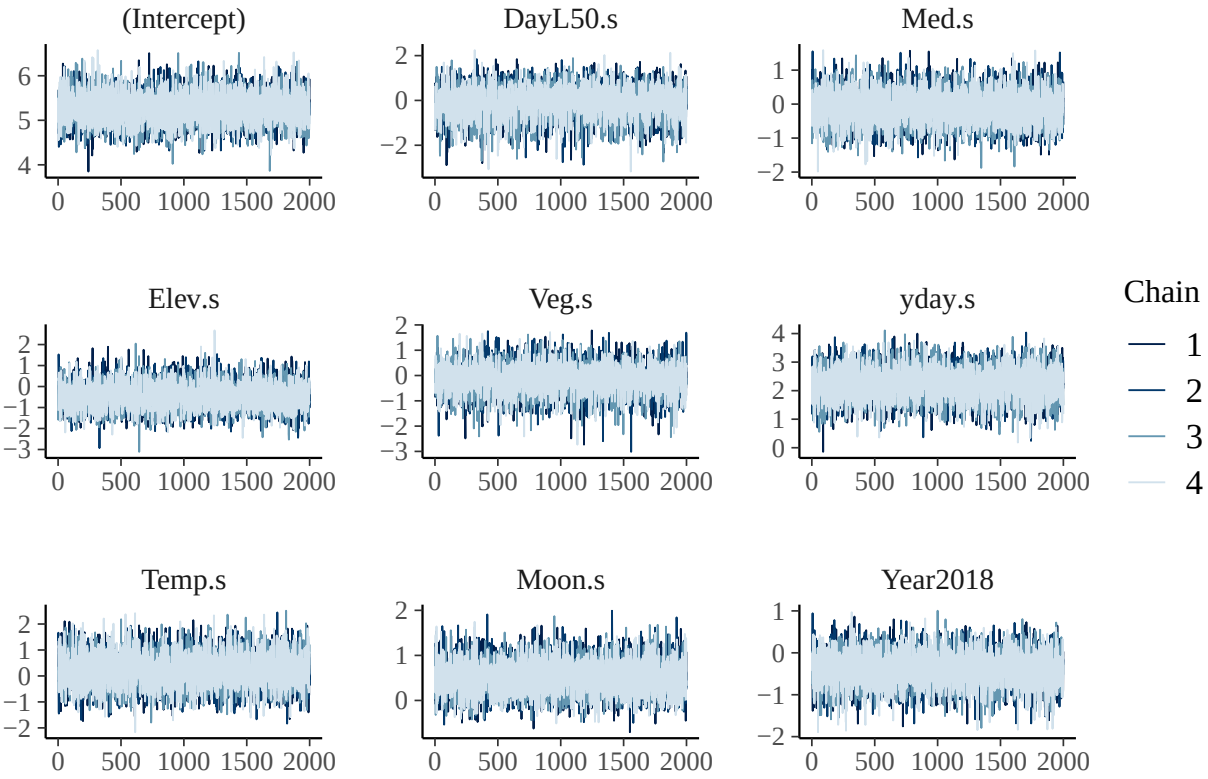
Diptera Fly



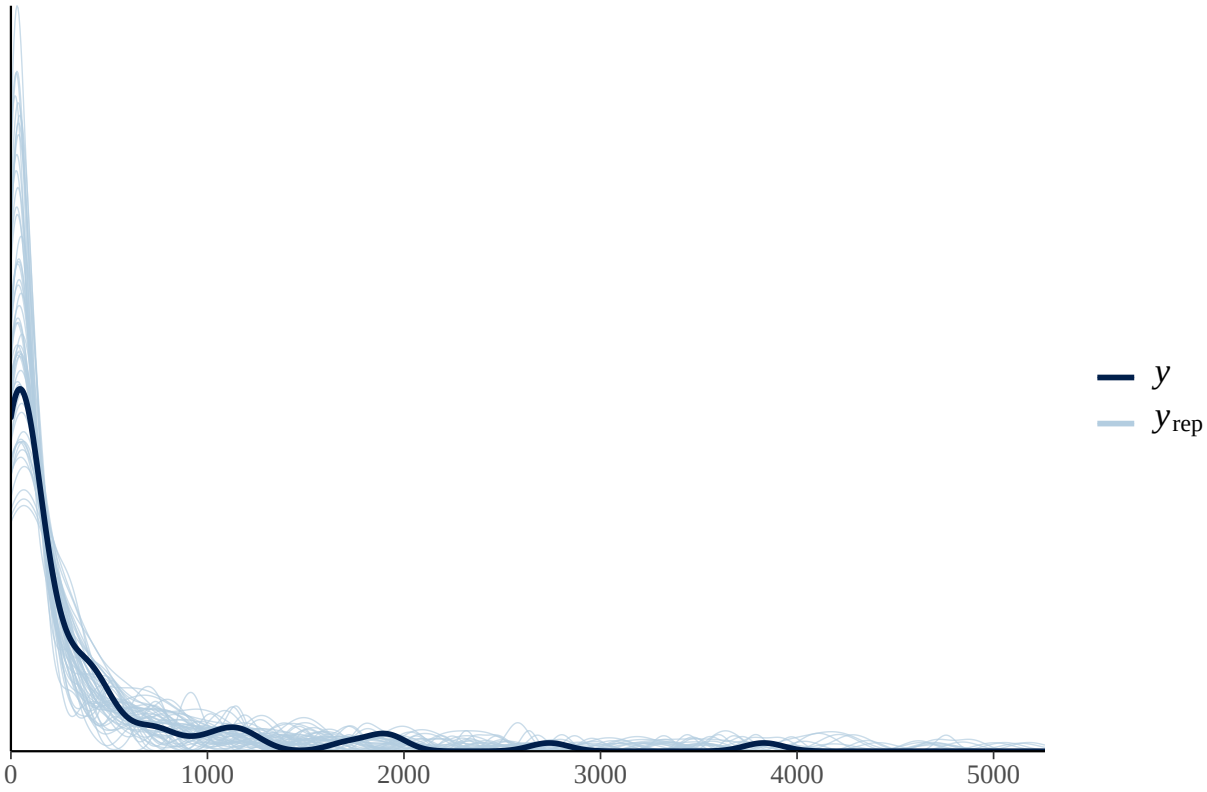


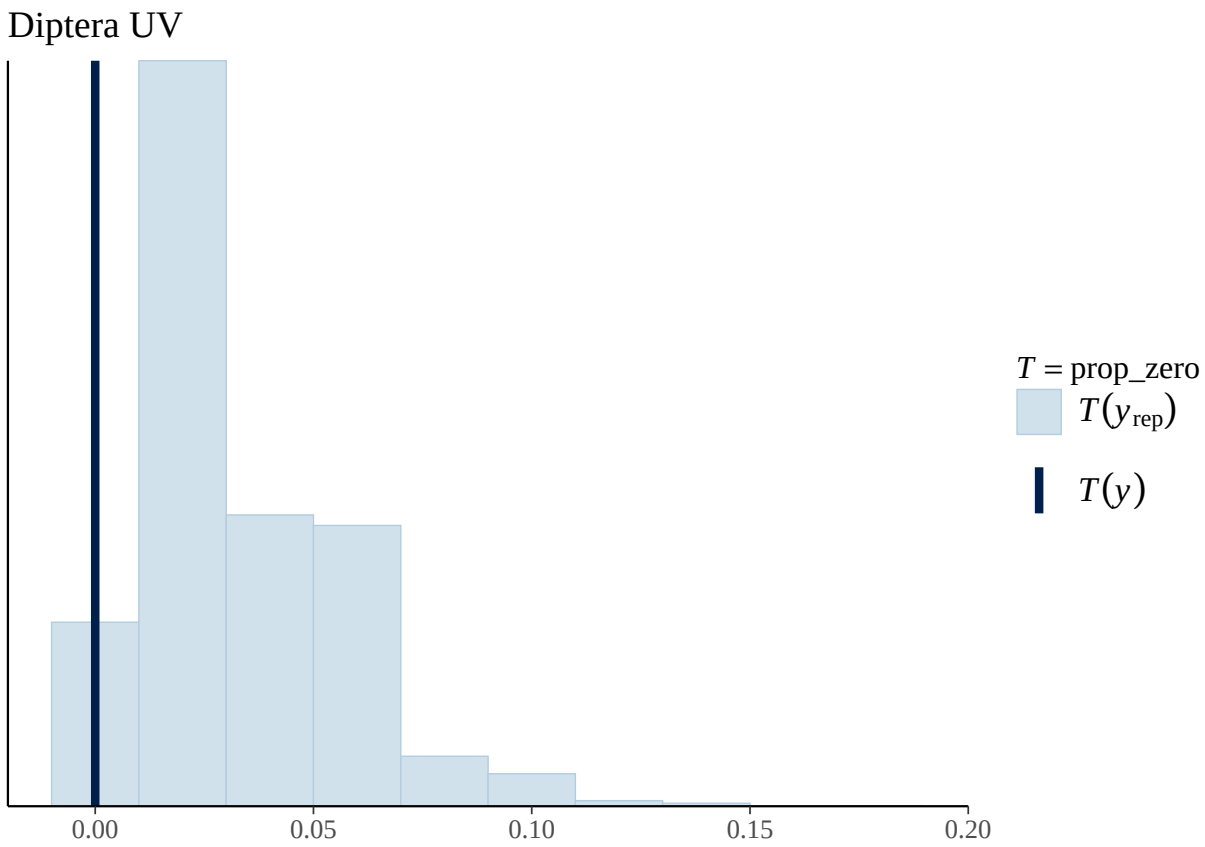

```
## [1] "Diptera UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.90         1.38
##           Med.s 1.61         1.27
##          yday.s 2.73         1.65
##           Veg.s 1.46         1.21
##          Elev.s 1.55         1.25
##          Moon.s 1.14         1.07
##          Temp.s 3.16         1.78
##            Year 1.61         1.27
##  DayL50.s:Med.s 1.44         1.20
```

Diptera UV


(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

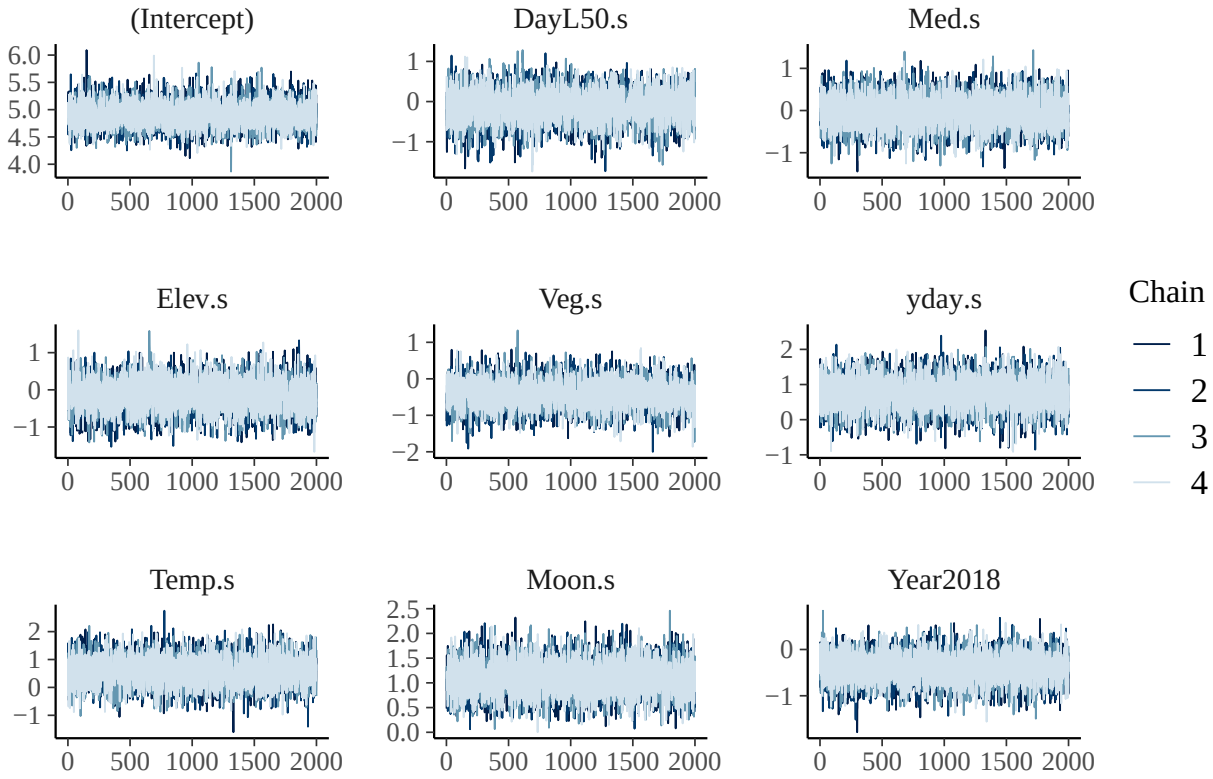
Diptera UV



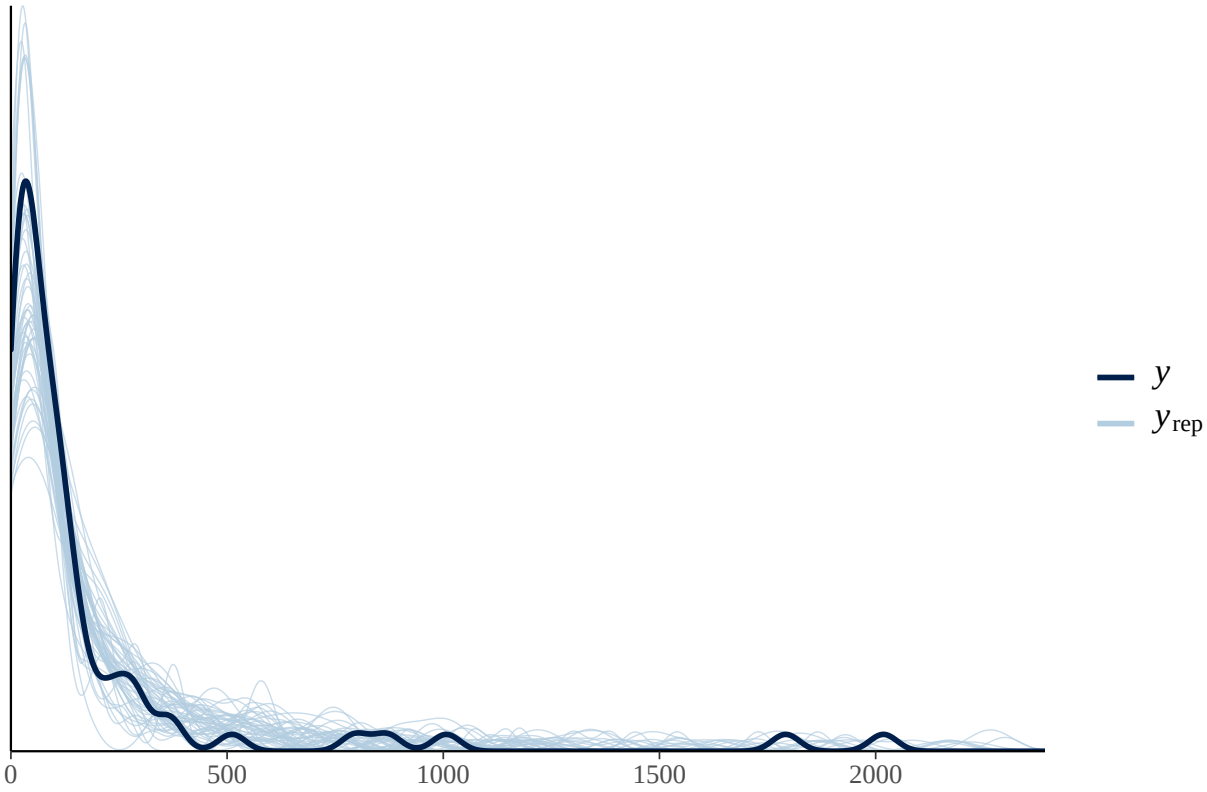



```
## [1] "Diptera Malaise"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.90         1.38
##           Med.s 1.43         1.20
##          yday.s 3.33         1.83
##           Veg.s 1.49         1.22
##          Elev.s 1.82         1.35
##          Moon.s 1.20         1.10
##          Temp.s 3.80         1.95
##            Year 1.42         1.19
##  DayL50.s:Med.s 1.37         1.17
```

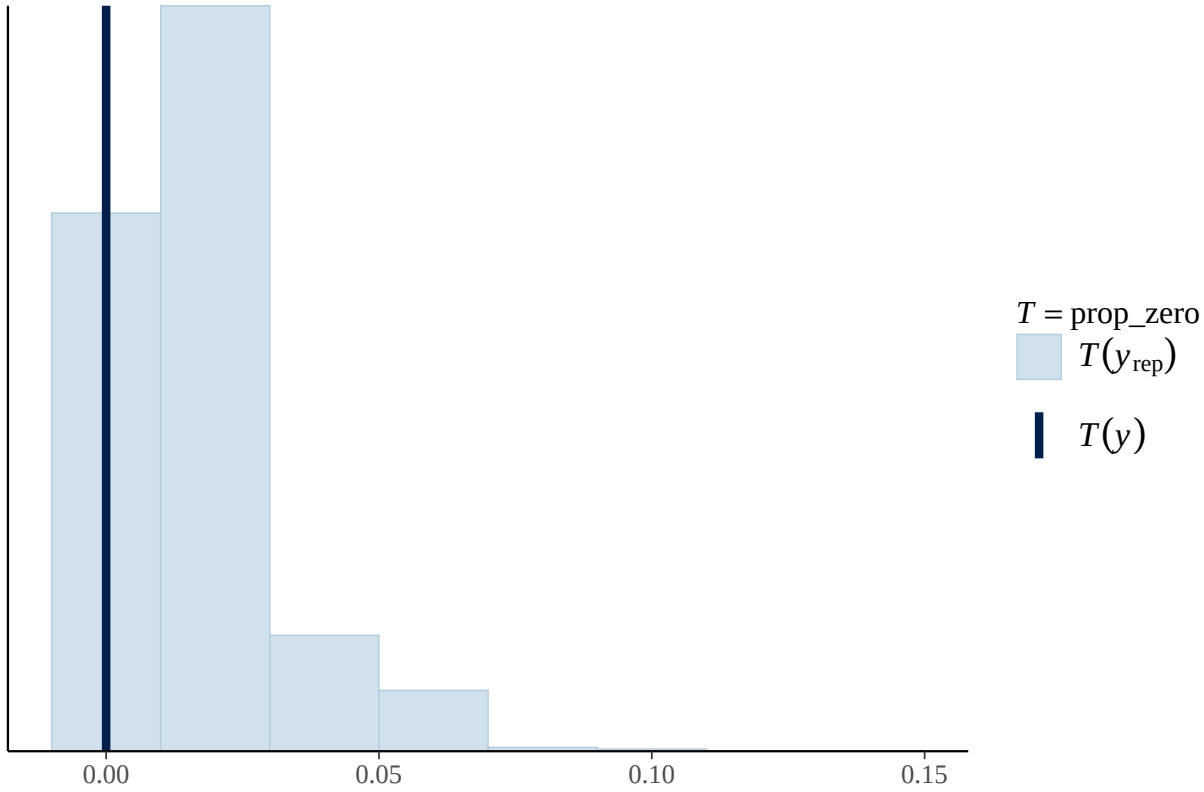
Diptera Malaise



Diptera Malaise

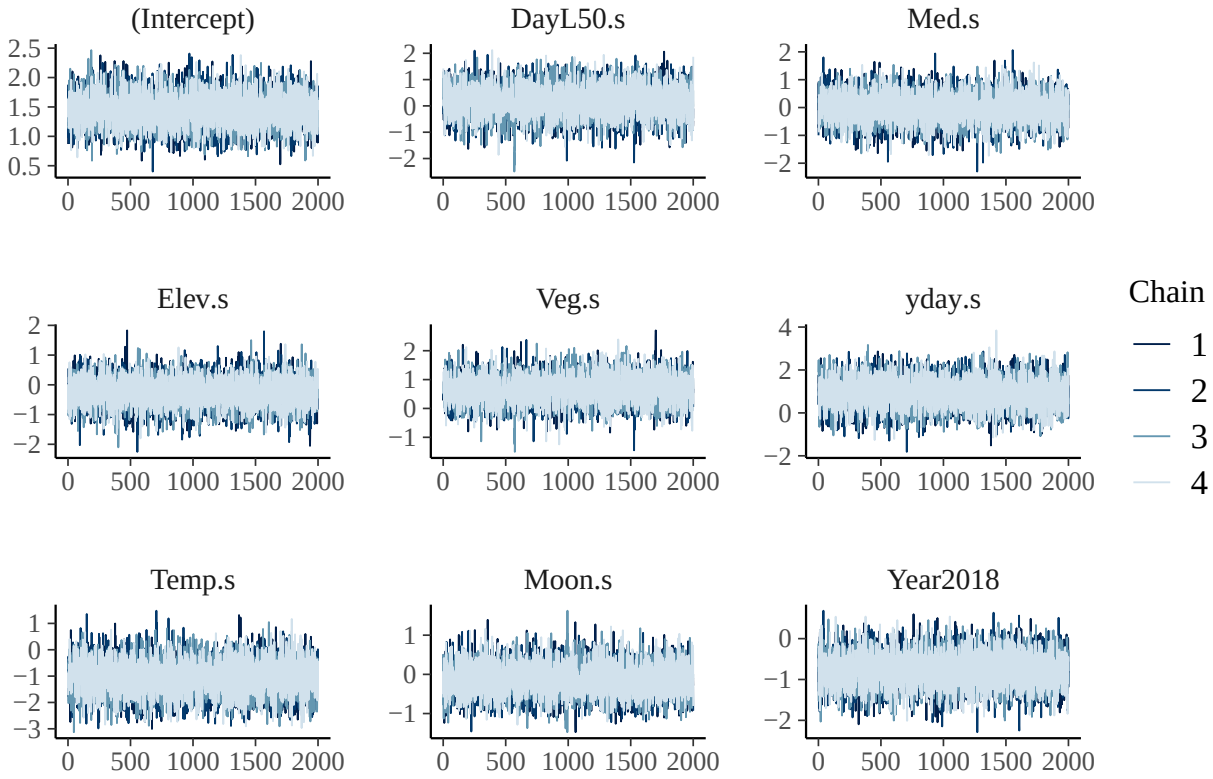


Diptera Malaise

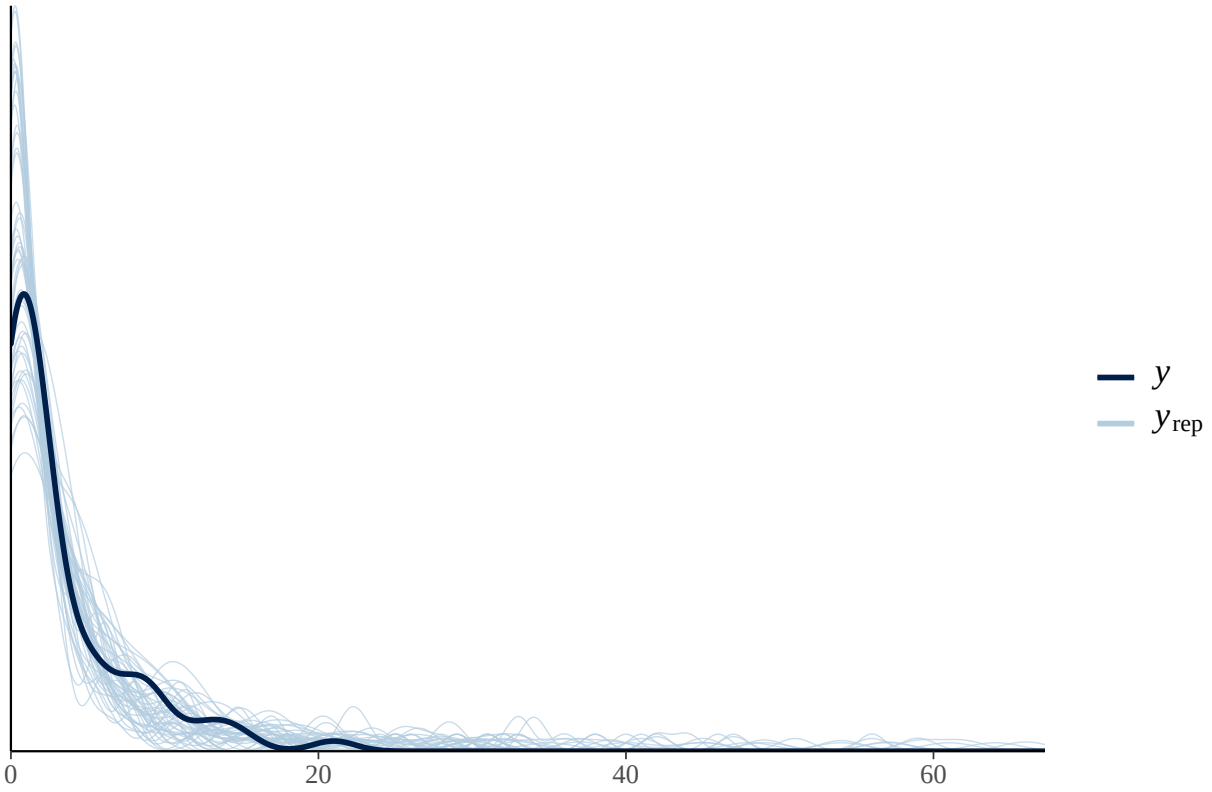



```
## [1] "Diptera BN"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.20         1.48
##           Med.s 1.44         1.20
##          yday.s 3.08         1.75
##           Veg.s 1.51         1.23
##          Elev.s 1.36         1.17
##          Moon.s 1.28         1.13
##          Temp.s 3.15         1.78
##            Year 1.38         1.18
##  DayL50.s:Med.s 1.46         1.21
```

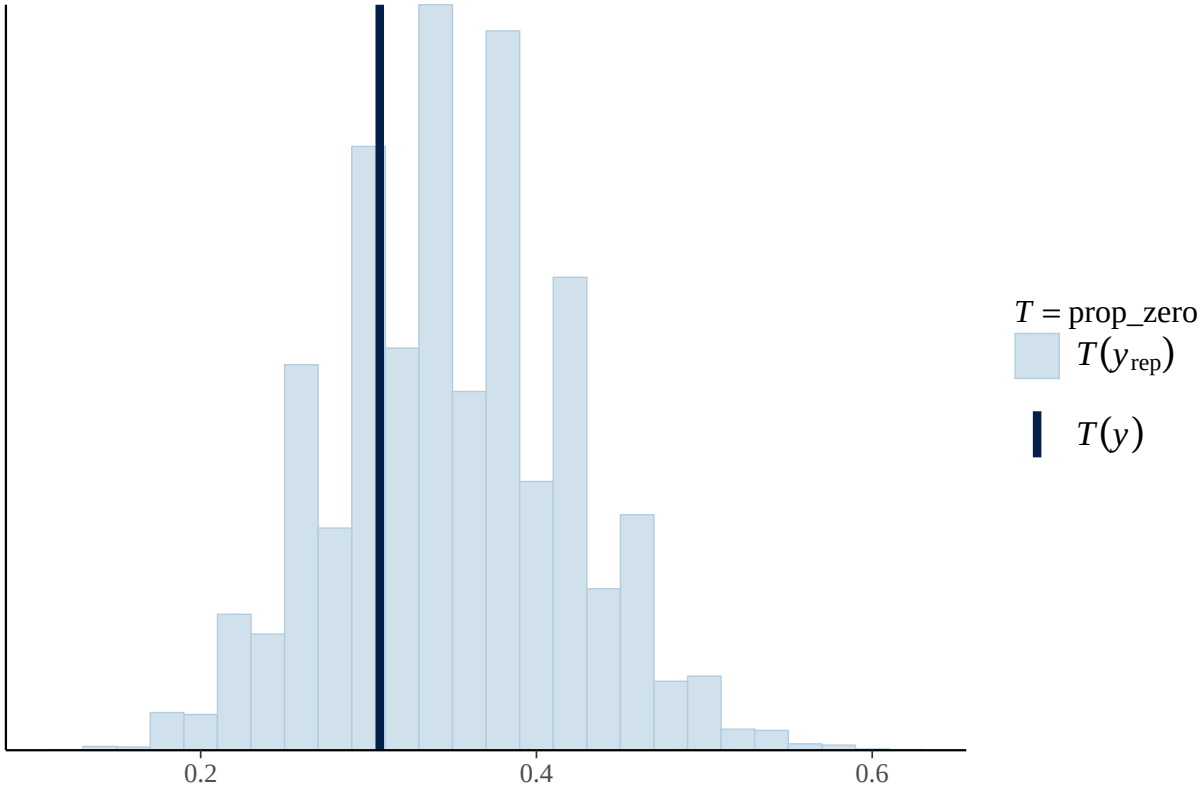
Diptera BN


(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

Diptera BN



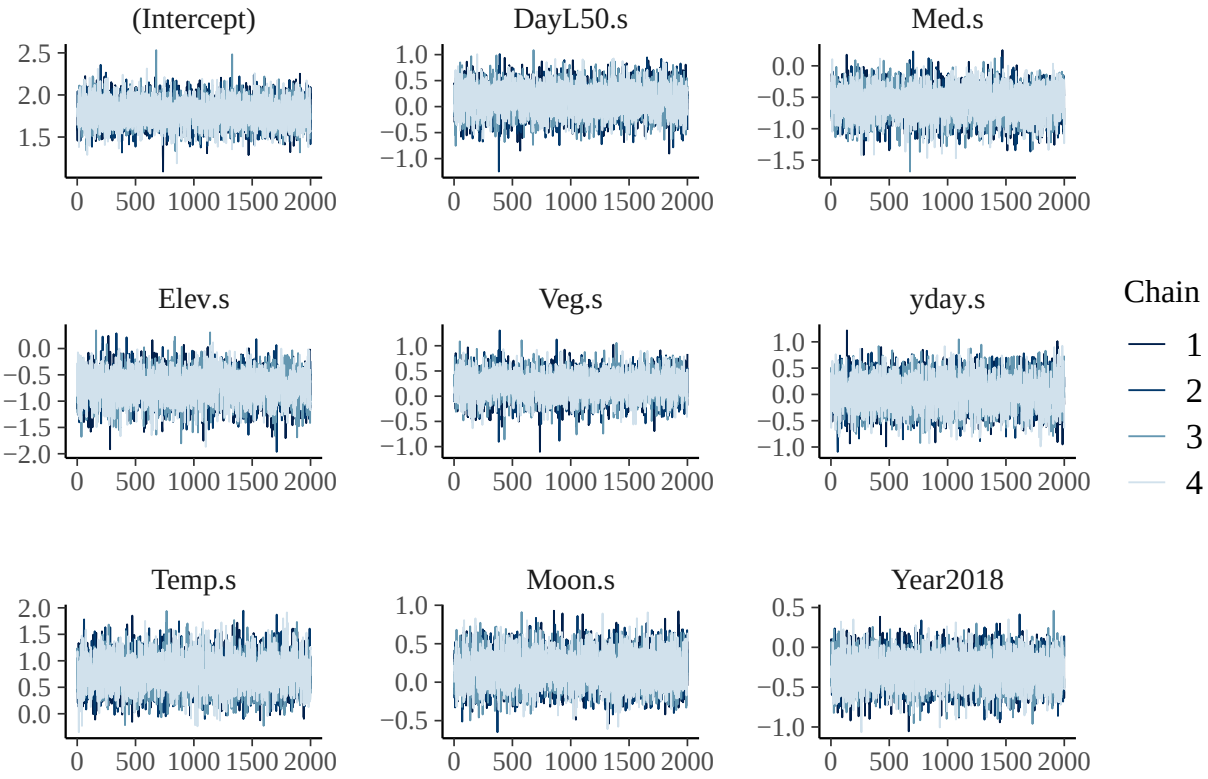
Diptera BN



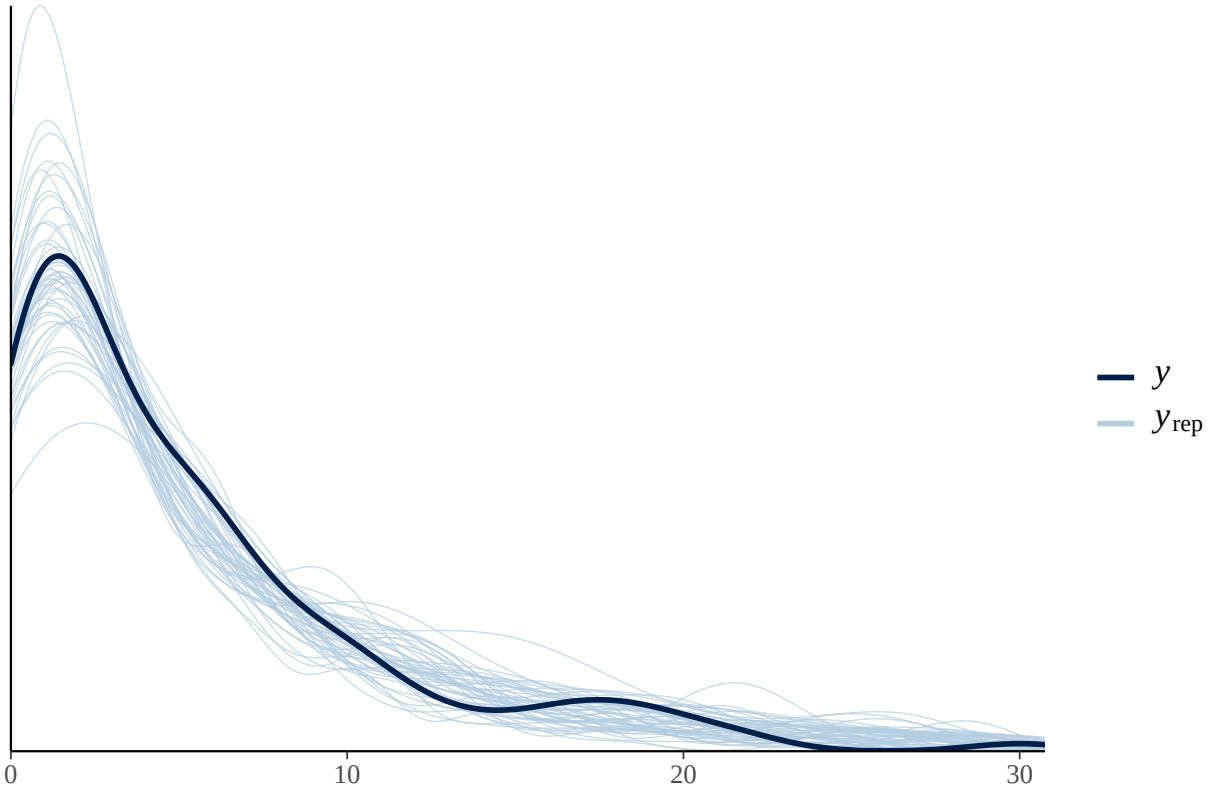
Hymenoptera

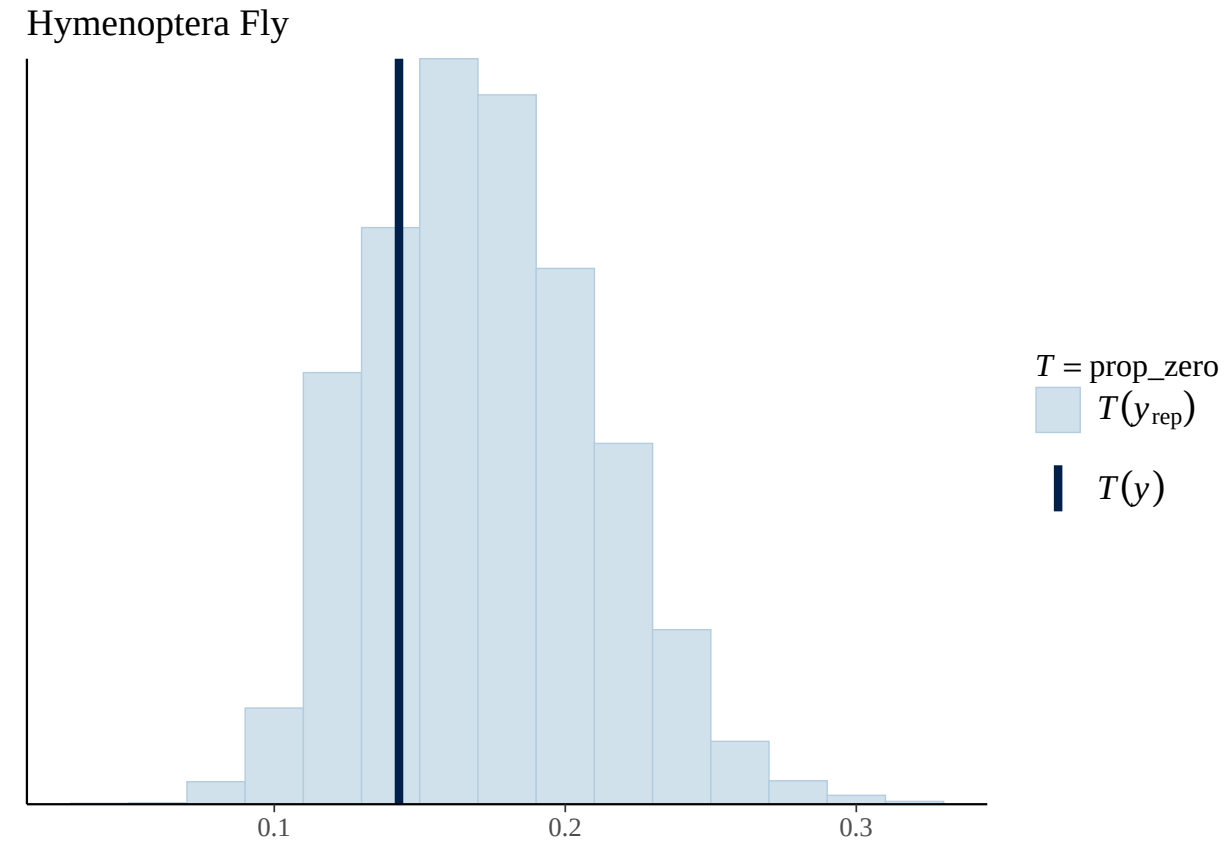
```
## [1] "Hymenoptera Fly"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.61         1.27
##           Med.s 1.54         1.24
##          yday.s 2.55         1.60
##           Veg.s 1.32         1.15
##          Elev.s 1.54         1.24
##          Moon.s 1.16         1.08
##          Temp.s 2.67         1.64
##            Year 1.18         1.09
##  DayL50.s:Med.s 1.43         1.20
```

Hymenoptera Fly



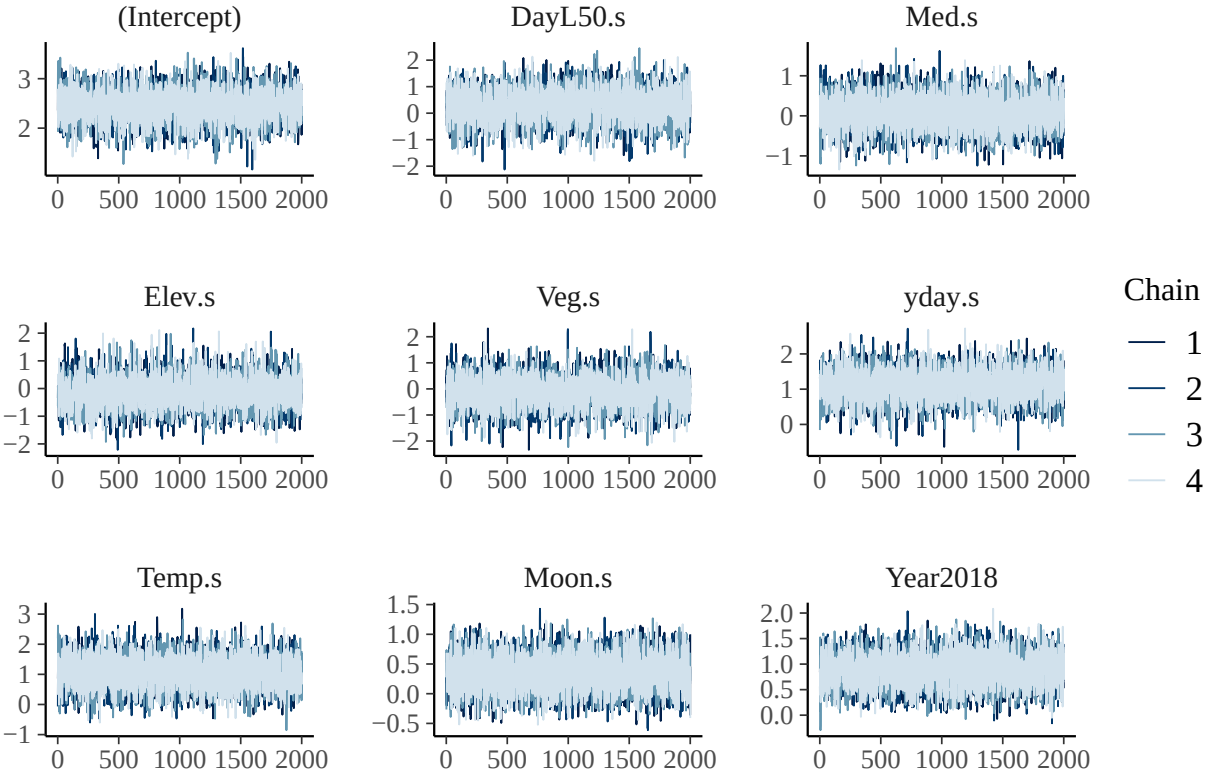
Hymenoptera Fly



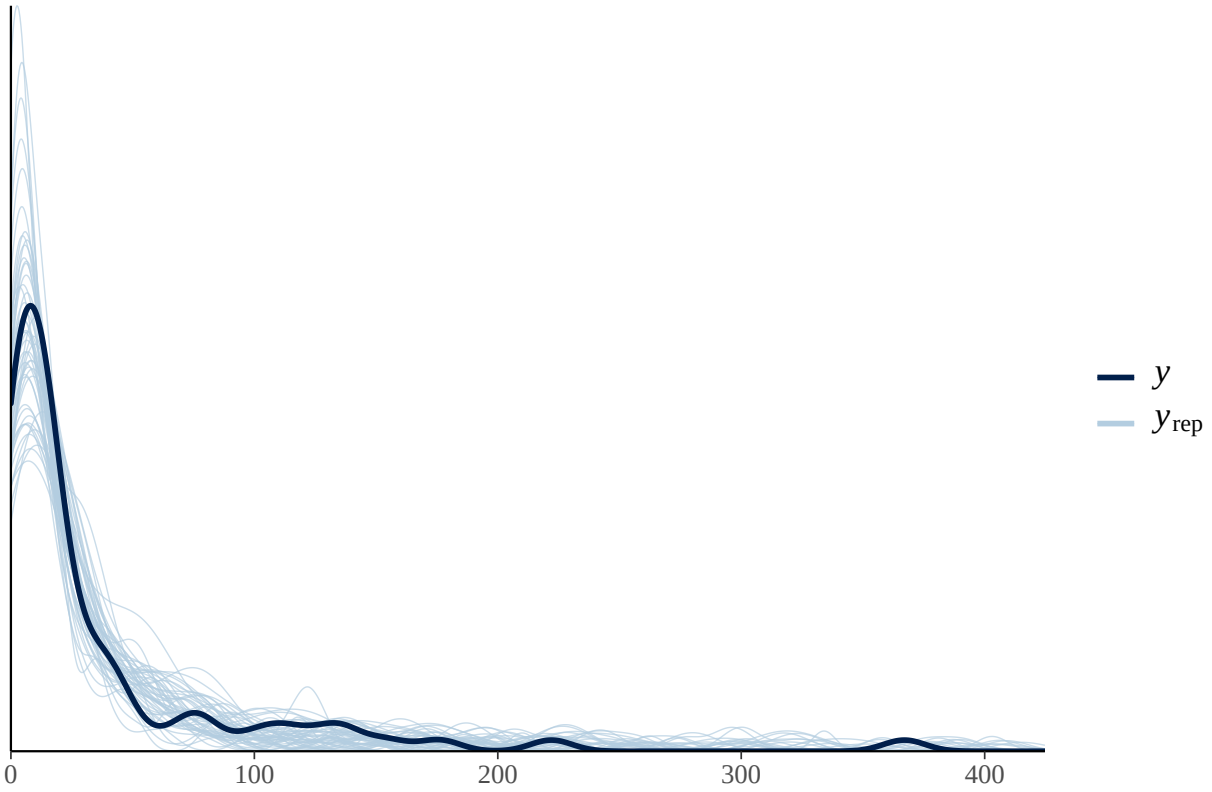



```
## [1] "Hymenoptera UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.52         1.23
##           Med.s 1.52         1.23
##          yday.s 2.49         1.58
##           Veg.s 1.31         1.15
##          Elev.s 1.26         1.12
##          Moon.s 1.13         1.06
##          Temp.s 2.59         1.61
##            Year 1.51         1.23
##  DayL50.s:Med.s 1.25         1.12
```

