FEHILY TIMONEY

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 5.2

Ecobat Analysis Report

Bat Activity Analysis

Site Name: Barnadivane

Author: David Daly

2022-11-17 16:52:45

Summary

The geographic filter was: **Country** The time filter was: **All Data**

Bats were detected on **24** nights between **2022-05-09** and **2022-06-01**, using **5** static bat detectors. Throughout this period **7** species were recorded. **Table 1.** Detectors were placed at the following locations:

latlon	date	Detector ID	Latitude	Longitude
51.8223_-8.9506	12/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	22/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	26/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	14/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	27/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	11/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	21/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	23/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	30/05/2022	BV1	51.8223	-8.9506
51.8217_-8.9572	23/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	13/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	11/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	22/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	25/05/2022	BV2	51.8217	-8.9572
51.8186_-8.955	11/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	13/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	29/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	12/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	23/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	30/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	22/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	14/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	20/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	27/05/2022	BV3	51.8186	-8.9550
51.8166_-8.9607	29/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	28/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	12/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	19/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	24/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	27/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	30/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	26/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	25/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	15/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	18/05/2022	BV4	51.8166	-8.9607

latlon	date	Detector ID	Latitude	Longitude
51.8166_-8.9607	13/05/2022	BV4	51.8166	-8.9607
51.8135_-8.9626	19/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	18/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	25/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	13/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	22/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	30/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	23/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	27/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	26/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	12/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	21/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	28/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	24/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	15/05/2022	BV5	51.8135	-8.9626
51.8223_-8.9506	15/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	13/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	29/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	28/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	10/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	19/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	09/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	20/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	18/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	25/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	17/05/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	24/05/2022	BV1	51.8223	-8.9506
51.8217_-8.9572	15/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	14/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	26/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	30/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	29/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	24/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	20/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	28/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	21/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	09/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	27/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	10/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	19/05/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	12/05/2022	BV2	51.8217	-8.9572
51.8186_-8.955	15/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	21/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	28/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	25/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	26/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	19/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	17/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	09/05/2022	BV3	51.8186	-8.9550
51.8186_-8.955	24/05/2022	BV3	51.8186	-8.9550
51.8166_-8.9607	14/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	11/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	21/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	20/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	23/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	09/05/2022	BV4	51.8166	-8.9607
51.8135_-8.9626	14/05/2022	BV5	51.8135	-8.9626

latlon	date	Detector ID	Latitude	Longitude
51.8135_-8.9626	29/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	11/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	10/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	20/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	16/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	01/06/2022	BV5	51.8135	-8.9626
51.8217_-8.9572	16/05/2022	BV2	51.8217	-8.9572
51.8186_-8.955	18/05/2022	BV3	51.8186	-8.9550
51.8166_-8.9607	22/05/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	10/05/2022	BV4	51.8166	-8.9607
51.8135_-8.9626	17/05/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	09/05/2022	BV5	51.8135	-8.9626
51.8166_-8.9607	16/05/2022	BV4	51.8166	-8.9607

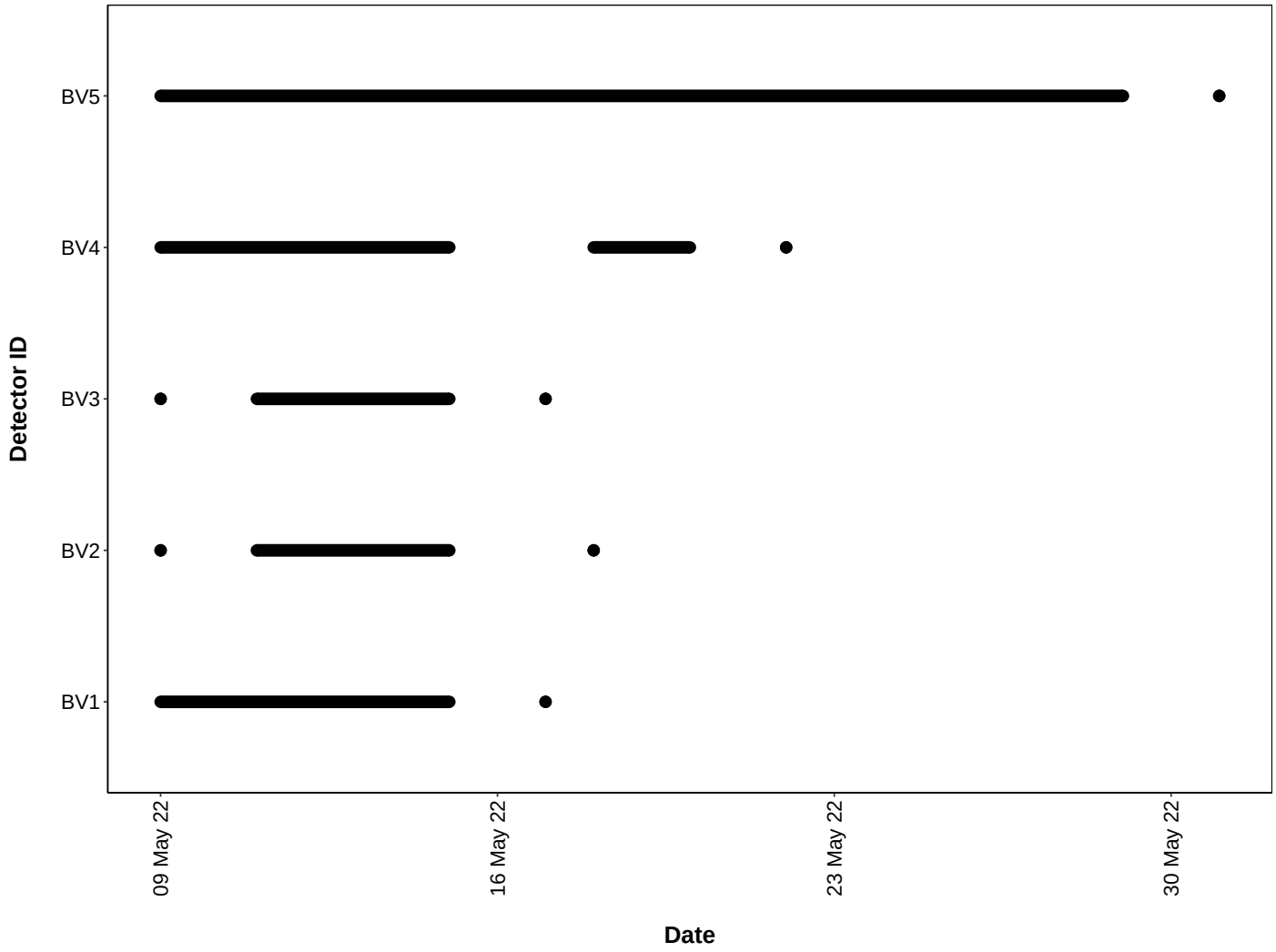
Survey Nights

Table 2. The number of nights that bats were detected on each recorder. This is not the same as the number of nights that detectors were active if there were nights when no bats were detected.

Detector ID	No. of nights
BV1	20
BV2	18
BV3	20
BV4	18
BV5	23

Survey Nights

Figure 1. Horizontal bars show nights when acoustic detectors recorded bats.



PART 1: Percentiles Analysis

This first part of the analysis looks at the relative activity levels of the bats you recorded. We take your value for the total bat passes each night for each species, and compare this to the values in our reference database. We tell you what percentile your data falls at, and therefore what the relative activity level is. For example, if the reference database has values of 5, 10, 15, 20 and you submit a value of 18, this will be the 80th percentile, and be classed as high activity.

The reference range dataset was stratified to include:

PER DETECTOR

Table 3. Summary table showing the number of nights recorded bat activity fell into each activity band for each species.

Detector ID	Species/Species Group	Night.exclu	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV1	*Myotis daubentonii*	0	0	0	0	0	8
BV1	*Nyctalus leisleri*	2	2	0	0	0	16
BV1	*Pipistrellus nathusii*	0	0	0	0	0	2
BV1	*Pipistrellus pipistrellus*	0	0	0	0	0	18
BV1	*Pipistrellus pygmaeus*	0	0	0	0	0	10
BV2	*Myotis daubentonii*	0	0	0	0	0	4
BV2	*Myotis mystacinus*	0	0	0	0	0	1
BV2	*Myotis nattereri*	0	0	0	0	0	1
BV2	*Nyctalus leisleri*	0	0	0	0	2	14
BV2	*Pipistrellus nathusii*	0	0	0	0	1	5
BV2	*Pipistrellus pipistrellus*	0	0	0	0	0	17
BV2	*Pipistrellus pygmaeus*	0	0	0	0	0	9
BV3	*Myotis daubentonii*	0	0	0	0	0	9
BV3	*Myotis mystacinus*	0	0	0	0	0	2
BV3	*Myotis nattereri*	0	0	0	0	0	2
BV3	*Nyctalus leisleri*	0	0	2	0	1	14
BV3	*Pipistrellus nathusii*	0	0	0	1	0	8
BV3	*Pipistrellus pipistrellus*	0	0	0	0	0	17
BV3	*Pipistrellus pygmaeus*	0	0	0	0	0	11
BV4	*Myotis daubentonii*	0	0	0	0	0	10
BV4	*Myotis mystacinus*	0	0	0	0	0	2
BV4	*Myotis nattereri*	0	0	0	0	2	7
BV4	*Nyctalus leisleri*	0	0	0	0	0	17
BV4	*Pipistrellus nathusii*	0	0	0	2	1	3
BV4	*Pipistrellus pipistrellus*	0	0	0	0	0	17