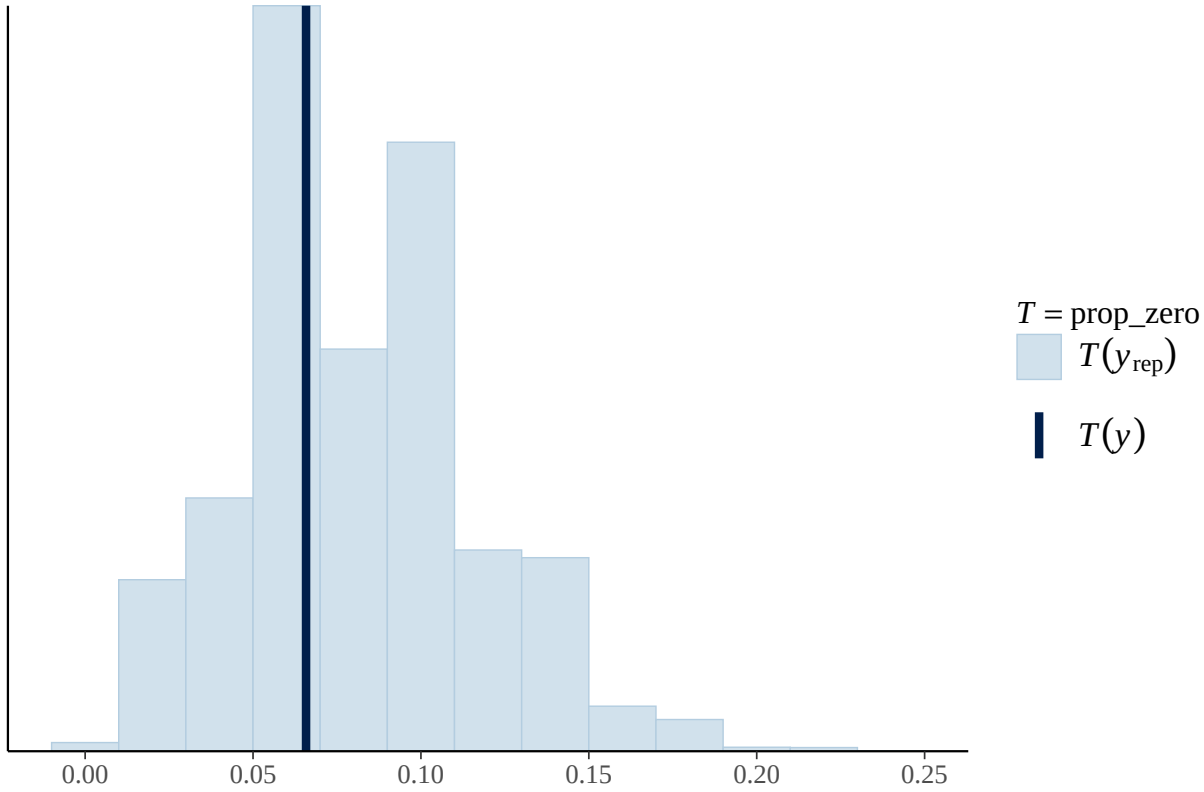
Hymenoptera UV



Hymenoptera UV

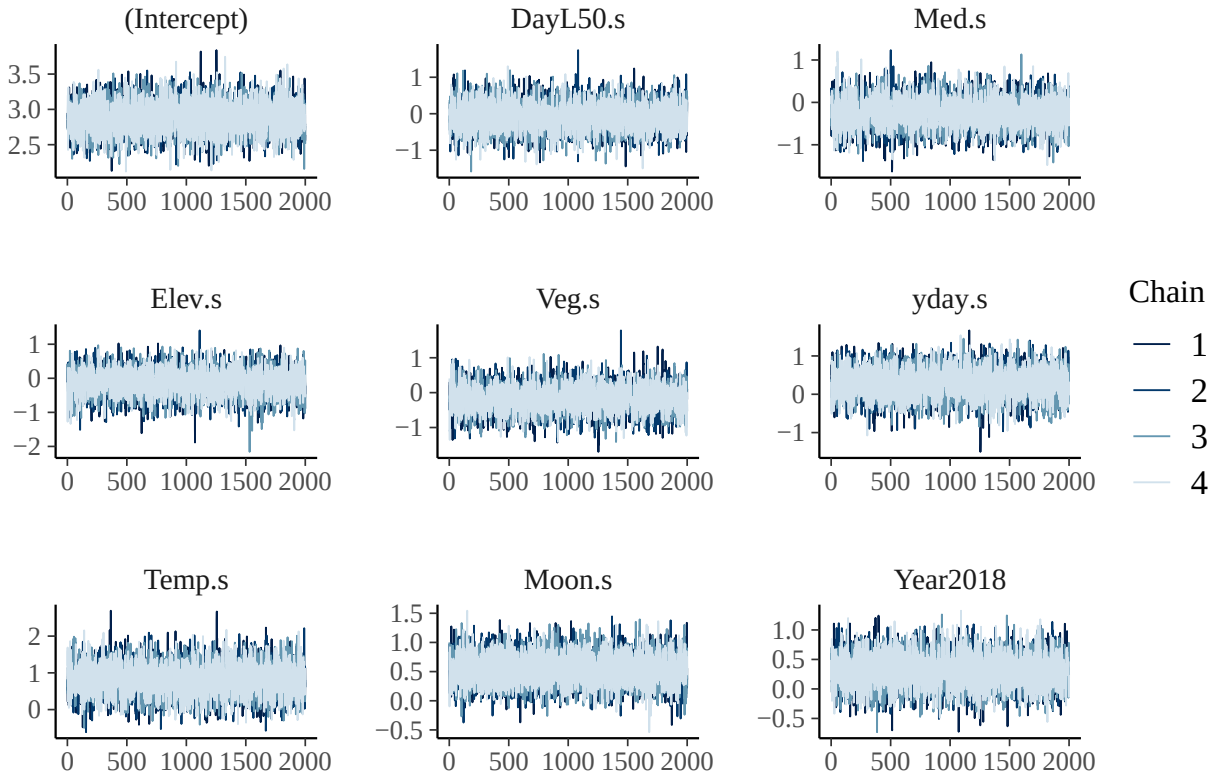


Hymenoptera UV

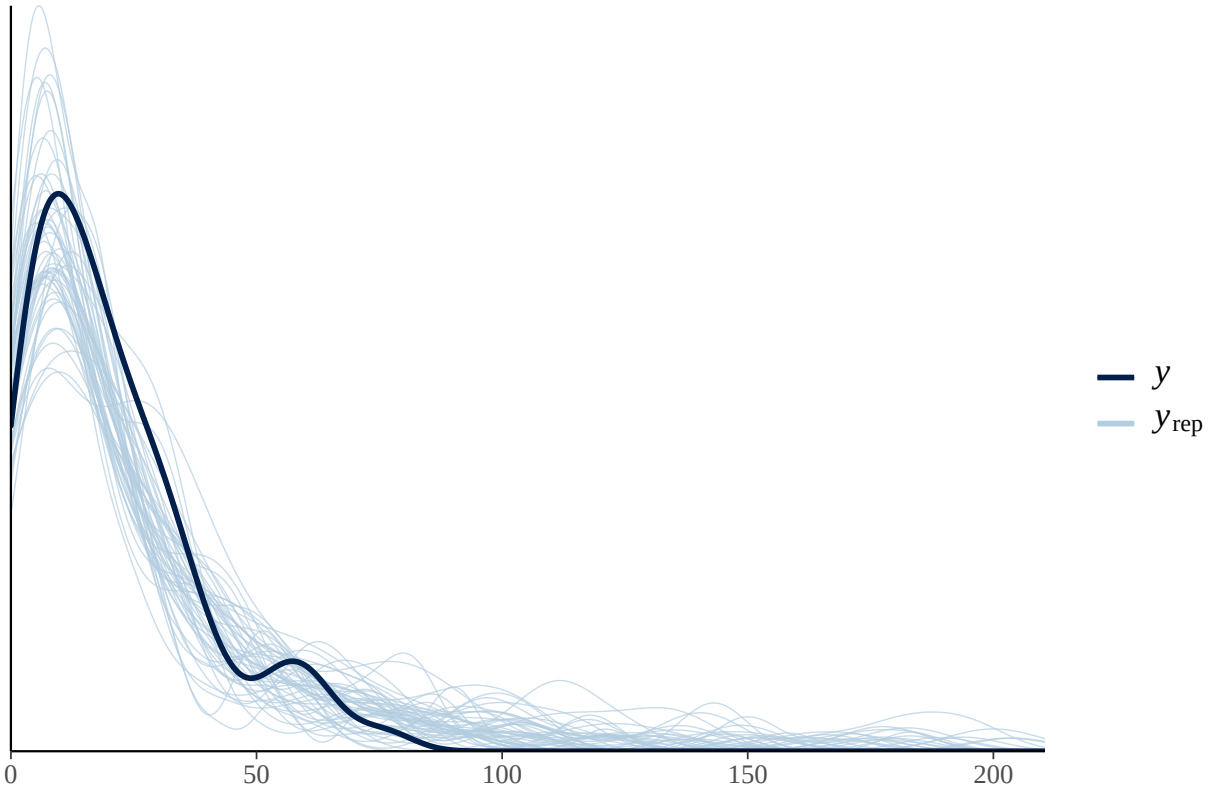



```
## [1] "Hymenoptera Malaise"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.75         1.32
##           Med.s 1.45         1.20
##          yday.s 2.79         1.67
##           Veg.s 1.52         1.23
##          Elev.s 1.59         1.26
##          Moon.s 1.08         1.04
##          Temp.s 2.91         1.70
##            Year 1.31         1.14
##  DayL50.s:Med.s 1.42         1.19
```

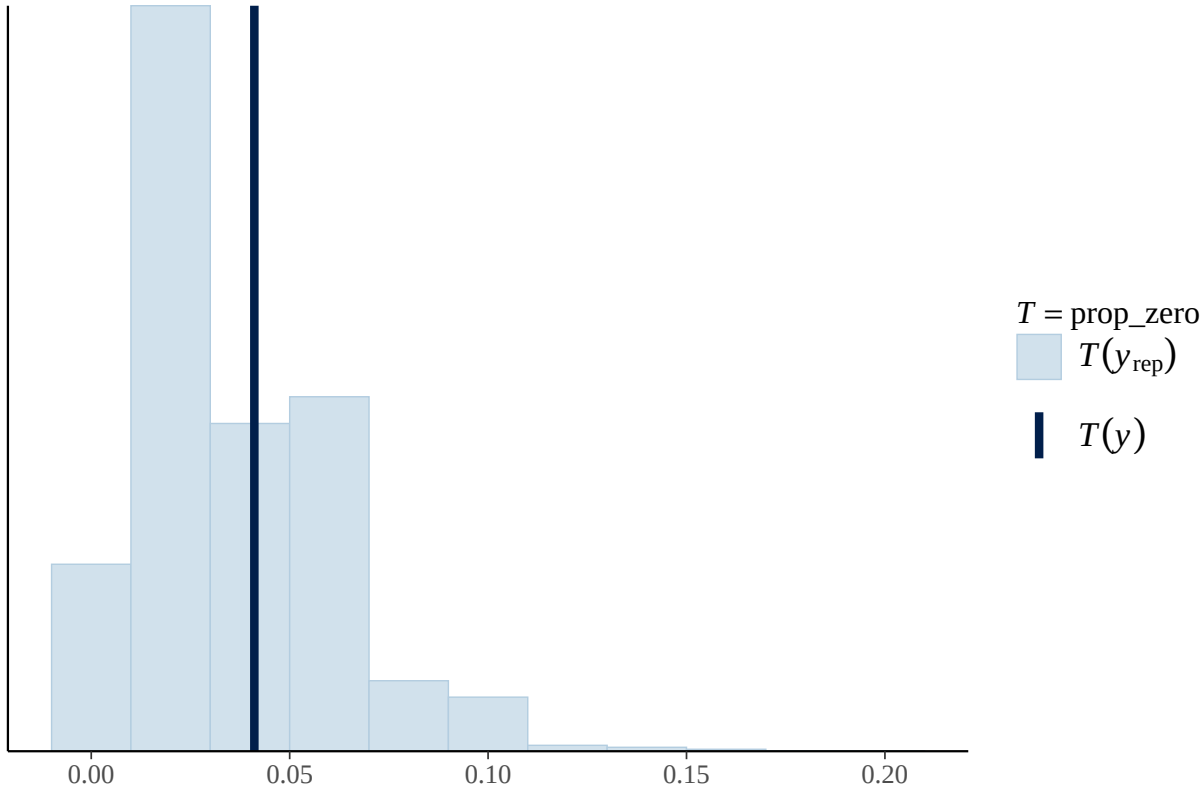
Hymenoptera Malaise



Hymenoptera Malaise

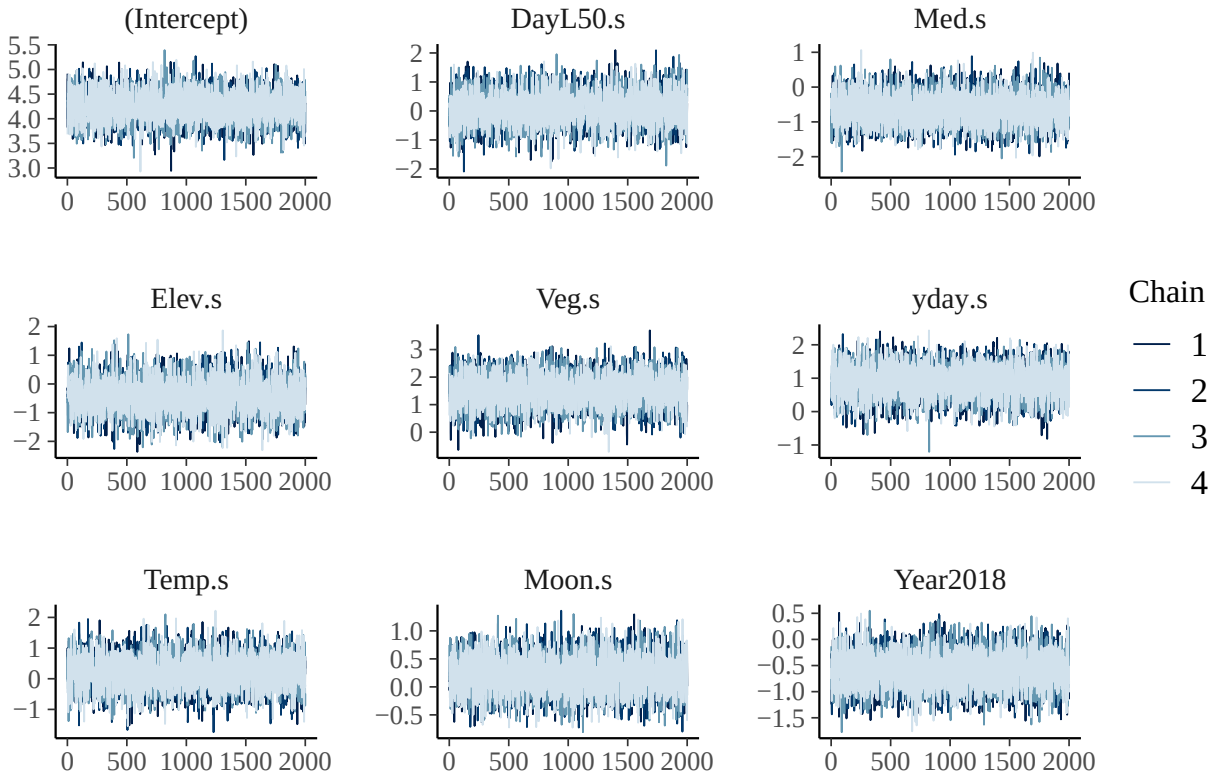


Hymenoptera Malaise

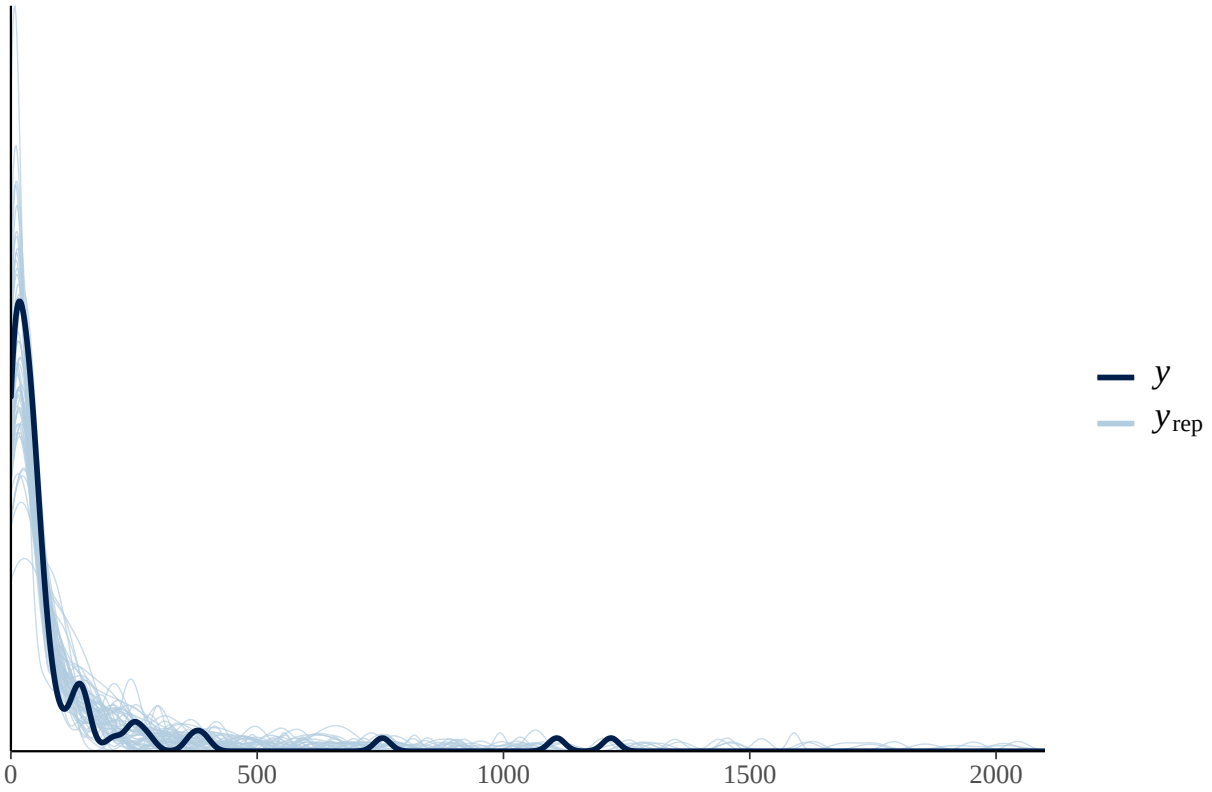


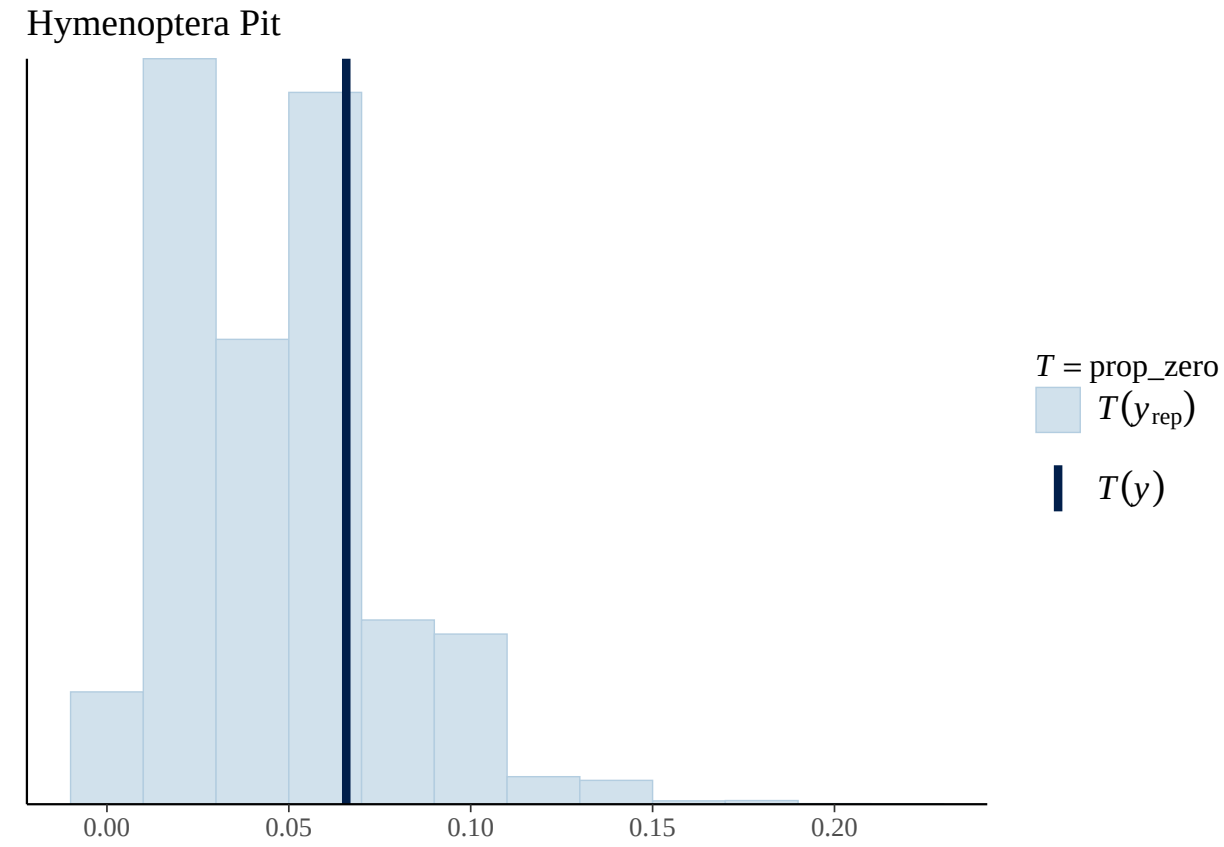

```
## [1] "Hymenoptera Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.50         1.23
##           Med.s 1.48         1.22
##          yday.s 2.38         1.54
##           Veg.s 1.32         1.15
##          Elev.s 1.48         1.22
##          Moon.s 1.14         1.07
##          Temp.s 2.58         1.61
##            Year 1.30         1.14
##  DayL50.s:Med.s 1.32         1.15
```

Hymenoptera Pit

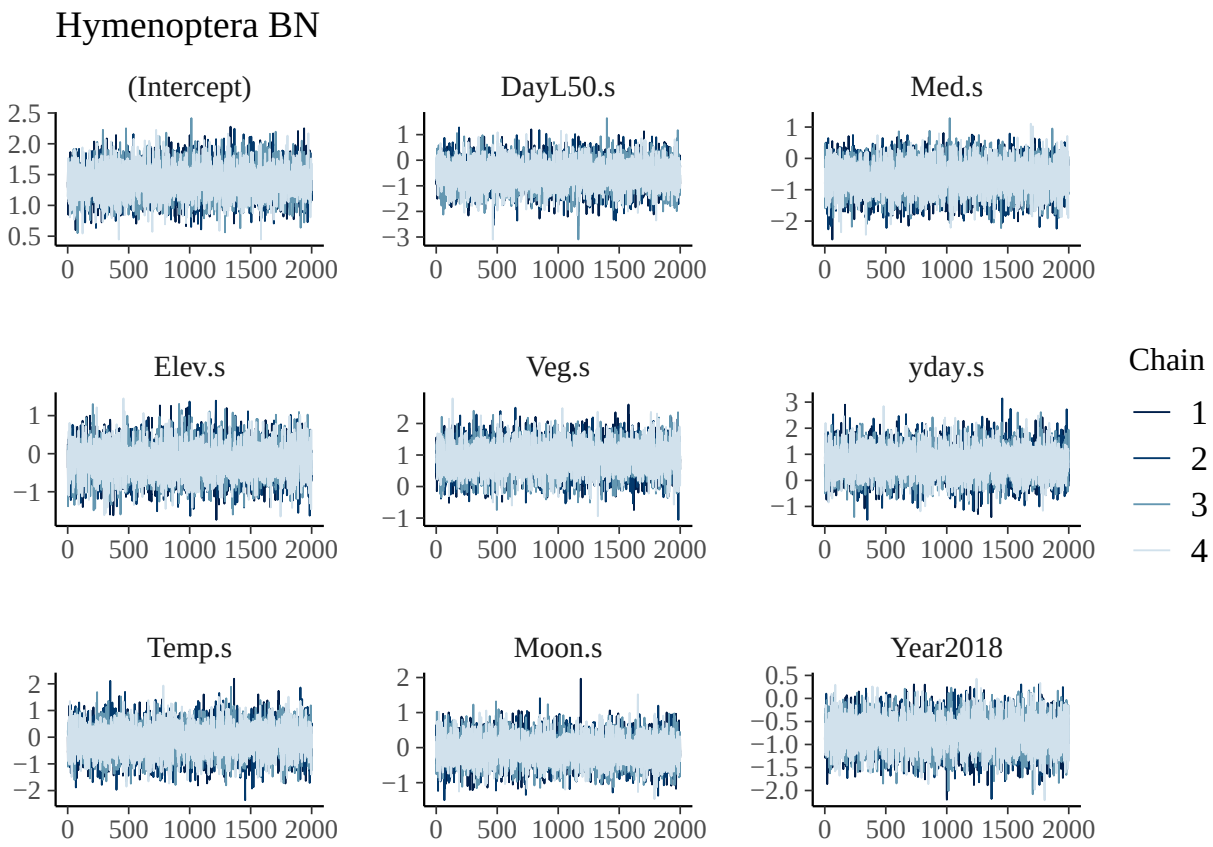


Hymenoptera Pit

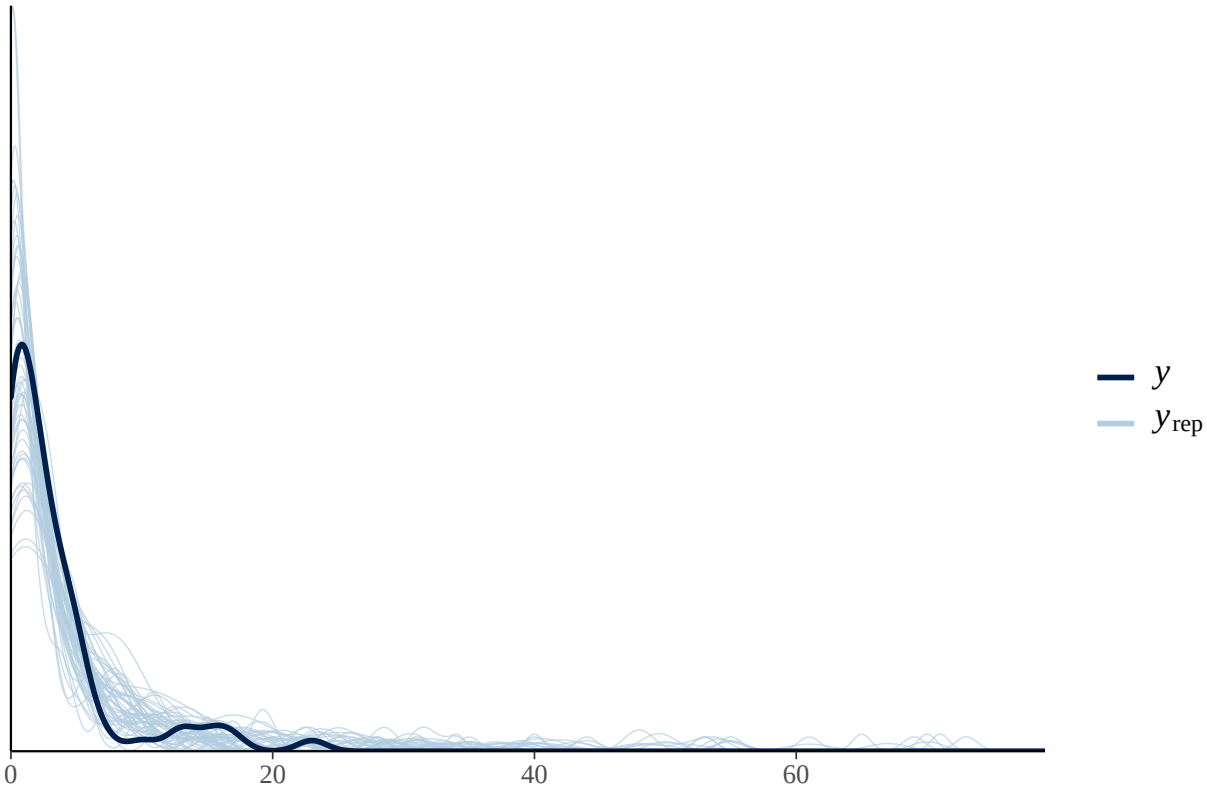




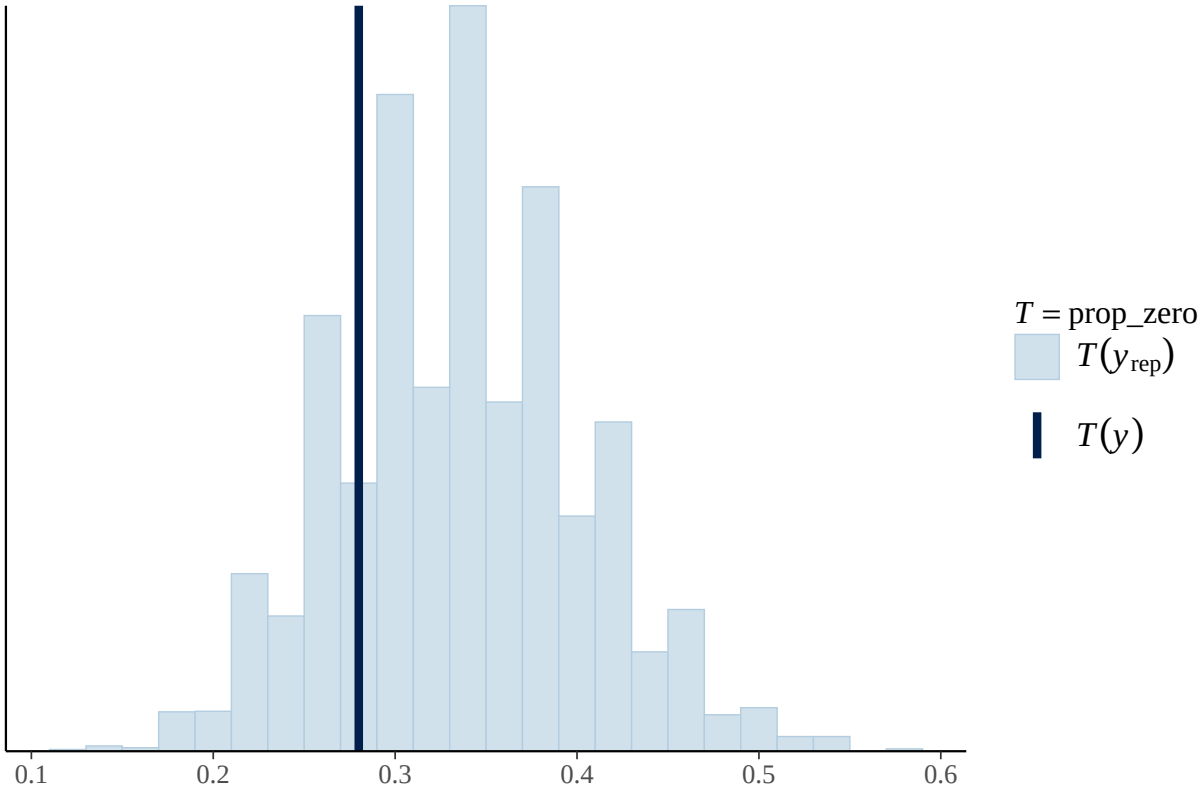

```
## [1] "Hymenoptera BN"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.94         1.39
##           Med.s 1.59         1.26
##          yday.s 2.58         1.61
##           Veg.s 1.56         1.25
##          Elev.s 1.51         1.23
##          Moon.s 1.34         1.16
##          Temp.s 2.63         1.62
##            Year 1.24         1.11
##  DayL50.s:Med.s 1.58         1.26
```


Hymenoptera BN
(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

Hymenoptera BN

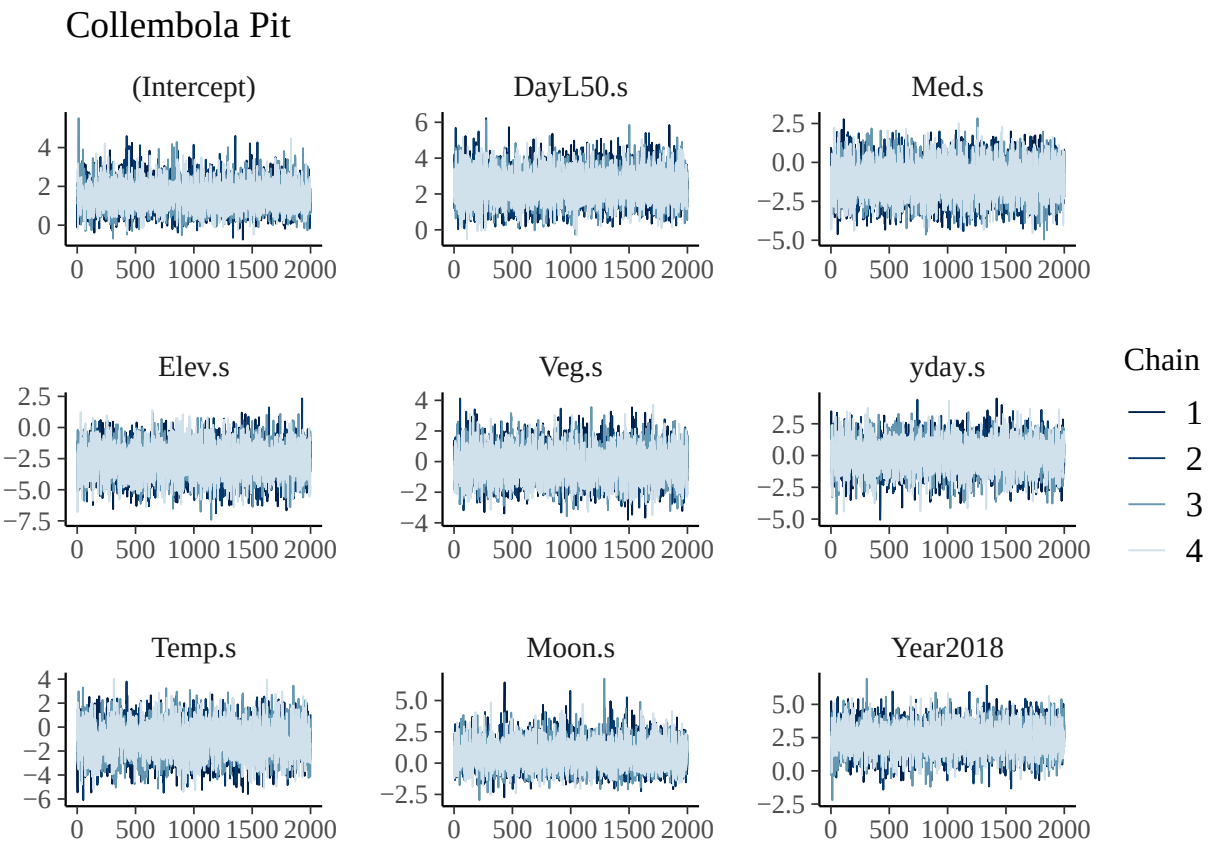


Hymenoptera BN

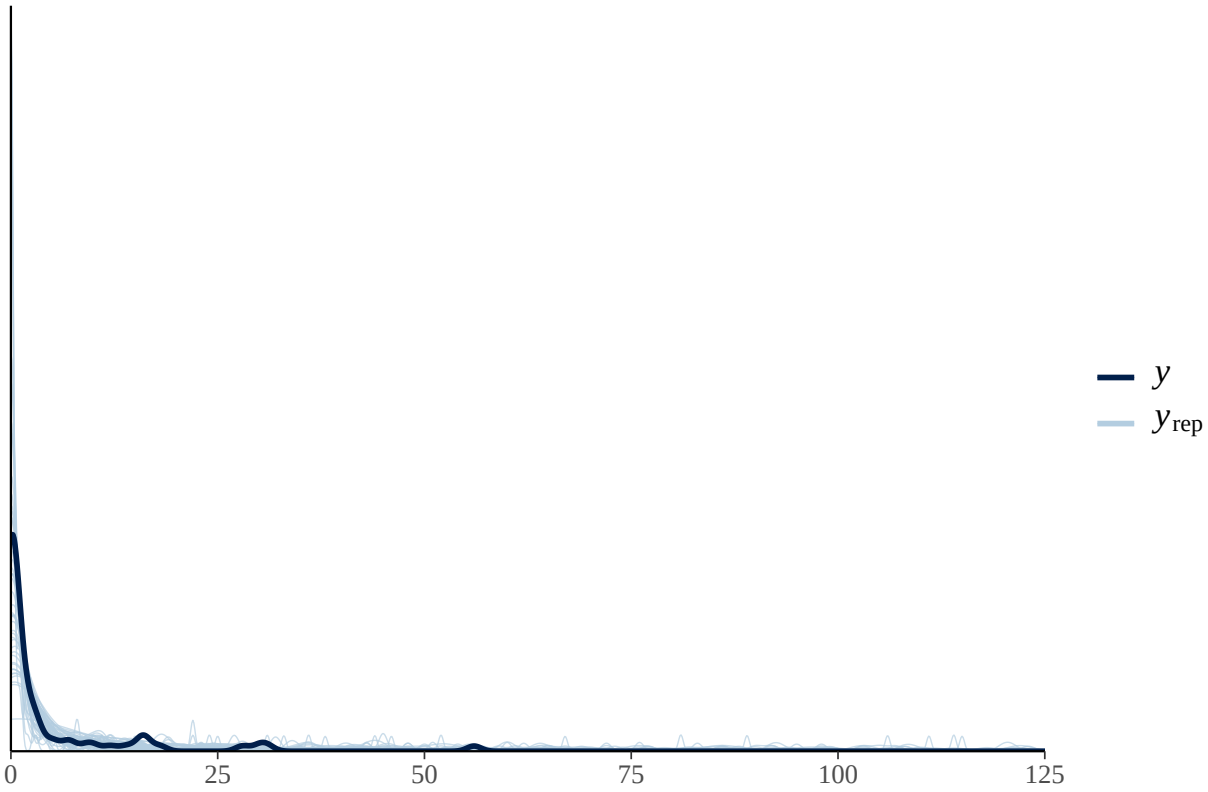


Collembola

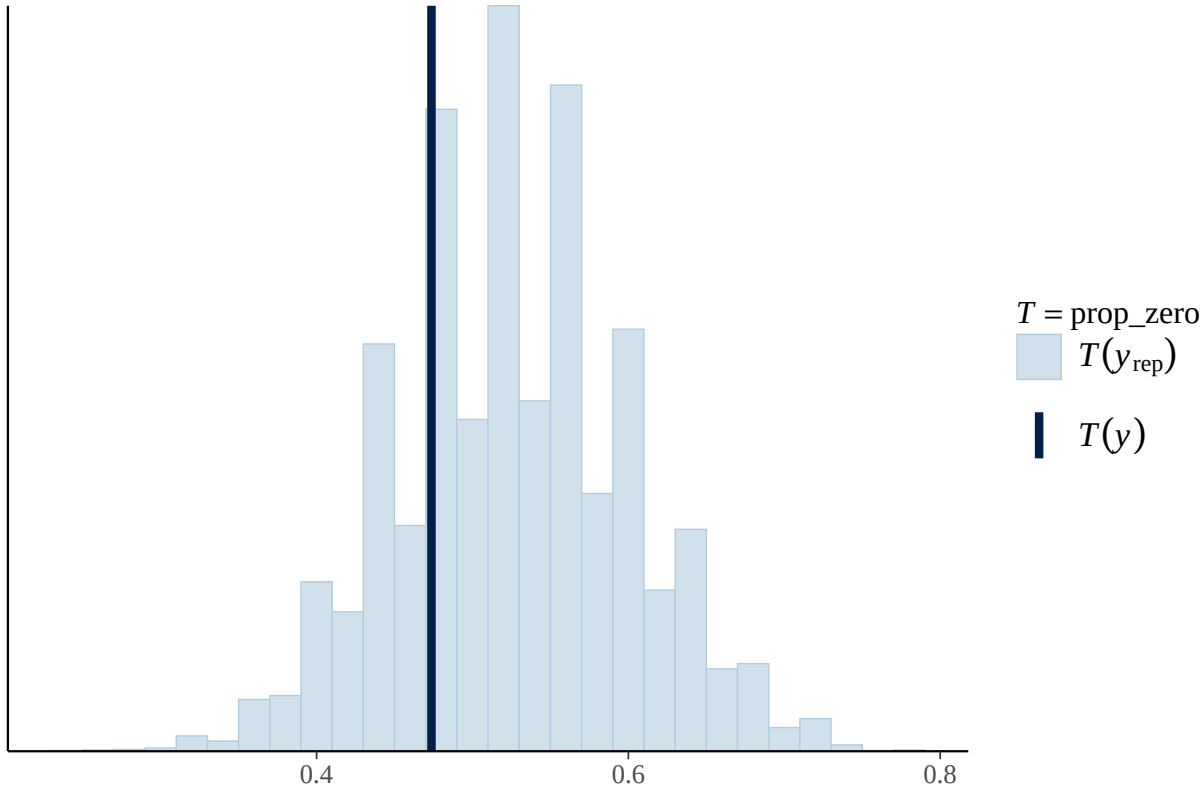
```
## [1] "Collembola Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.33         1.15
##           Med.s 2.06         1.43
##          yday.s 4.12         2.03
##           Veg.s 2.26         1.50
##          Elev.s 2.32         1.52
##          Moon.s 1.57         1.25
##            Year 2.12         1.45
##  DayL50.s:Med.s 1.77         1.33
##
## Moderate Correlation
##
##  Parameter  VIF Increased SE
##     Temp.s 5.94         2.44
```


Collembola Pit
(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

Collembola Pit



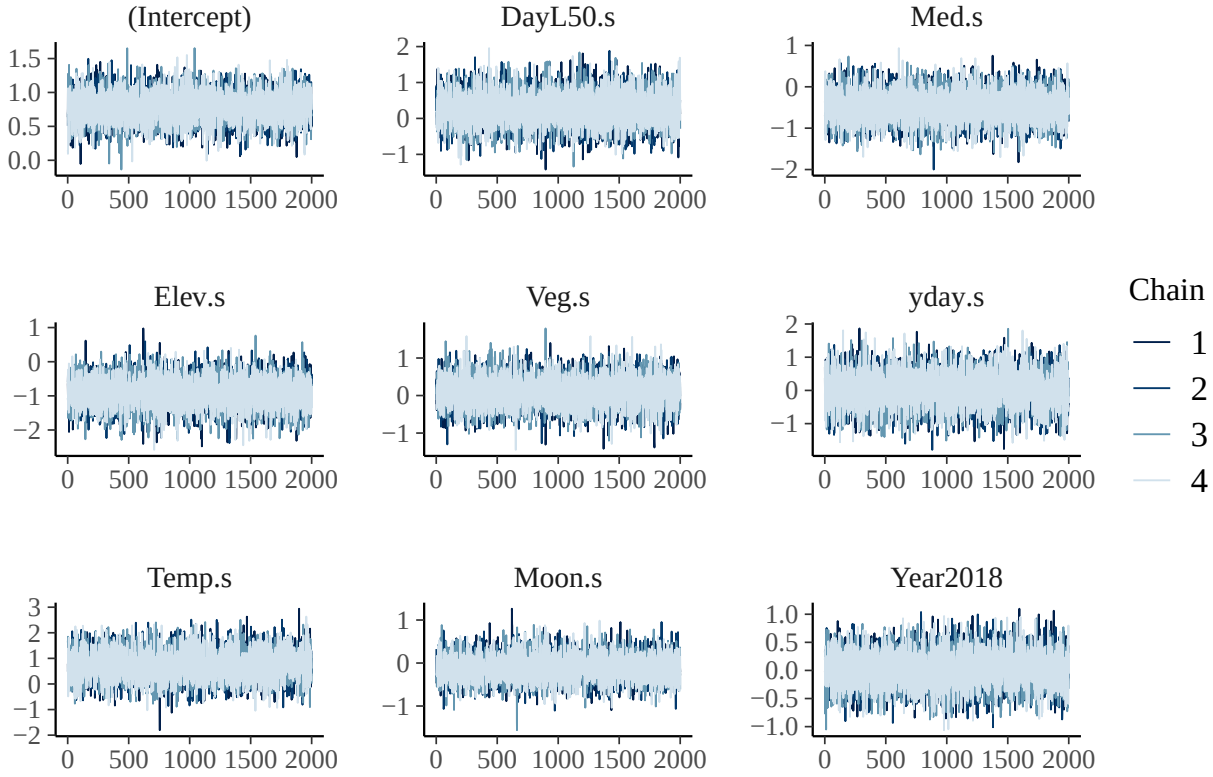
Collembola Pit



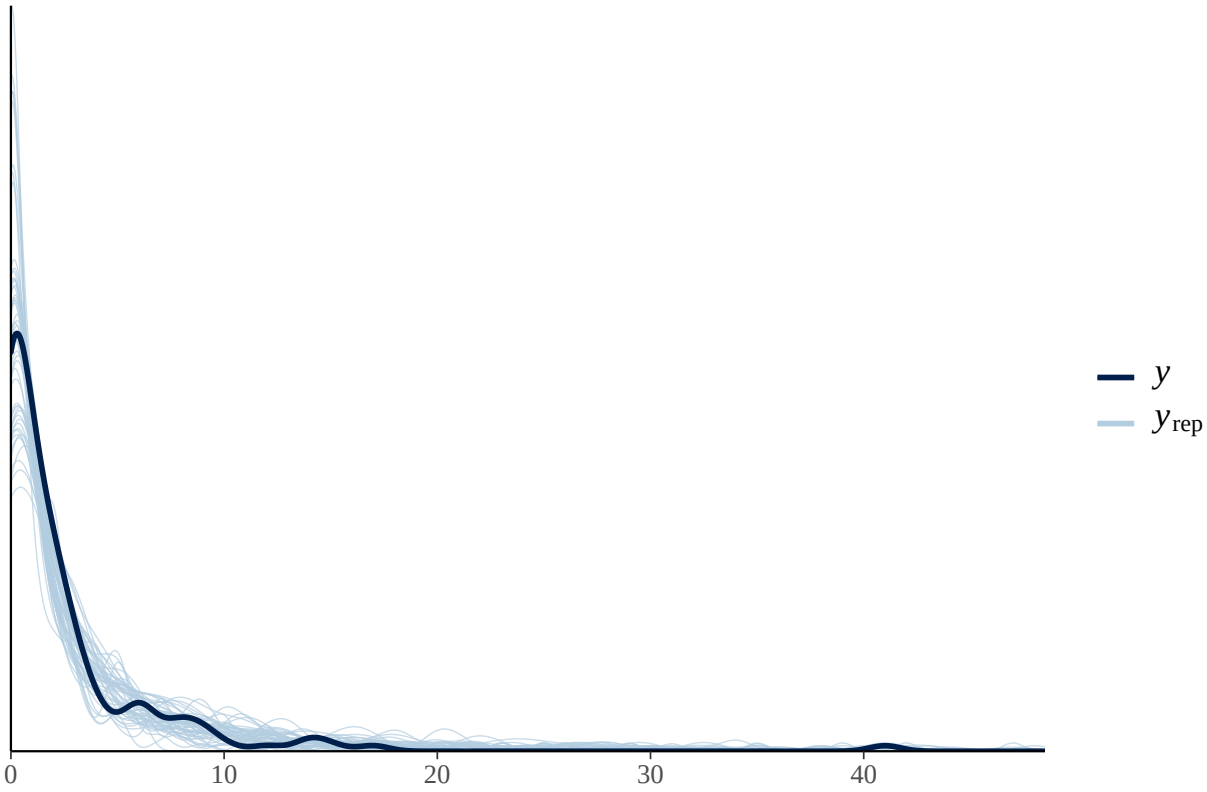
Hemiptera

```
## [1] "Hemiptera Fly"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.83         1.35
##           Med.s 1.63         1.28
##          yday.s 3.11         1.76
##           Veg.s 1.52         1.23
##          Elev.s 1.79         1.34
##          Moon.s 1.23         1.11
##          Temp.s 3.41         1.85
##            Year 1.29         1.13
##  DayL50.s:Med.s 1.38         1.18
```

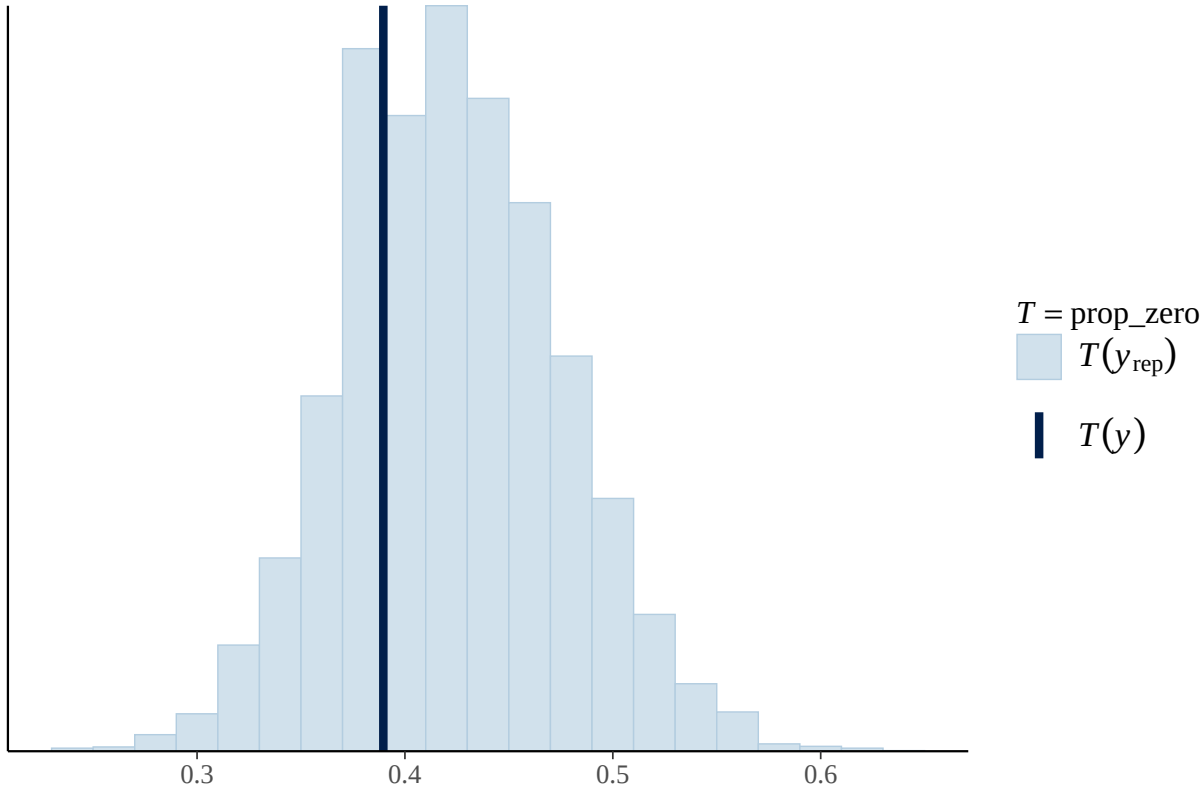
Hemiptera Fly



Hemiptera Fly

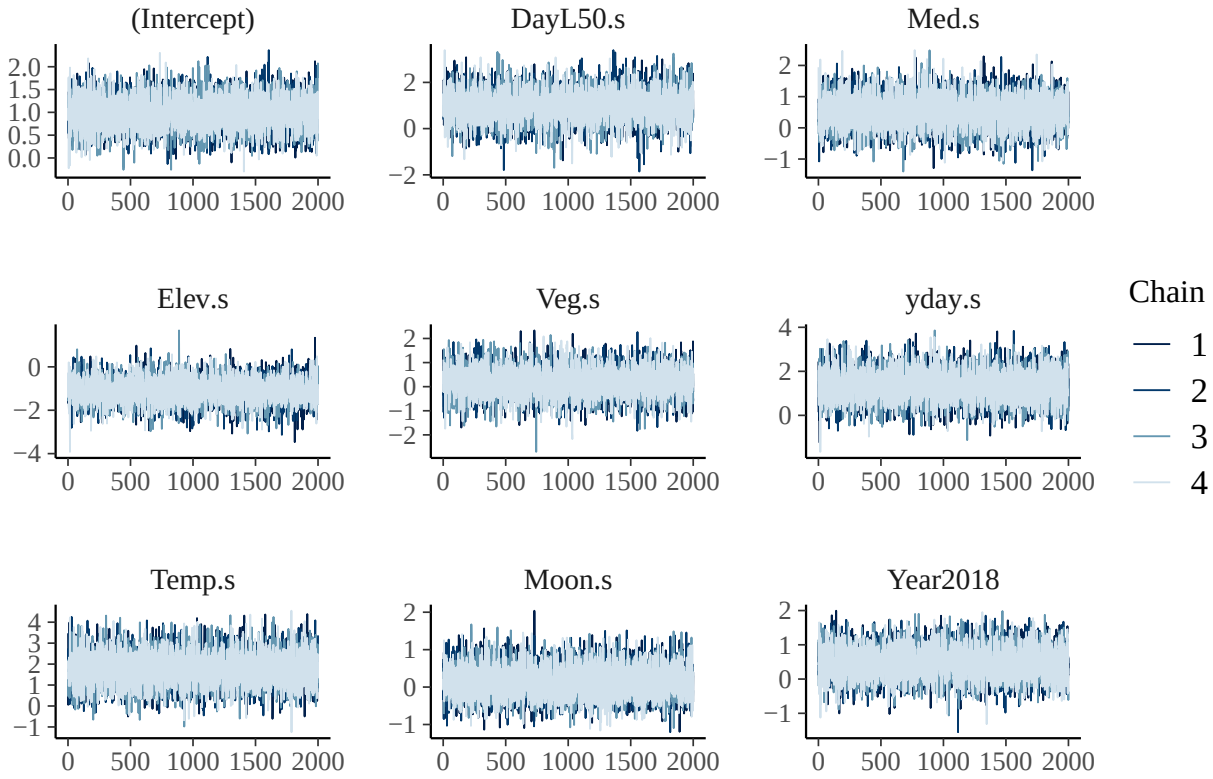


Hemiptera Fly

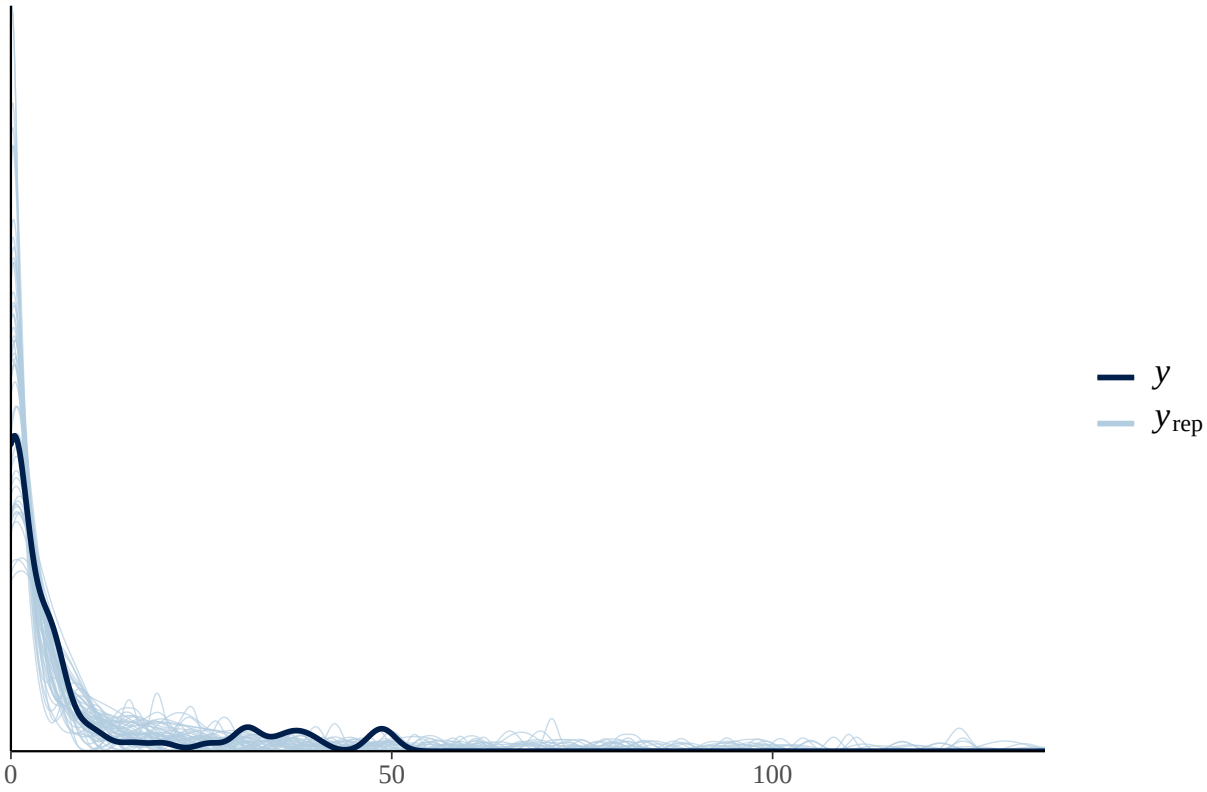



```
## [1] "Hemiptera UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.23         1.49
##           Med.s 1.33         1.15
##          yday.s 2.93         1.71
##           Veg.s 1.50         1.22
##          Elev.s 1.49         1.22
##          Moon.s 1.17         1.08
##          Temp.s 2.82         1.68
##            Year 1.40         1.18
##  DayL50.s:Med.s 1.72         1.31
```

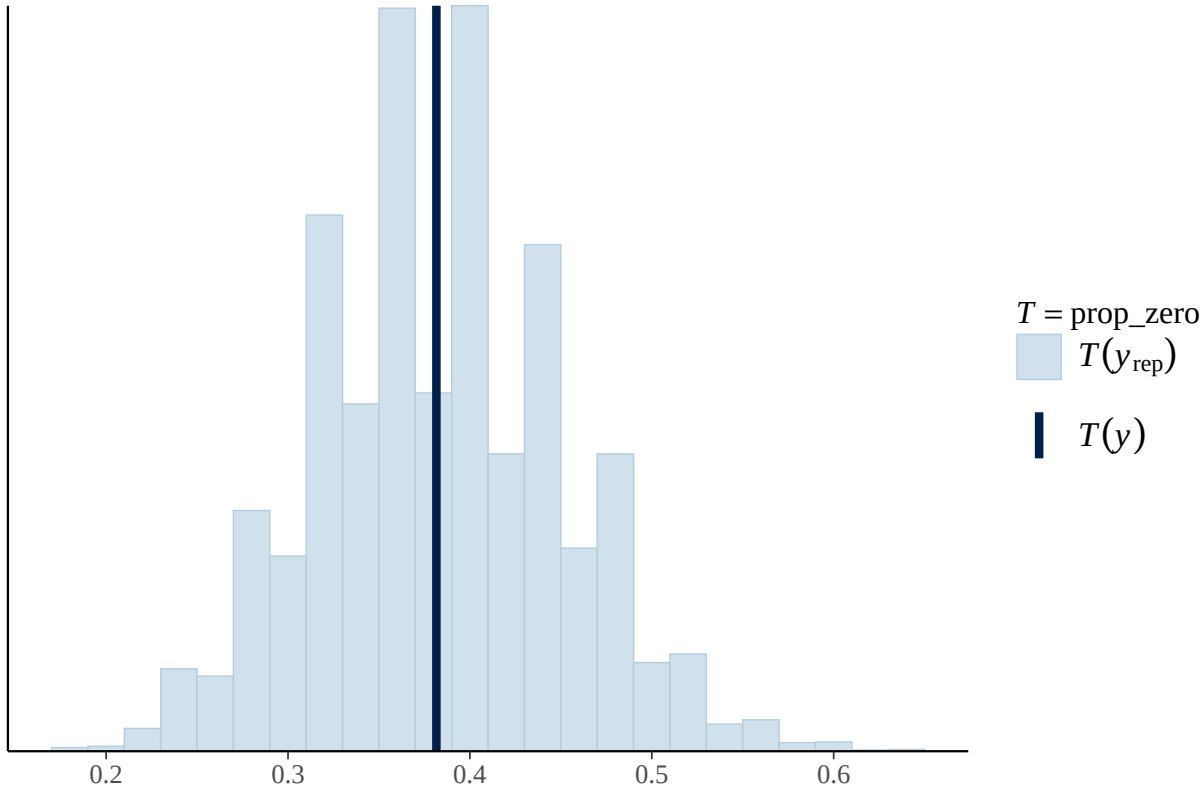
Hemiptera UV



Hemiptera UV

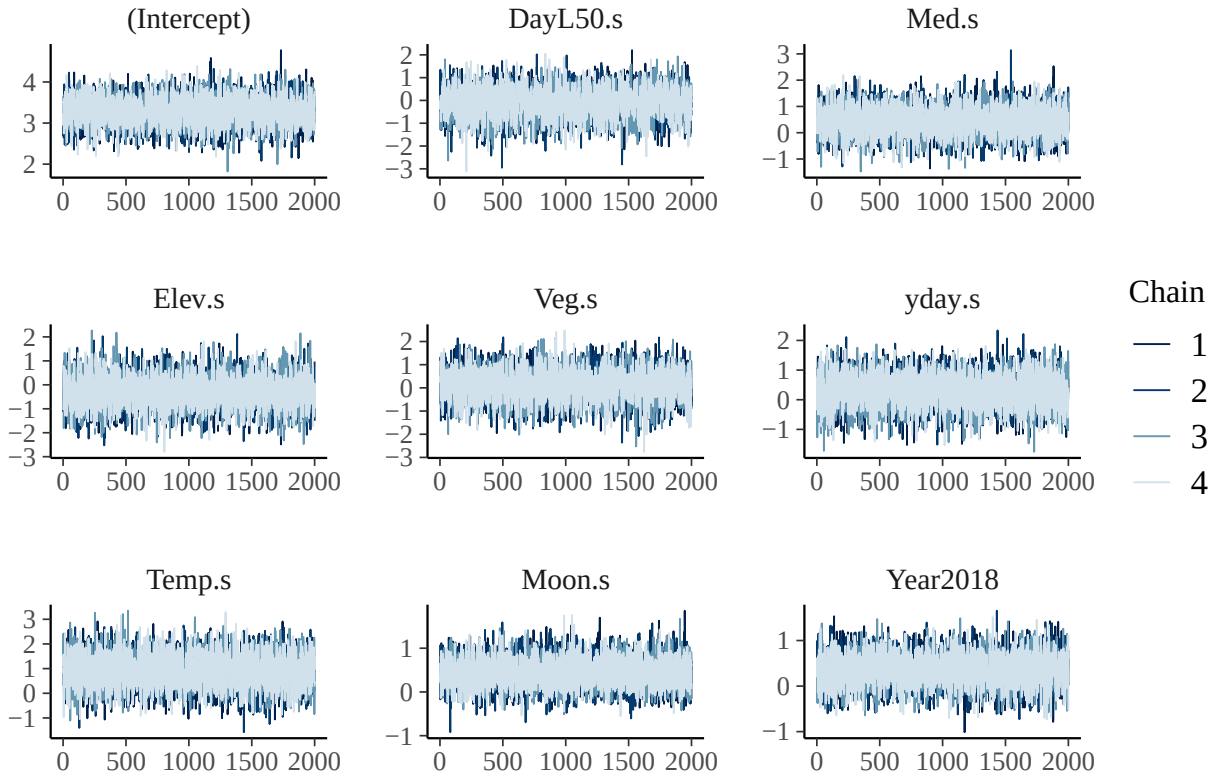


Hemiptera UV

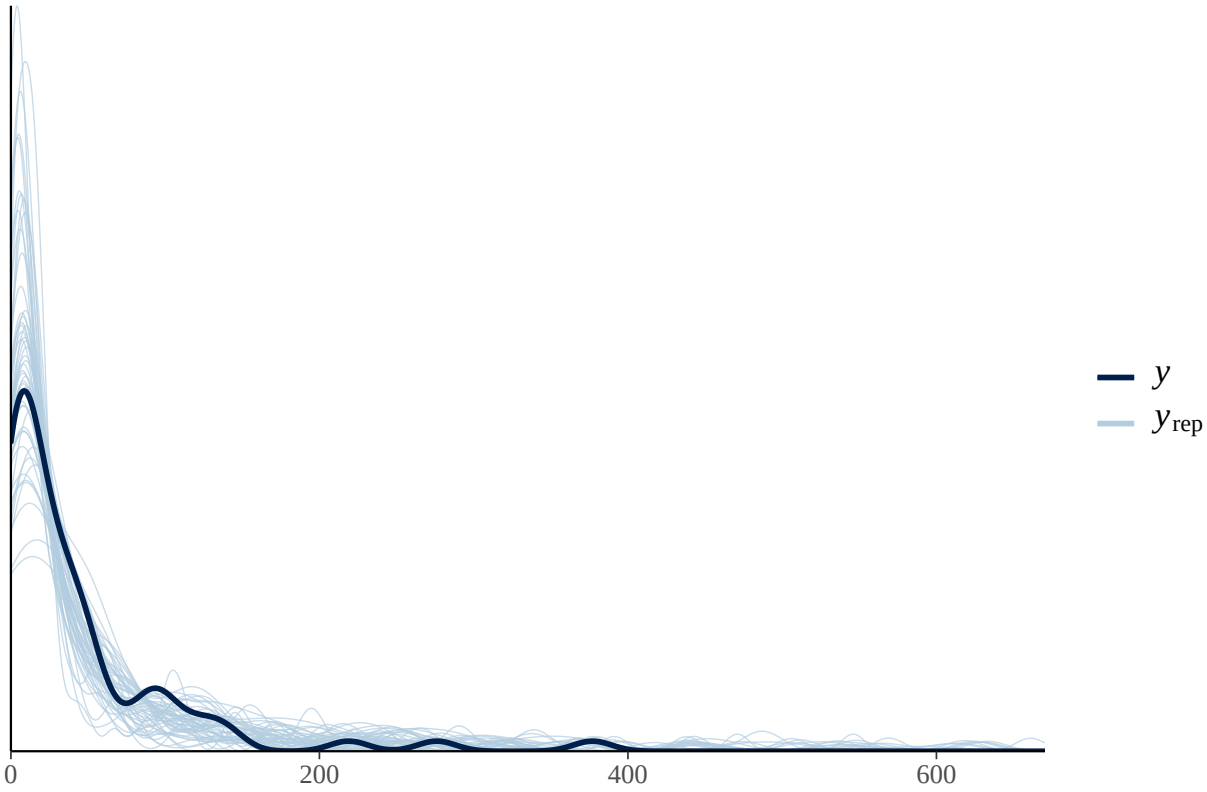



```
## [1] "Hemiptera Malaise"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.62         1.27
##           Med.s 1.48         1.22
##          yday.s 2.45         1.56
##           Veg.s 1.40         1.18
##          Elev.s 1.48         1.22
##          Moon.s 1.09         1.04
##          Temp.s 2.72         1.65
##            Year 1.25         1.12
##  DayL50.s:Med.s 1.24         1.11
```

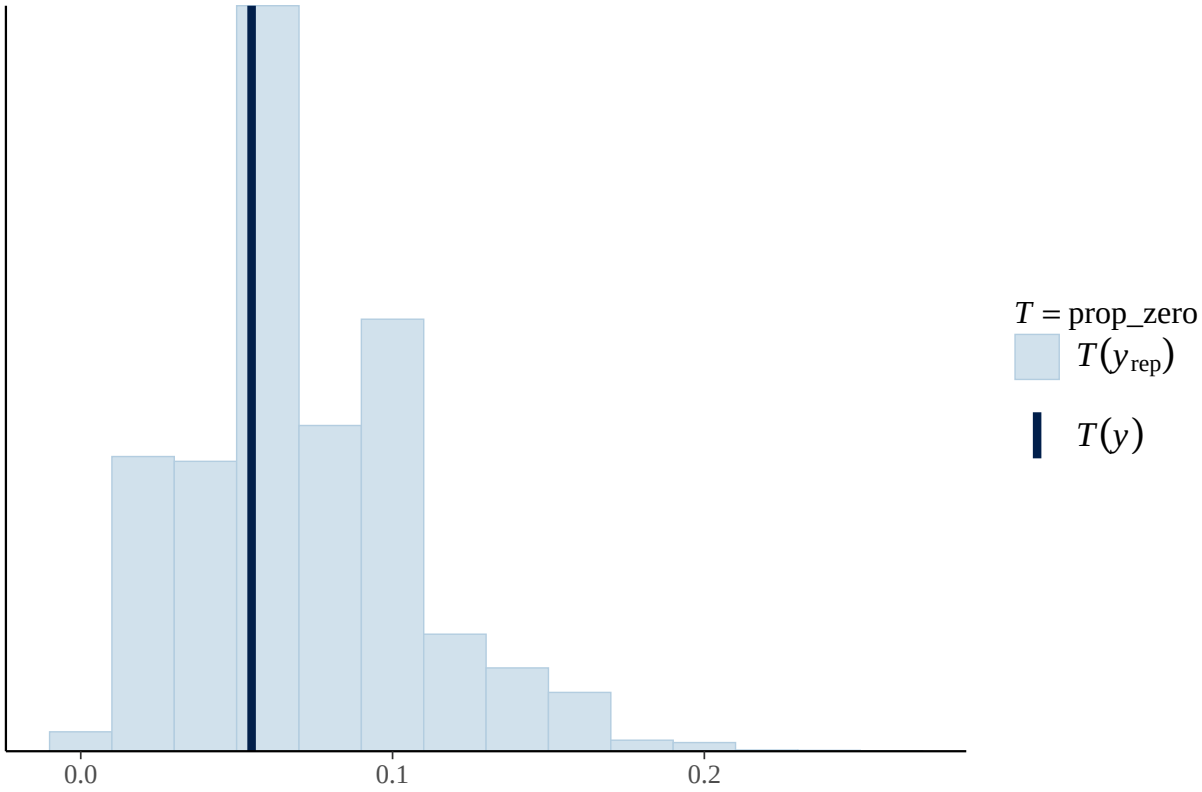
Hemiptera Malaise



Hemiptera Malaise

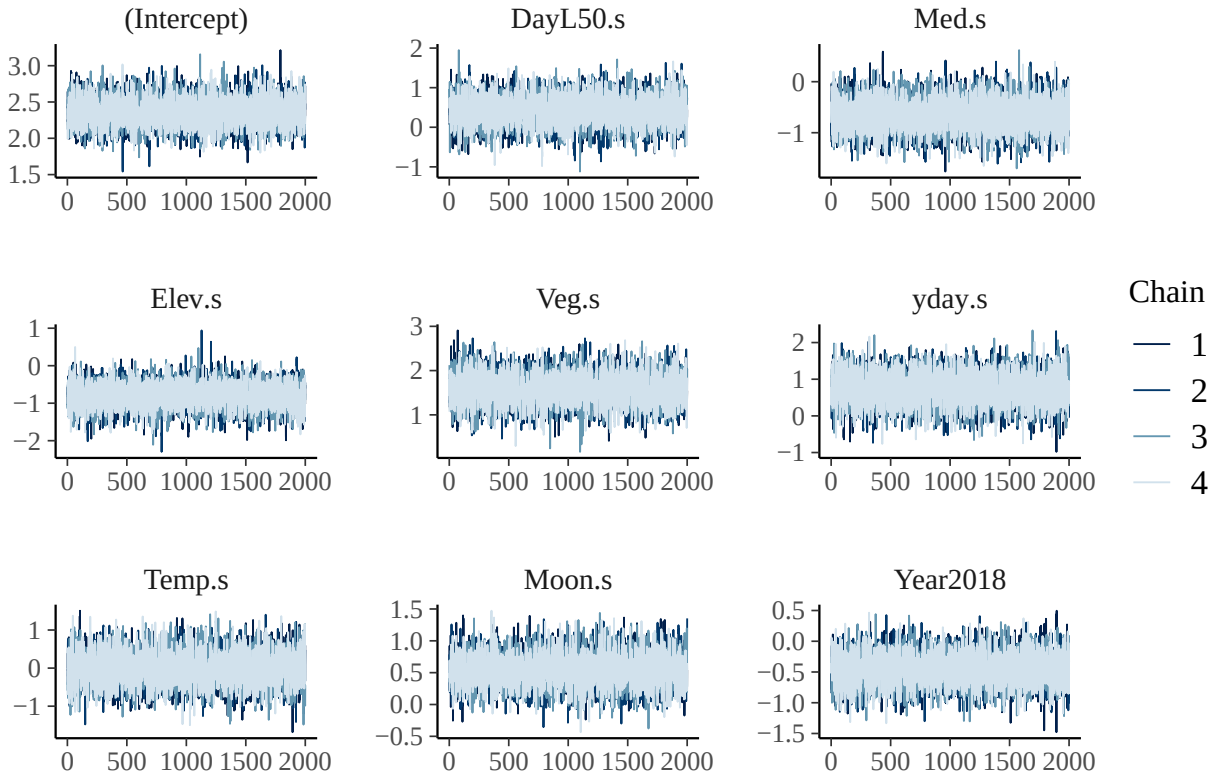


Hemiptera Malaise

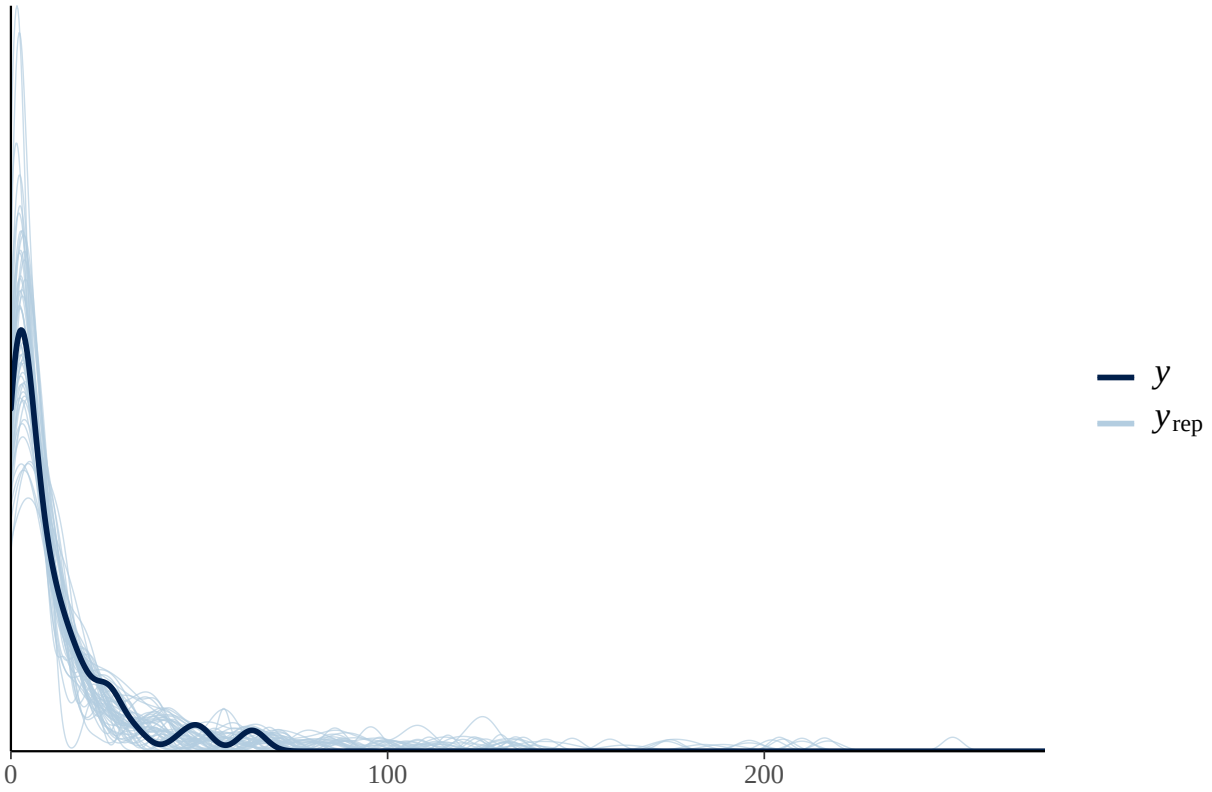



```
## [1] "Hemiptera Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.76         1.33
##           Med.s 1.39         1.18
##          yday.s 2.48         1.57
##           Veg.s 1.53         1.24
##          Elev.s 1.64         1.28
##          Moon.s 1.19         1.09
##          Temp.s 2.76         1.66
##            Year 1.13         1.06
##  DayL50.s:Med.s 1.51         1.23
```

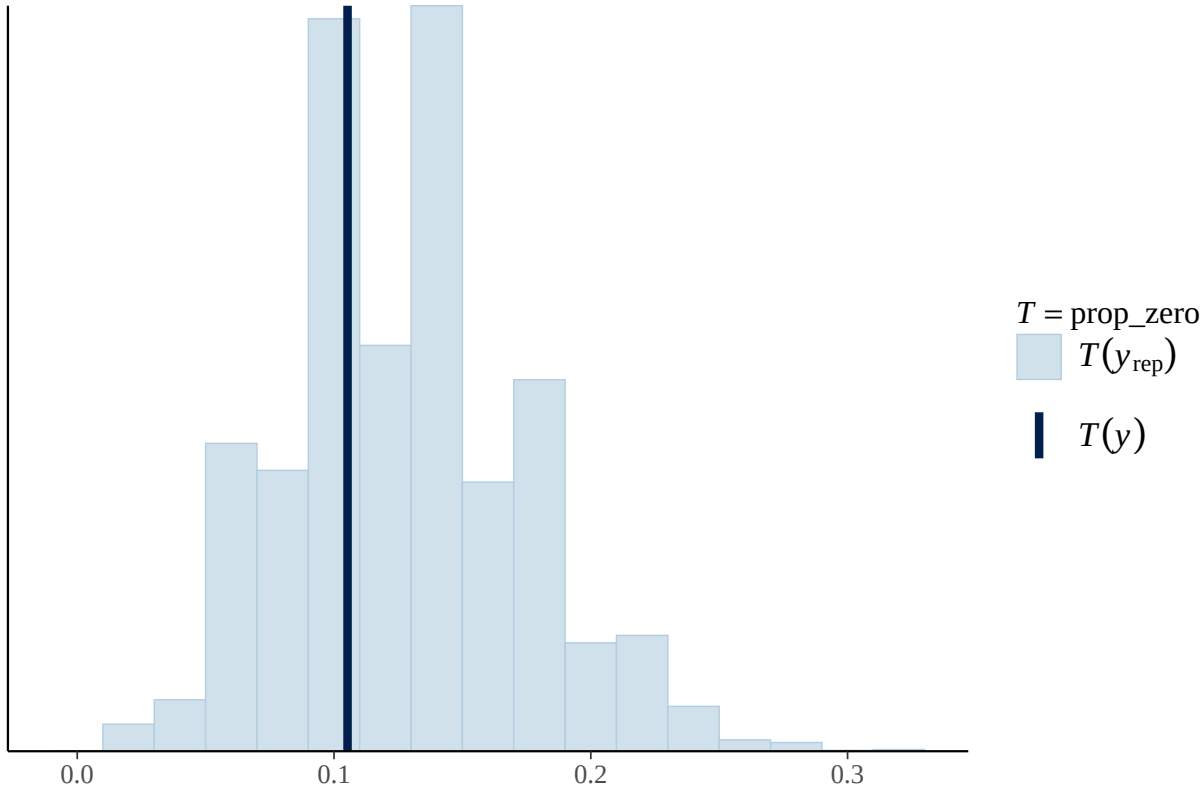
Hemiptera Pit



Hemiptera Pit

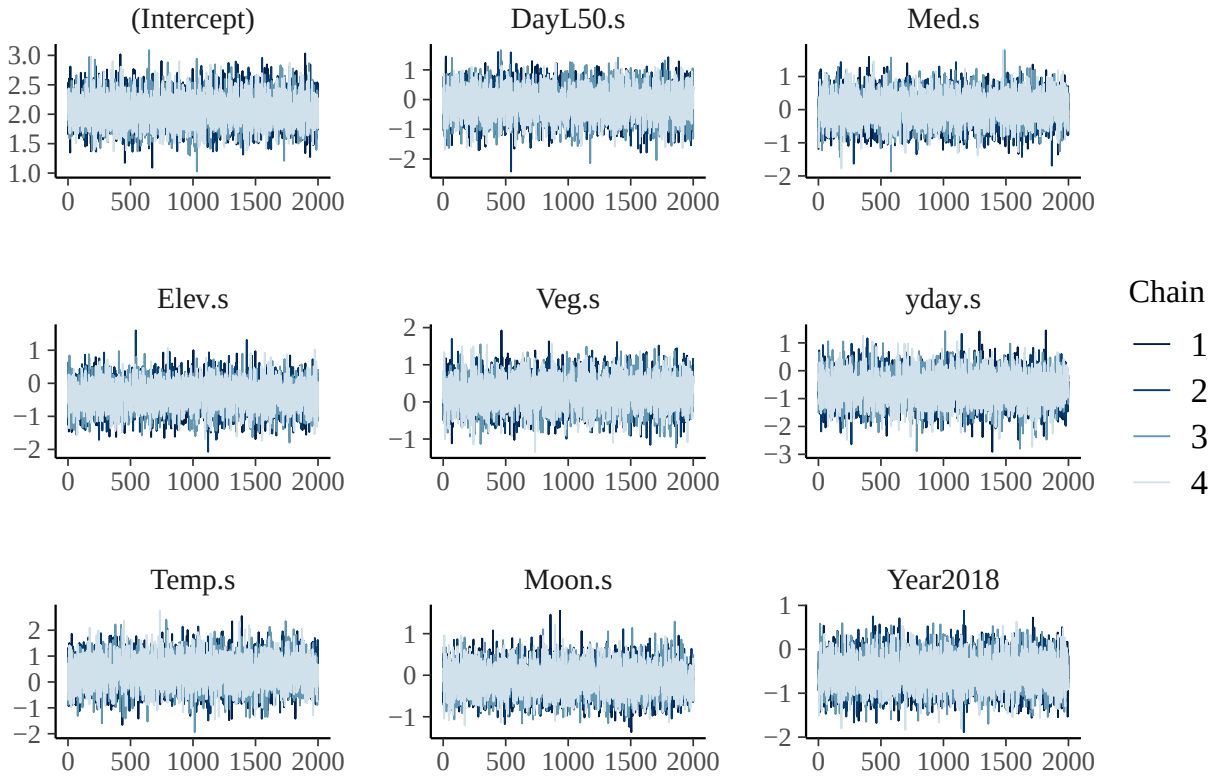


Hemiptera Pit

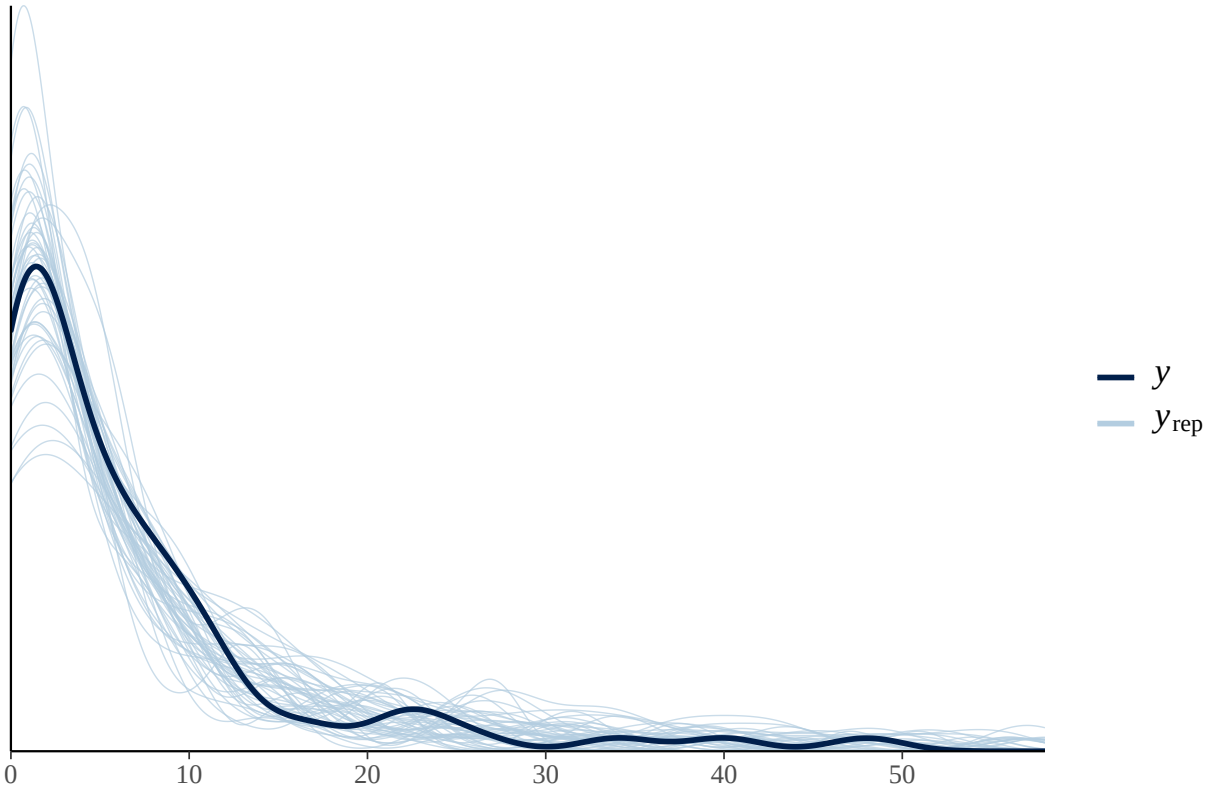


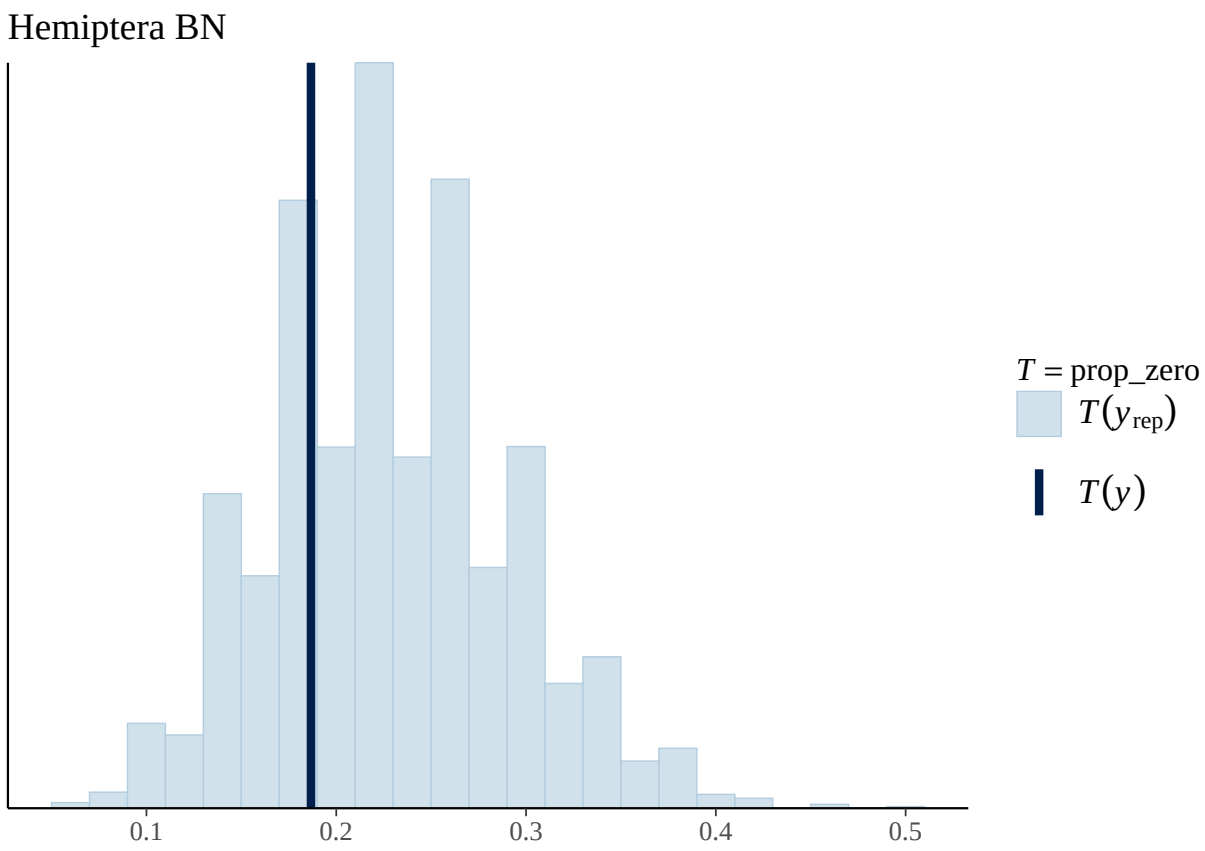

```
## [1] "Hemiptera BN"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.98         1.41
##           Med.s 1.39         1.18
##          yday.s 2.43         1.56
##           Veg.s 1.49         1.22
##          Elev.s 1.27         1.13
##          Moon.s 1.22         1.10
##          Temp.s 2.67         1.63
##            Year 1.38         1.18
##  DayL50.s:Med.s 1.42         1.19
```