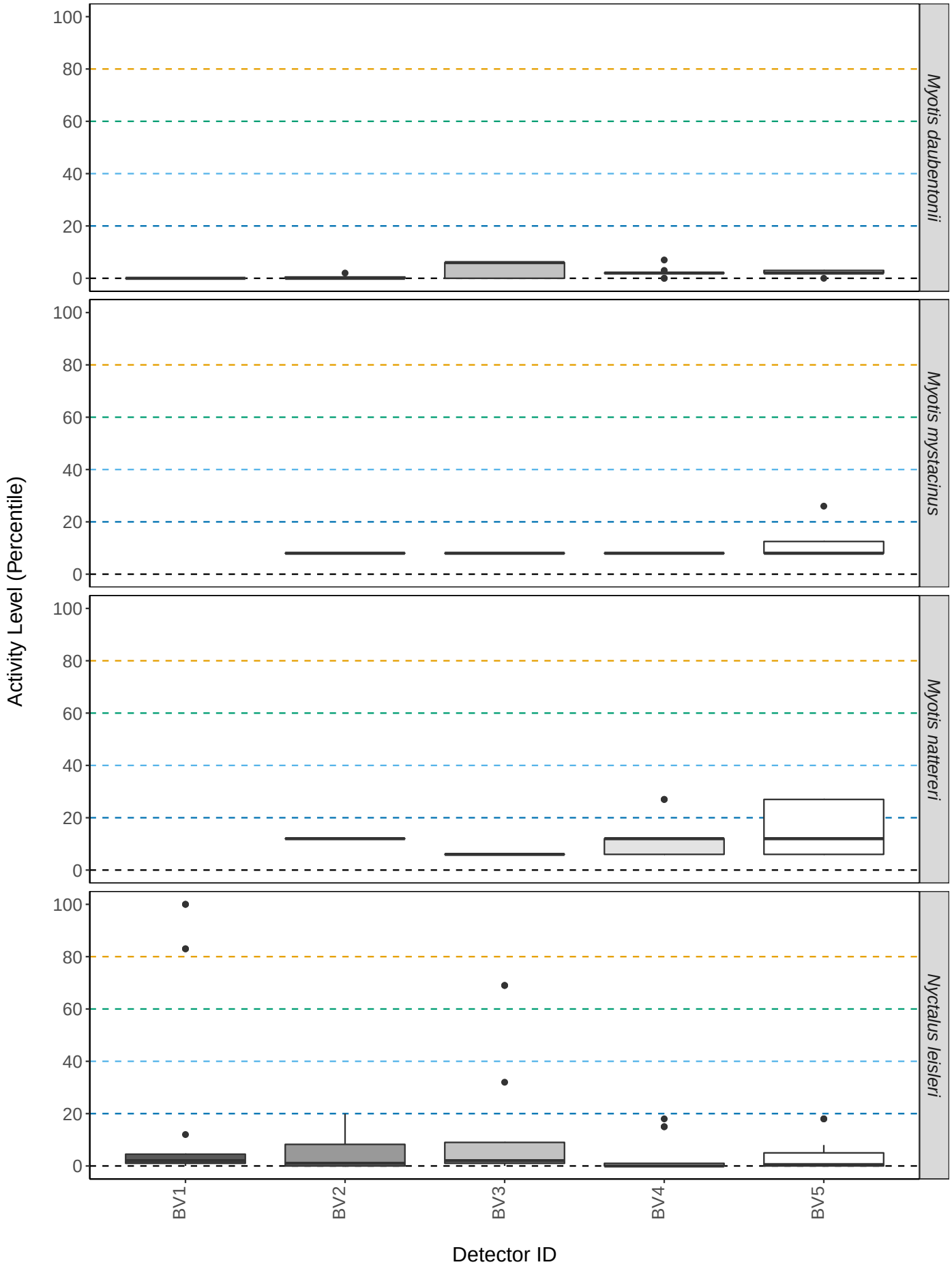
Detector ID	Species/Species Group	Night.exclip	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV4	*Pipistrellus pygmaeus*	0	0	0	0	0	13
BV5	*Myotis daubentonii*	0	0	0	0	0	14
BV5	*Myotis mystacinus*	0	0	0	0	1	3
BV5	*Myotis nattereri*	0	0	0	0	3	5
BV5	*Nyctalus leisleri*	0	0	0	0	0	18
BV5	*Pipistrellus nathusii*	0	0	0	1	1	7
BV5	*Pipistrellus pipistrellus*	0	0	0	0	0	19
BV5	*Pipistrellus pygmaeus*	0	0	0	0	0	15

Table 4. Summary table showing key metrics for each species recorded. The reference range is the number of nights for each species that your data were compared to. We recommend a Reference Range of 200+ to be confident in the relative activity level.

Detector ID	Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded	Reference Range
BV1	*Myotis daubentonii*	0	0 - 0	0	8	3319
BV1	*Nyctalus leisleri*	2	1.5 - 50.5	100	20	28602
BV1	*Pipistrellus nathusii*	9	9 - 9	9	2	453
BV1	*Pipistrellus pipistrellus*	0	0 - 0	0	18	194790
BV1	*Pipistrellus pygmaeus*	0	0 - 0	0	10	82592
BV2	*Myotis daubentonii*	0	0 - 0	2	4	3319
BV2	*Myotis mystacinus*	8	0	8	1	144
BV2	*Myotis nattereri*	12	0	12	1	296
BV2	*Nyctalus leisleri*	1	1 - 19	20	16	28602
BV2	*Pipistrellus nathusii*	9	9 - 19	33	6	453
BV2	*Pipistrellus pipistrellus*	0	0 - 0	1	17	194790
BV2	*Pipistrellus pygmaeus*	0	0 - 0	0	9	82592
BV3	*Myotis daubentonii*	6	6 - 6	6	9	3319
BV3	*Myotis mystacinus*	8	8 - 8	8	2	144
BV3	*Myotis nattereri*	6	6 - 6	6	2	296
BV3	*Nyctalus leisleri*	2	2 - 35.5	69	17	28602
BV3	*Pipistrellus nathusii*	9	9 - 14	54	9	453
BV3	*Pipistrellus pipistrellus*	0	0 - 0	2	17	194790
BV3	*Pipistrellus pygmaeus*	0	0 - 0	0	11	82592
BV4	*Myotis daubentonii*	2	2 - 2.5	7	10	3319
BV4	*Myotis mystacinus*	8	8 - 8	8	2	144
BV4	*Myotis nattereri*	12	6 - 19.5	27	9	296
BV4	*Nyctalus leisleri*	0	1 - 9.5	18	17	28602
BV4	*Pipistrellus nathusii*	21	9 - 42.5	52	6	453
BV4	*Pipistrellus pipistrellus*	0	0 - 0	1	17	194790
BV4	*Pipistrellus pygmaeus*	0	0 - 0	0	13	82592
BV5	*Myotis daubentonii*	2	2 - 3	3	14	3319
BV5	*Myotis mystacinus*	8	8 - 8	26	4	144
BV5	*Myotis nattereri*	12	6 - 27	27	8	296
BV5	*Nyctalus leisleri*	1	2 - 13	18	18	28602
BV5	*Pipistrellus nathusii*	19	9 - 28.5	48	9	453
BV5	*Pipistrellus pipistrellus*	0	1 - 1.5	2	19	194790
BV5	*Pipistrellus pygmaeus*	0	0 - 0	0	15	82592

Figures

Figure 2. The recorded activity of bats during the survey. The centre line indicates the median activity level whereas the box represents the interquartile range (the spread of the middle 50% of nights of activity)


Activity Level (Percentile)
100
80
60
40
20
0
Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus leisleri
BV1
BV2
BV3
BV4
BV5
Detector ID