Hemiptera BN



Hemiptera BN

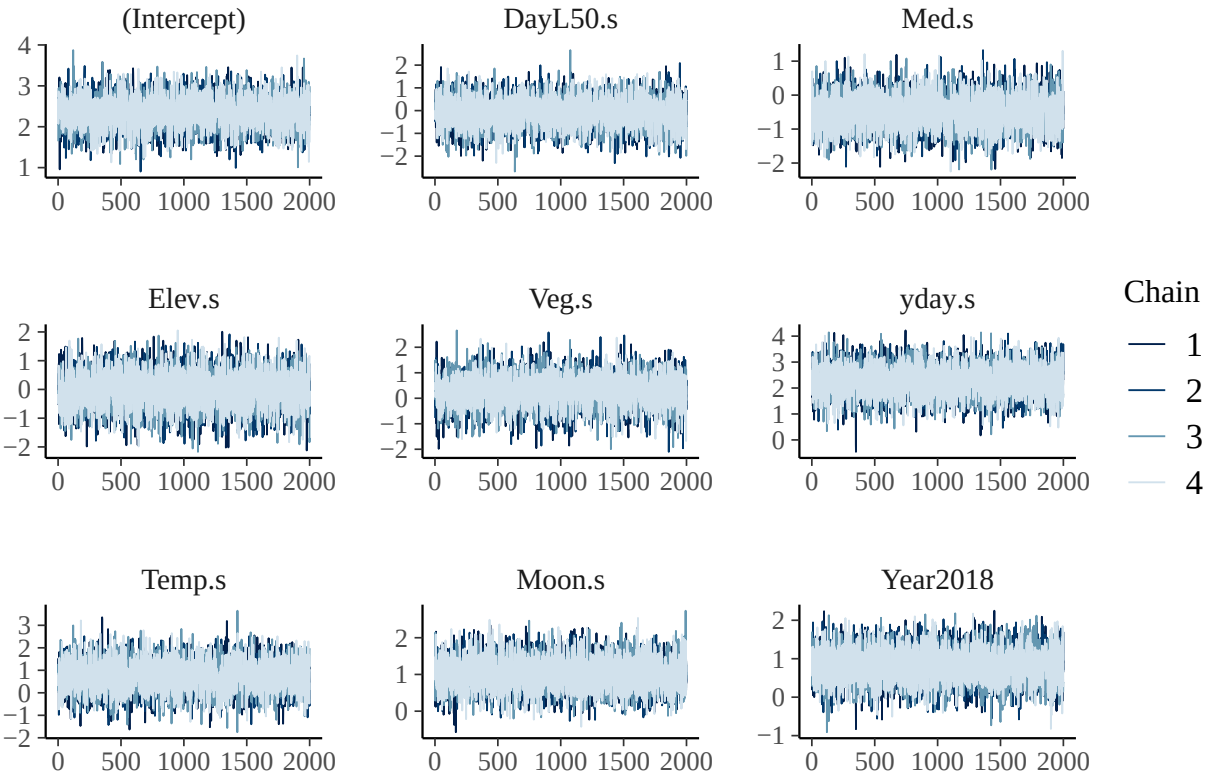




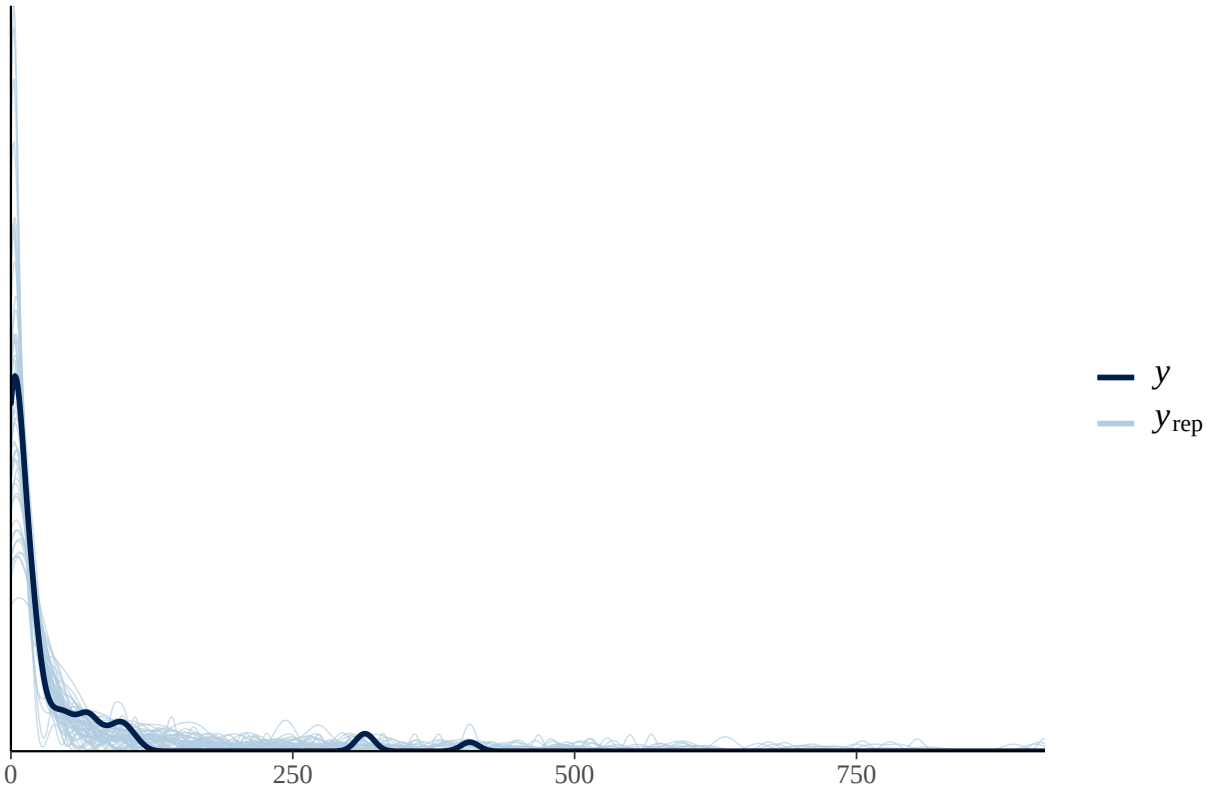
Trichoptera

```
## [1] "Trichoptera UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.59         1.26
##           Med.s 1.62         1.27
##          yday.s 3.19         1.79
##           Veg.s 1.46         1.21
##          Elev.s 1.53         1.24
##          Moon.s 1.21         1.10
##          Temp.s 3.19         1.79
##            Year 1.67         1.29
##  DayL50.s:Med.s 1.32         1.15
```

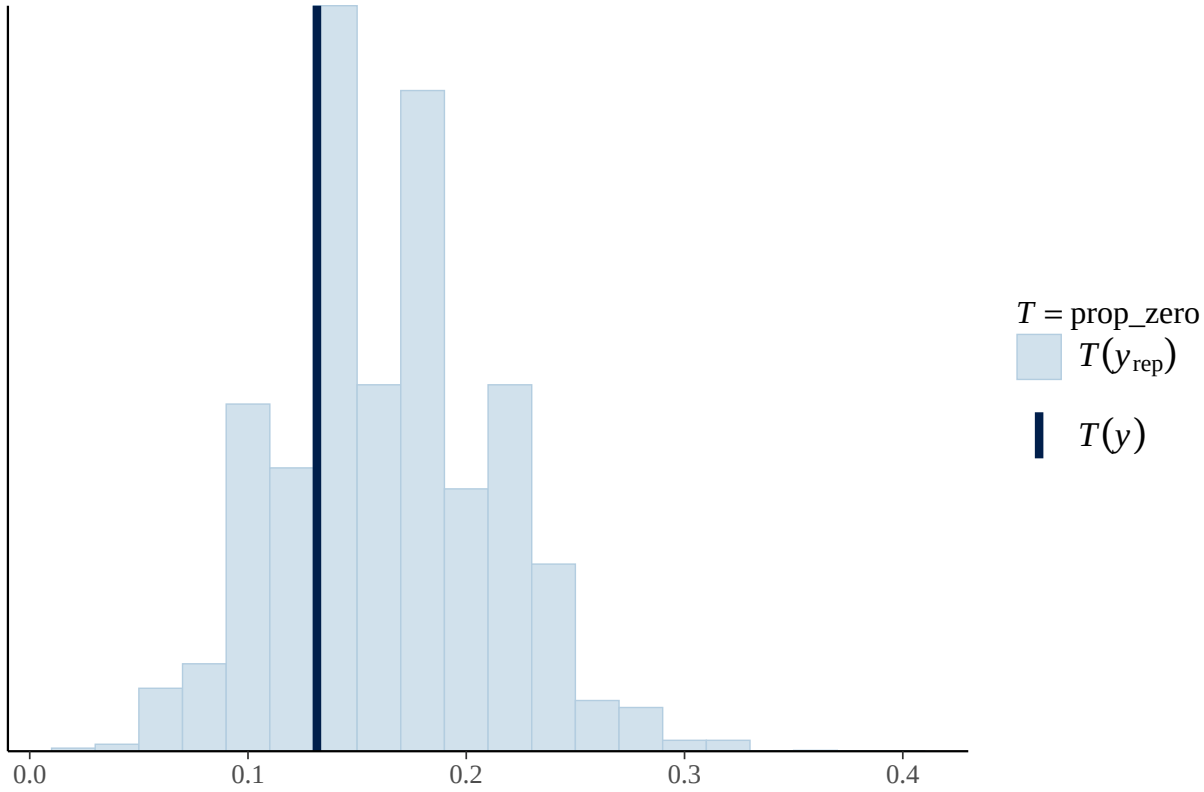
Trichoptera UV



Trichoptera UV

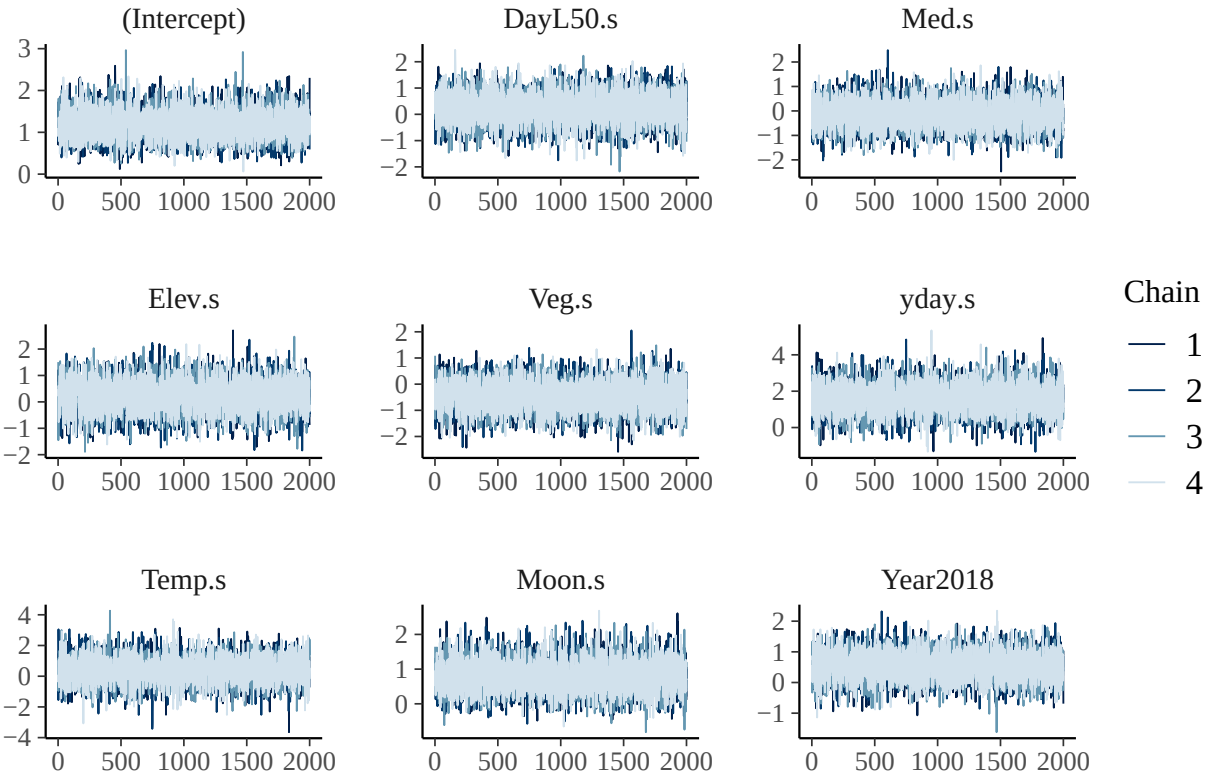


Trichoptera UV

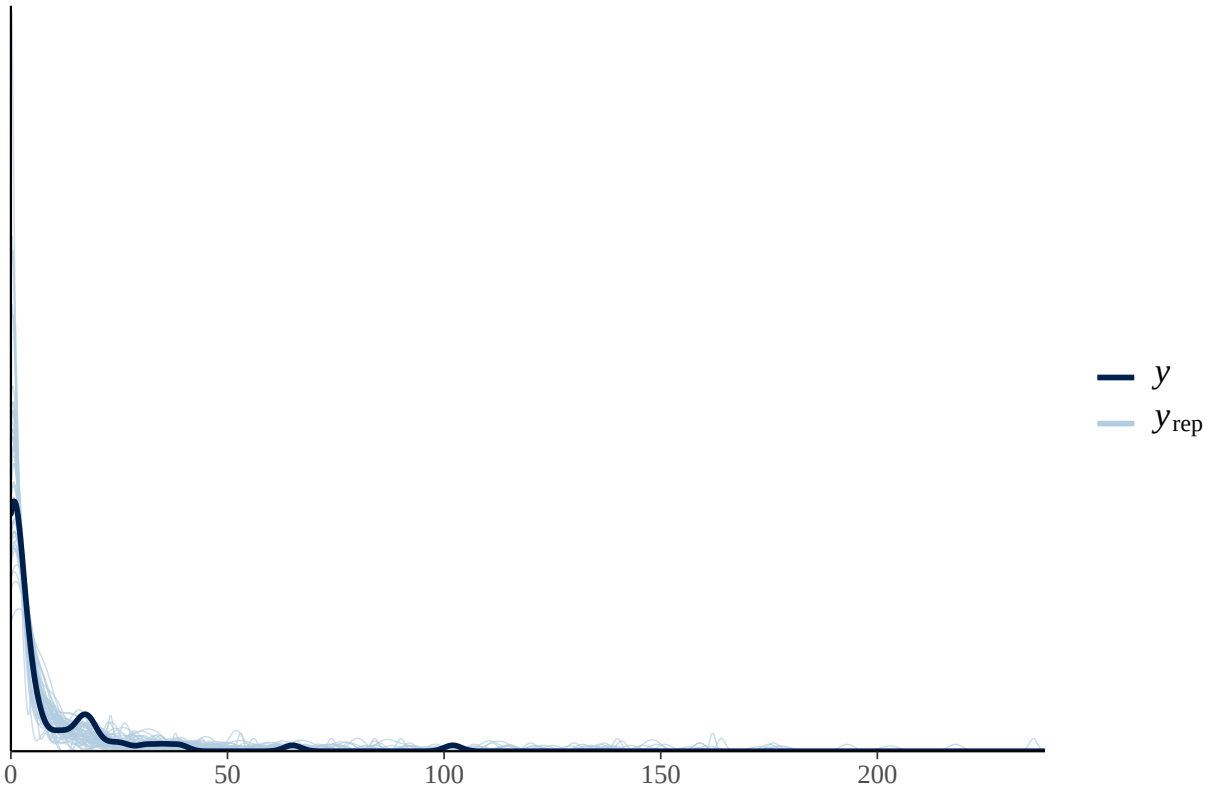



```
## [1] "Trichoptera Malaise"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.86         1.36
##           Med.s 1.53         1.24
##          yday.s 3.72         1.93
##           Veg.s 1.67         1.29
##          Elev.s 1.79         1.34
##          Moon.s 1.28         1.13
##          Temp.s 4.12         2.03
##            Year 1.24         1.12
##  DayL50.s:Med.s 1.57         1.25
```

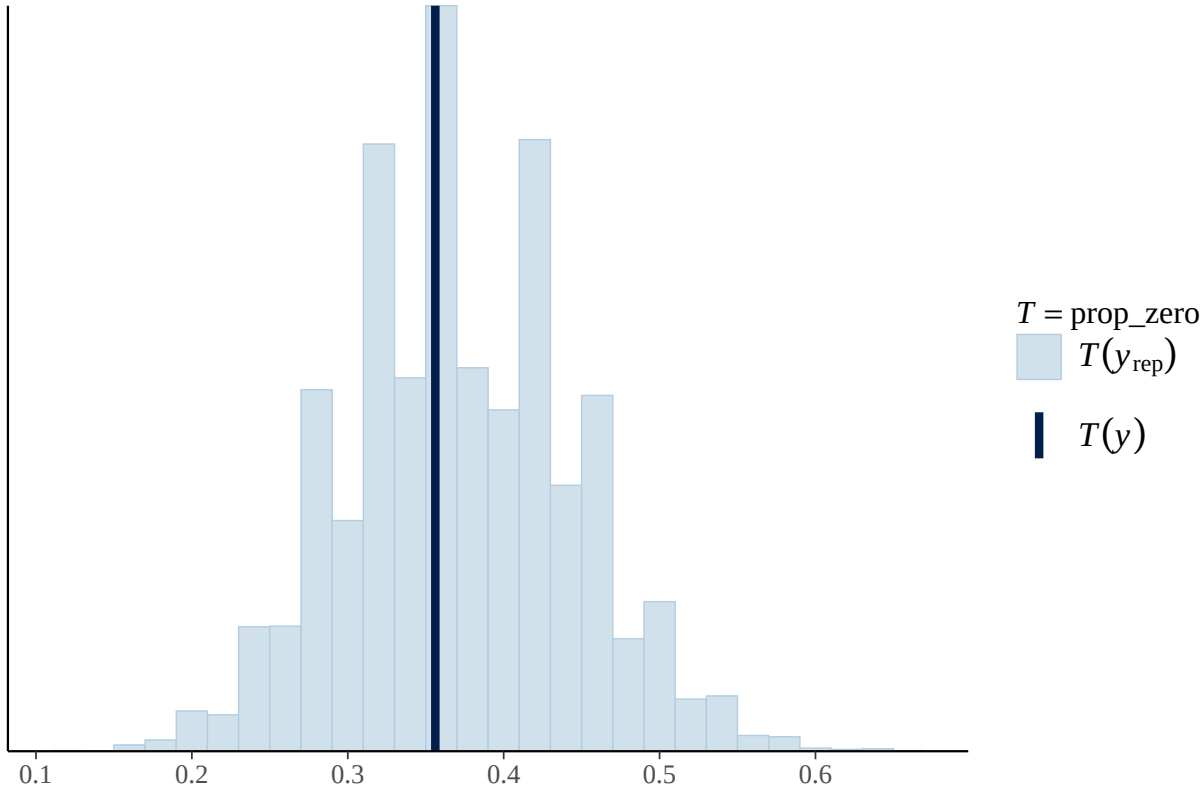
Trichoptera Malaise



Trichoptera Malaise



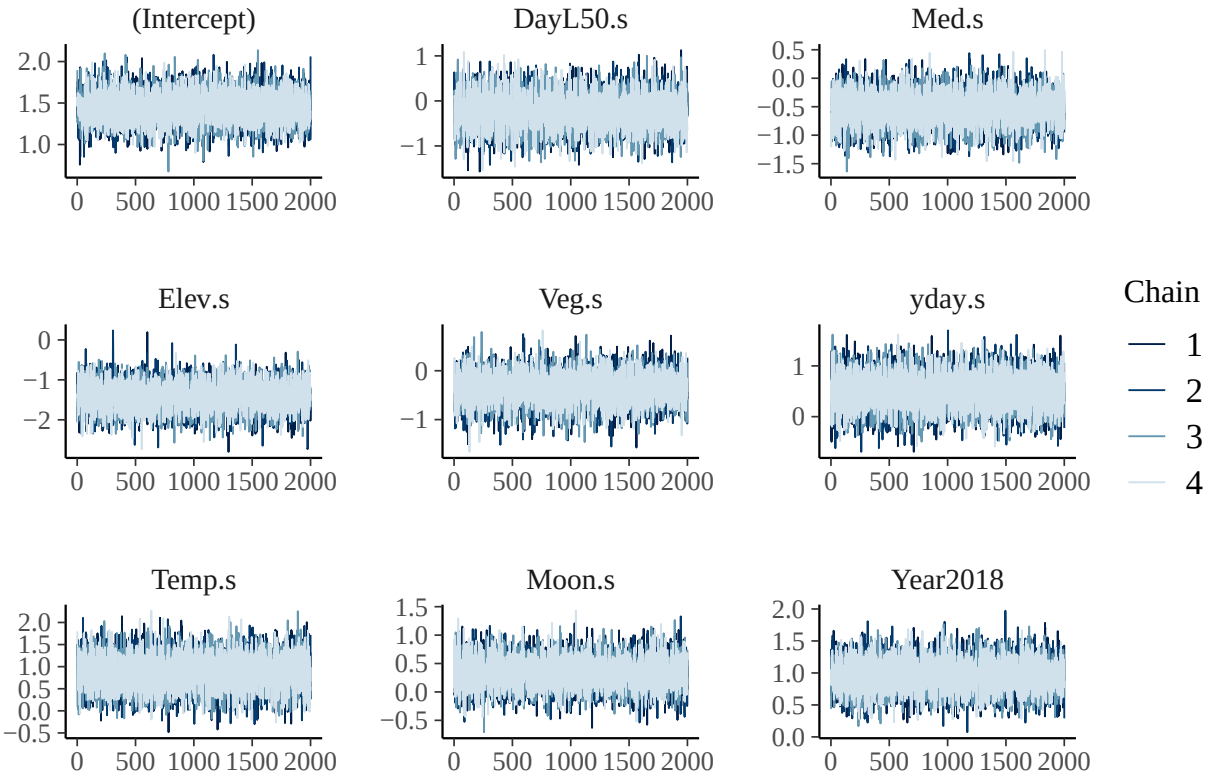
Trichoptera Malaise

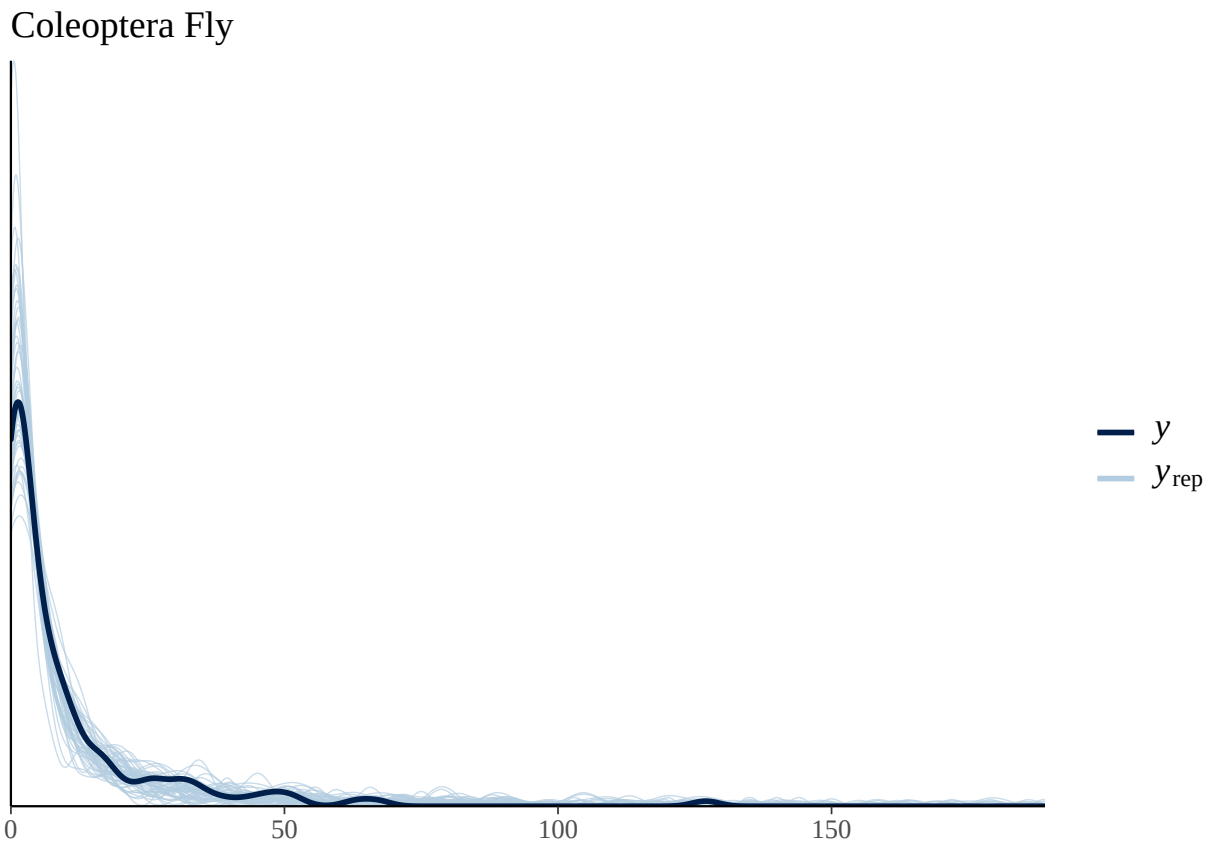


Coleoptera

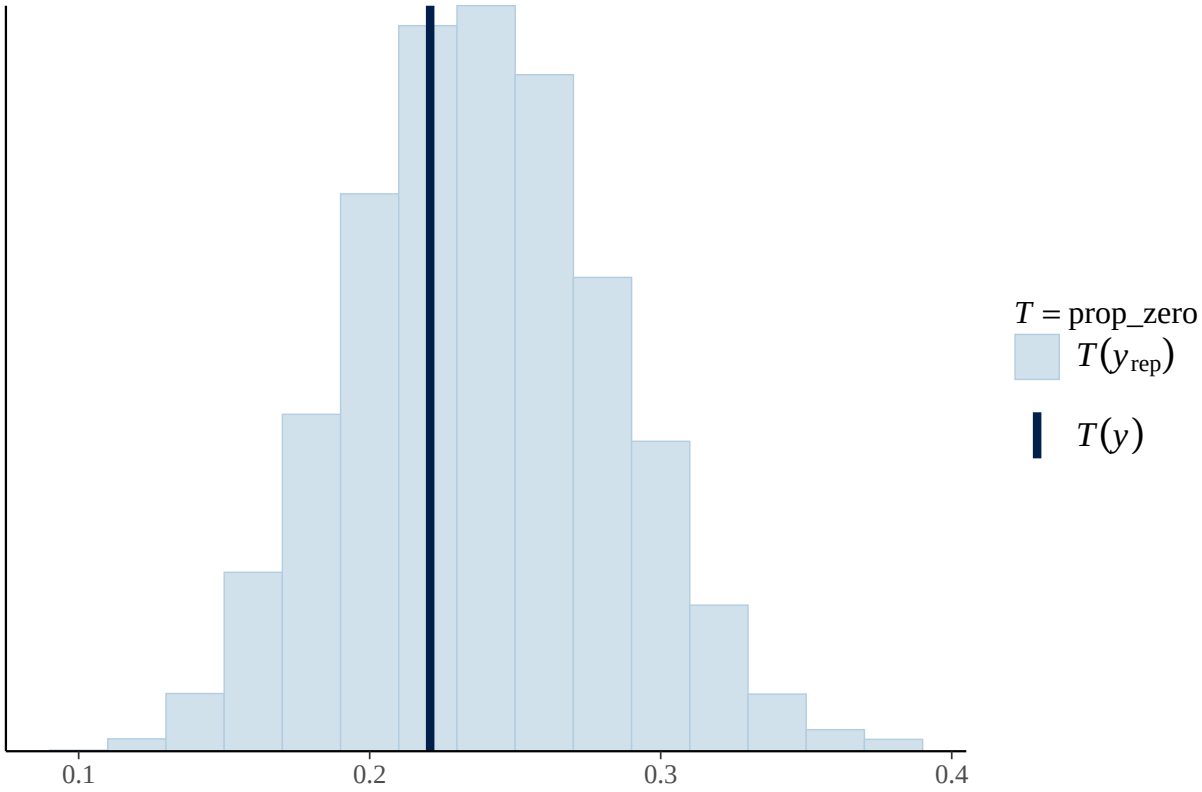
```
## [1] "Coleoptera Fly"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.13         1.46
##           Med.s 1.53         1.24
##          yday.s 2.40         1.55
##           Veg.s 1.60         1.27
##          Elev.s 1.84         1.36
##          Moon.s 1.25         1.12
##          Temp.s 2.46         1.57
##            Year 1.19         1.09
##  DayL50.s:Med.s 1.47         1.21
```

Coleoptera Fly



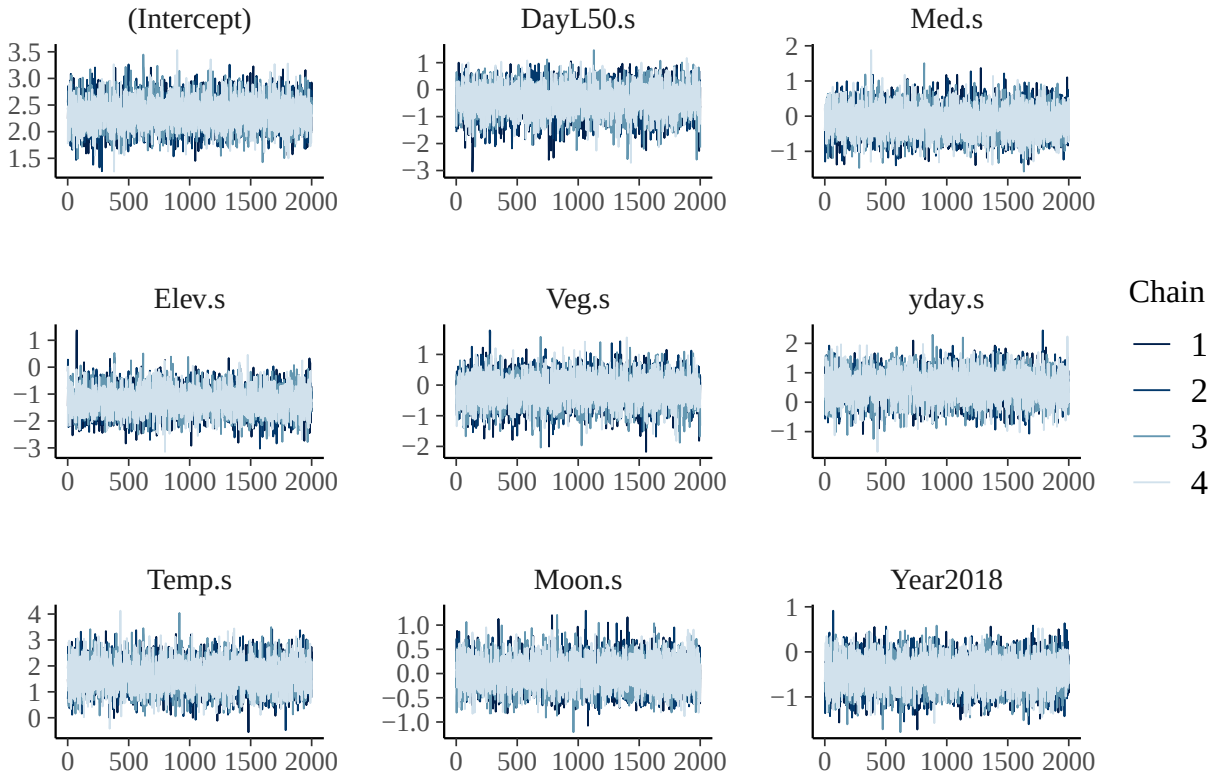

Coleoptera Fly
0
50
100
150
y
y rep

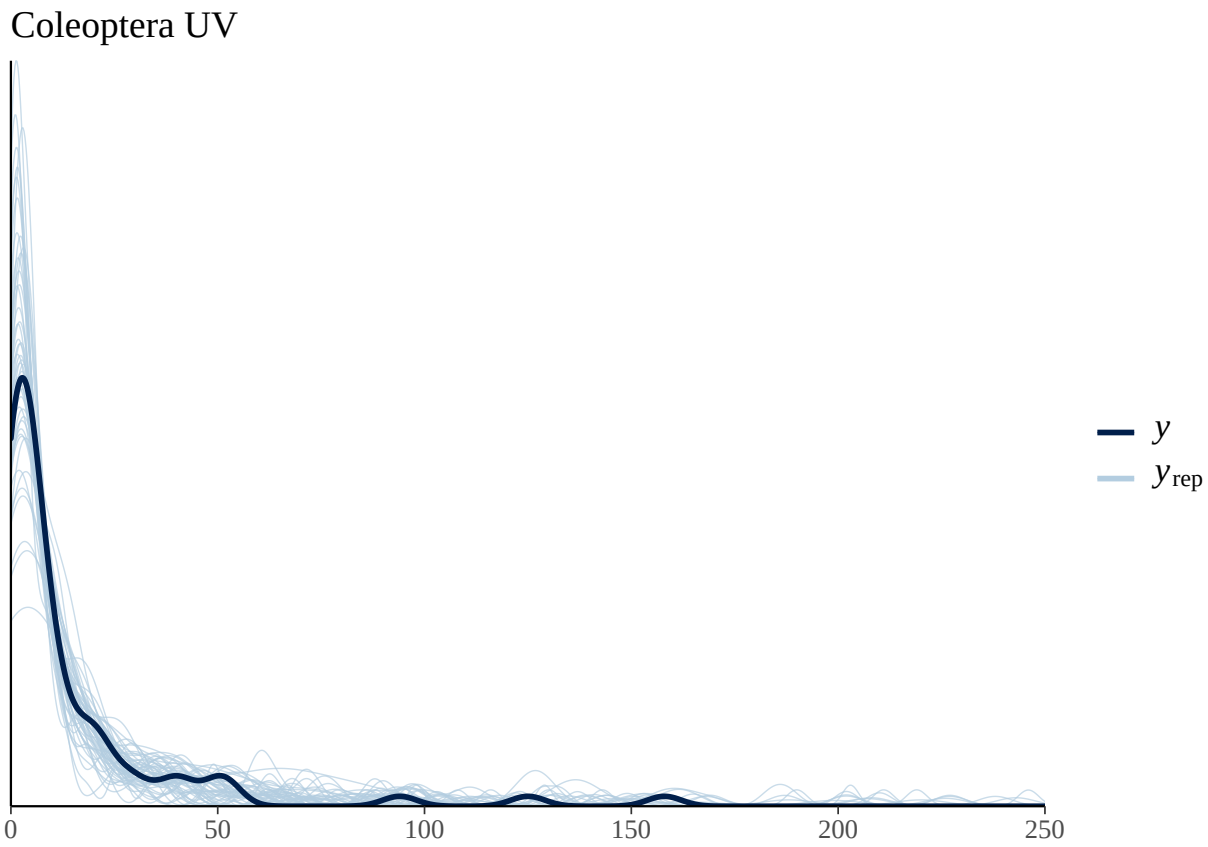
Coleoptera Fly



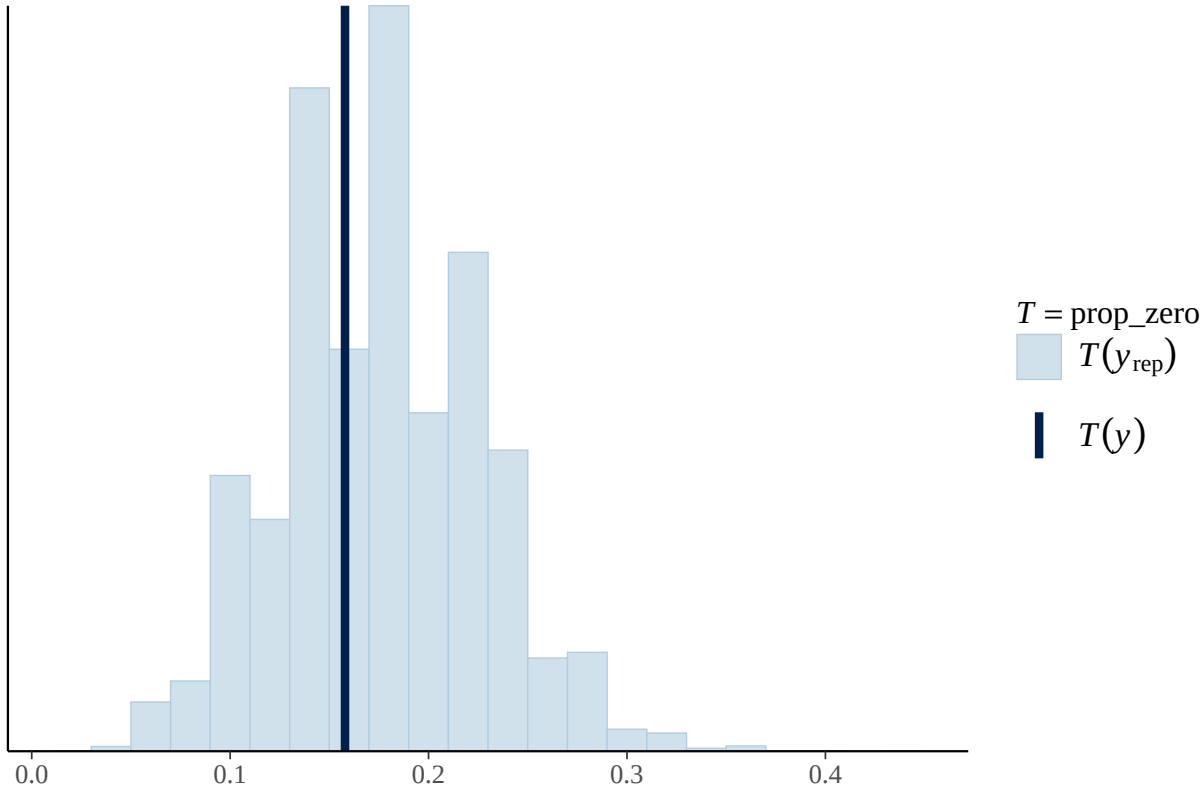

```
## [1] "Coleoptera UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.90         1.38
##           Med.s 1.57         1.25
##          yday.s 2.87         1.70
##           Veg.s 1.45         1.20
##          Elev.s 1.42         1.19
##          Moon.s 1.14         1.07
##          Temp.s 3.03         1.74
##            Year 1.48         1.22
##  DayL50.s:Med.s 1.48         1.22
```

Coleoptera UV



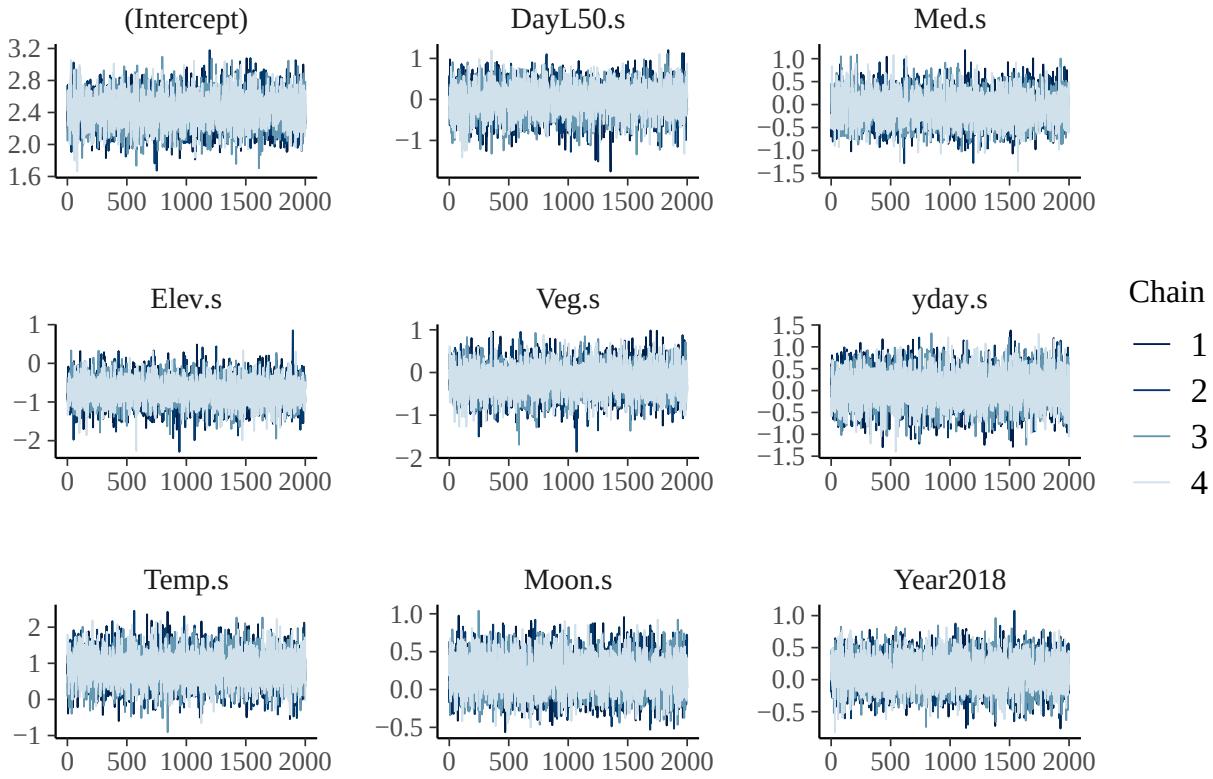

Coleoptera UV
0
50
100
150
200
250
y
y rep

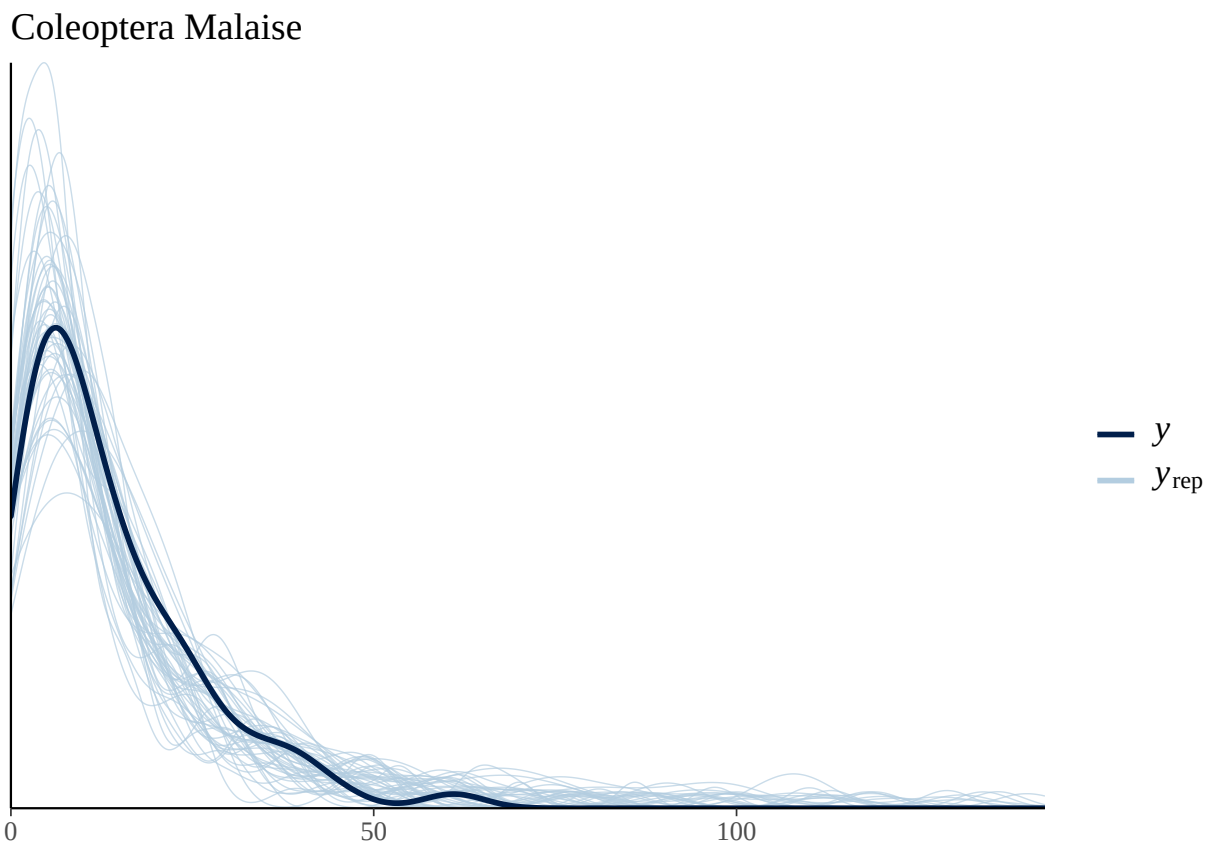
Coleoptera UV

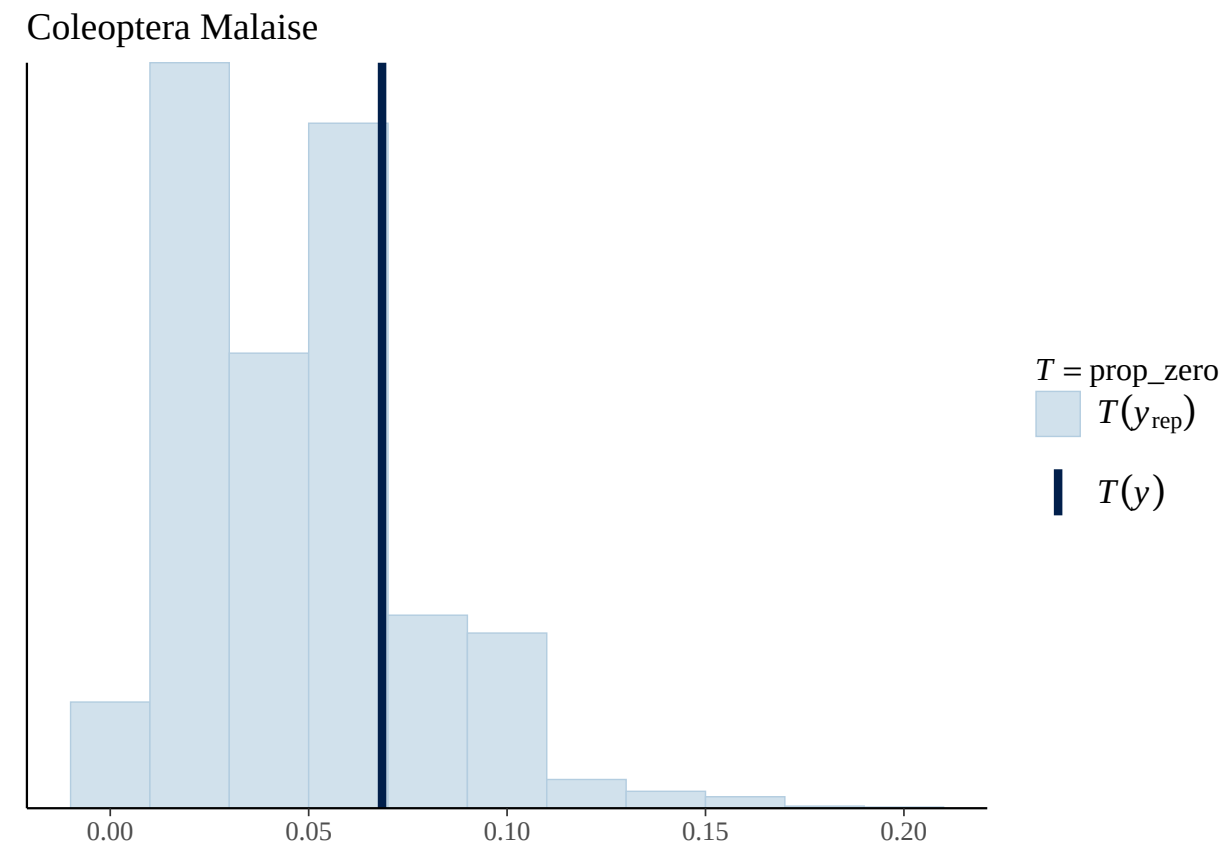



```
## [1] "Coleoptera Malaise"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.78         1.33
##           Med.s 1.49         1.22
##          yday.s 3.22         1.79
##           Veg.s 1.44         1.20
##          Elev.s 1.44         1.20
##          Moon.s 1.10         1.05
##          Temp.s 3.43         1.85
##            Year 1.25         1.12
##  DayL50.s:Med.s 1.43         1.20
```