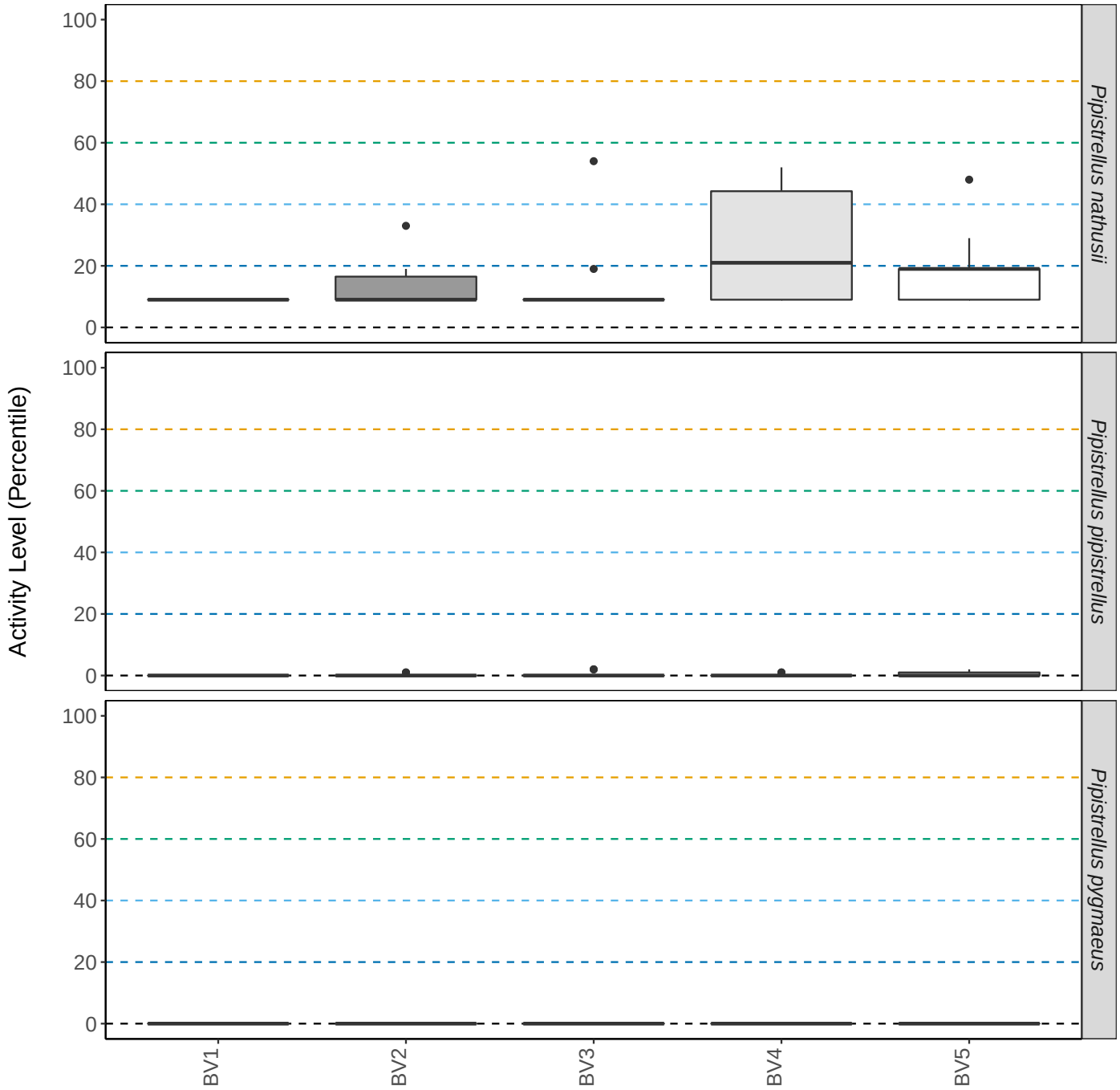
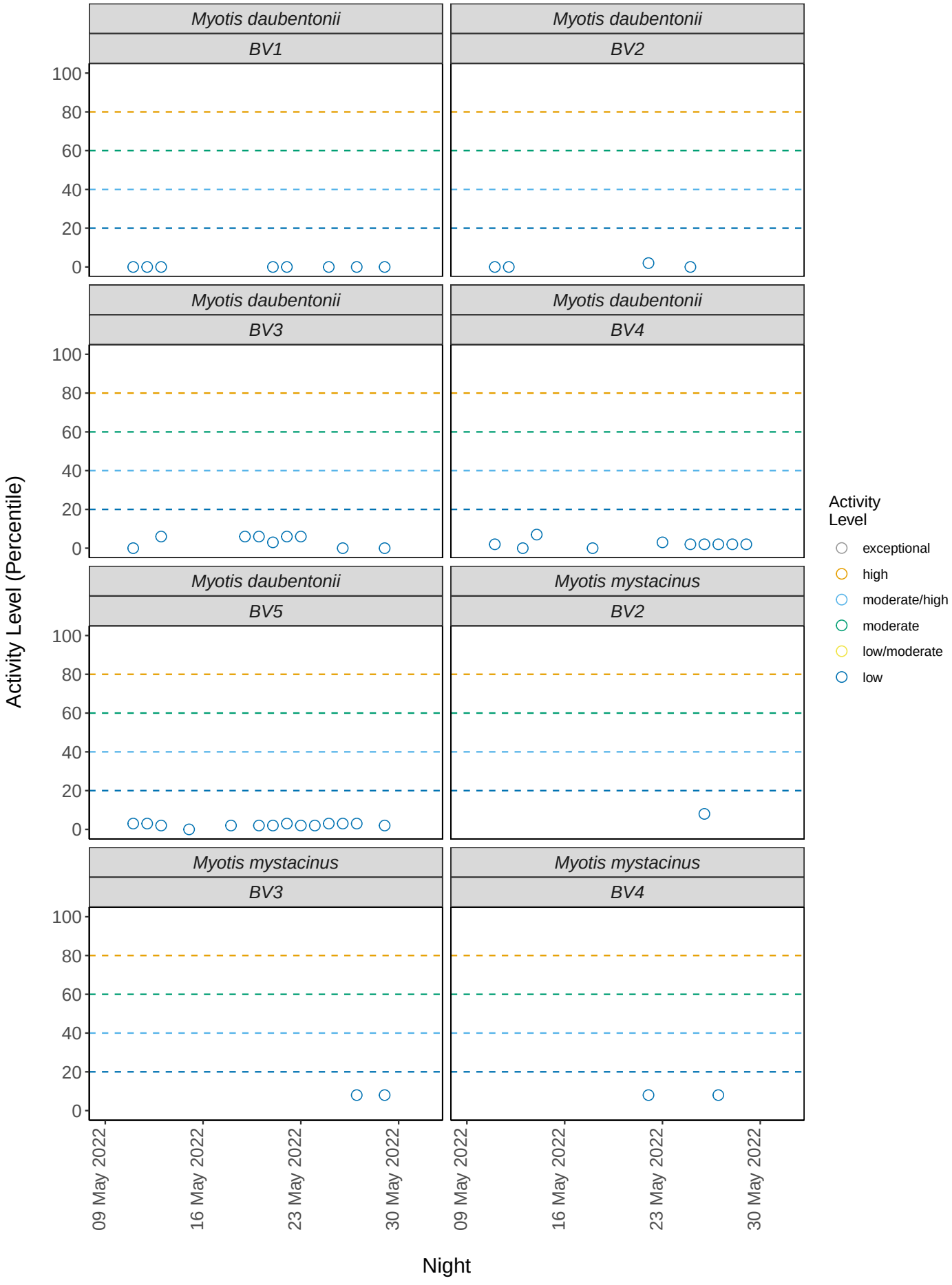
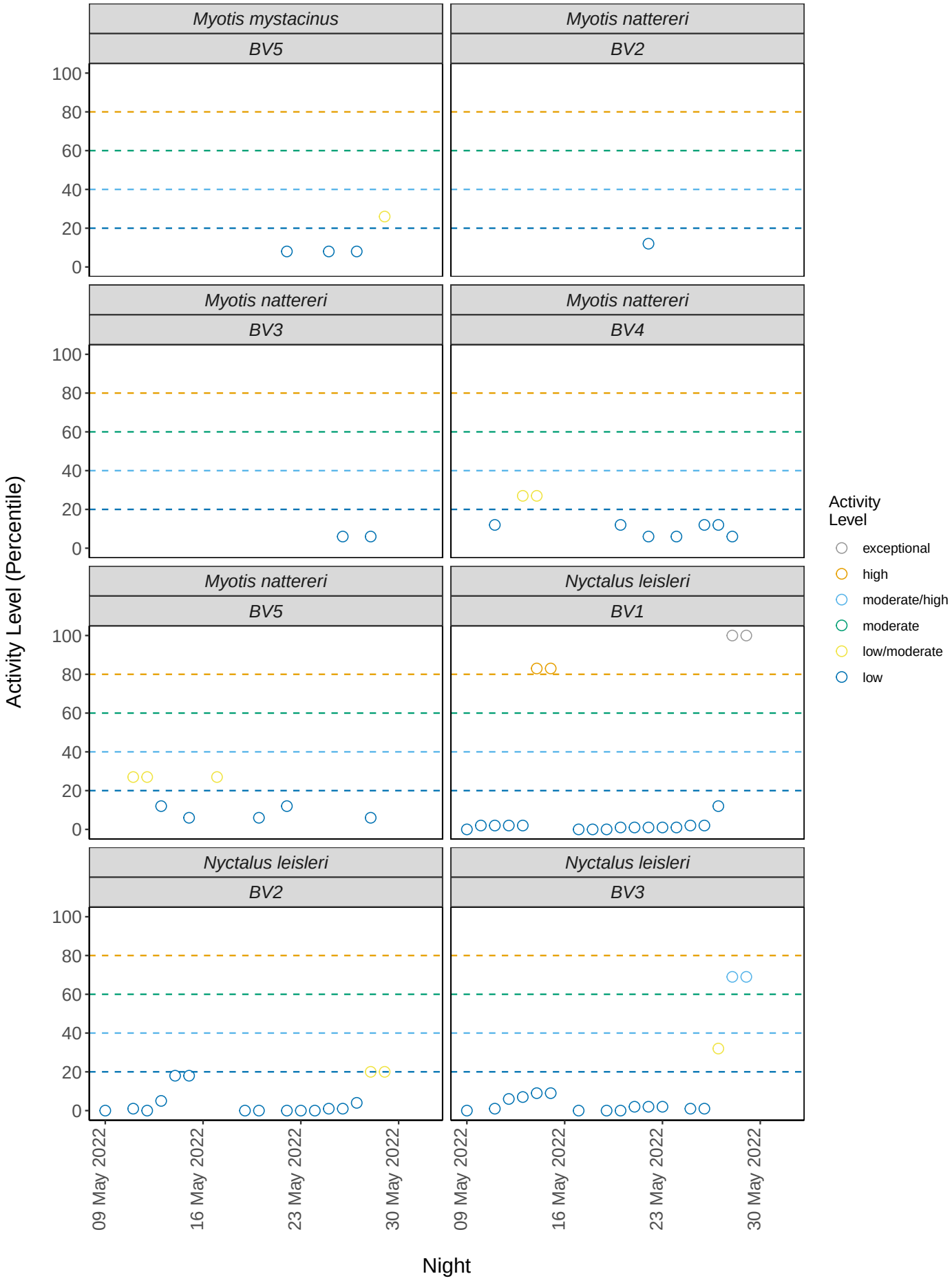
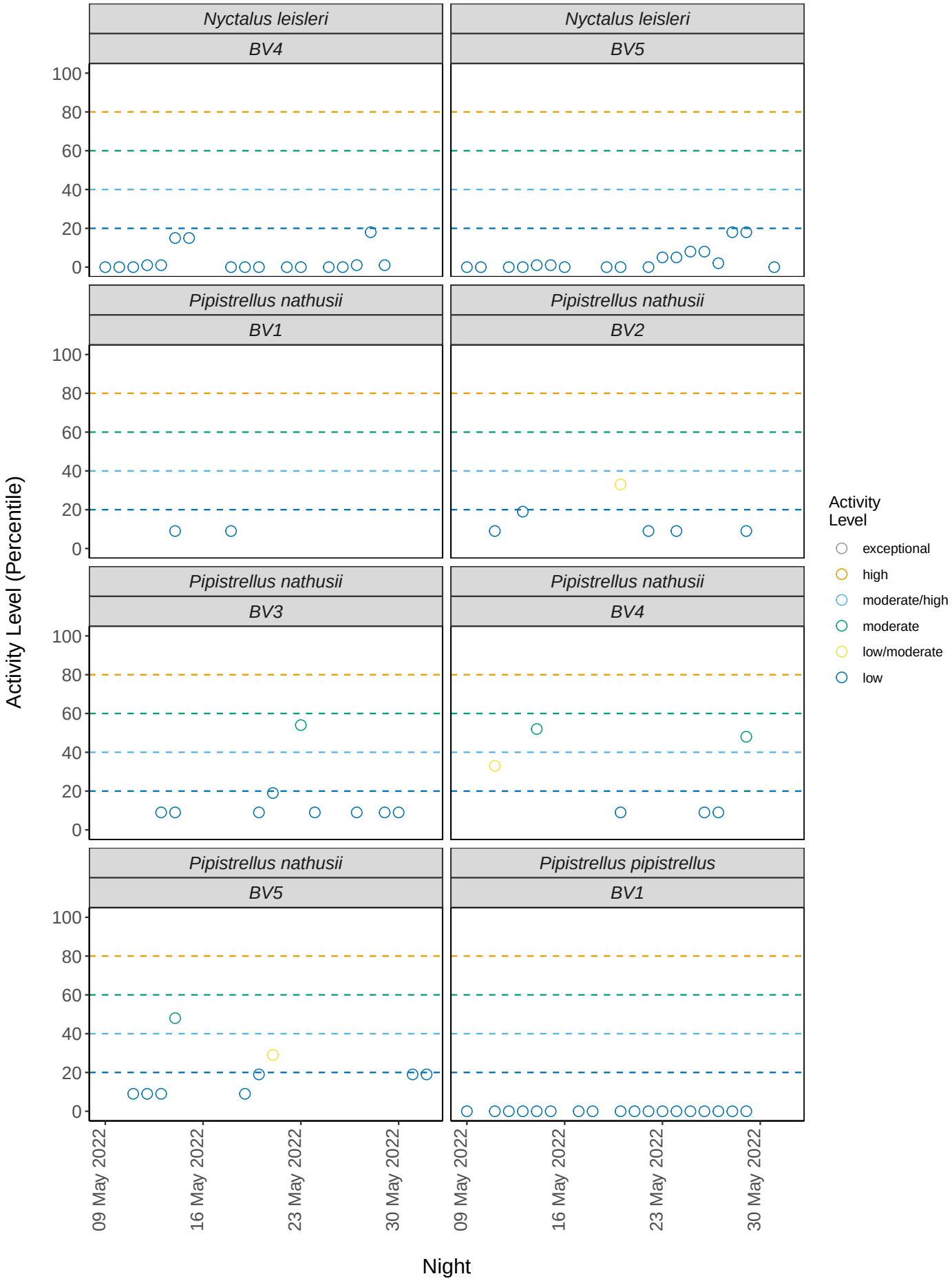
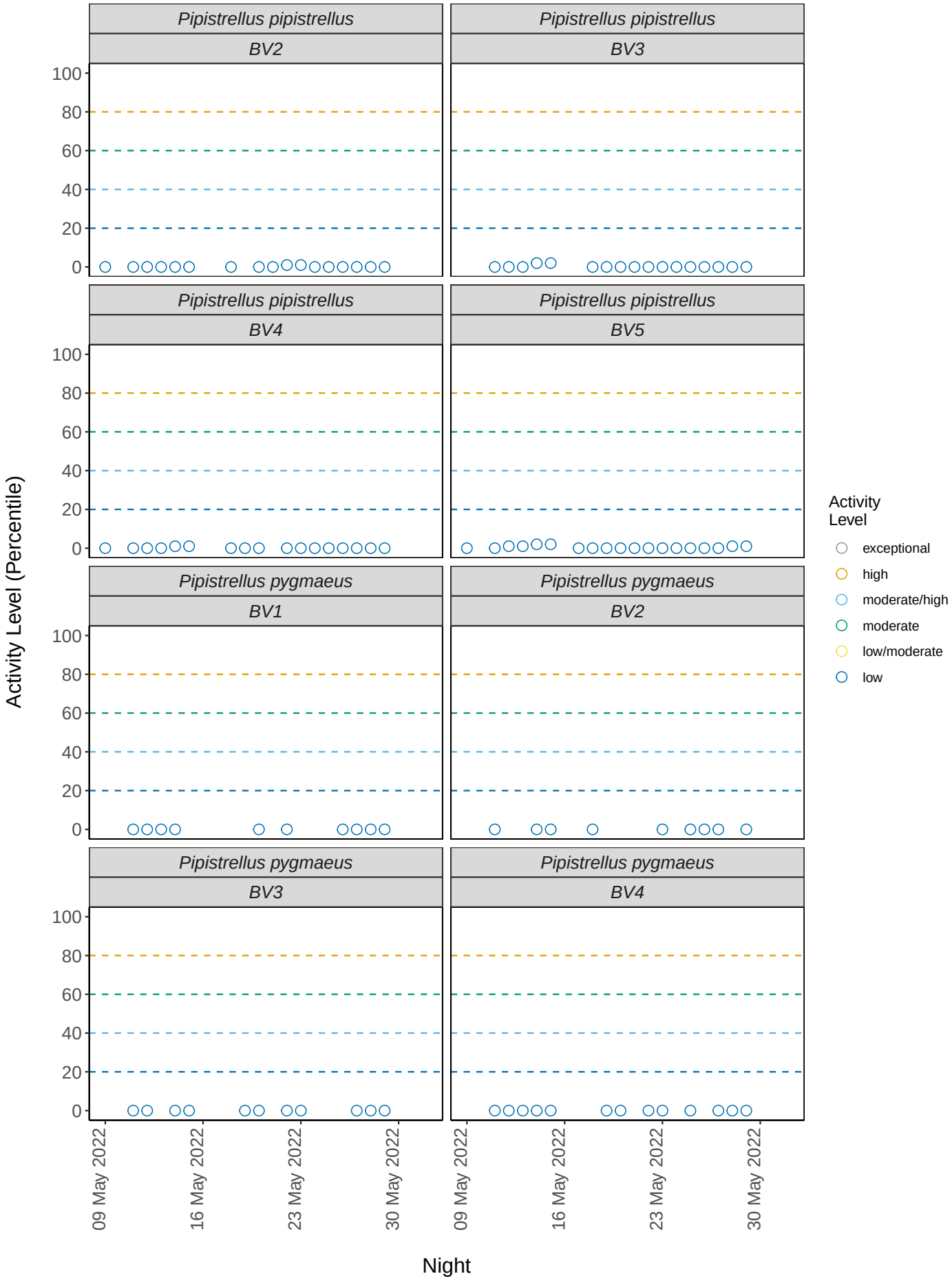

Activity Level (Percentile)
100
80
60
40
20
0
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
BV1
BV2
BV3
BV4
BV5
Detector ID

Figure 3. The activity level (percentile) of bats recorded across each night of the bat survey.


Myotis daubentonii
BV1
Myotis daubentonii
BV2
Myotis daubentonii
BV3
Myotis daubentonii
BV4
Myotis daubentonii
BV5
Myotis mystacinus
BV2
Myotis mystacinus
BV3
Myotis mystacinus
BV4
Activity Level (Percentile)
0
20
40
60
80
100
09 May 2022
16 May 2022
23 May 2022
30 May 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Myotis mystacinus
BV5
Myotis nattereri
BV2
Myotis nattereri
BV3
Myotis nattereri
BV4
Myotis nattereri
BV5
Nyctalus leisleri
BV1
Nyctalus leisleri
BV2
Nyctalus leisleri
BV3
Activity Level (Percentile)
0
20
40
60
80
100
09 May 2022
16 May 2022
23 May 2022
30 May 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Nyctalus leisleri
BV4
Nyctalus leisleri
BV5
Pipistrellus nathusii
BV1
Pipistrellus nathusii
BV2
Pipistrellus nathusii
BV3
Pipistrellus nathusii
BV4
Pipistrellus nathusii
BV5
Pipistrellus pipistrellus
BV1
Activity Level (Percentile)
0
20
40
60
80
100
09 May 2022
16 May 2022
23 May 2022
30 May 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Pipistrellus pipistrellus
BV2
Pipistrellus pipistrellus
BV3
Pipistrellus pipistrellus
BV4
Pipistrellus pipistrellus
BV5
Pipistrellus pygmaeus
BV1
Pipistrellus pygmaeus
BV2
Pipistrellus pygmaeus
BV3
Pipistrellus pygmaeus
BV4
Activity Level (Percentile)
100
80
60
40
20
0
09 May 2022
16 May 2022
23 May 2022
30 May 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

PER DETECTOR, PER MONTH

Table 5. Summary table showing the number of nights recorded bat activity fell into each activity band for each species at each detector during each month.

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV1	*Myotis daubentonii*	May	0	0	0	0	0	8
BV1	*Nyctalus leisleri*	May	2	2	0	0	0	16
BV1	*Pipistrellus nathusii*	May	0	0	0	0	0	2
BV1	*Pipistrellus pipistrellus*	May	0	0	0	0	0	18
BV1	*Pipistrellus pygmaeus*	May	0	0	0	0	0	10
BV2	*Myotis daubentonii*	May	0	0	0	0	0	4
BV2	*Myotis mystacinus*	May	0	0	0	0	0	1
BV2	*Myotis nattereri*	May	0	0	0	0	0	1
BV2	*Nyctalus leisleri*	May	0	0	0	0	2	14
BV2	*Pipistrellus nathusii*	May	0	0	0	0	1	5
BV2	*Pipistrellus pipistrellus*	May	0	0	0	0	0	17
BV2	*Pipistrellus pygmaeus*	May	0	0	0	0	0	9
BV3	*Myotis daubentonii*	May	0	0	0	0	0	9
BV3	*Myotis mystacinus*	May	0	0	0	0	0	2
BV3	*Myotis nattereri*	May	0	0	0	0	0	2
BV3	*Nyctalus leisleri*	May	0	0	2	0	1	14
BV3	*Pipistrellus nathusii*	May	0	0	0	1	0	8
BV3	*Pipistrellus pipistrellus*	May	0	0	0	0	0	17
BV3	*Pipistrellus pygmaeus*	May	0	0	0	0	0	11
BV4	*Myotis daubentonii*	May	0	0	0	0	0	10
BV4	*Myotis mystacinus*	May	0	0	0	0	0	2
BV4	*Myotis nattereri*	May	0	0	0	0	2	7
BV4	*Nyctalus leisleri*	May	0	0	0	0	0	17
BV4	*Pipistrellus nathusii*	May	0	0	0	2	1	3
BV4	*Pipistrellus pipistrellus*	May	0	0	0	0	0	17

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV4	*Pipistrellus pygmaeus*	May	0	0	0	0	0	13
BV5	*Myotis daubentonii*	May	0	0	0	0	0	14
BV5	*Myotis mystacinus*	May	0	0	0	0	1	3
BV5	*Myotis nattereri*	May	0	0	0	0	3	5
BV5	*Nyctalus leisleri*	May	0	0	0	0	0	18
BV5	*Pipistrellus nathusii*	May	0	0	0	1	1	6
BV5	*Pipistrellus nathusii*	Jun	0	0	0	0	0	1
BV5	*Pipistrellus pipistrellus*	May	0	0	0	0	0	19
BV5	*Pipistrellus pygmaeus*	May	0	0	0	0	0	15

Table 6. Summary table showing key metrics for each species recorded per month. Please note that we cannot split the reference range by month, hence this column is not shown in this table.

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
BV1	*Myotis daubentonii*	May	0	0 - 0	0	8
BV1	*Nyctalus leisleri*	May	2	1.5 - 50.5	100	20
BV1	*Pipistrellus nathusii*	May	9	9 - 9	9	2
BV1	*Pipistrellus pipistrellus*	May	0	0 - 0	0	18
BV1	*Pipistrellus pygmaeus*	May	0	0 - 0	0	10
BV2	*Myotis daubentonii*	May	0	0 - 0	2	4
BV2	*Myotis mystacinus*	May	8	0	8	1
BV2	*Myotis nattereri*	May	12	0	12	1
BV2	*Nyctalus leisleri*	May	1	1 - 19	20	16
BV2	*Pipistrellus nathusii*	May	9	9 - 19	33	6
BV2	*Pipistrellus pipistrellus*	May	0	0 - 0	1	17
BV2	*Pipistrellus pygmaeus*	May	0	0 - 0	0	9
BV3	*Myotis daubentonii*	May	6	6 - 6	6	9
BV3	*Myotis mystacinus*	May	8	8 - 8	8	2
BV3	*Myotis nattereri*	May	6	6 - 6	6	2
BV3	*Nyctalus leisleri*	May	2	2 - 35.5	69	17
BV3	*Pipistrellus nathusii*	May	9	9 - 14	54	9
BV3	*Pipistrellus pipistrellus*	May	0	0 - 0	2	17
BV3	*Pipistrellus pygmaeus*	May	0	0 - 0	0	11
BV4	*Myotis daubentonii*	May	2	2 - 2.5	7	10
BV4	*Myotis mystacinus*	May	8	8 - 8	8	2
BV4	*Myotis nattereri*	May	12	6 - 19.5	27	9
BV4	*Nyctalus leisleri*	May	0	1 - 9.5	18	17
BV4	*Pipistrellus nathusii*	May	21	9 - 42.5	52	6
BV4	*Pipistrellus pipistrellus*	May	0	0 - 0	1	17
BV4	*Pipistrellus pygmaeus*	May	0	0 - 0	0	13
BV5	*Myotis daubentonii*	May	2	2 - 3	3	14
BV5	*Myotis mystacinus*	May	8	8 - 8	26	4
BV5	*Myotis nattereri*	May	12	6 - 27	27	8
BV5	*Nyctalus leisleri*	May	1	2 - 13	18	18
BV5	*Pipistrellus nathusii*	May	14	9 - 28.5	48	8
BV5	*Pipistrellus nathusii*	Jun	19	9 - 28.5	19	1
BV5	*Pipistrellus pipistrellus*	May	0	1 - 1.5	2	19
BV5	*Pipistrellus pygmaeus*	May	0	0 - 0	0	15

PER SITE

In this 'Per Site' section of the analysis, all values are taken from across all of the detectors to provide site-wide averages/medians.

Table 7. Summary table showing the number of nights recorded bat activity fell into each activity band for each species.

Species/Species Group	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
Myotis daubentonii	0	0	0	0	0	45
Myotis mystacinus	0	0	0	0	1	8
Myotis nattereri	0	0	0	0	5	15
Nyctalus leisleri	2	2	2	0	3	79
Pipistrellus nathusii	0	0	0	4	3	25
Pipistrellus pipistrellus	0	0	0	0	0	88
Pipistrellus pygmaeus	0	0	0	0	0	58

Table 8. Summary table showing key metrics for each species recorded.

Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded
Myotis daubentonii	2	6 - 6	7	45
Myotis mystacinus	8	8 - 8	26	9
Myotis nattereri	12	6 - 6	27	20
Nyctalus leisleri	1	2 - 35.5	100	88
Pipistrellus nathusii	9	9 - 9	54	32
Pipistrellus pipistrellus	0	1 - 1.5	2	88
Pipistrellus pygmaeus	0	0 - 0	0	58

Figures

Figure 4. Texhe activity level (percentile) of bats recorded across each night of the bat survey for the **entire site**.