Coleoptera Malaise

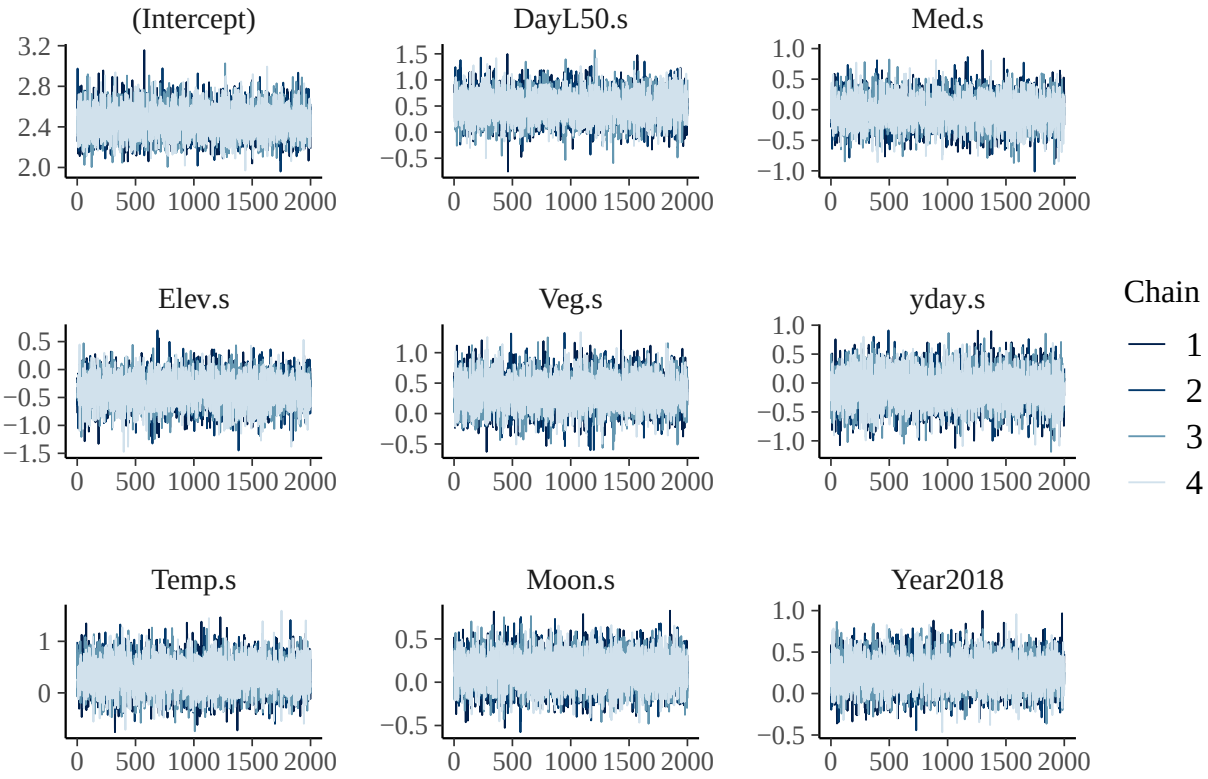


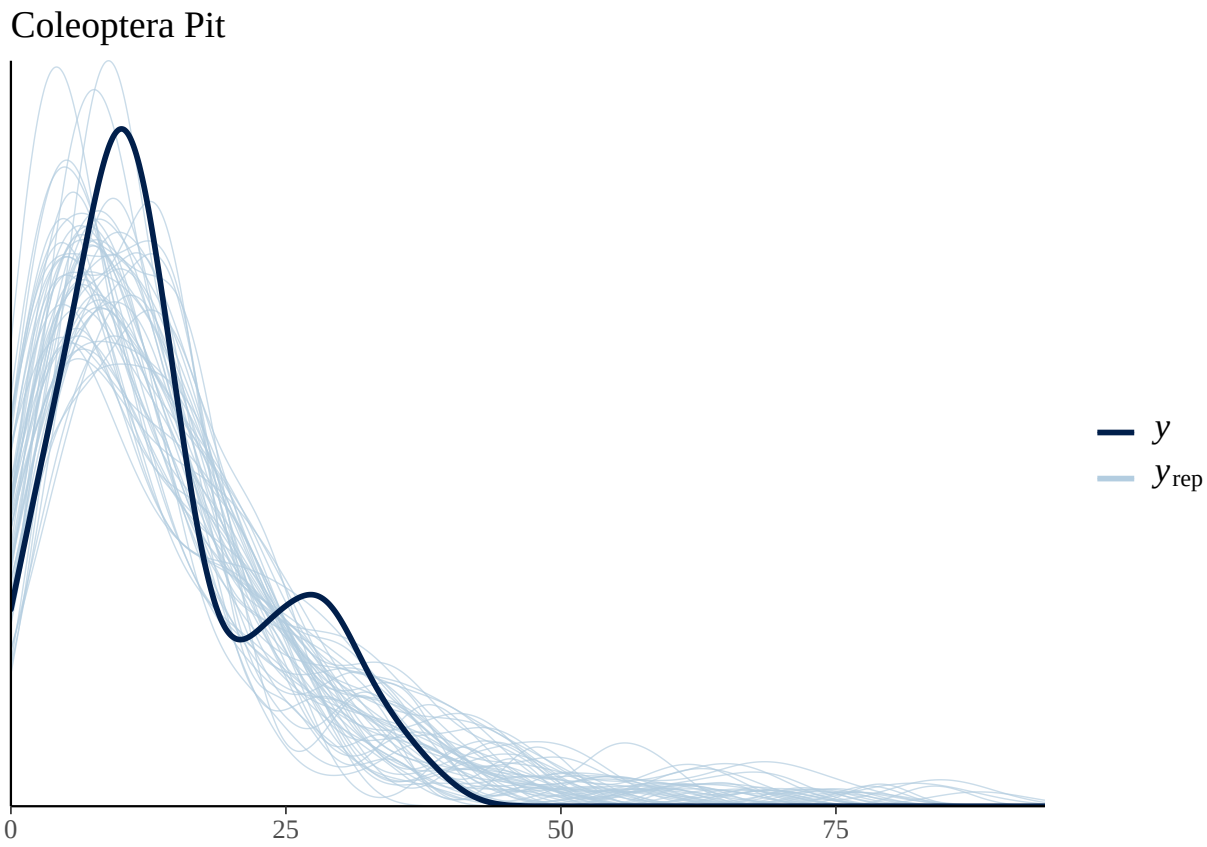

Coleoptera Malaise
0
50
100
y
y rep



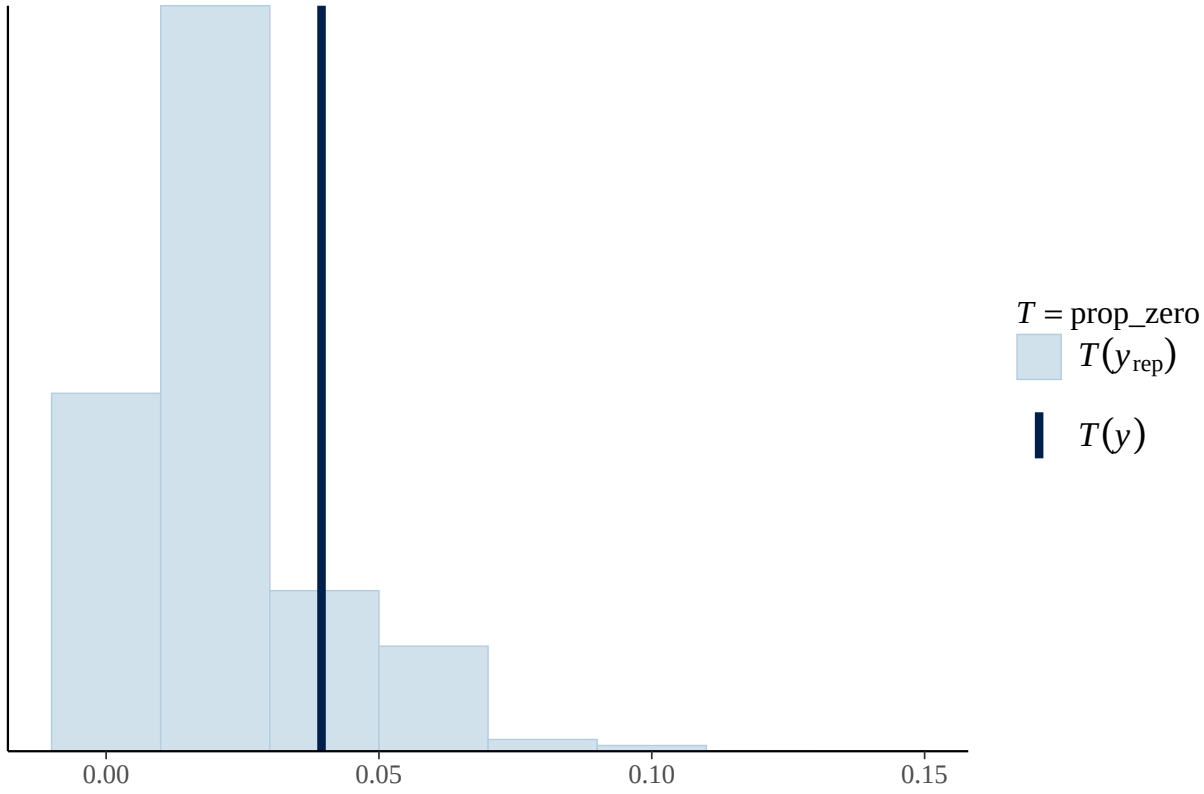

```
## [1] "Coleoptera Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.69         1.30
##           Med.s 1.29         1.13
##          yday.s 2.43         1.56
##           Veg.s 1.38         1.17
##          Elev.s 1.49         1.22
##          Moon.s 1.07         1.03
##          Temp.s 2.64         1.62
##            Year 1.13         1.07
##  DayL50.s:Med.s 1.34         1.16
```

Coleoptera Pit



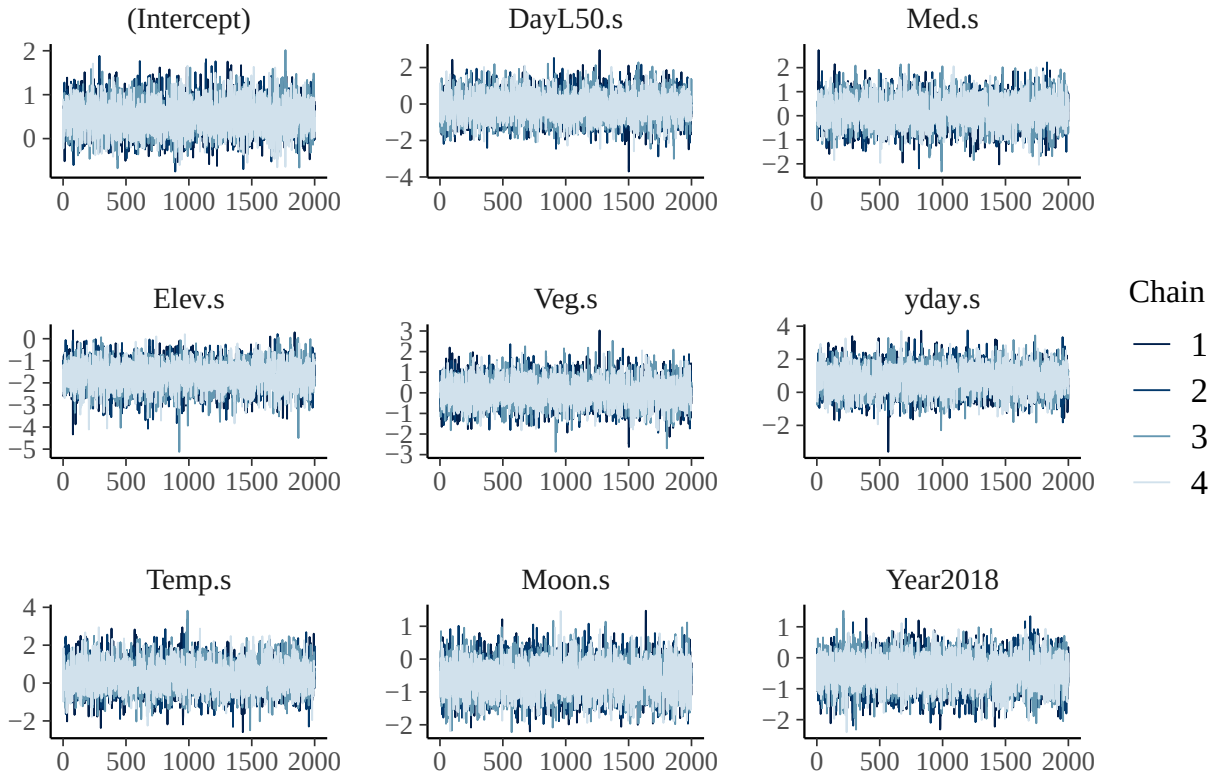

Coleoptera Pit
0
25
50
75
y
y rep

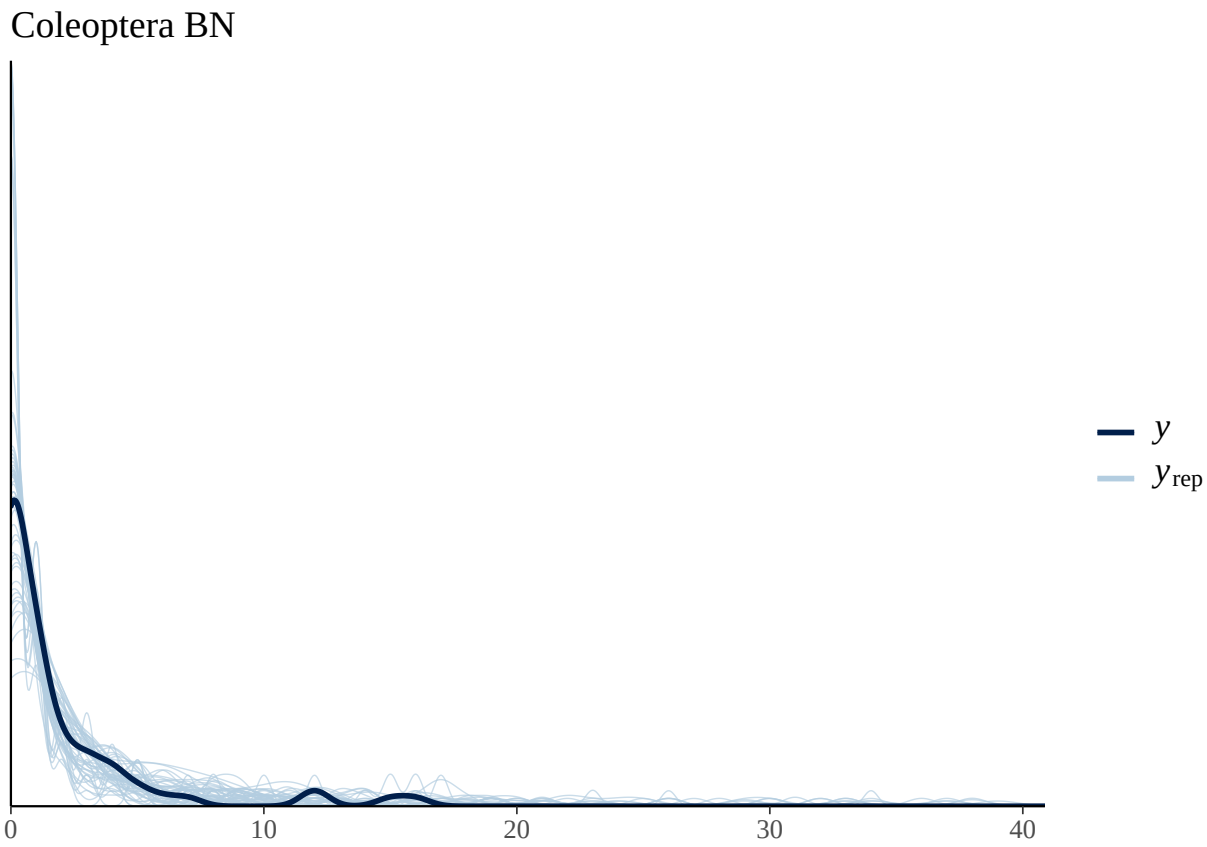
Coleoptera Pit

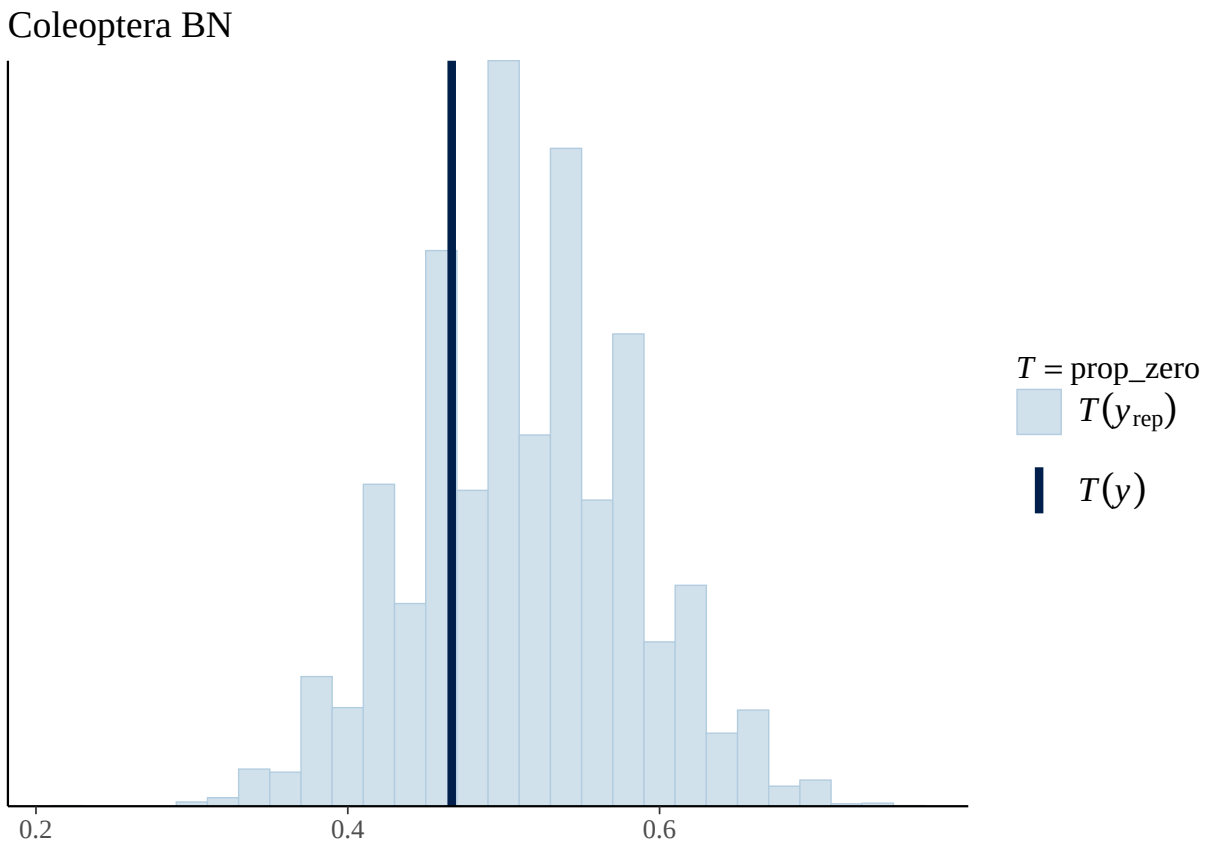



```
## [1] "Coleoptera BN"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.12         1.46
##           Med.s 1.43         1.20
##          yday.s 2.69         1.64
##           Veg.s 1.54         1.24
##          Elev.s 1.44         1.20
##          Moon.s 1.48         1.22
##          Temp.s 2.74         1.66
##            Year 1.42         1.19
##  DayL50.s:Med.s 1.49         1.22
```

Coleoptera BN



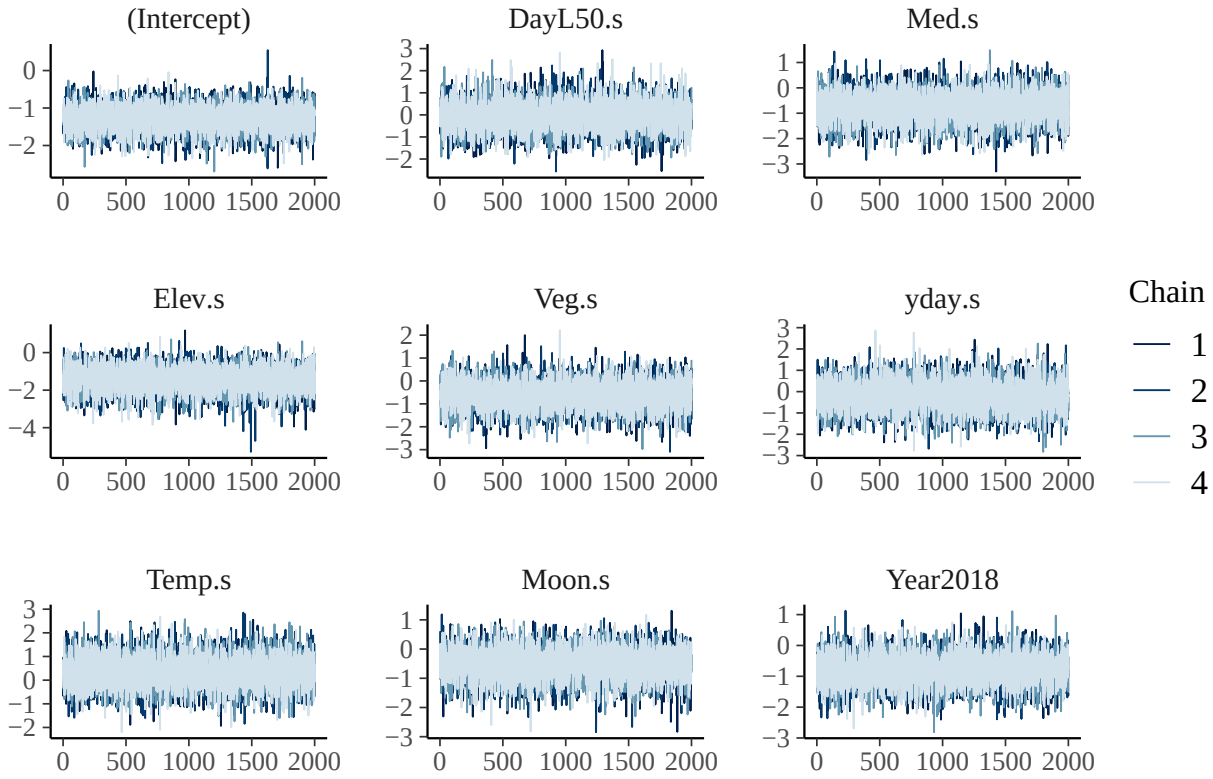

Coleoptera BN
0
10
20
30
40
y
y rep

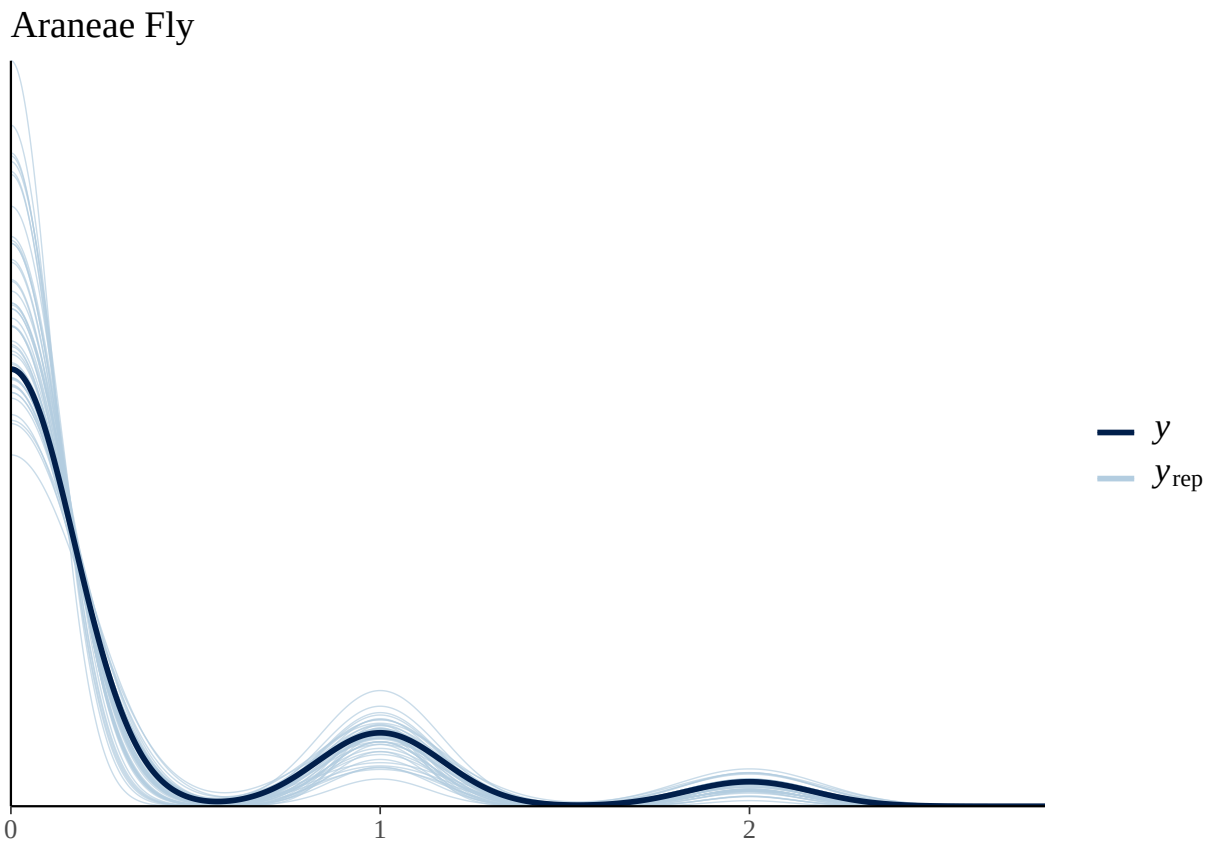


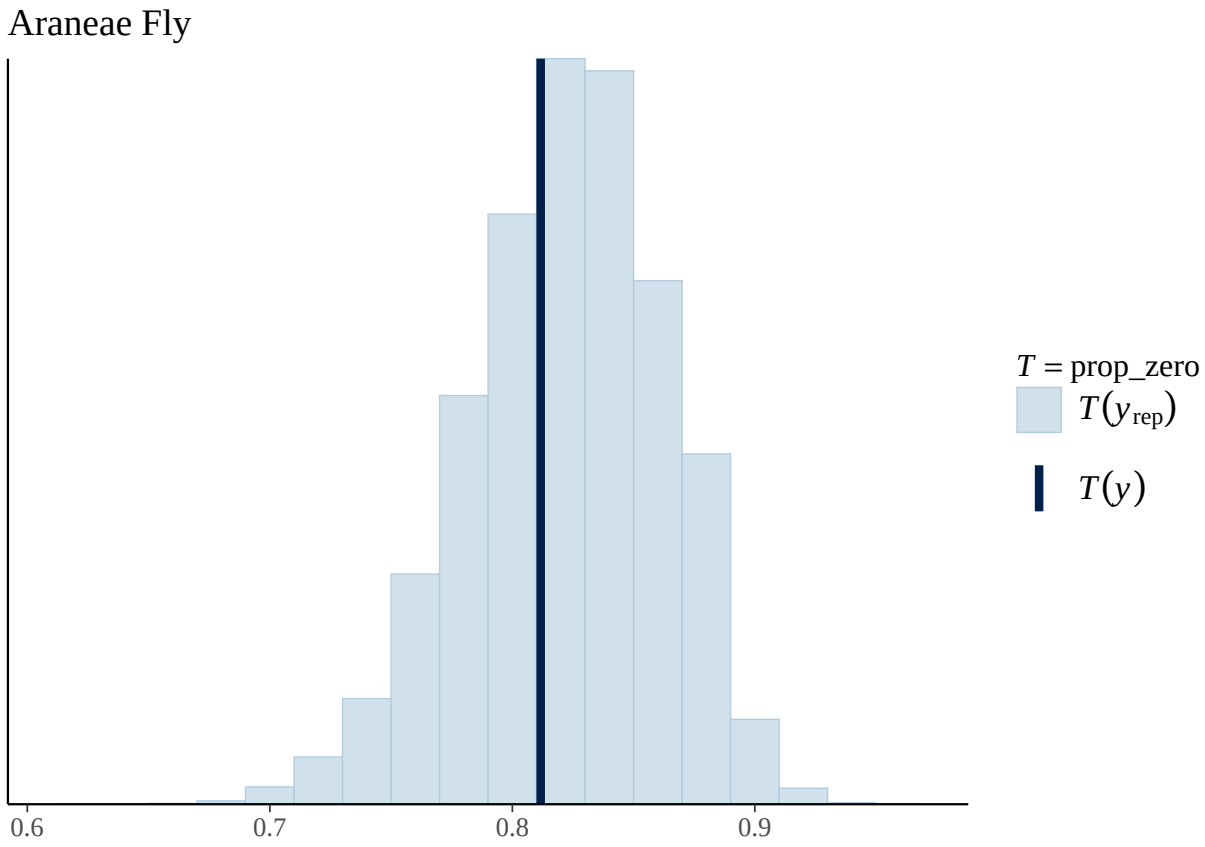
Araneae

```
## [1] "Araneae Fly"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.59         1.26
##           Med.s 1.46         1.21
##          yday.s 2.29         1.51
##           Veg.s 1.50         1.22
##          Elev.s 1.60         1.27
##          Moon.s 1.26         1.12
##          Temp.s 2.52         1.59
##            Year 1.20         1.09
##  DayL50.s:Med.s 1.29         1.14
```

Araneae Fly

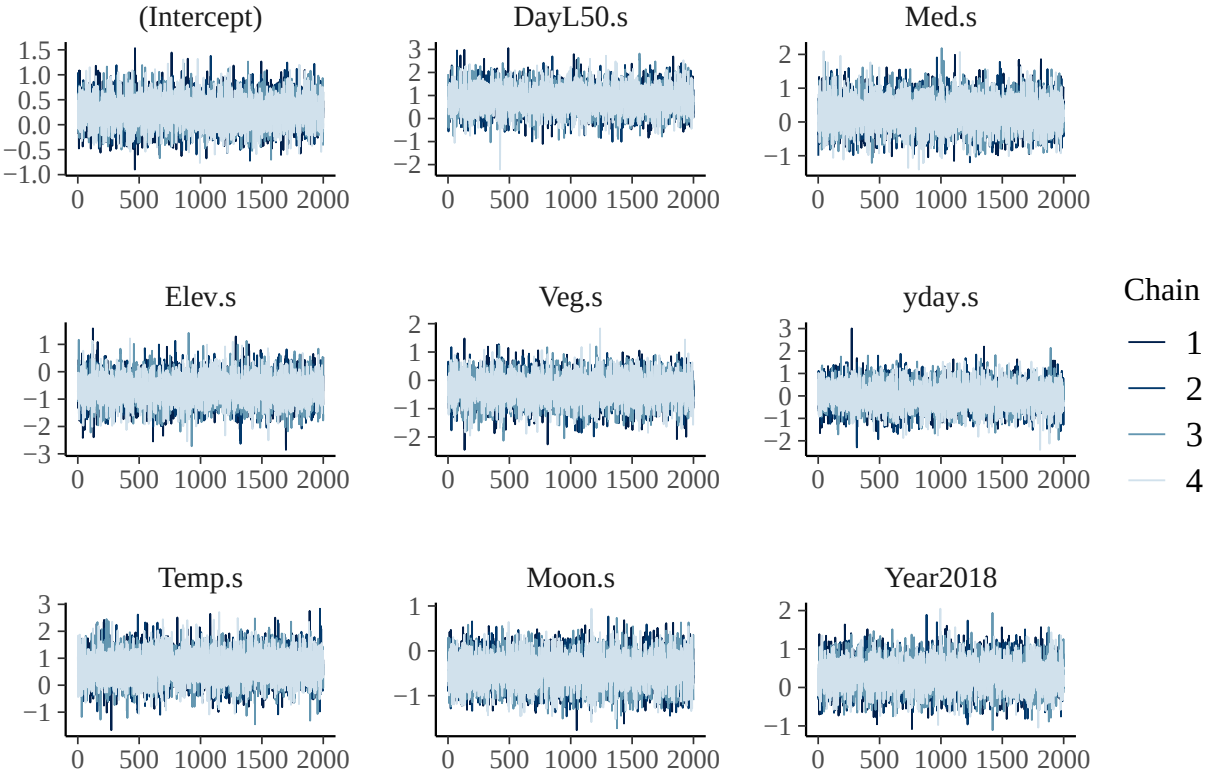

(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
0 500 1000 1500 2000
Chain
1
2
3
4

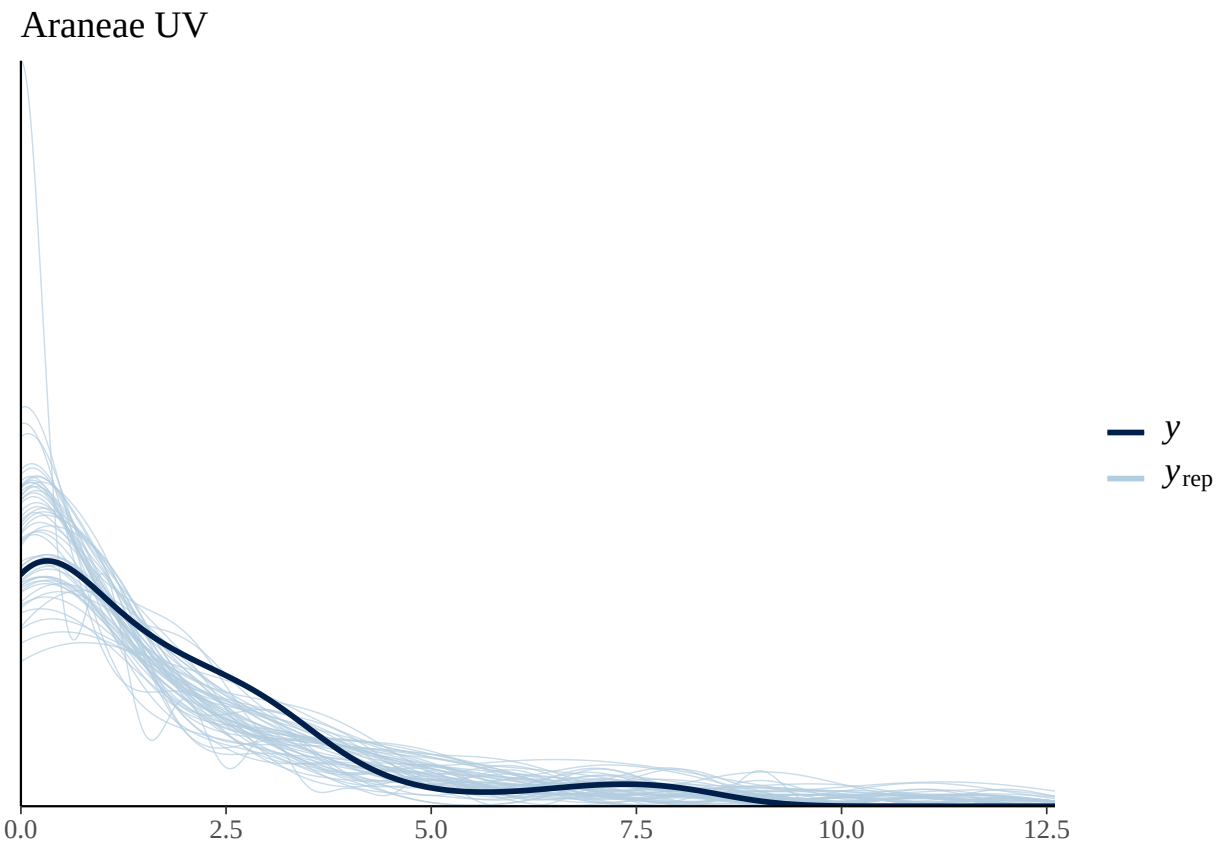

Araneae Fly
0
1
2
y
y rep

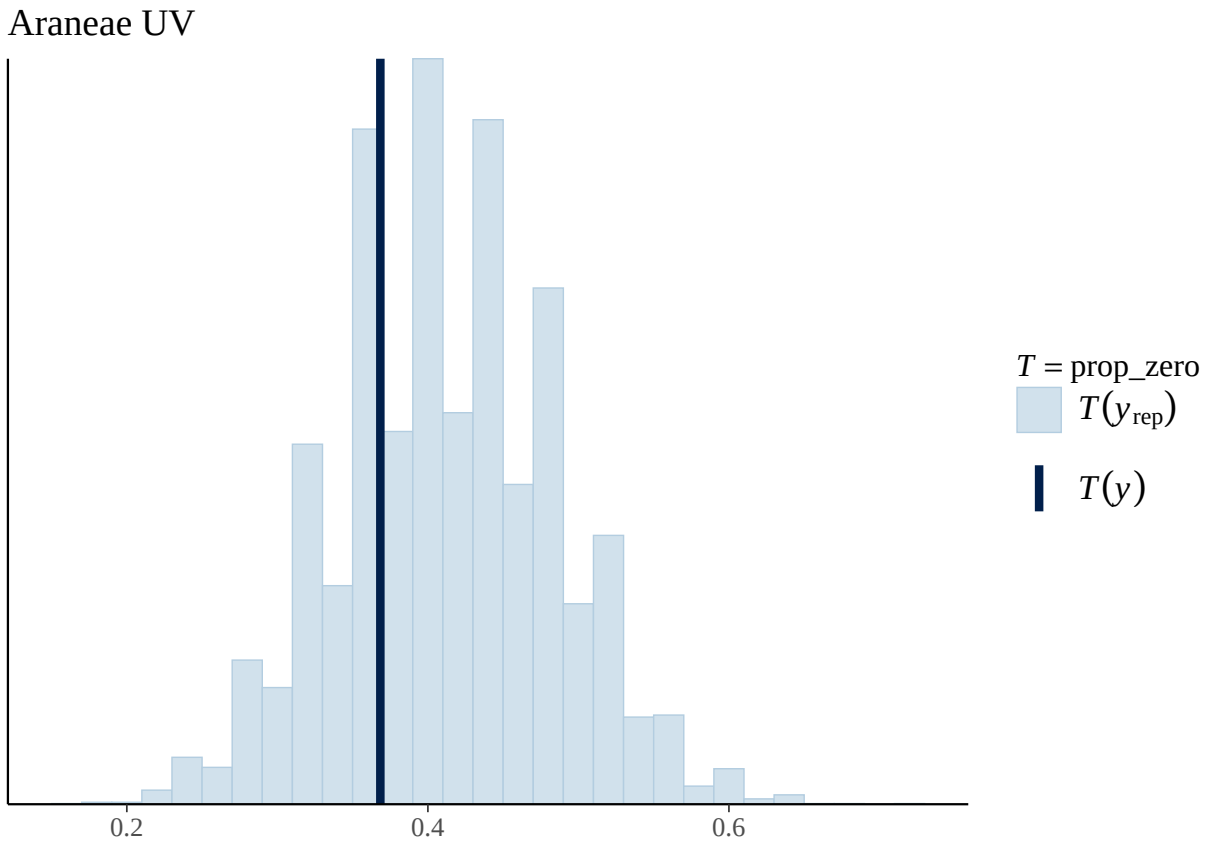



```
## [1] "Araneae UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.91         1.38
##           Med.s 1.83         1.35
##          yday.s 2.19         1.48
##           Veg.s 1.45         1.20
##          Elev.s 1.57         1.25
##          Moon.s 1.23         1.11
##          Temp.s 2.31         1.52
##            Year 1.36         1.17
##  DayL50.s:Med.s 1.41         1.19
```

Araneae UV

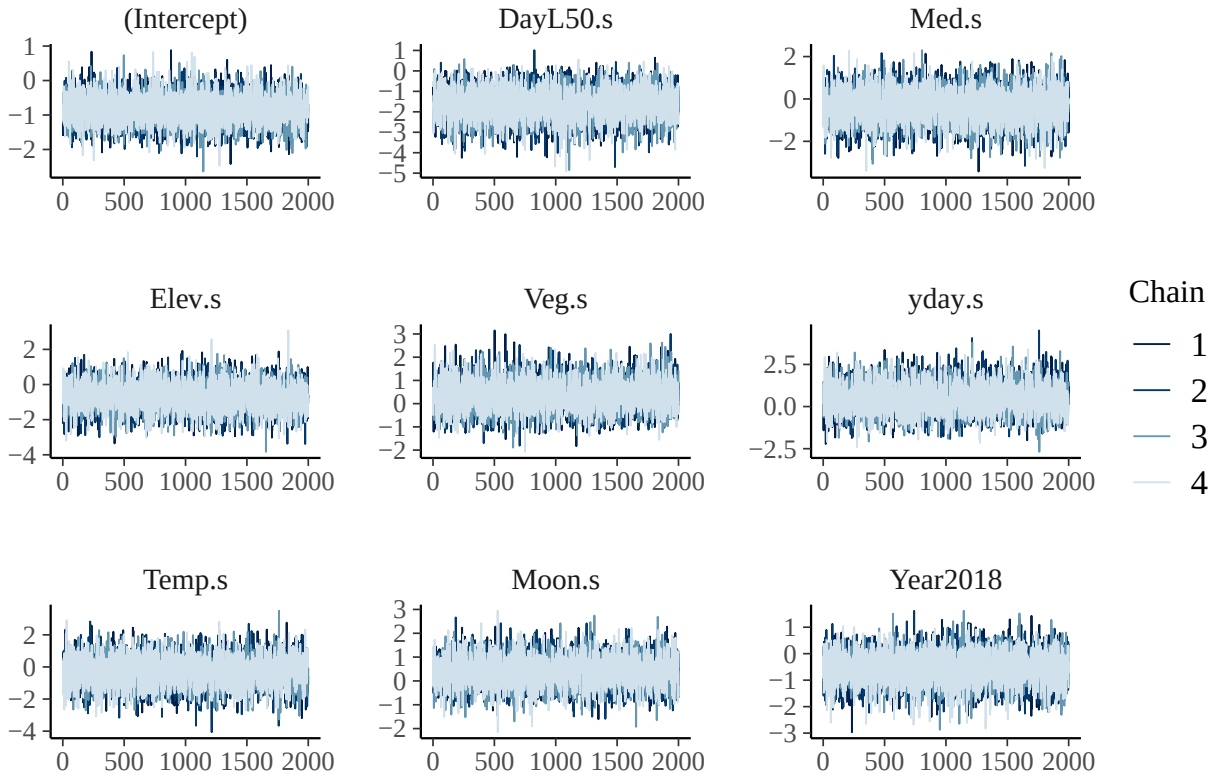

(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4


Araneae UV
0.0
2.5
5.0
7.5
10.0
12.5
y
y rep

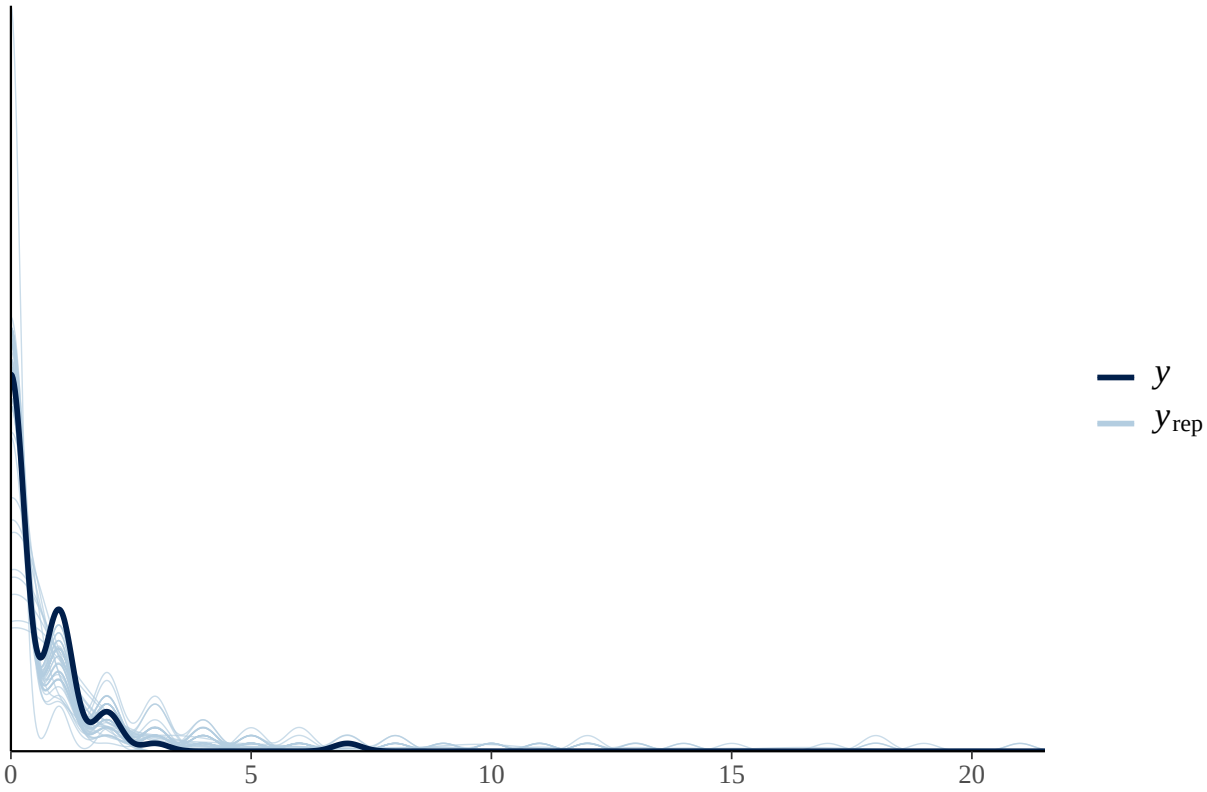



```
## [1] "Araneae Malaise"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.08         1.44
##           Med.s 1.75         1.32
##          yday.s 3.27         1.81
##           Veg.s 1.51         1.23
##          Elev.s 1.83         1.35
##          Moon.s 1.28         1.13
##          Temp.s 3.27         1.81
##            Year 1.36         1.17
##  DayL50.s:Med.s 1.80         1.34
```

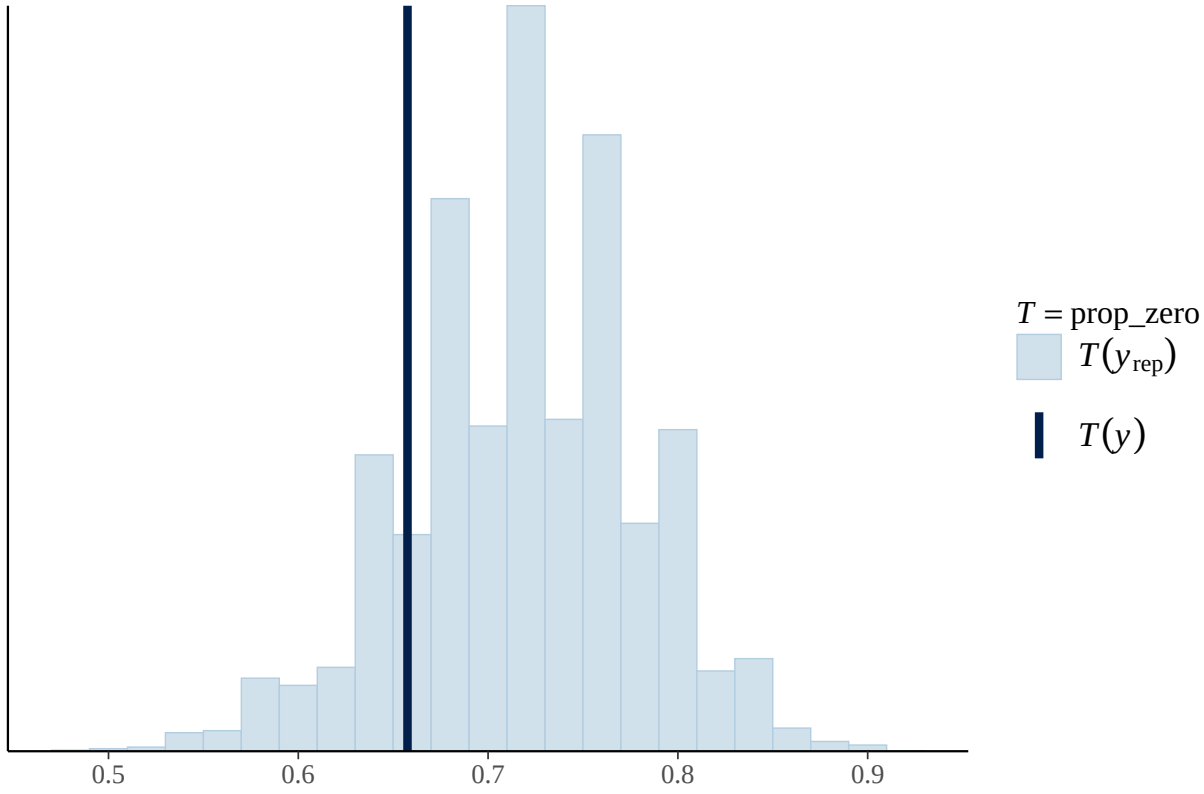
Araneae Malaise



Araneae Malaise

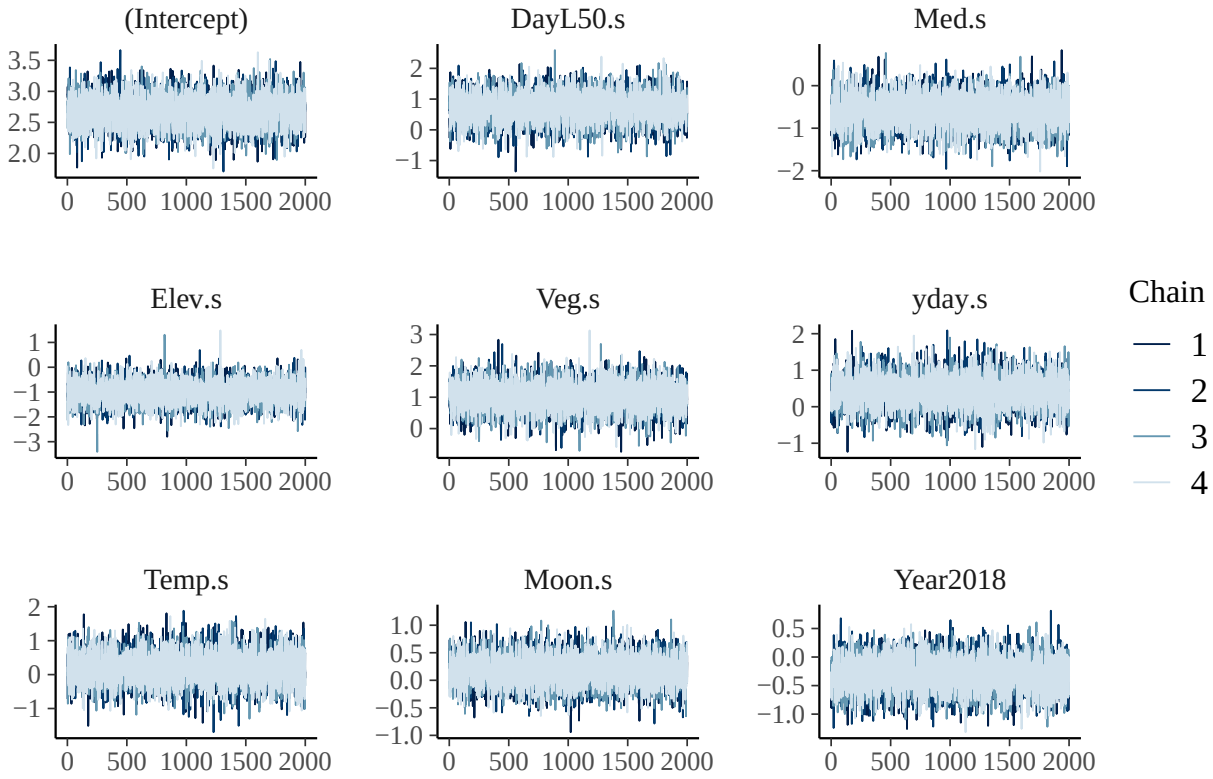


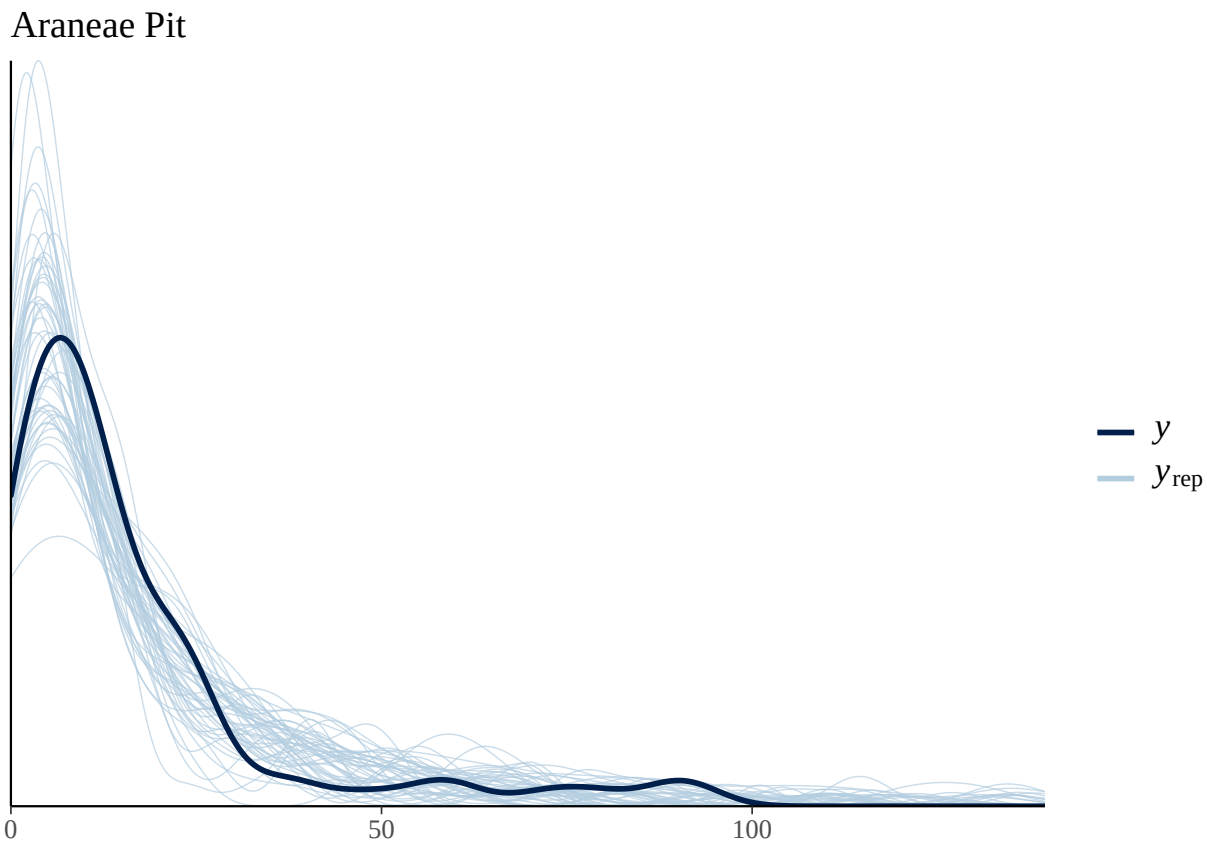
Araneae Malaise

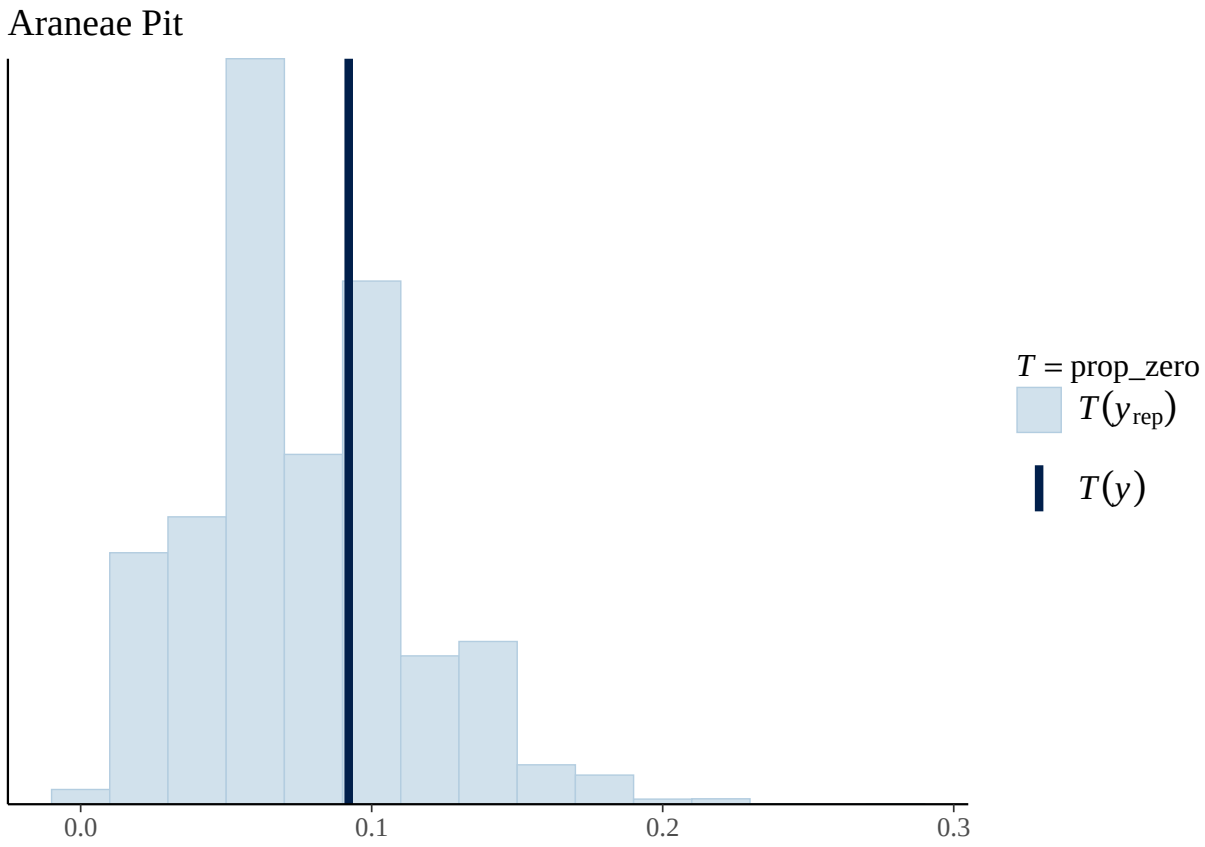



```
## [1] "Araneae Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.80         1.34
##           Med.s 1.37         1.17
##          yday.s 2.77         1.66
##           Veg.s 1.43         1.20
##          Elev.s 1.51         1.23
##          Moon.s 1.07         1.03
##          Temp.s 2.69         1.64
##            Year 1.33         1.15
##  DayL50.s:Med.s 1.33         1.15
```

Araneae Pit

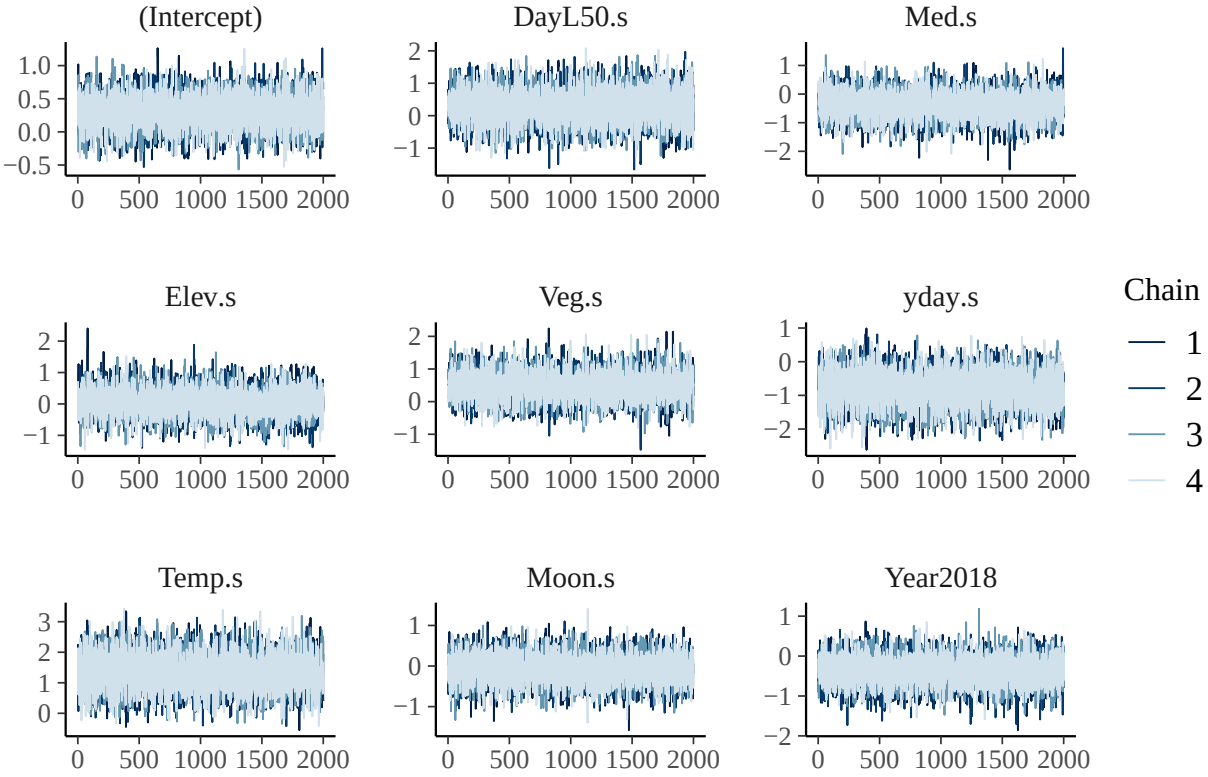

(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

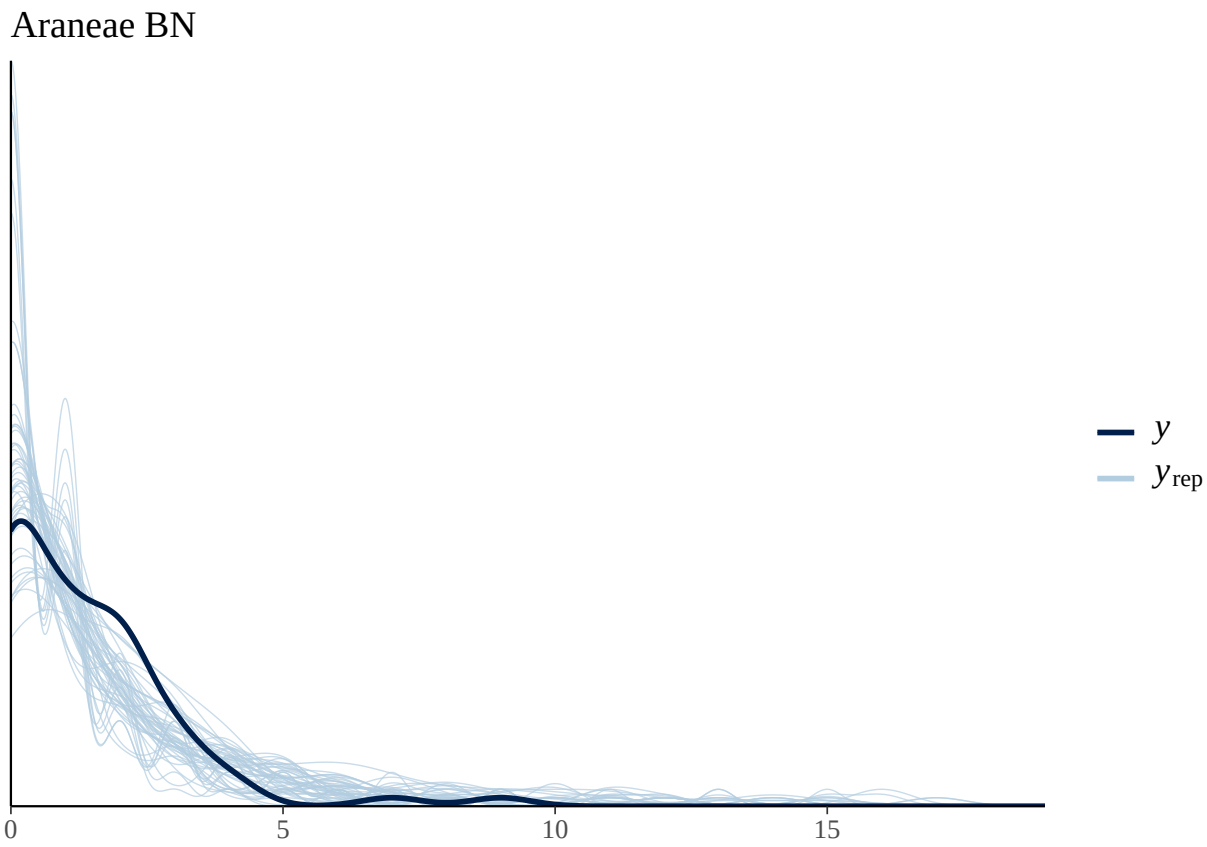

Araneae Pit
0
50
100
y
y rep

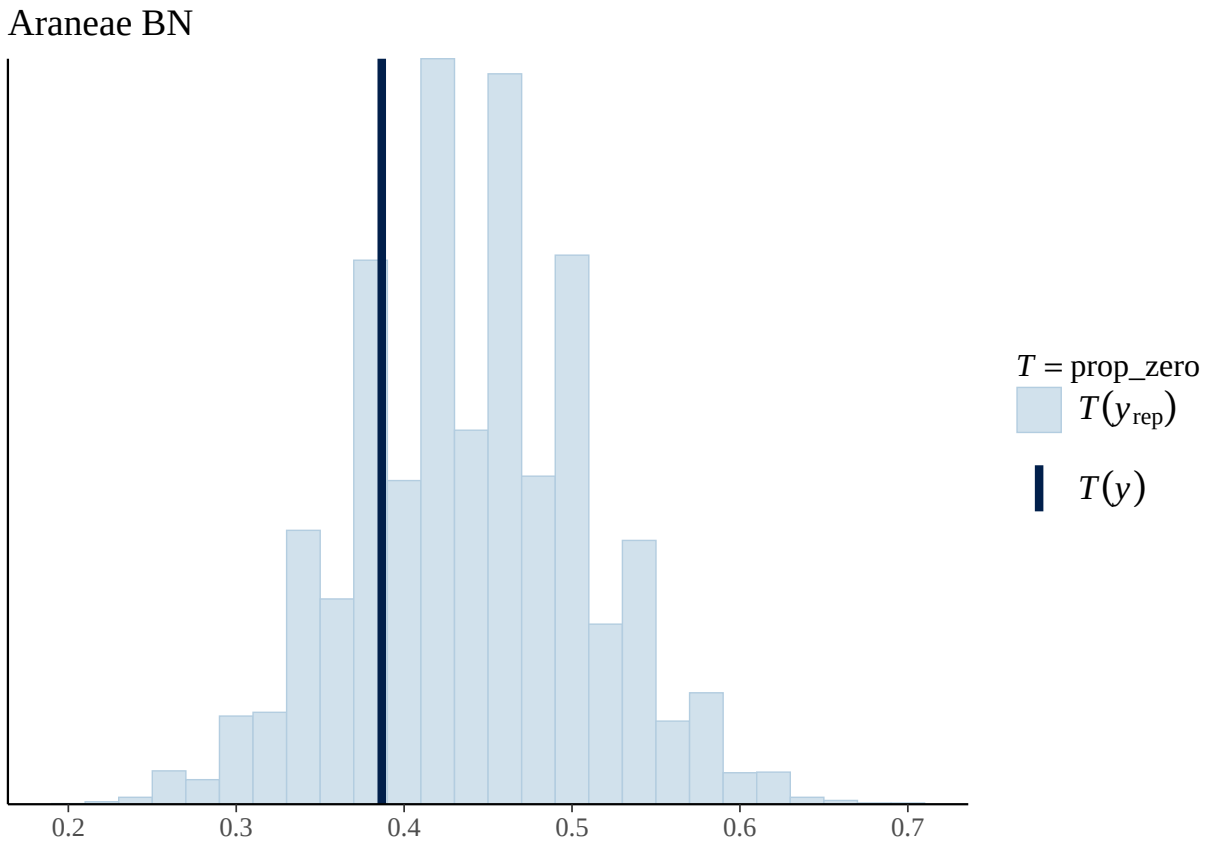



```
## [1] "Araneae BN"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.71         1.31
##           Med.s 1.50         1.22
##          yday.s 2.82         1.68
##           Veg.s 1.49         1.22
##          Elev.s 1.38         1.18
##          Moon.s 1.20         1.09
##          Temp.s 2.71         1.65
##            Year 1.22         1.11
##  DayL50.s:Med.s 1.30         1.14
```

Araneae BN


(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

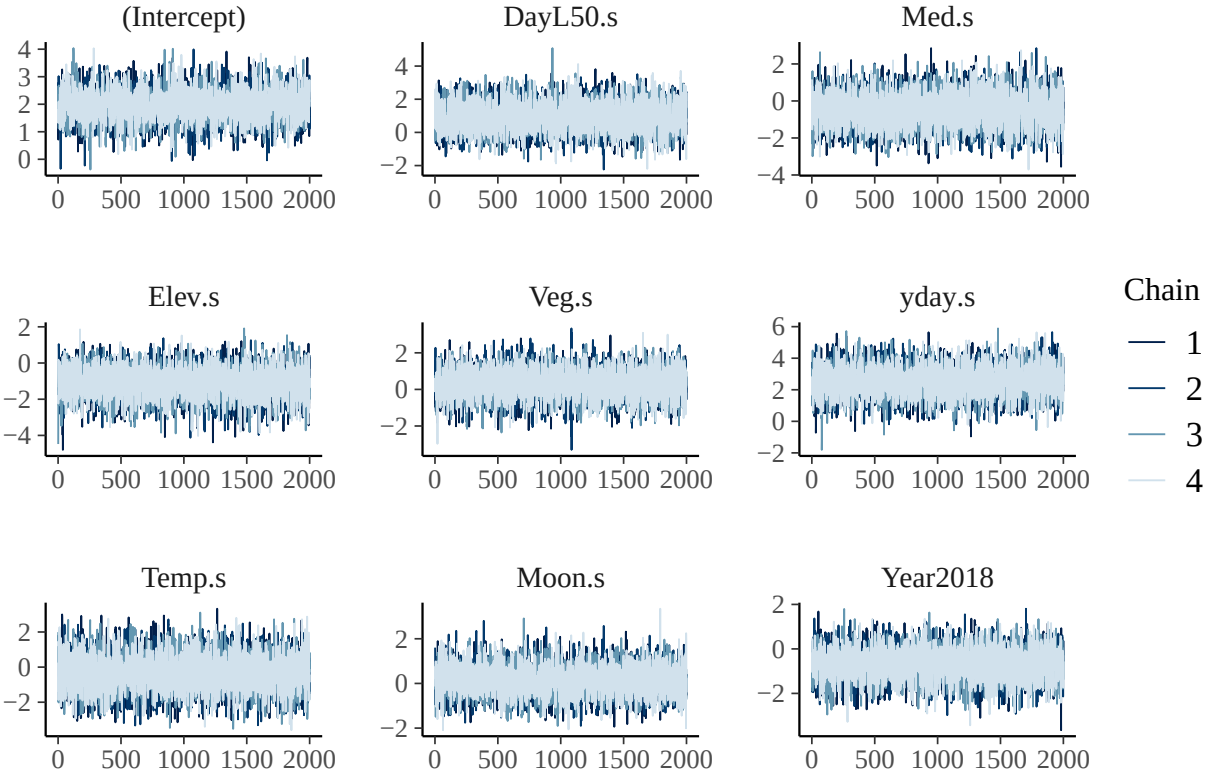

Araneae BN
0
5
10
15
y
y rep

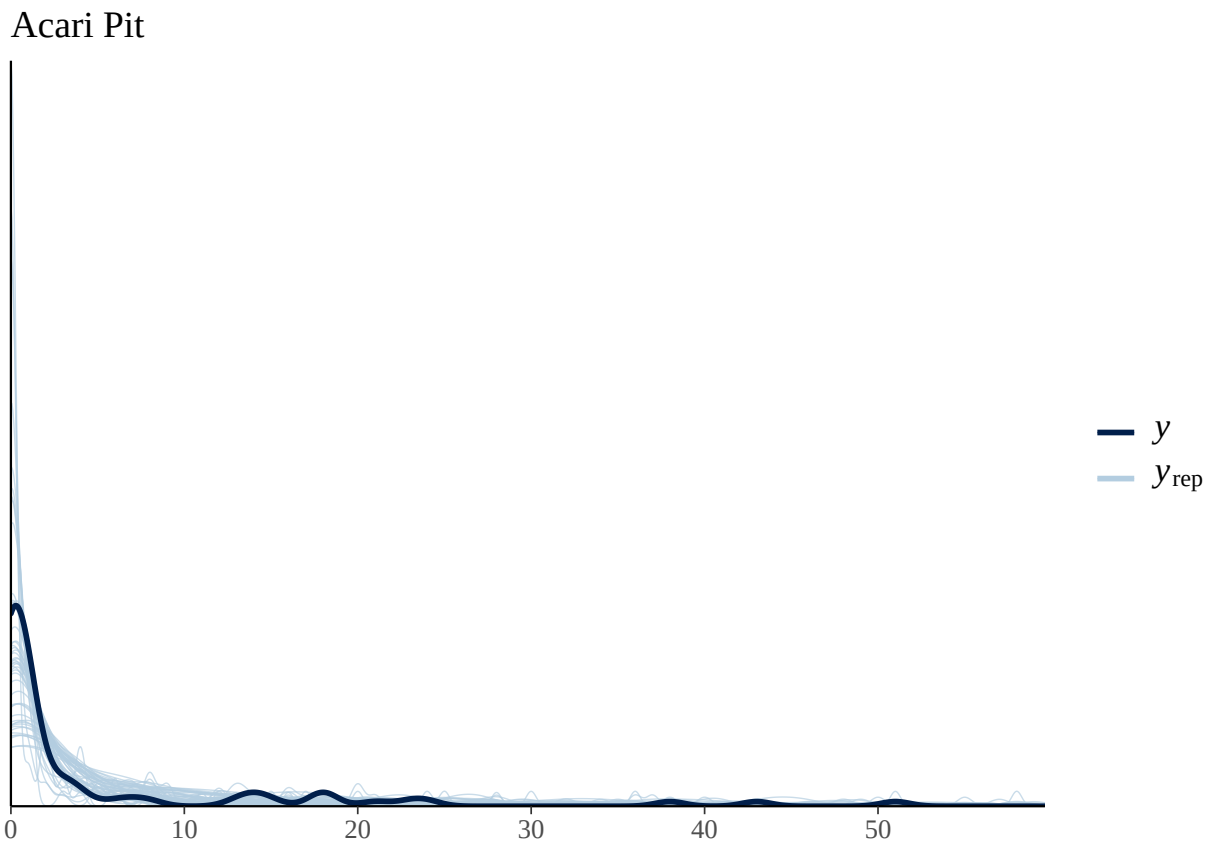


Acari

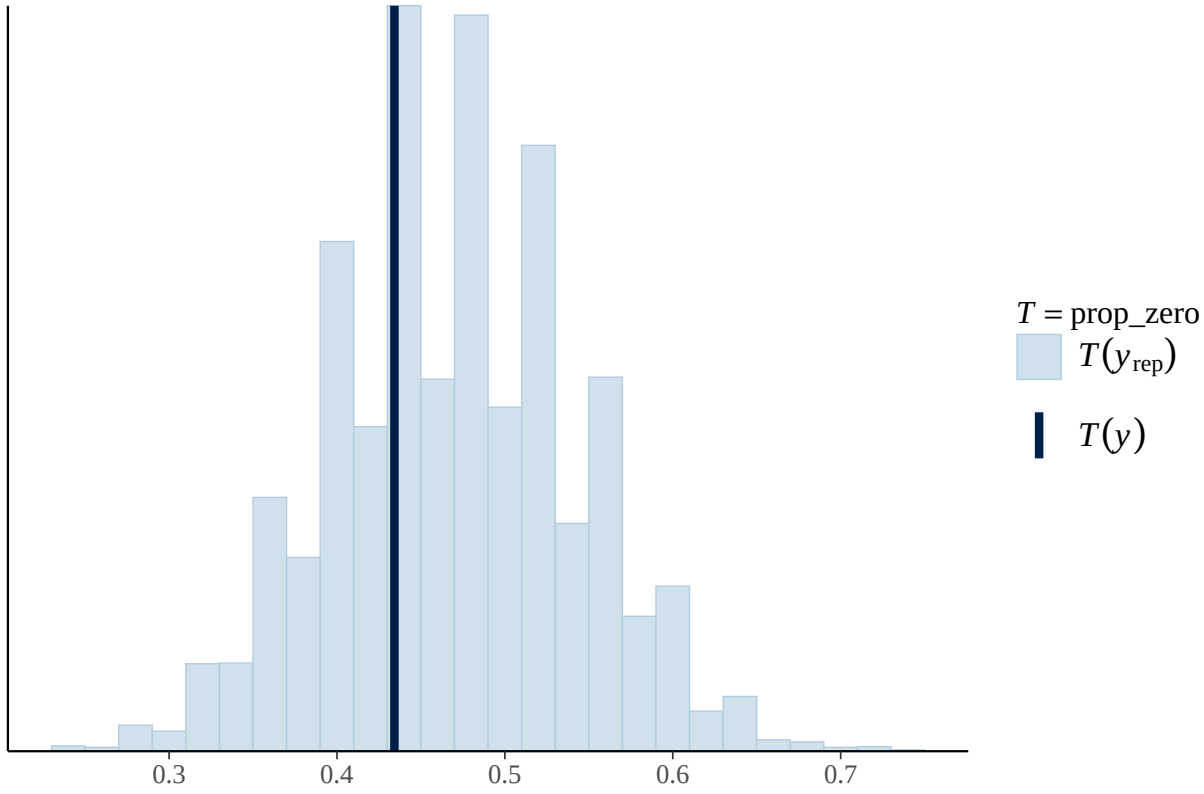
```
## [1] "Acari Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.76         1.33
##           Med.s 1.76         1.33
##          yday.s 2.69         1.64
##           Veg.s 1.64         1.28
##          Elev.s 1.78         1.33
##          Moon.s 1.39         1.18
##          Temp.s 3.43         1.85
##            Year 1.50         1.23
##  DayL50.s:Med.s 1.81         1.35
```

Acari Pit


(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4


Acari Pit
0
10
20
30
40
50
y
y rep

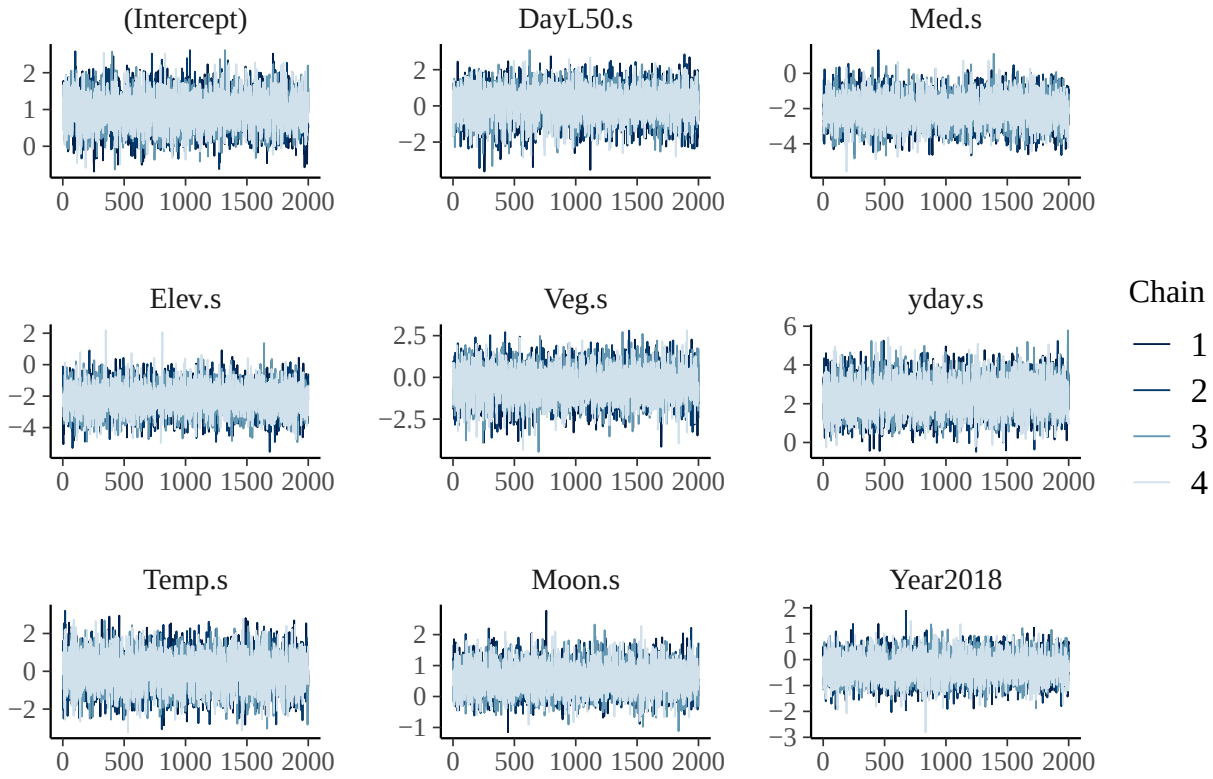
Acari Pit



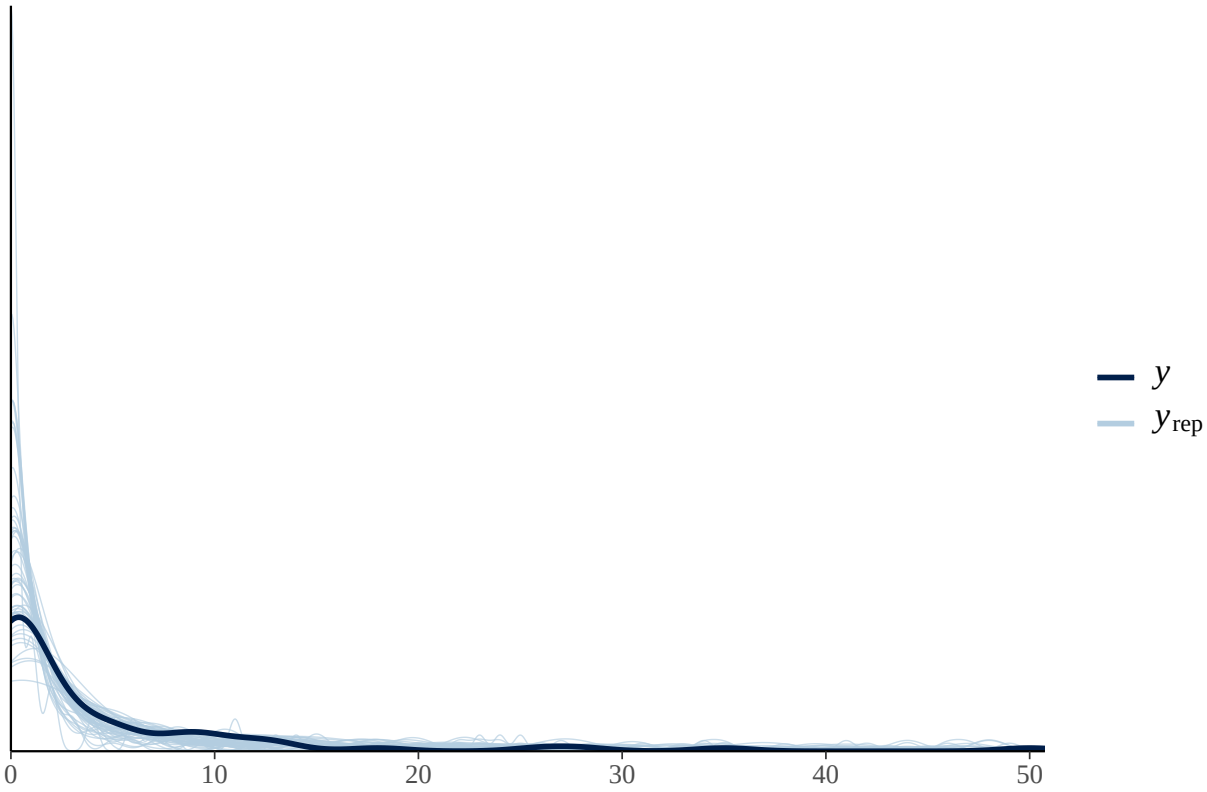
Raphidioptera

```
## [1] "Raphidioptera Malaise"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.61         1.27
##           Med.s 1.36         1.17
##          yday.s 2.73         1.65
##           Veg.s 1.47         1.21
##          Elev.s 1.47         1.21
##          Moon.s 1.11         1.05
##          Temp.s 2.91         1.71
##            Year 1.20         1.09
##  DayL50.s:Med.s 1.23         1.11
```