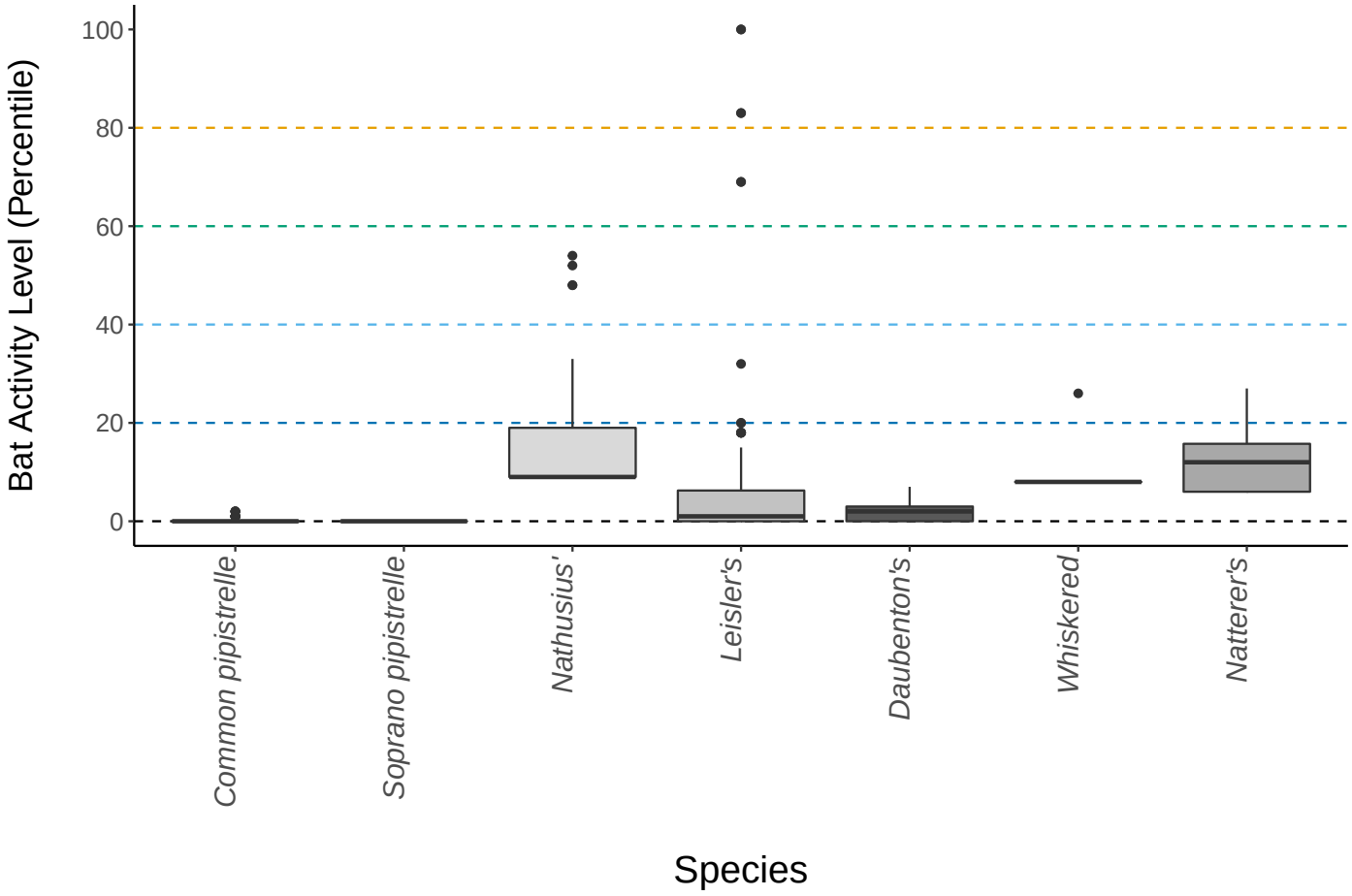
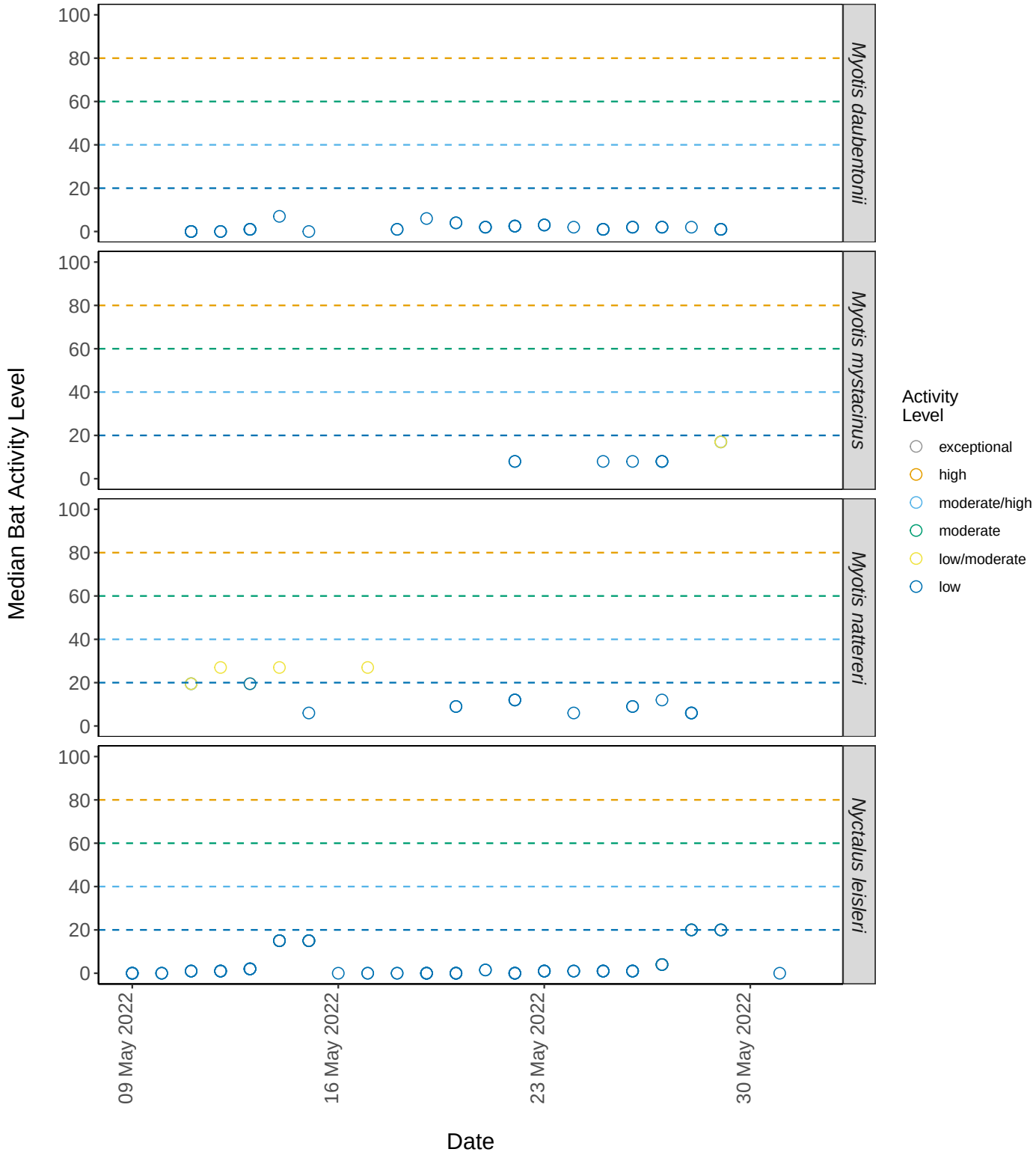
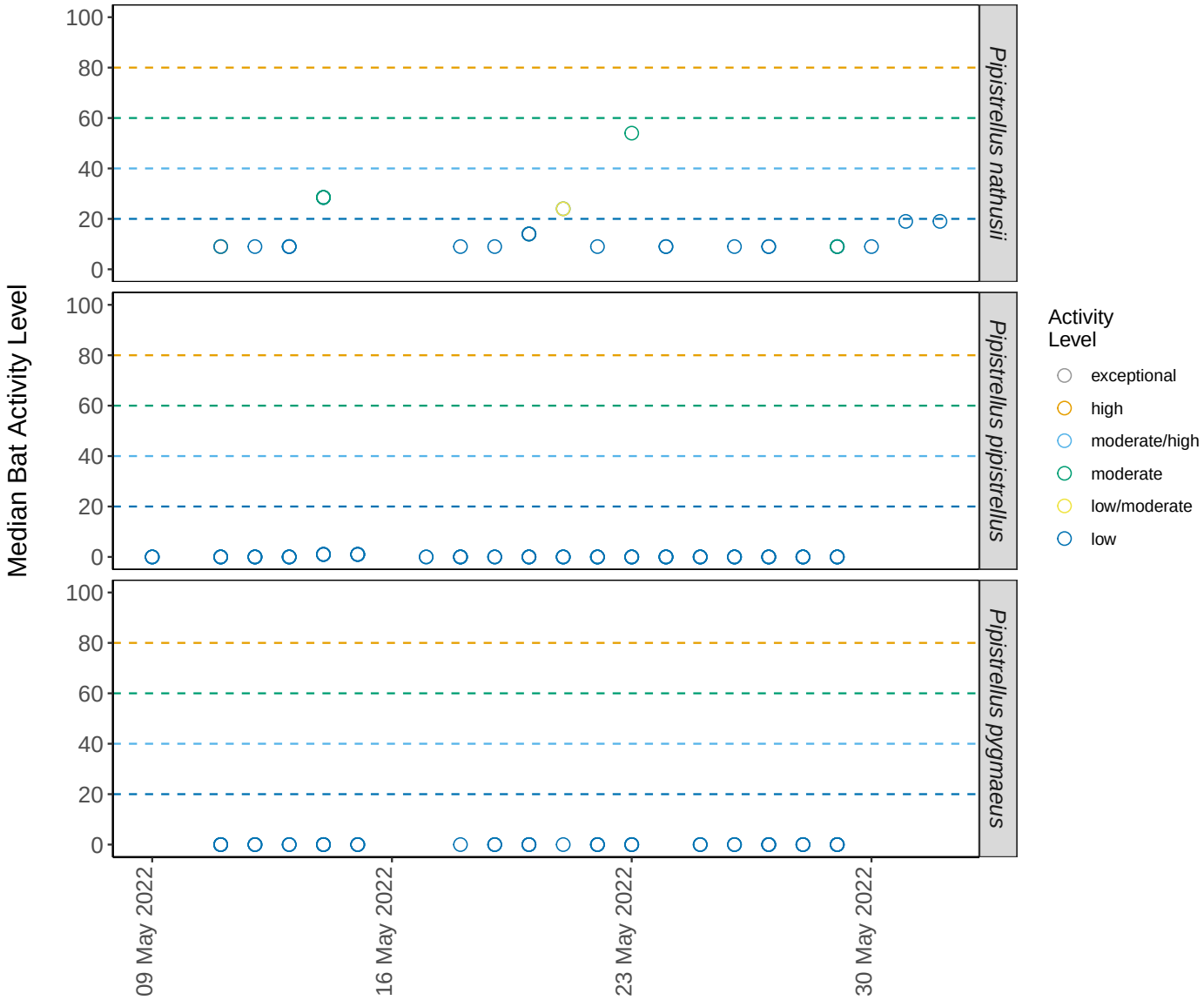


Figure 5. The median activity levels of bats recorded across all detectors each night.