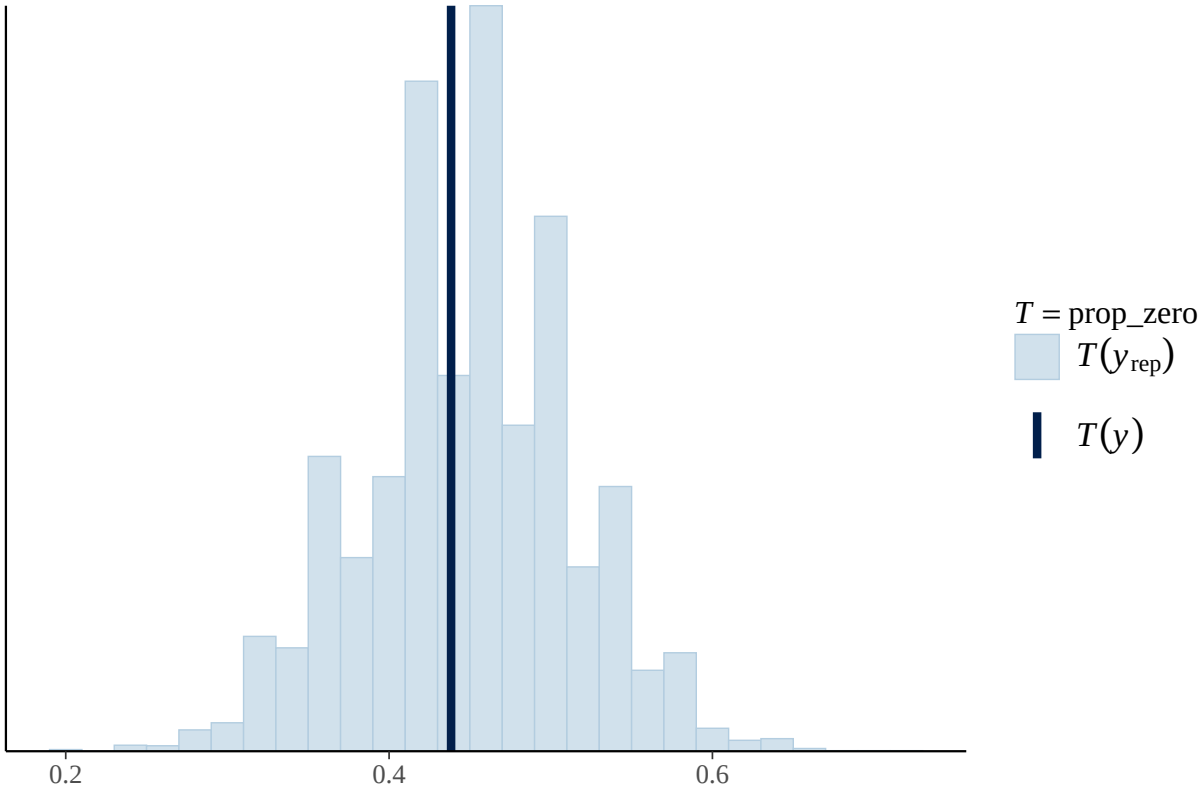
Raphidioptera Malaise



Raphidioptera Malaise

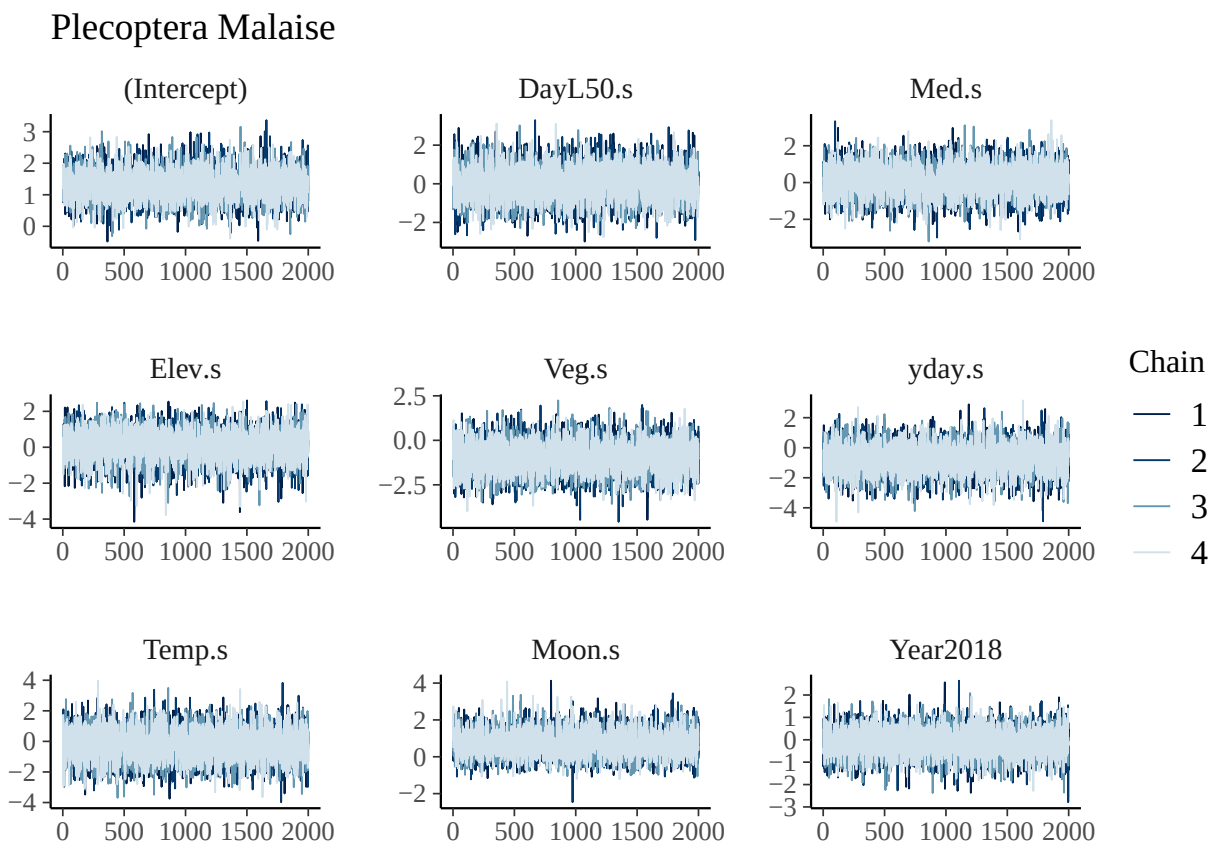


Raphidioptera Malaise

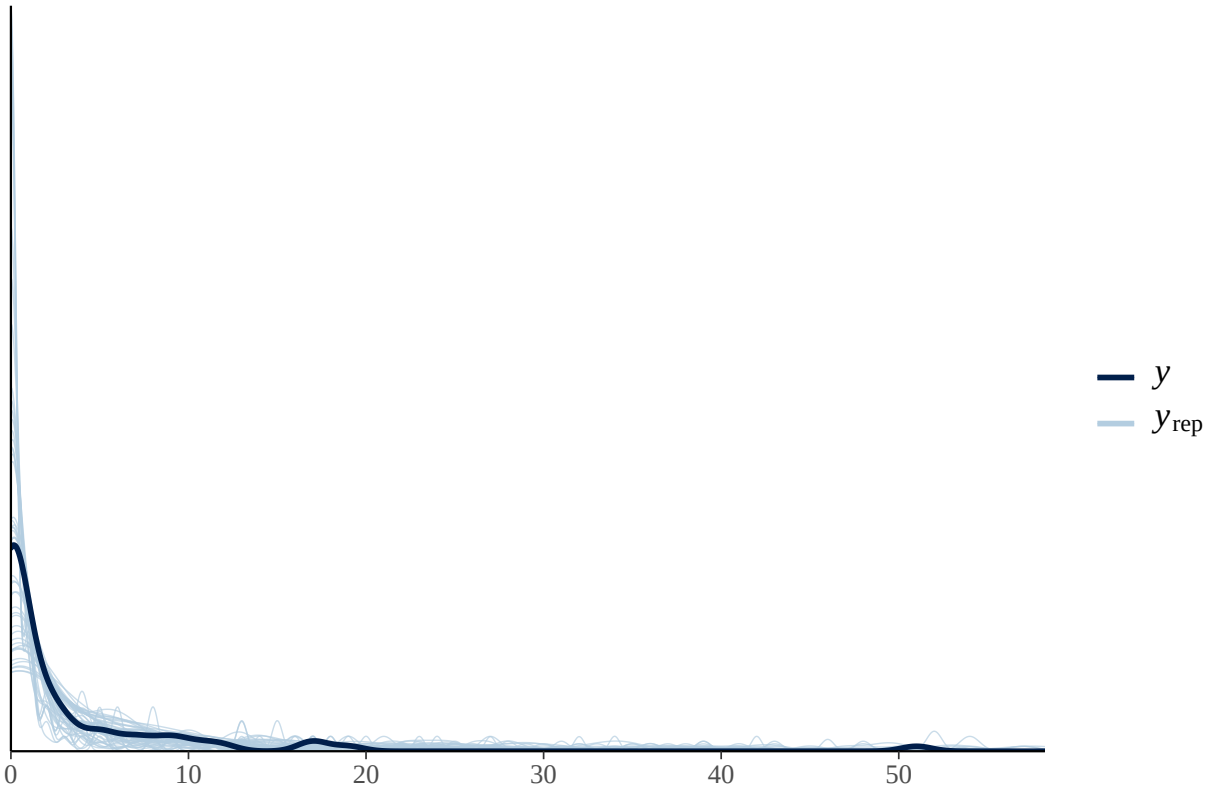


Plecoptera

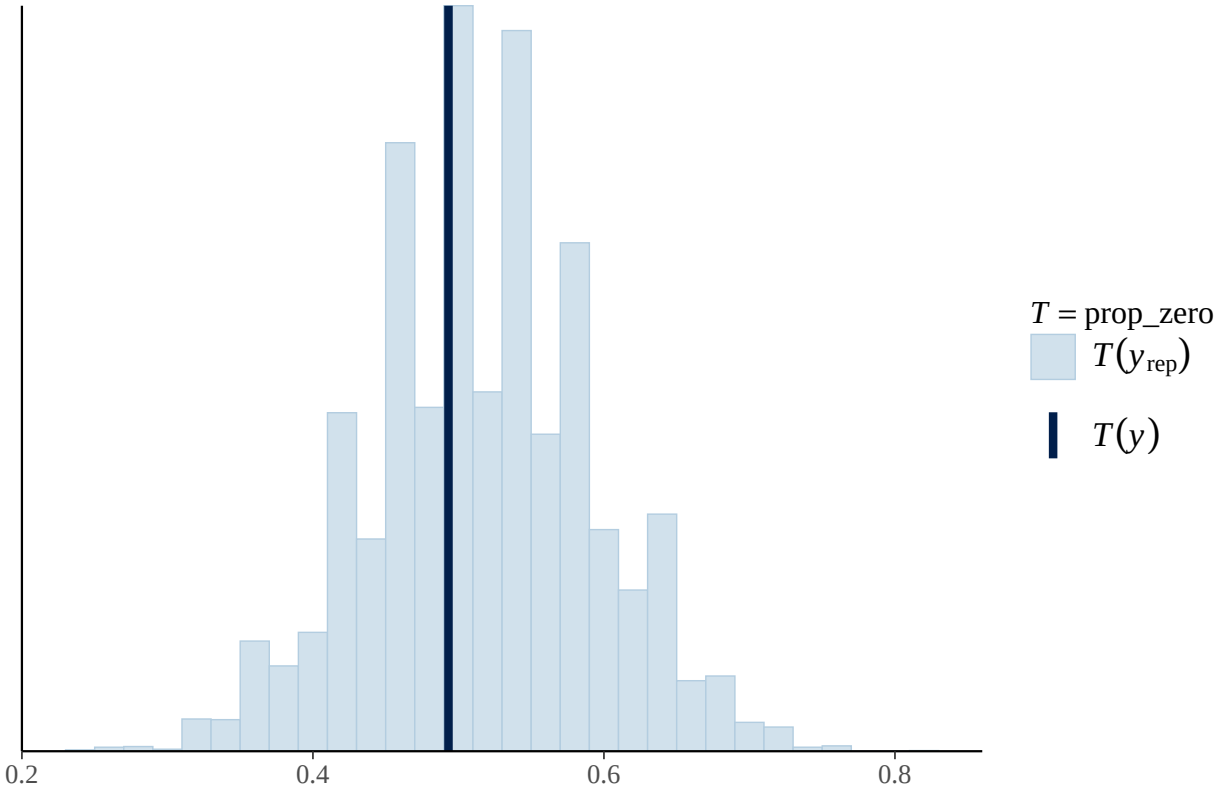
```
## [1] "Plecoptera Malaise"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.27         1.51
##           Med.s 1.74         1.32
##          yday.s 2.12         1.46
##           Veg.s 1.49         1.22
##          Elev.s 2.32         1.52
##          Moon.s 1.42         1.19
##          Temp.s 2.39         1.55
##            Year 1.16         1.08
##  DayL50.s:Med.s 1.70         1.30
```


Plecoptera Malaise
(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

Plecoptera Malaise



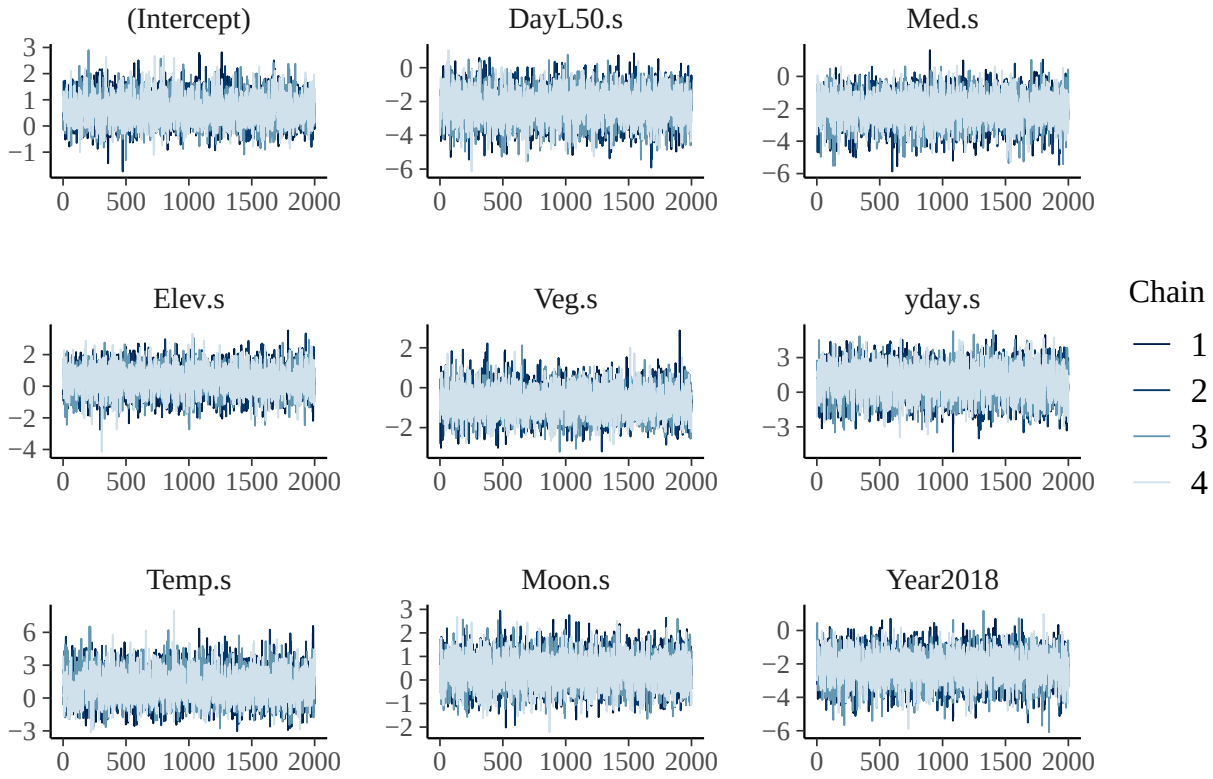
Plecoptera Malaise



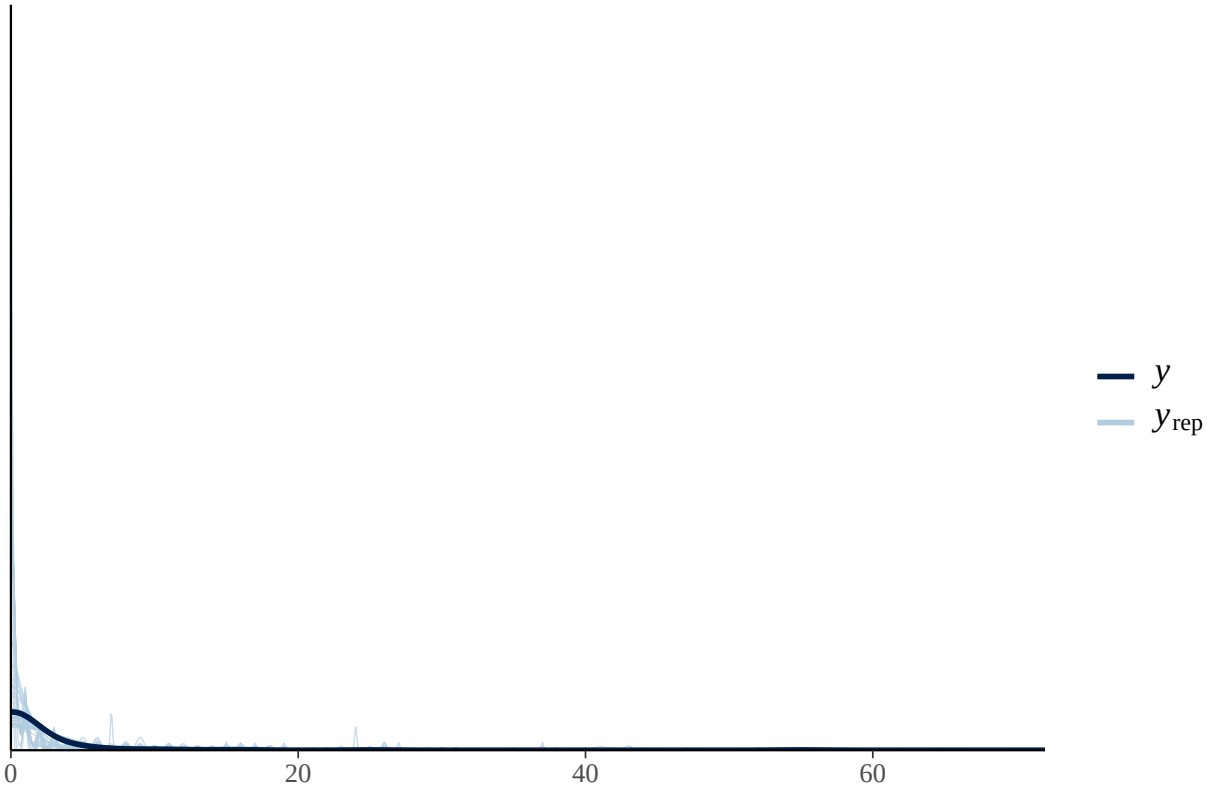
Thysanoptera

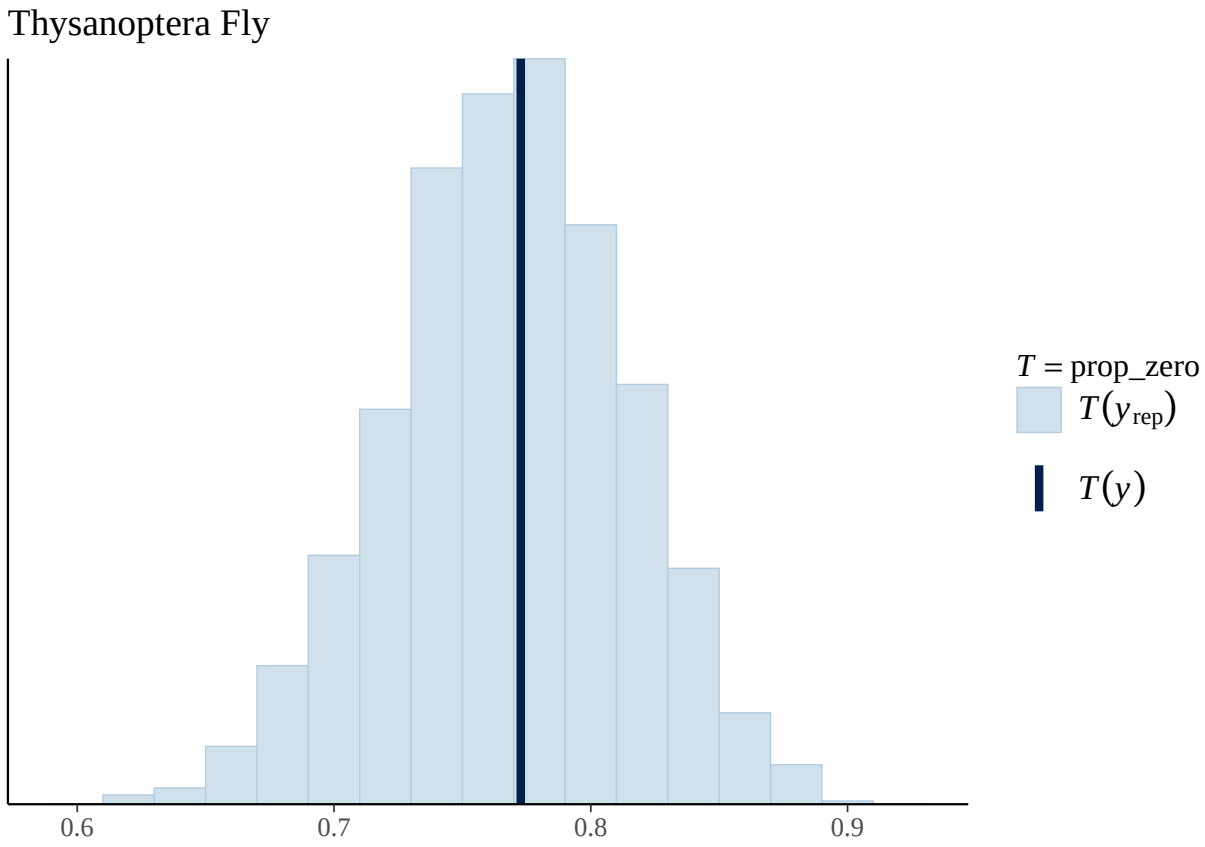
```
## [1] "Thysanoptera Fly"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.18         1.48
##           Med.s 2.10         1.45
##          yday.s 4.44         2.11
##           Veg.s 1.67         1.29
##          Elev.s 1.44         1.20
##          Moon.s 1.39         1.18
##            Year 2.39         1.55
##  DayL50.s:Med.s 1.69         1.30
##
## Moderate Correlation
##
##  Parameter  VIF Increased SE
##     Temp.s 5.09         2.26
```

Thysanoptera Fly



Thysanoptera Fly

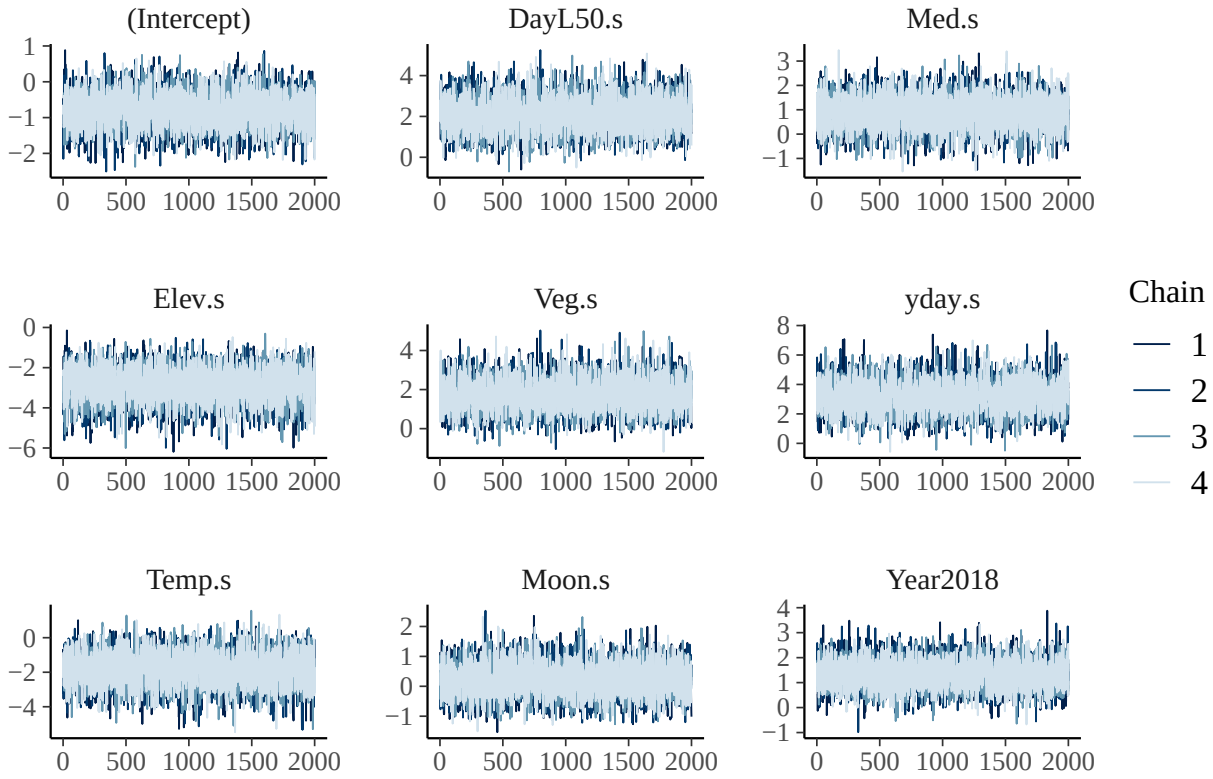




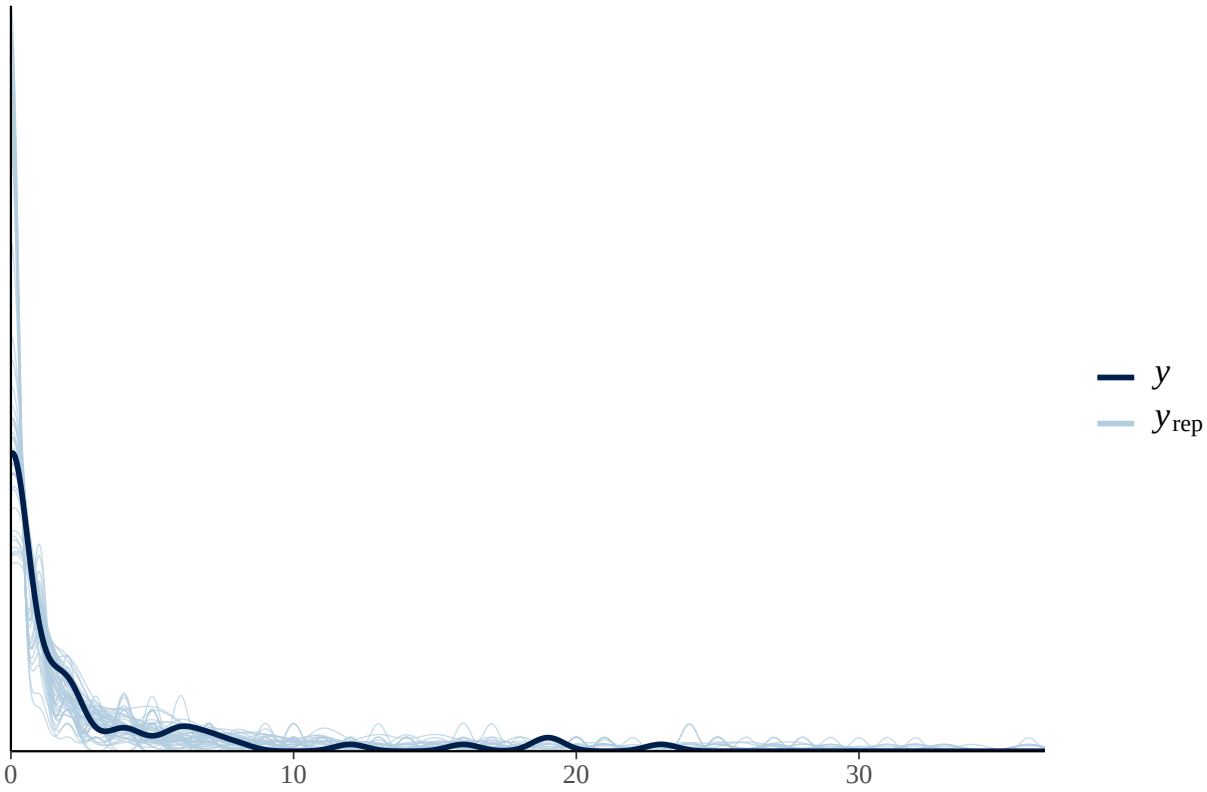
Opiliones

```
## [1] "Opiliones Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.92         1.71
##           Med.s 1.51         1.23
##          yday.s 4.20         2.05
##           Veg.s 2.22         1.49
##          Elev.s 1.98         1.41
##          Moon.s 1.39         1.18
##          Temp.s 3.96         1.99
##            Year 1.38         1.17
##  DayL50.s:Med.s 1.74         1.32
```

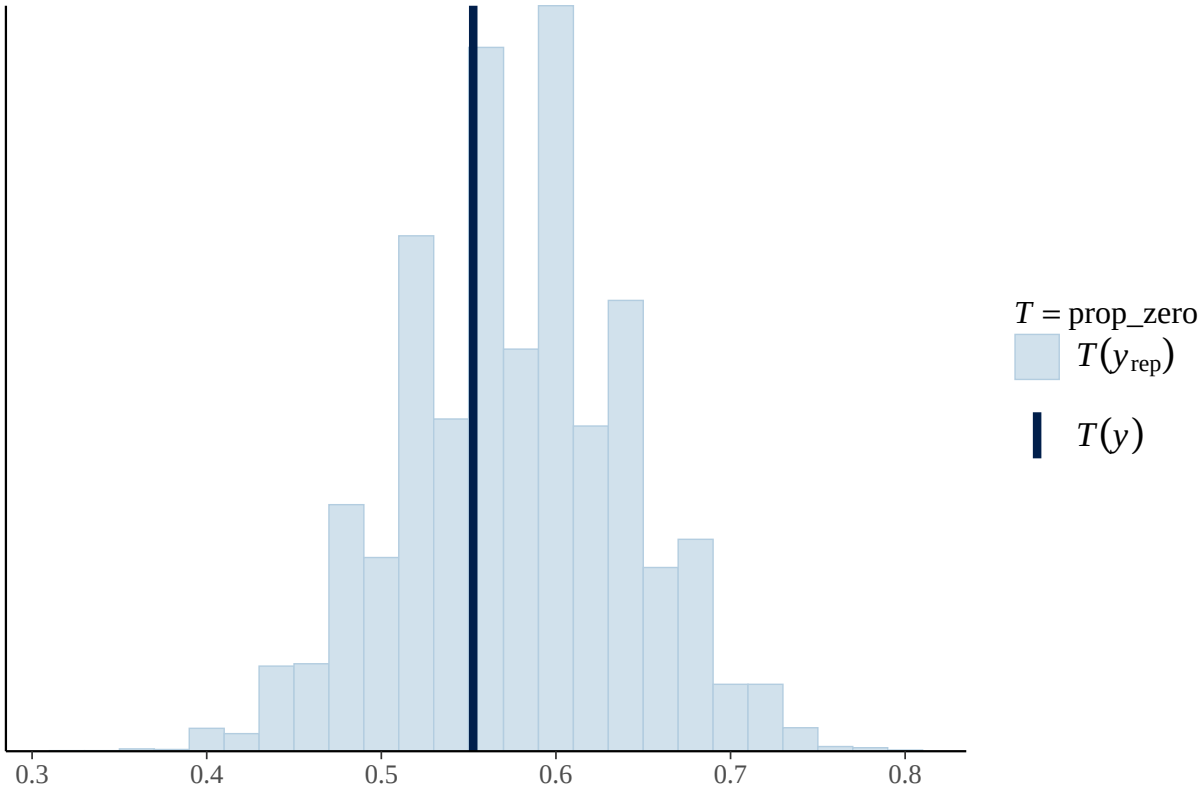
Opiliones Pit



Opiliones Pit



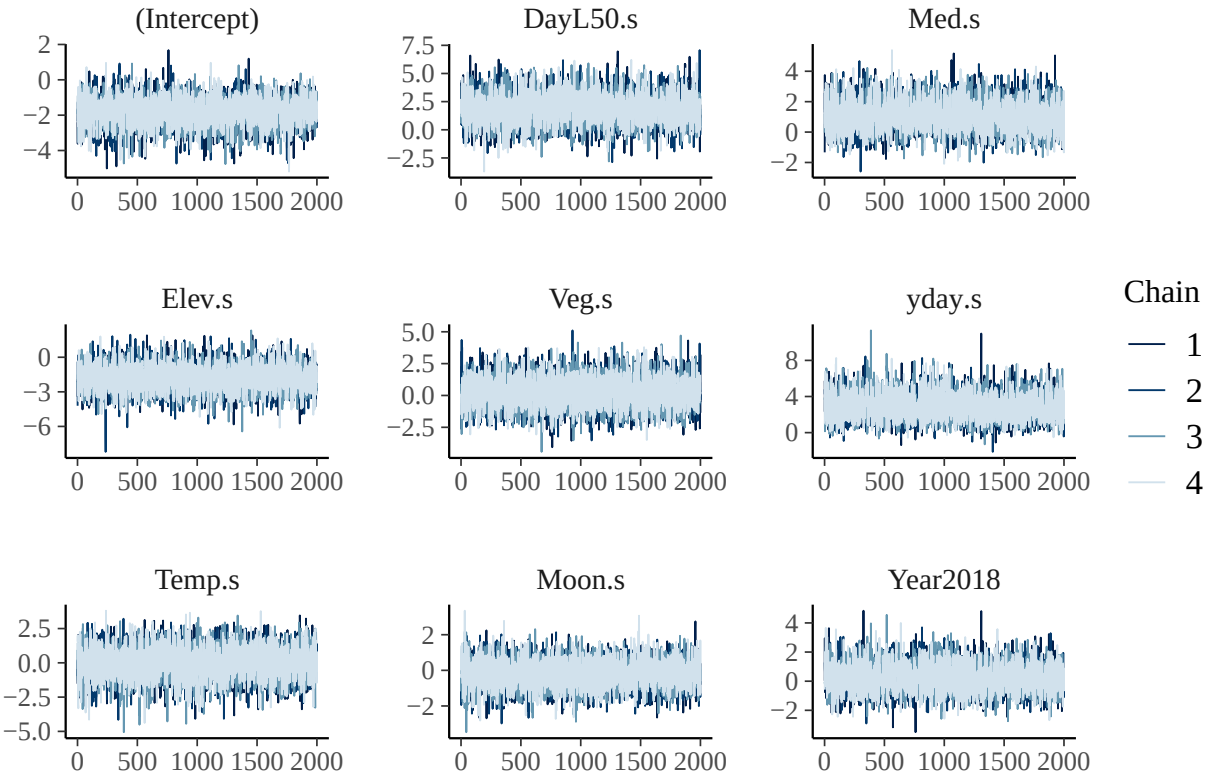
Opiliones Pit



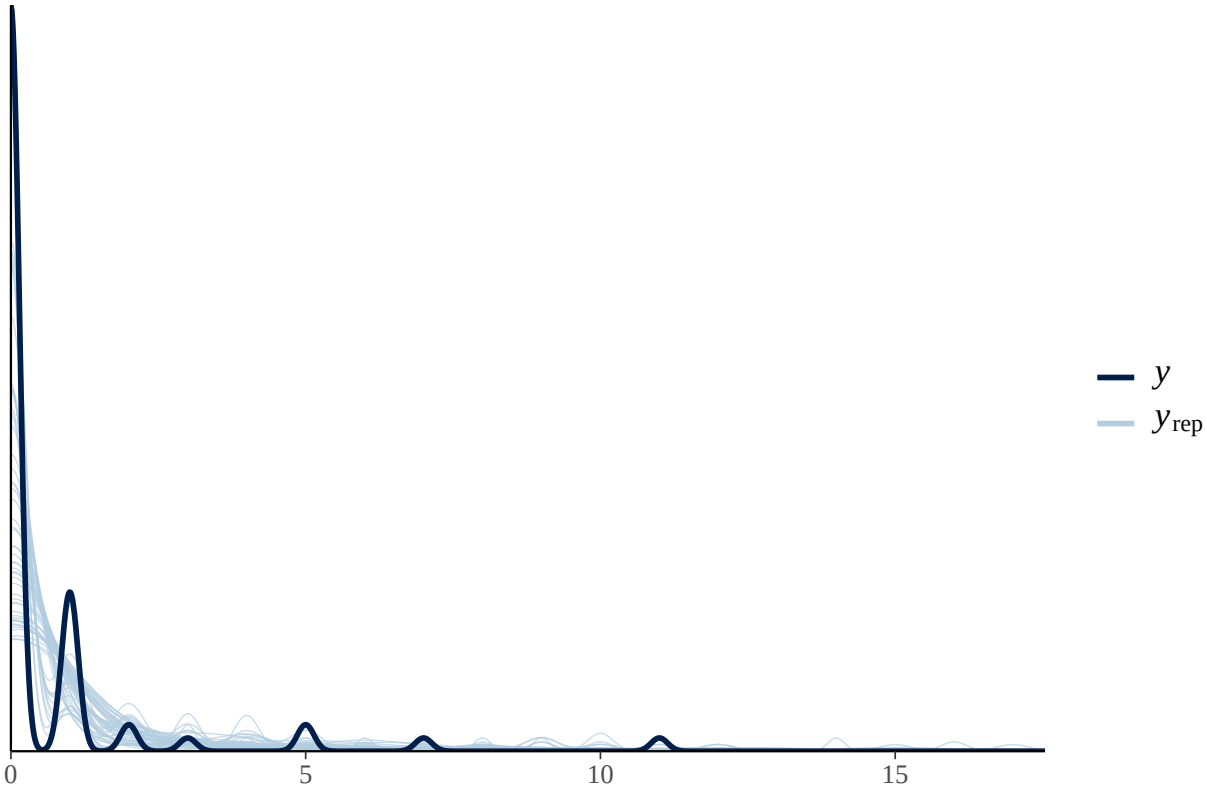
Dermaptera

```
## [1] "Dermaptera UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.02         1.42
##           Med.s 2.01         1.42
##          yday.s 3.02         1.74
##           Veg.s 1.53         1.24
##          Elev.s 1.36         1.17
##          Moon.s 1.35         1.16
##          Temp.s 3.01         1.73
##            Year 1.79         1.34
##  DayL50.s:Med.s 1.51         1.23
```