Median Bat Activity Level
100
80
60
40
20
0
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
09 May 2022
16 May 2022
23 May 2022
30 May 2022
Date
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

PER SITE, PER MONTH

Table 9. Summary table showing the number of nights recorded bat activity fell into each activity band for each species during each month.

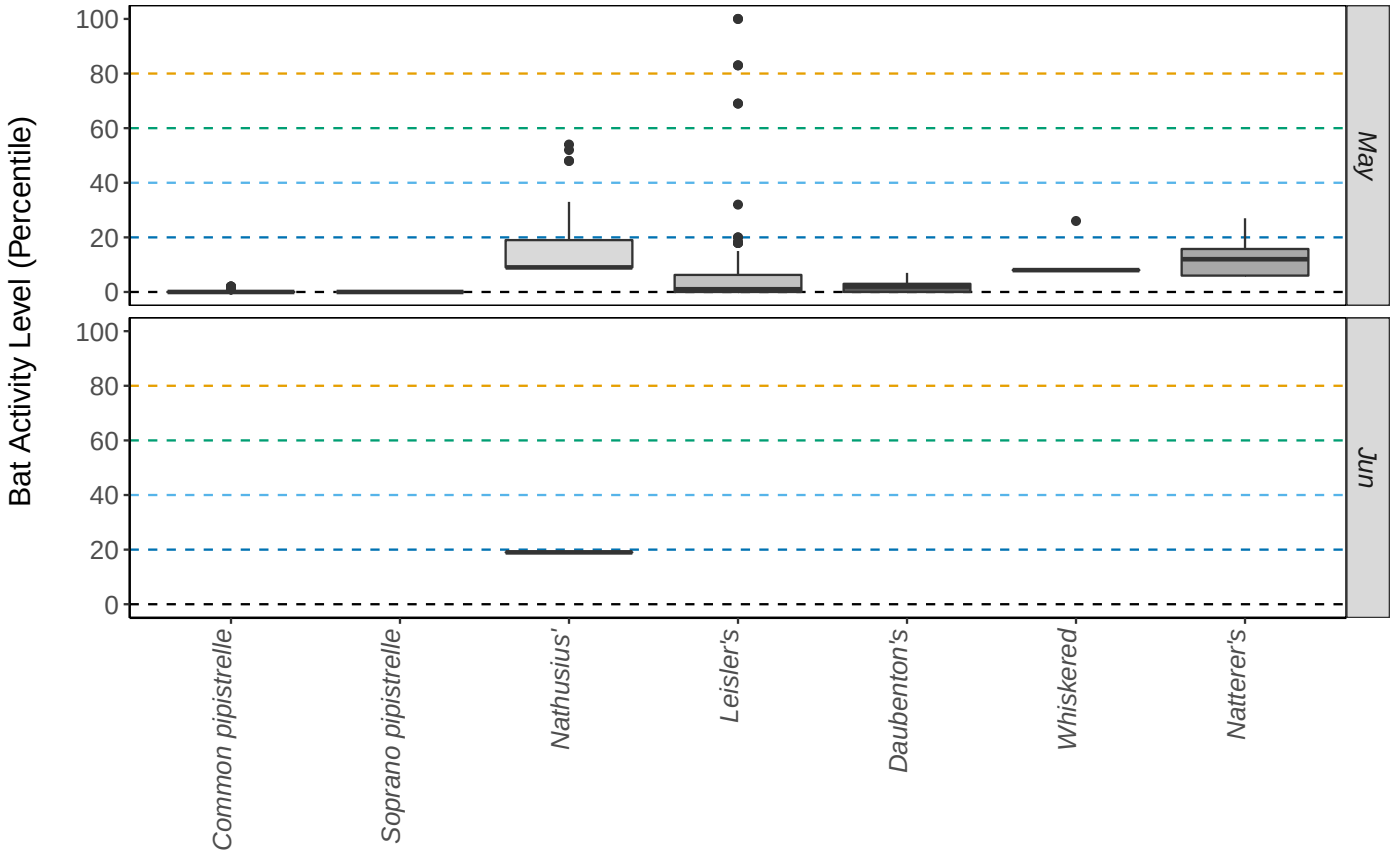
Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
Myotis daubentonii	May	0	0	0	0	0	45
Myotis mystacinus	May	0	0	0	0	1	8
Myotis nattereri	May	0	0	0	0	5	15
Nyctalus leisleri	May	2	2	2	0	3	79
Pipistrellus nathusii	May	0	0	0	4	3	24
Pipistrellus nathusii	Jun	0	0	0	0	0	1
Pipistrellus pipistrellus	May	0	0	0	0	0	88
Pipistrellus pygmaeus	May	0	0	0	0	0	58

Table 10. Summary table showing key metrics for each species recorded per month.

Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
Myotis daubentonii	May	2	6 - 6	7	45
Myotis mystacinus	May	8	8 - 8	26	9
Myotis nattereri	May	12	6 - 6	27	20
Nyctalus leisleri	May	1	2 - 35.5	100	88
Pipistrellus nathusii	May	9	9 - 9	54	31
Pipistrellus nathusii	Jun	19	9 - 28.5	19	1
Pipistrellus pipistrellus	May	0	1 - 1.5	2	88
Pipistrellus pygmaeus	May	0	0 - 0	0	58

Figures

Figure 6. The activity level (percentile) of bats recorded across each night of the bat survey for the entire site, split between months.



PART 2: Nightly Analysis

ENTIRE SURVEY PERIOD

Sunrise and Sunset Times

Table 11. The times of sunset and sunrise the following morning for surveys beginning on the date shown.

Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8223_-8.9506	10/05/2022	2022-05-09	21:13	05:52	8.6
51.8223_-8.9506	09/05/2022	2022-05-09	21:13	05:52	8.6
51.8217_-8.9572	09/05/2022	2022-05-09	21:13	05:52	8.6
51.8217_-8.9572	10/05/2022	2022-05-09	21:13	05:52	8.6
51.8186_-8.955	09/05/2022	2022-05-09	21:13	05:52	8.6
51.8166_-8.9607	09/05/2022	2022-05-09	21:13	05:52	8.6
51.8135_-8.9626	10/05/2022	2022-05-09	21:13	05:52	8.6
51.8166_-8.9607	10/05/2022	2022-05-09	21:13	05:52	8.6
51.8135_-8.9626	09/05/2022	2022-05-09	21:13	05:52	8.6
51.8223_-8.9506	11/05/2022	2022-05-10	21:14	05:50	8.6
51.8223_-8.9506	10/05/2022	2022-05-10	21:14	05:50	8.6
51.8166_-8.9607	11/05/2022	2022-05-10	21:14	05:50	8.6
51.8135_-8.9626	11/05/2022	2022-05-10	21:14	05:50	8.6
51.8135_-8.9626	10/05/2022	2022-05-10	21:14	05:50	8.6
51.8223_-8.9506	11/05/2022	2022-05-11	21:16	05:48	8.5
51.8217_-8.9572	11/05/2022	2022-05-11	21:16	05:48	8.5
51.8186_-8.955	11/05/2022	2022-05-11	21:16	05:48	8.5
51.8186_-8.955	12/05/2022	2022-05-11	21:16	05:48	8.5
51.8166_-8.9607	12/05/2022	2022-05-11	21:16	05:48	8.5
51.8135_-8.9626	12/05/2022	2022-05-11	21:16	05:48	8.5
51.8223_-8.9506	12/05/2022	2022-05-11	21:16	05:48	8.5
51.8166_-8.9607	11/05/2022	2022-05-11	21:16	05:48	8.5
51.8217_-8.9572	12/05/2022	2022-05-11	21:16	05:48	8.5
51.8135_-8.9626	11/05/2022	2022-05-11	21:16	05:48	8.5
51.8223_-8.9506	12/05/2022	2022-05-12	21:18	05:47	8.5
51.8217_-8.9572	13/05/2022	2022-05-12	21:18	05:47	8.5
51.8135_-8.9626	12/05/2022	2022-05-12	21:18	05:47	8.5
51.8135_-8.9626	13/05/2022	2022-05-12	21:18	05:47	8.5
51.8223_-8.9506	13/05/2022	2022-05-12	21:18	05:47	8.5
51.8217_-8.9572	12/05/2022	2022-05-12	21:18	05:47	8.5
51.8186_-8.955	13/05/2022	2022-05-12	21:18	05:47	8.5
51.8186_-8.955	12/05/2022	2022-05-12	21:18	05:47	8.5
51.8166_-8.9607	13/05/2022	2022-05-12	21:18	05:47	8.5
51.8166_-8.9607	12/05/2022	2022-05-12	21:18	05:47	8.5
51.8223_-8.9506	14/05/2022	2022-05-13	21:19	05:45	8.4
51.8186_-8.955	13/05/2022	2022-05-13	21:19	05:45	8.4
51.8186_-8.955	14/05/2022	2022-05-13	21:19	05:45	8.4
51.8166_-8.9607	13/05/2022	2022-05-13	21:19	05:45	8.4
51.8135_-8.9626	13/05/2022	2022-05-13	21:19	05:45	8.4
51.8223_-8.9506	13/05/2022	2022-05-13	21:19	05:45	8.4
51.8217_-8.9572	14/05/2022	2022-05-13	21:19	05:45	8.4
51.8217_-8.9572	13/05/2022	2022-05-13	21:19	05:45	8.4
51.8166_-8.9607	14/05/2022	2022-05-13	21:19	05:45	8.4
51.8135_-8.9626	14/05/2022	2022-05-13	21:19	05:45	8.4
51.8166_-8.9607	15/05/2022	2022-05-14	21:21	05:44	8.4
51.8223_-8.9506	15/05/2022	2022-05-14	21:21	05:44	8.4
51.8223_-8.9506	14/05/2022	2022-05-14	21:21	05:44	8.4

Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8217_-8.9572	15/05/2022	2022-05-14	21:21	05:44	8.4
51.8217_-8.9572	14/05/2022	2022-05-14	21:21	05:44	8.4
51.8186_-8.955	14/05/2022	2022-05-14	21:21	05:44	8.4
51.8186_-8.955	15/05/2022	2022-05-14	21:21	05:44	8.4
51.8166_-8.9607	14/05/2022	2022-05-14	21:21	05:44	8.4
51.8135_-8.9626	14/05/2022	2022-05-14	21:21	05:44	8.4
51.8135_-8.9626	15/05/2022	2022-05-14	21:21	05:44	8.4
51.8135_-8.9626	15/05/2022	2022-05-15	21:22	05:42	8.3
51.8223_-8.9506	15/05/2022	2022-05-15	21:22	05:42	8.3
51.8217_-8.9572	15/05/2022	2022-05-15	21:22	05:42	8.3
51.8186_-8.955	15/05/2022	2022-05-15	21:22	05:42	8.3
51.8166_-8.9607	15/05/2022	2022-05-15	21:22	05:42	8.3
51.8217_-8.9572	16/05/2022	2022-05-15	21:22	05:42	8.3
51.8135_-8.9626	16/05/2022	2022-05-15	21:22	05:42	8.3
51.8166_-8.9607	16/05/2022	2022-05-15	21:22	05:42	8.3
51.8135_-8.9626	16/05/2022	2022-05-16	21:24	05:41	8.3
51.8223_-8.9506	18/05/2022	2022-05-17	21:25	05:39	8.2
51.8223_-8.9506	17/05/2022	2022-05-17	21:25	05:39	8.2
51.8186_-8.955	17/05/2022	2022-05-17	21:25	05:39	8.2
51.8135_-8.9626	17/05/2022	2022-05-17	21:25	05:39	8.2
51.8135_-8.9626	18/05/2022	2022-05-17	21:25	05:39	8.2
51.8166_-8.9607	19/05/2022	2022-05-18	21:27	05:38	8.2
51.8166_-8.9607	18/05/2022	2022-05-18	21:27	05:38	8.2
51.8135_-8.9626	19/05/2022	2022-05-18	21:27	05:38	8.2
51.8135_-8.9626	18/05/2022	2022-05-18	21:27	05:38	8.2
51.8223_-8.9506	19/05/2022	2022-05-18	21:27	05:38	8.2
51.8223_-8.9506	18/05/2022	2022-05-18	21:27	05:38	8.2
51.8217_-8.9572	19/05/2022	2022-05-18	21:27	05:38	8.2
51.8186_-8.955	19/05/2022	2022-05-18	21:27	05:38	8.2
51.8186_-8.955	18/05/2022	2022-05-18	21:27	05:38	8.2
51.8186_-8.955	20/05/2022	2022-05-19	21:28	05:37	8.1
51.8223_-8.9506	19/05/2022	2022-05-19	21:28	05:37	8.1
51.8217_-8.9572	19/05/2022	2022-05-19	21:28	05:37	8.1
51.8217_-8.9572	20/05/2022	2022-05-19	21:28	05:37	8.1
51.8186_-8.955	19/05/2022	2022-05-19	21:28	05:37	8.1
51.8166_-8.9607	19/05/2022	2022-05-19	21:28	05:37	8.1
51.8135_-8.9626	19/05/2022	2022-05-19	21:28	05:37	8.1
51.8135_-8.9626	20/05/2022	2022-05-19	21:28	05:37	8.1
51.8166_-8.9607	20/05/2022	2022-05-19	21:28	05:37	8.1
51.8186_-8.955	20/05/2022	2022-05-20	21:30	05:35	8.1
51.8135_-8.9626	21/05/2022	2022-05-20	21:30	05:35	8.1
51.8223_-8.9506	21/05/2022	2022-05-20	21:30	05:35	8.1
51.8223_-8.9506	20/05/2022	2022-05-20	21:30	05:35	8.1
51.8217_-8.9572	20/05/2022	2022-05-20	21:30	05:35	8.1
51.8217_-8.9572	21/05/2022	2022-05-20	21:30	05:35	8.1
51.8186_-8.955	21/05/2022	2022-05-20	21:30	05:35	8.1
51.8166_-8.9607	21/05/2022	2022-05-20	21:30	05:35	8.1
51.8166_-8.9607	20/05/2022	2022-05-20	21:30	05:35	8.1
51.8135_-8.9626	20/05/2022	2022-05-20	21:30	05:35	8.1
51.8223_-8.9506	21/05/2022	2022-05-21	21:31	05:34	8.0
51.8186_-8.955	22/05/2022	2022-05-21	21:31	05:34	8.0
51.8135_-8.9626	22/05/2022	2022-05-21	21:31	05:34	8.0
51.8135_-8.9626	21/05/2022	2022-05-21	21:31	05:34	8.0
51.8223_-8.9506	22/05/2022	2022-05-21	21:31	05:34	8.0
51.8217_-8.9572	22/05/2022	2022-05-21	21:31	05:34	8.0
51.8217_-8.9572	21/05/2022	2022-05-21	21:31	05:34	8.0

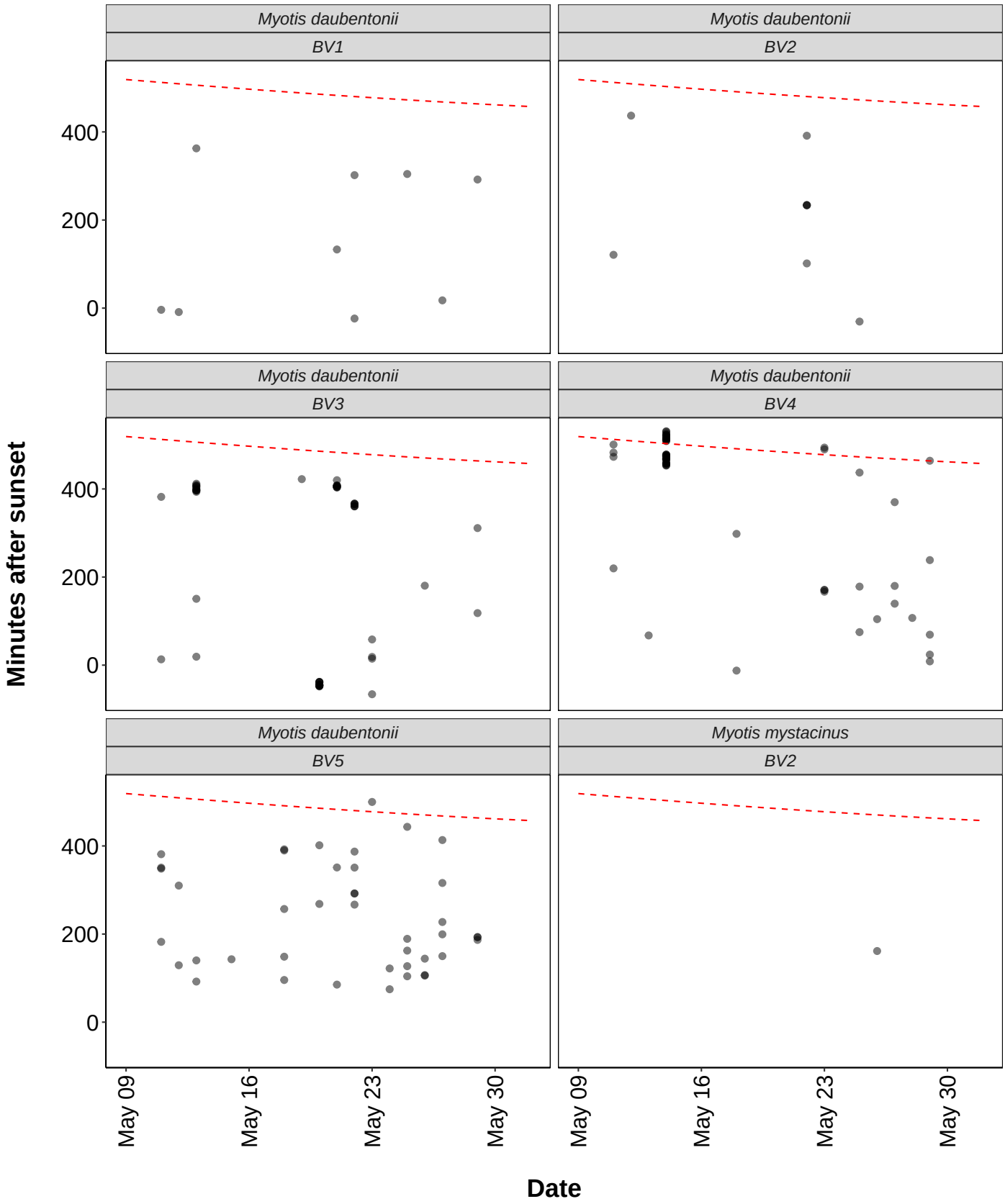
Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8223_-8.9506	22/05/2022	2022-05-22	21:33	05:33	8.0
51.8223_-8.9506	23/05/2022	2022-05-22	21:33	05:33	8.0
51.8217_-8.9572	23/05/2022	2022-05-22	21:33	05:33	8.0
51.8217_-8.9572	22/05/2022	2022-05-22	21:33	05:33	8.0
51.8186_-8.955	23/05/2022	2022-05-22	21:33	05:33	8.0
51.8135_-8.9626	23/05/2022	2022-05-22	21:33	05:33	8.0
51.8186_-8.955	22/05/2022	2022-05-22	21:33	05:33	8.0
51.8166_-8.9607	23/05/2022	2022-05-22	21:33	05:33	8.0
51.8135_-8.9626	22/05/2022	2022-05-22	21:33	05:33	8.0
51.8166_-8.9607	22/05/2022	2022-05-22	21:33	05:33	8.0
51.8186_-8.955	23/05/2022	2022-05-23	21:34	05:32	8.0
51.8166_-8.9607	24/05/2022	2022-05-23	21:34	05:32	8.0
51.8135_-8.9626	24/05/2022	2022-05-23	21:34	05:32	8.0
51.8223_-8.9506	23/05/2022	2022-05-23	21:34	05:32	8.0
51.8217_-8.9572	23/05/2022	2022-05-23	21:34	05:32	8.0
51.8186_-8.955	24/05/2022	2022-05-23	21:34	05:32	8.0
51.8223_-8.9506	24/05/2022	2022-05-23	21:34	05:32	8.0
51.8217_-8.9572	24/05/2022	2022-05-23	21:34	05:32	8.0
51.8166_-8.9607	23/05/2022	2022-05-23	21:34	05:32	8.0
51.8135_-8.9626	23/05/2022	2022-05-23	21:34	05:32	8.0
51.8135_-8.9626	24/05/2022	2022-05-24	21:35	05:31	7.9
51.8223_-8.9506	24/05/2022	2022-05-24	21:35	05:31	7.9
51.8223_-8.9506	25/05/2022	2022-05-24	21:35	05:31	7.9
51.8217_-8.9572	24/05/2022	2022-05-24	21:35	05:31	7.9
51.8135_-8.9626	25/05/2022	2022-05-24	21:35	05:31	7.9
51.8217_-8.9572	25/05/2022	2022-05-24	21:35	05:31	7.9
51.8186_-8.955	24/05/2022	2022-05-24	21:35	05:31	7.9
51.8186_-8.955	25/05/2022	2022-05-24	21:35	05:31	7.9
51.8166_-8.9607	24/05/2022	2022-05-24	21:35	05:31	7.9
51.8223_-8.9506	26/05/2022	2022-05-25	21:37	05:30	7.9
51.8217_-8.9572	25/05/2022	2022-05-25	21:37	05:30	7.9
51.8166_-8.9607	26/05/2022	2022-05-25	21:37	05:30	7.9
51.8166_-8.9607	25/05/2022	2022-05-25	21:37	05:30	7.9
51.8135_-8.9626	25/05/2022	2022-05-25	21:37	05:30	7.9
51.8135_-8.9626	26/05/2022	2022-05-25	21:37	05:30	7.9
51.8223_-8.9506	25/05/2022	2022-05-25	21:37	05:30	7.9
51.8217_-8.9572	26/05/2022	2022-05-25	21:37	05:30	7.9
51.8186_-8.955	25/05/2022	2022-05-25	21:37	05:30	7.9
51.8186_-8.955	26/05/2022	2022-05-25	21:37	05:30	7.9
51.8186_-8.955	27/05/2022	2022-05-26	21:38	05:28	7.8
51.8166_-8.9607	26/05/2022	2022-05-26	21:38	05:28	7.8
51.8135_-8.9626	27/05/2022	2022-05-26	21:38	05:28	7.8
51.8135_-8.9626	26/05/2022	2022-05-26	21:38	05:28	7.8
51.8223_-8.9506	26/05/2022	2022-05-26	21:38	05:28	7.8
51.8217_-8.9572	26/05/2022	2022-05-26	21:38	05:28	7.8
51.8186_-8.955	26/05/2022	2022-05-26	21:38	05:28	7.8
51.8223_-8.9506	27/05/2022	2022-05-26	21:38	05:28	7.8
51.8217_-8.9572	27/05/2022	2022-05-26	21:38	05:28	7.8
51.8166_-8.9607	27/05/2022	2022-05-26	21:38	05:28	7.8
51.8223_-8.9506	27/05/2022	2022-05-27	21:39	05:27	7.8
51.8166_-8.9607	28/05/2022	2022-05-27	21:39	05:27	7.8
51.8166_-8.9607	27/05/2022	2022-05-27	21:39	05:27	7.8
51.8135_-8.9626	28/05/2022	2022-05-27	21:39	05:27	7.8
51.8223_-8.9506	28/05/2022	2022-05-27	21:39	05:27	7.8
51.8217_-8.9572	28/05/2022	2022-05-27	21:39	05:27	7.8
51.8217_-8.9572	27/05/2022	2022-05-27	21:39	05:27	7.8