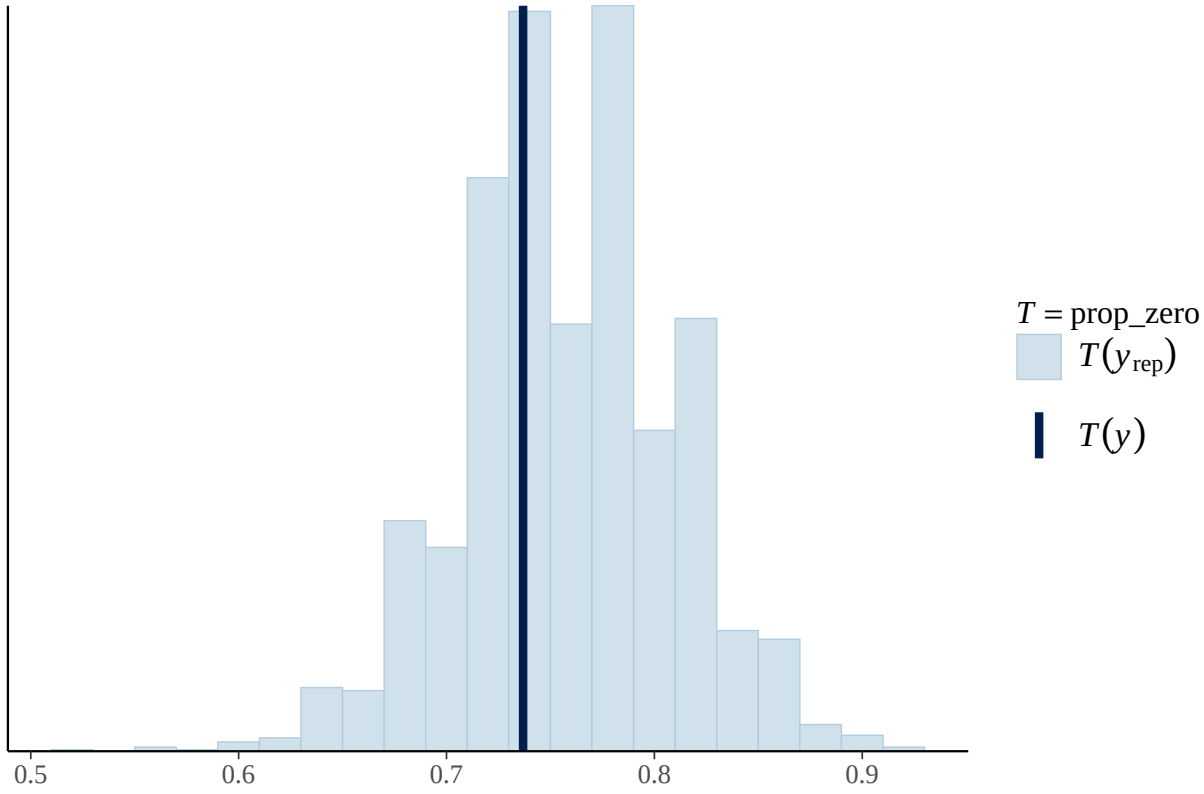
Dermaptera UV



Dermaptera UV

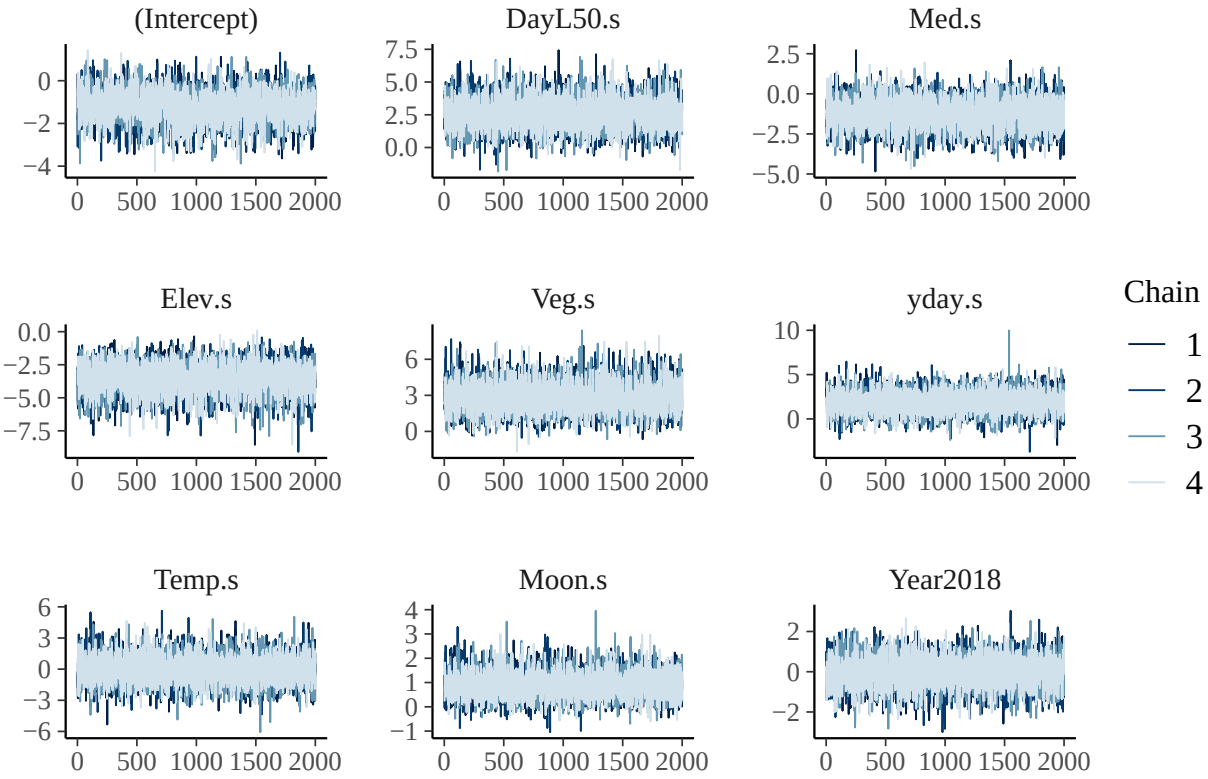


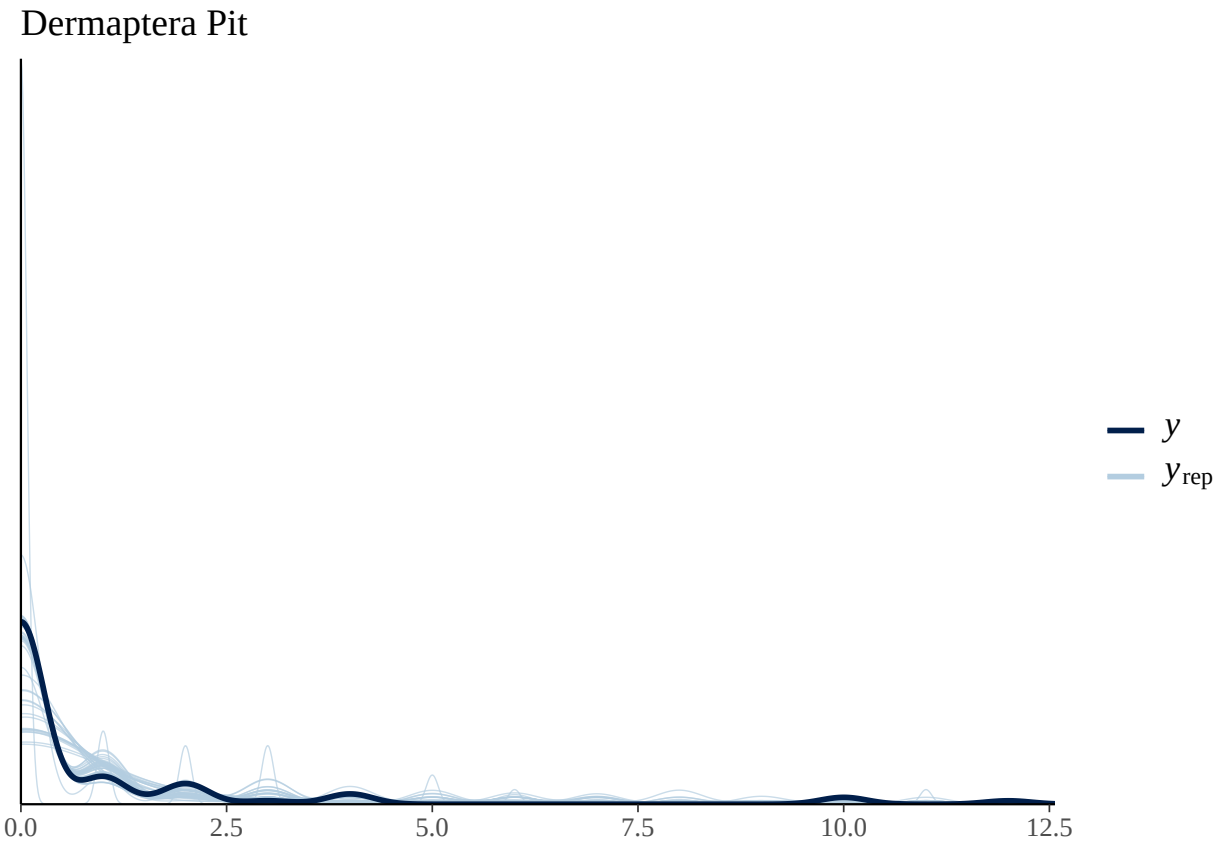
Dermaptera UV



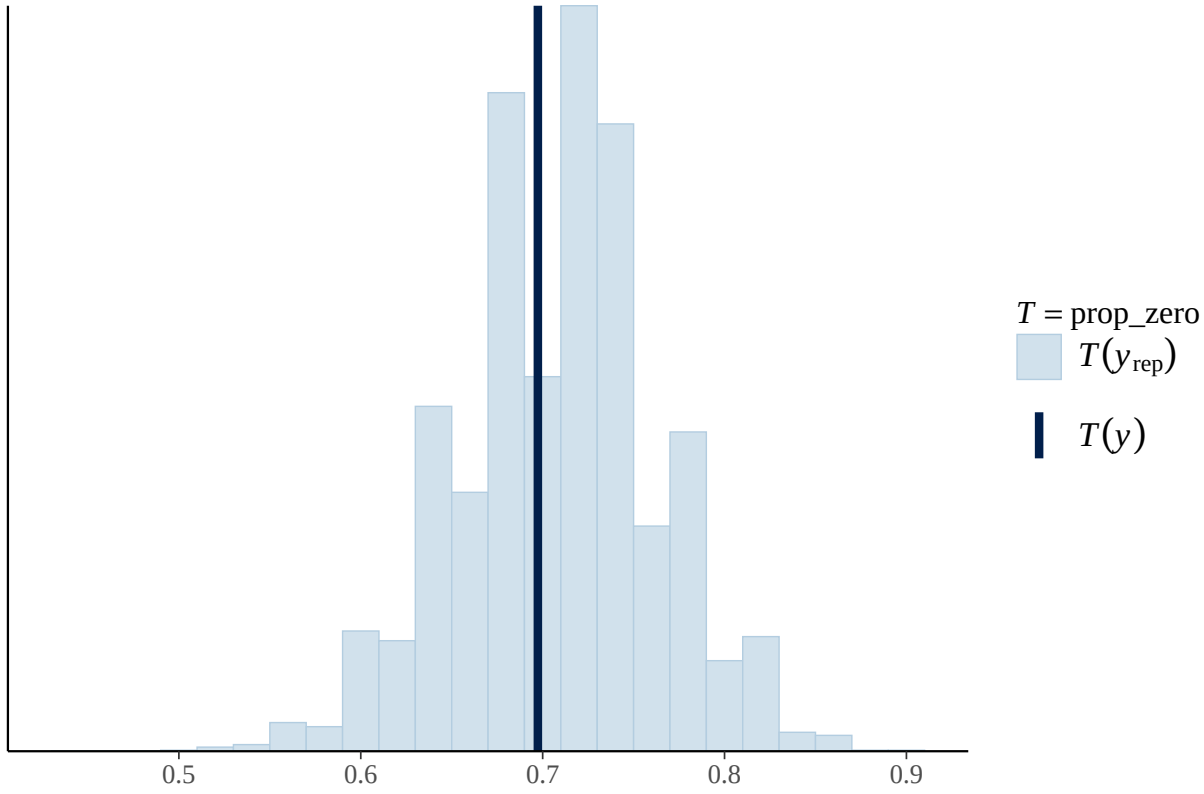

```
## [1] "Dermaptera Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.91         1.38
##           Med.s 1.44         1.20
##          yday.s 2.75         1.66
##           Veg.s 1.75         1.32
##          Elev.s 1.46         1.21
##          Moon.s 1.10         1.05
##          Temp.s 2.91         1.71
##            Year 1.36         1.17
##  DayL50.s:Med.s 1.32         1.15
```

Dermaptera Pit




Dermaptera Pit
0.0
2.5
5.0
7.5
10.0
12.5
y
y rep

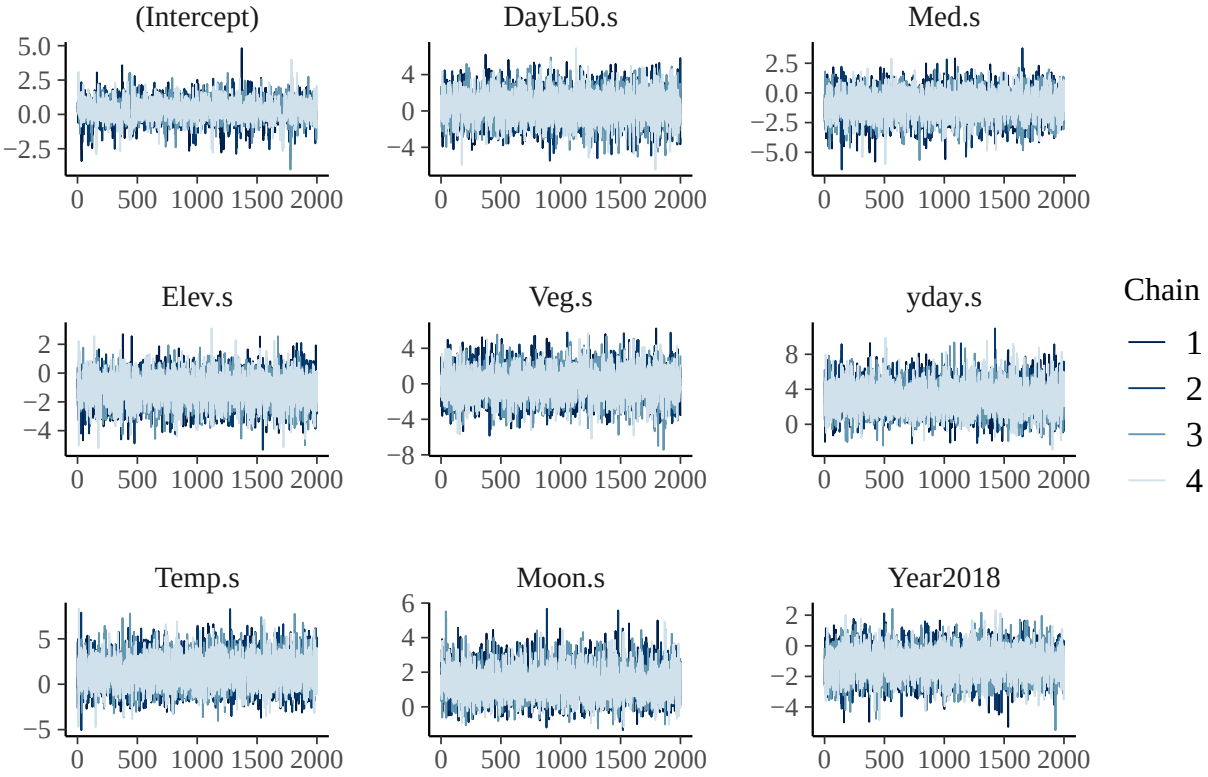
Dermaptera Pit



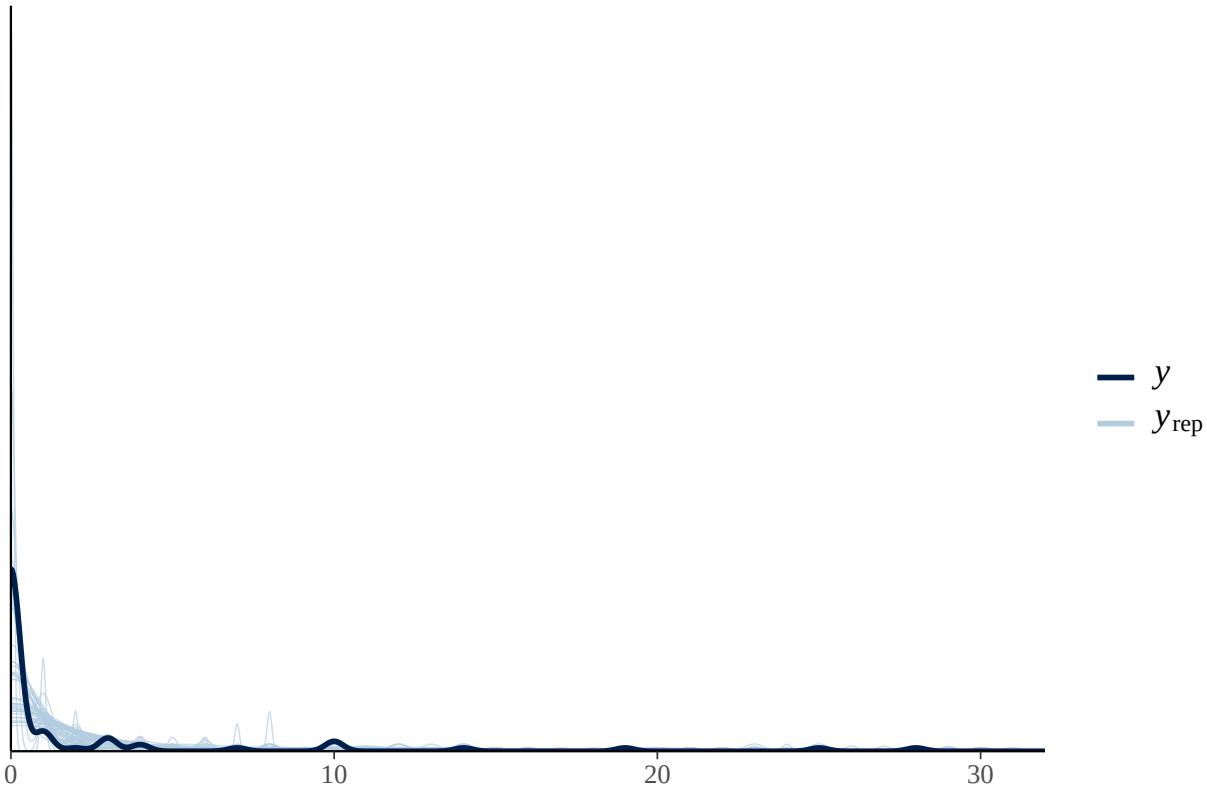
Archaeognatha

```
## [1] "Archaeognatha Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 2.37         1.54
##           Med.s 1.75         1.32
##          yday.s 2.49         1.58
##           Veg.s 2.20         1.48
##          Elev.s 1.64         1.28
##          Moon.s 1.38         1.18
##          Temp.s 2.59         1.61
##            Year 1.33         1.15
##  DayL50.s:Med.s 1.82         1.35
```

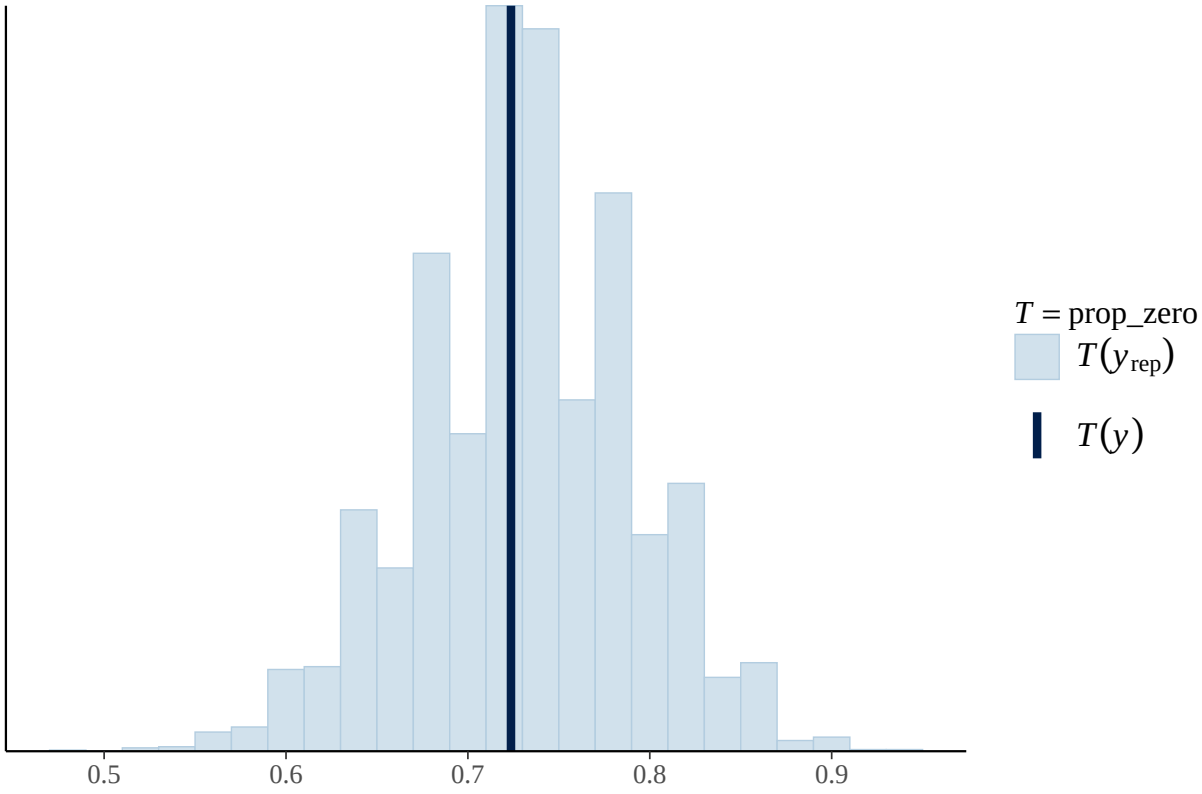
Archaeognatha Pit



Archaeognatha Pit



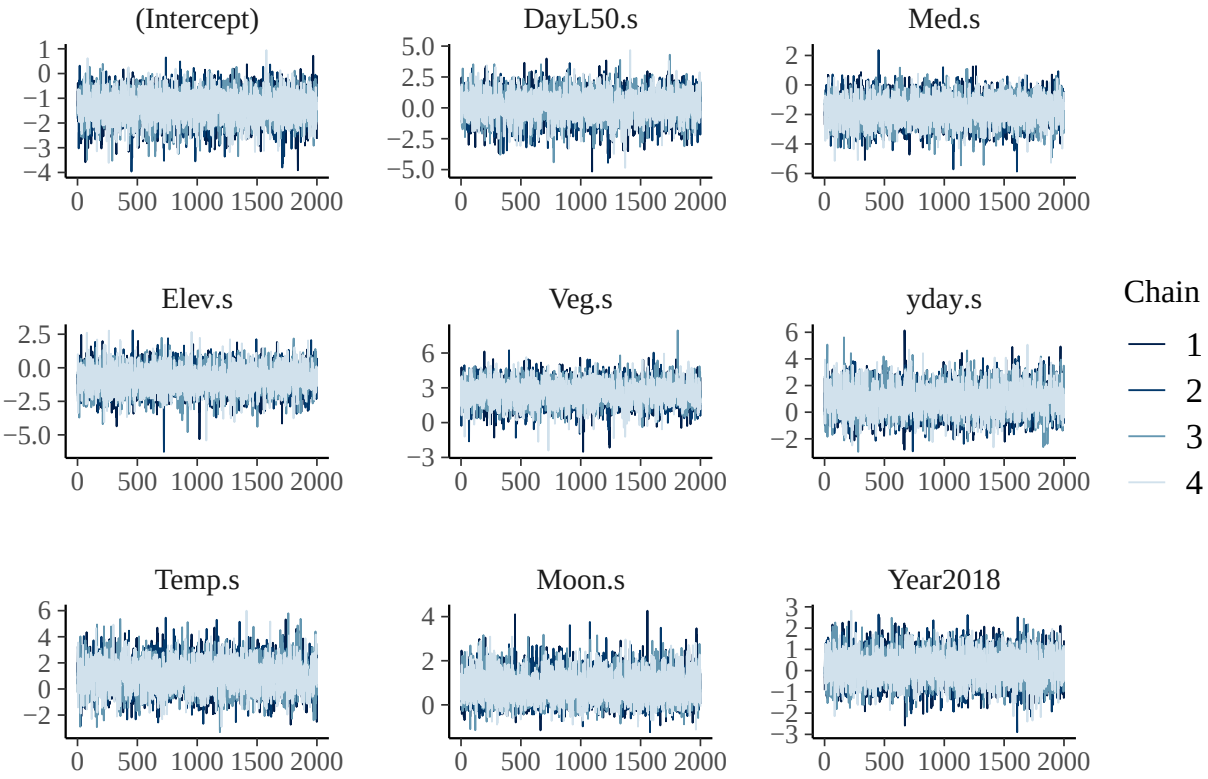
Archaeognatha Pit



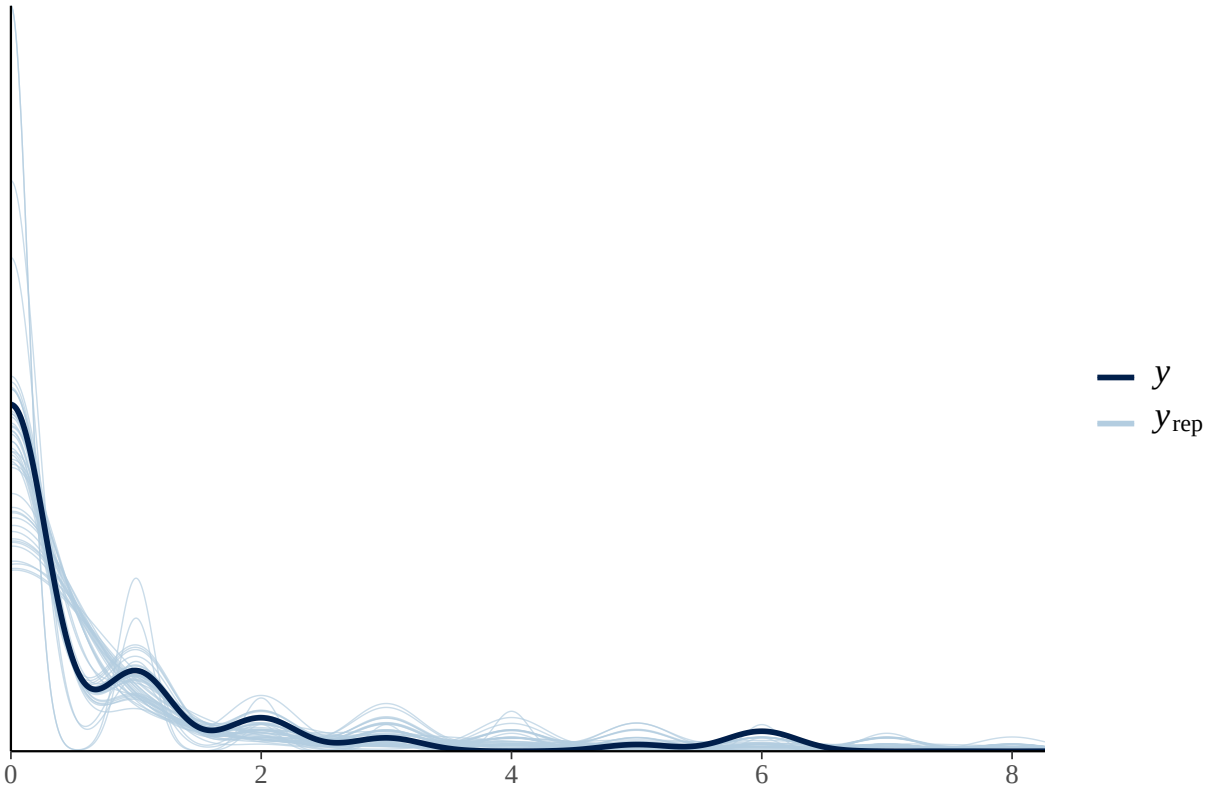
Orthoptera

```
## [1] "Orthoptera Pit"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.95         1.40
##           Med.s 1.93         1.39
##          yday.s 3.00         1.73
##           Veg.s 1.83         1.35
##          Elev.s 1.44         1.20
##          Moon.s 1.30         1.14
##          Temp.s 3.03         1.74
##            Year 1.43         1.20
##  DayL50.s:Med.s 1.62         1.27
```

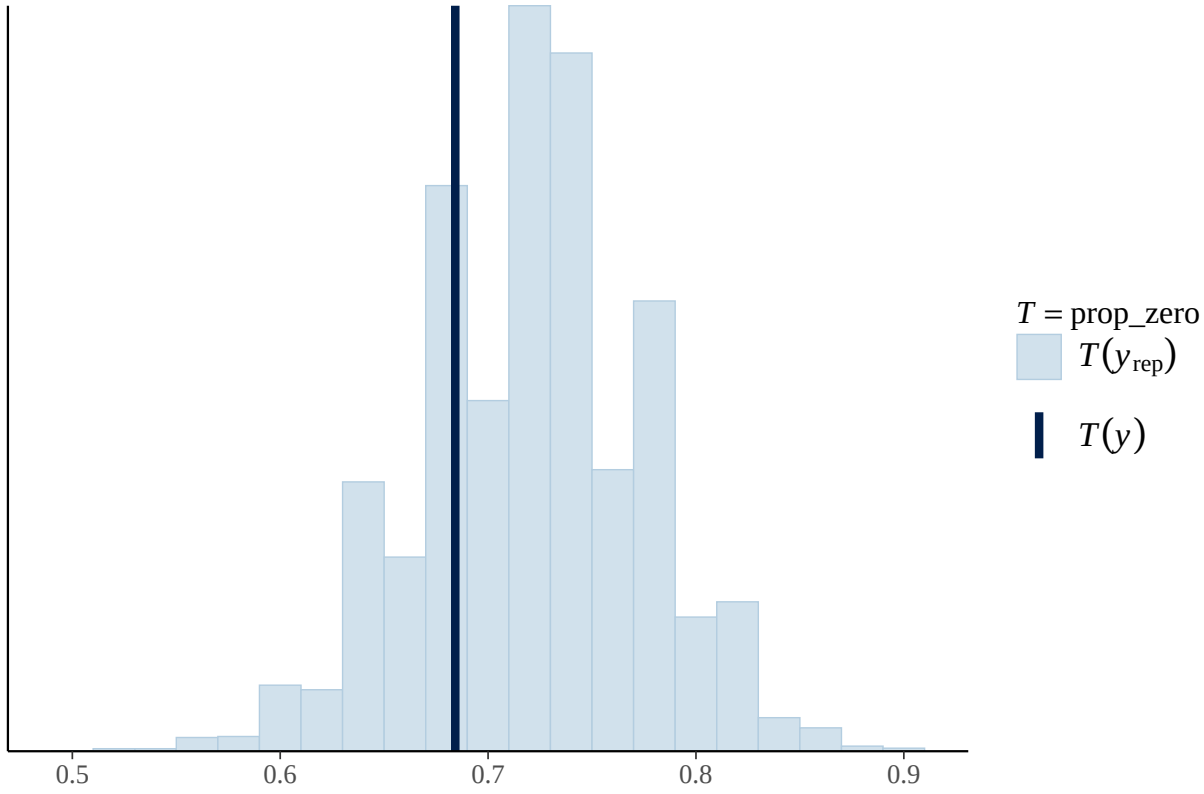
Orthoptera Pit



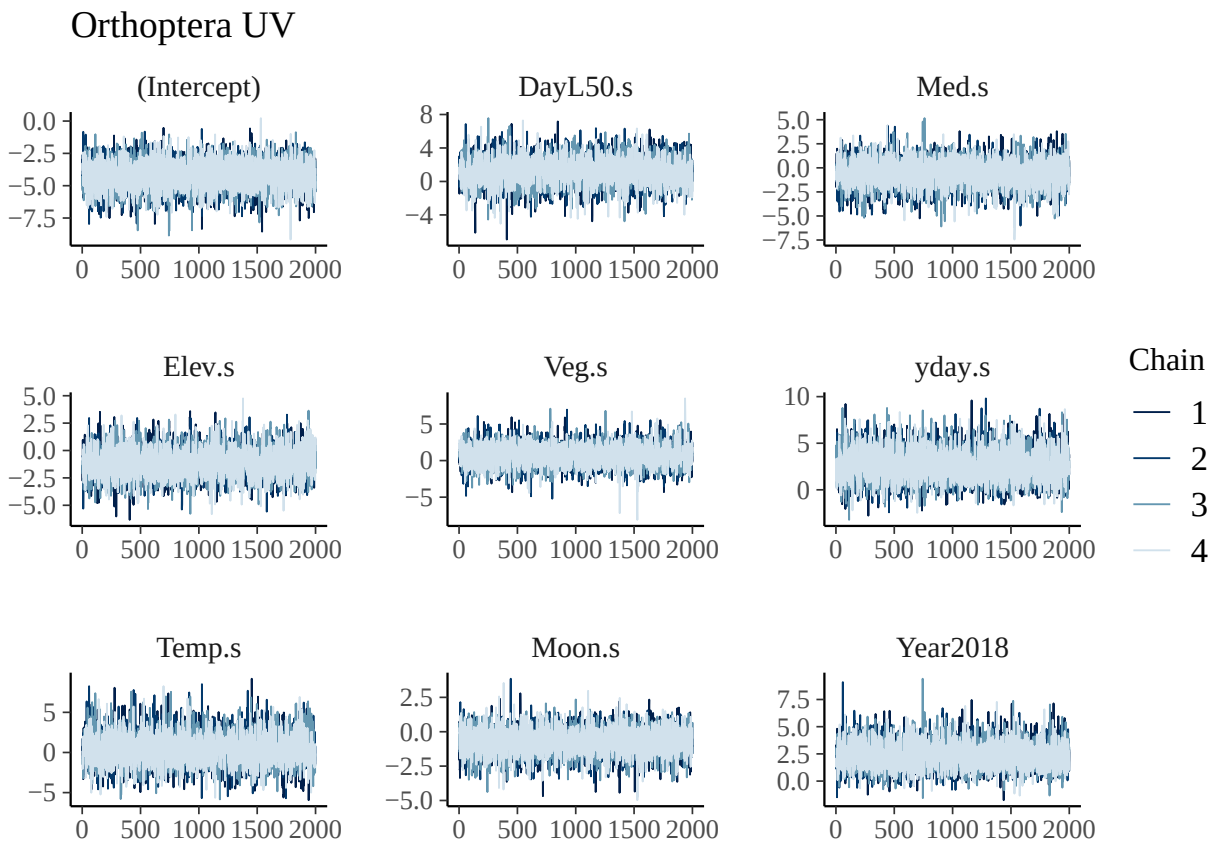
Orthoptera Pit



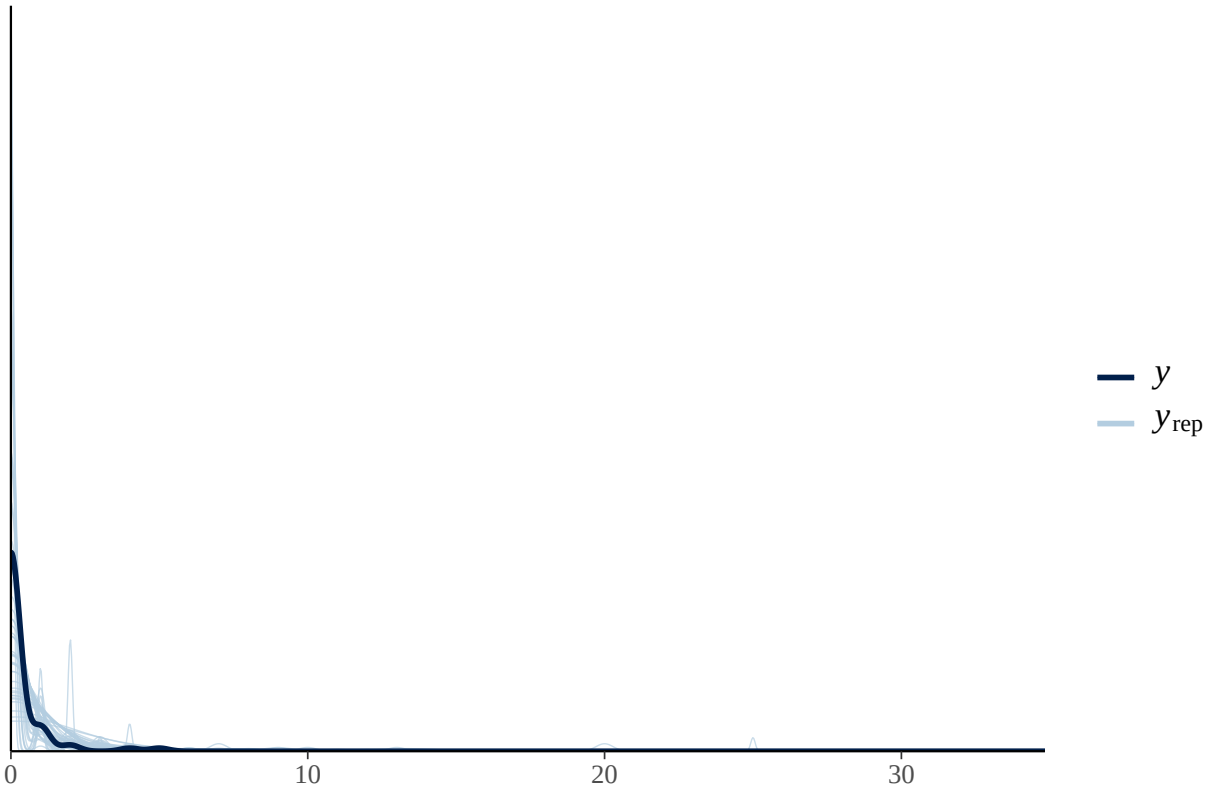
Orthoptera Pit



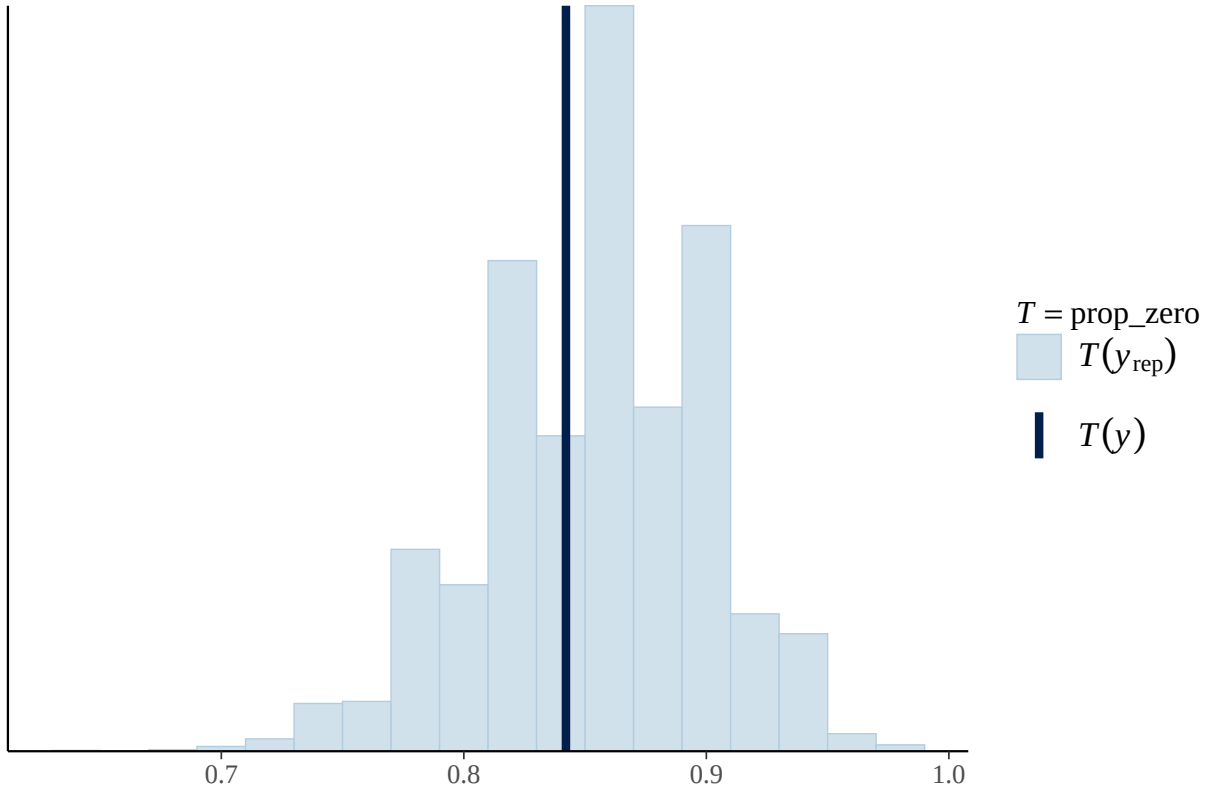

```
## [1] "Orthoptera UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.90         1.38
##           Med.s 1.46         1.21
##          yday.s 2.33         1.53
##           Veg.s 1.60         1.27
##          Elev.s 1.30         1.14
##          Moon.s 1.06         1.03
##          Temp.s 2.47         1.57
##            Year 1.40         1.18
##  DayL50.s:Med.s 1.34         1.16
```


Orthoptera UV
(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

Orthoptera UV

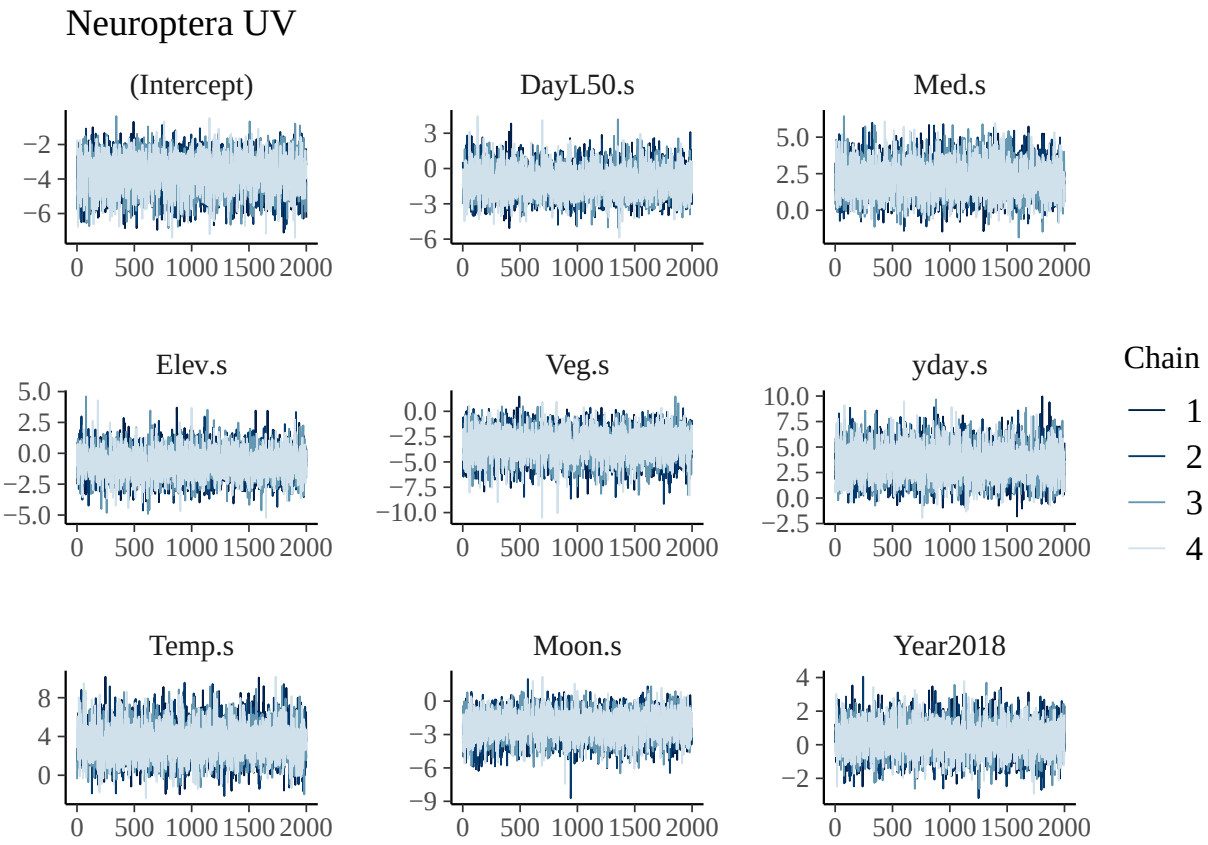


Orthoptera UV

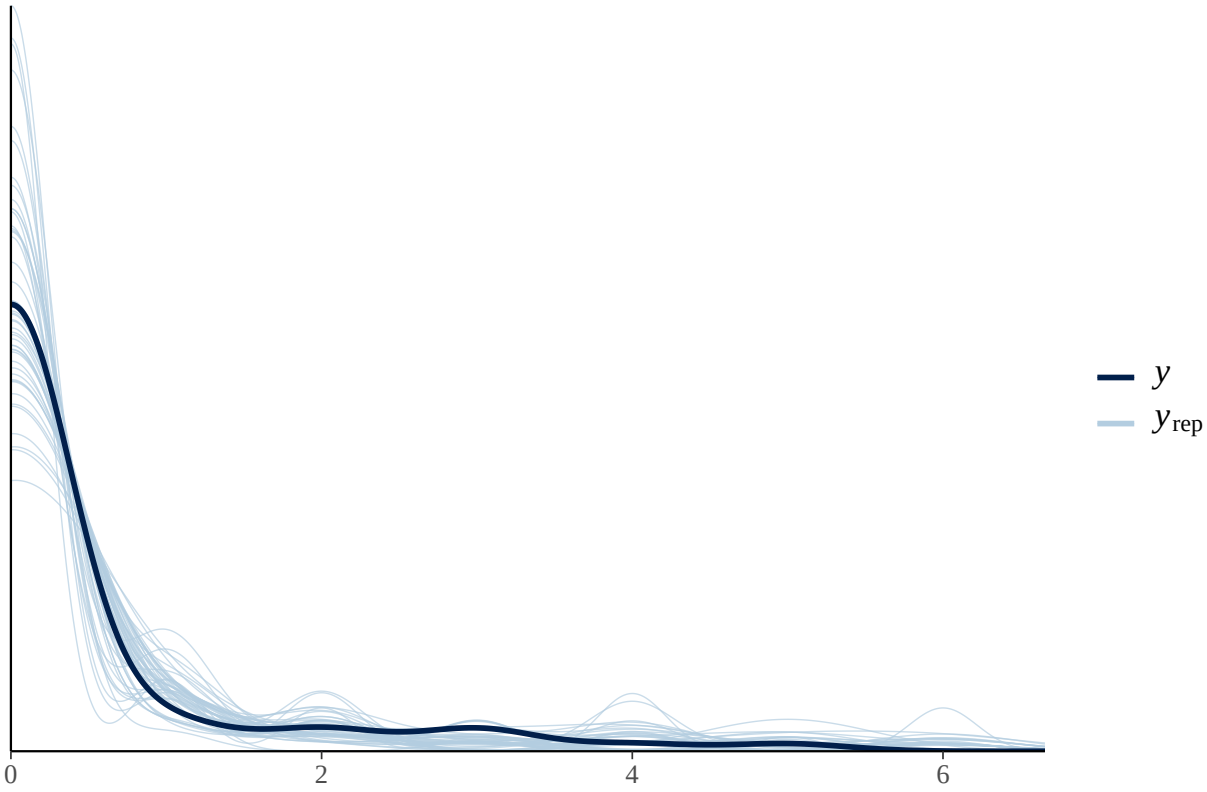


Neuroptera

```
## [1] "Neuroptera UV"
## # Check for Multicollinearity
##
## Low Correlation
##
##       Parameter  VIF Increased SE
##        DayL50.s 1.96         1.40
##           Med.s 2.77         1.66
##          yday.s 1.82         1.35
##           Veg.s 2.20         1.48
##          Elev.s 1.57         1.25
##          Moon.s 2.63         1.62
##          Temp.s 2.06         1.43
##            Year 1.62         1.27
##  DayL50.s:Med.s 1.76         1.33
```


Neuroptera UV
(Intercept)
DayL50.s
Med.s
Elev.s
Veg.s
yday.s
Temp.s
Moon.s
Year2018
Chain
1
2
3
4

Neuroptera UV



Neuroptera UV