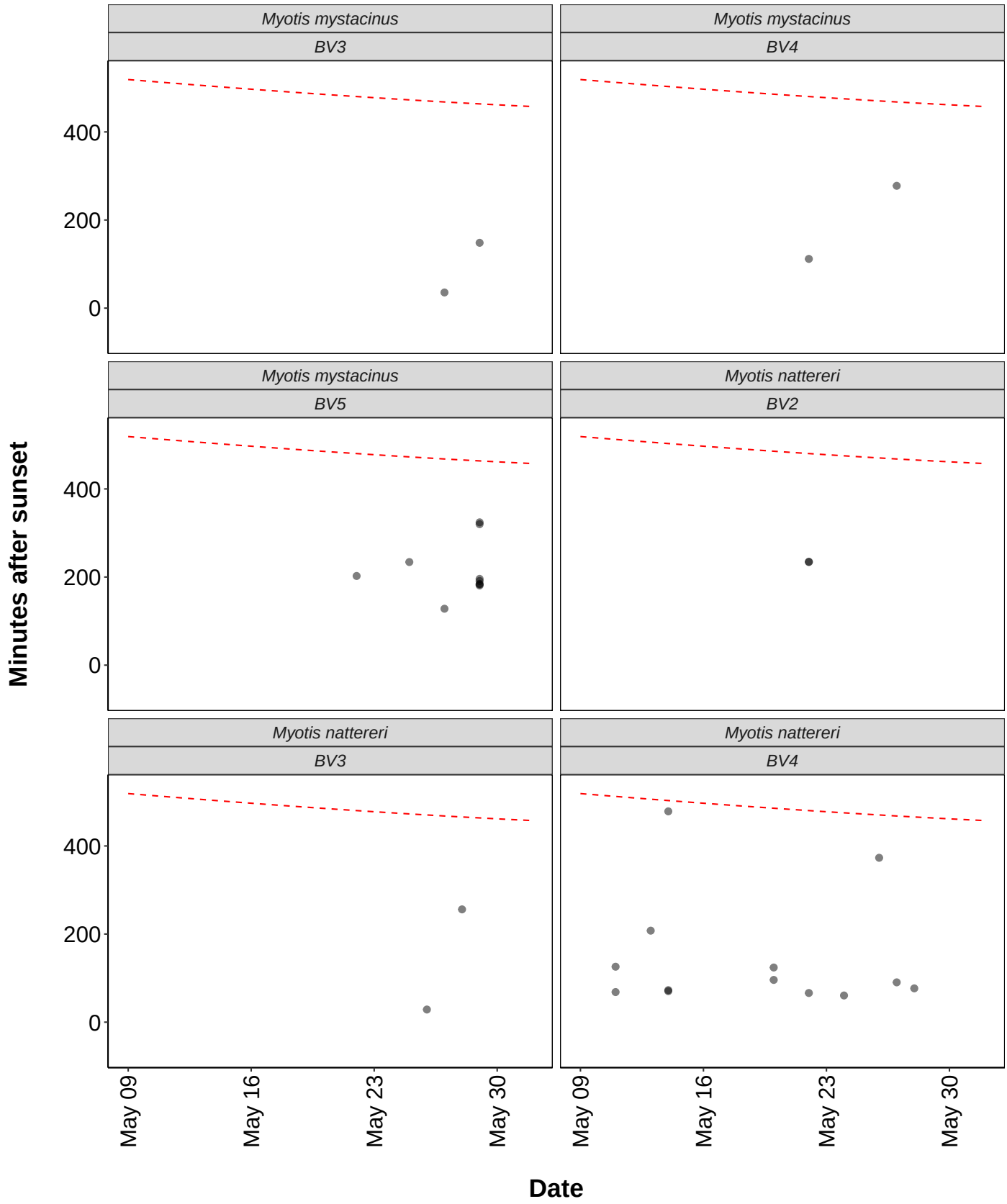
Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8186_-8.955	28/05/2022	2022-05-27	21:39	05:27	7.8
51.8186_-8.955	27/05/2022	2022-05-27	21:39	05:27	7.8
51.8135_-8.9626	27/05/2022	2022-05-27	21:39	05:27	7.8
51.8166_-8.9607	28/05/2022	2022-05-28	21:41	05:26	7.8
51.8223_-8.9506	29/05/2022	2022-05-28	21:41	05:26	7.8
51.8223_-8.9506	28/05/2022	2022-05-28	21:41	05:26	7.8
51.8217_-8.9572	29/05/2022	2022-05-28	21:41	05:26	7.8
51.8217_-8.9572	28/05/2022	2022-05-28	21:41	05:26	7.8
51.8186_-8.955	29/05/2022	2022-05-28	21:41	05:26	7.8
51.8186_-8.955	28/05/2022	2022-05-28	21:41	05:26	7.8
51.8166_-8.9607	29/05/2022	2022-05-28	21:41	05:26	7.8
51.8135_-8.9626	29/05/2022	2022-05-28	21:41	05:26	7.8
51.8135_-8.9626	28/05/2022	2022-05-28	21:41	05:26	7.8
51.8223_-8.9506	30/05/2022	2022-05-29	21:42	05:26	7.7
51.8186_-8.955	29/05/2022	2022-05-29	21:42	05:26	7.7
51.8186_-8.955	30/05/2022	2022-05-29	21:42	05:26	7.7
51.8166_-8.9607	29/05/2022	2022-05-29	21:42	05:26	7.7
51.8166_-8.9607	30/05/2022	2022-05-29	21:42	05:26	7.7
51.8135_-8.9626	30/05/2022	2022-05-29	21:42	05:26	7.7
51.8223_-8.9506	29/05/2022	2022-05-29	21:42	05:26	7.7
51.8217_-8.9572	30/05/2022	2022-05-29	21:42	05:26	7.7
51.8217_-8.9572	29/05/2022	2022-05-29	21:42	05:26	7.7
51.8135_-8.9626	29/05/2022	2022-05-29	21:42	05:26	7.7
51.8186_-8.955	30/05/2022	2022-05-30	21:43	05:25	7.7
51.8135_-8.9626	01/06/2022	2022-05-31	21:44	05:24	7.7
51.8135_-8.9626	01/06/2022	2022-06-01	21:45	05:23	7.6

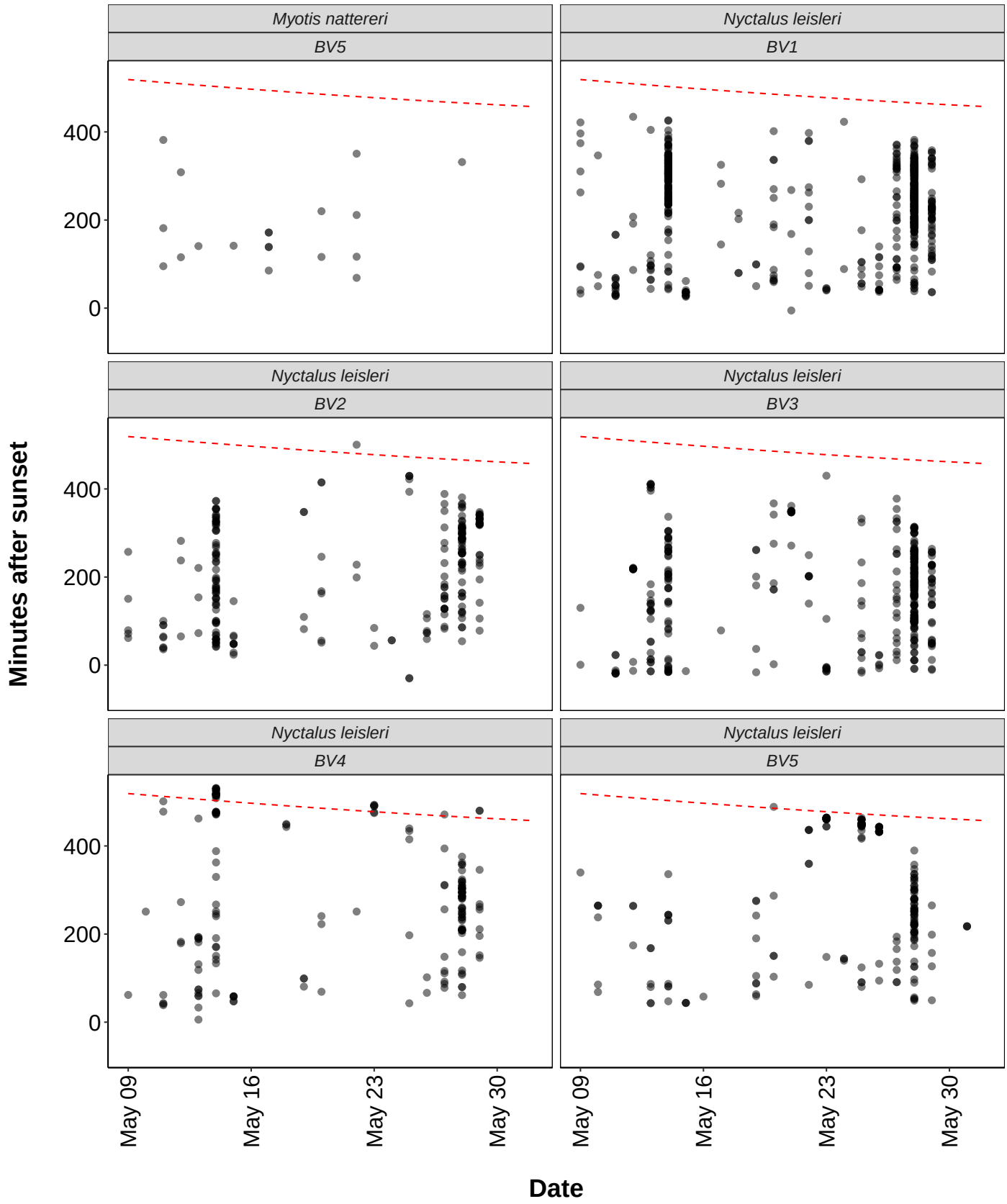
Distribution of Bat Activity Across the Night through Time

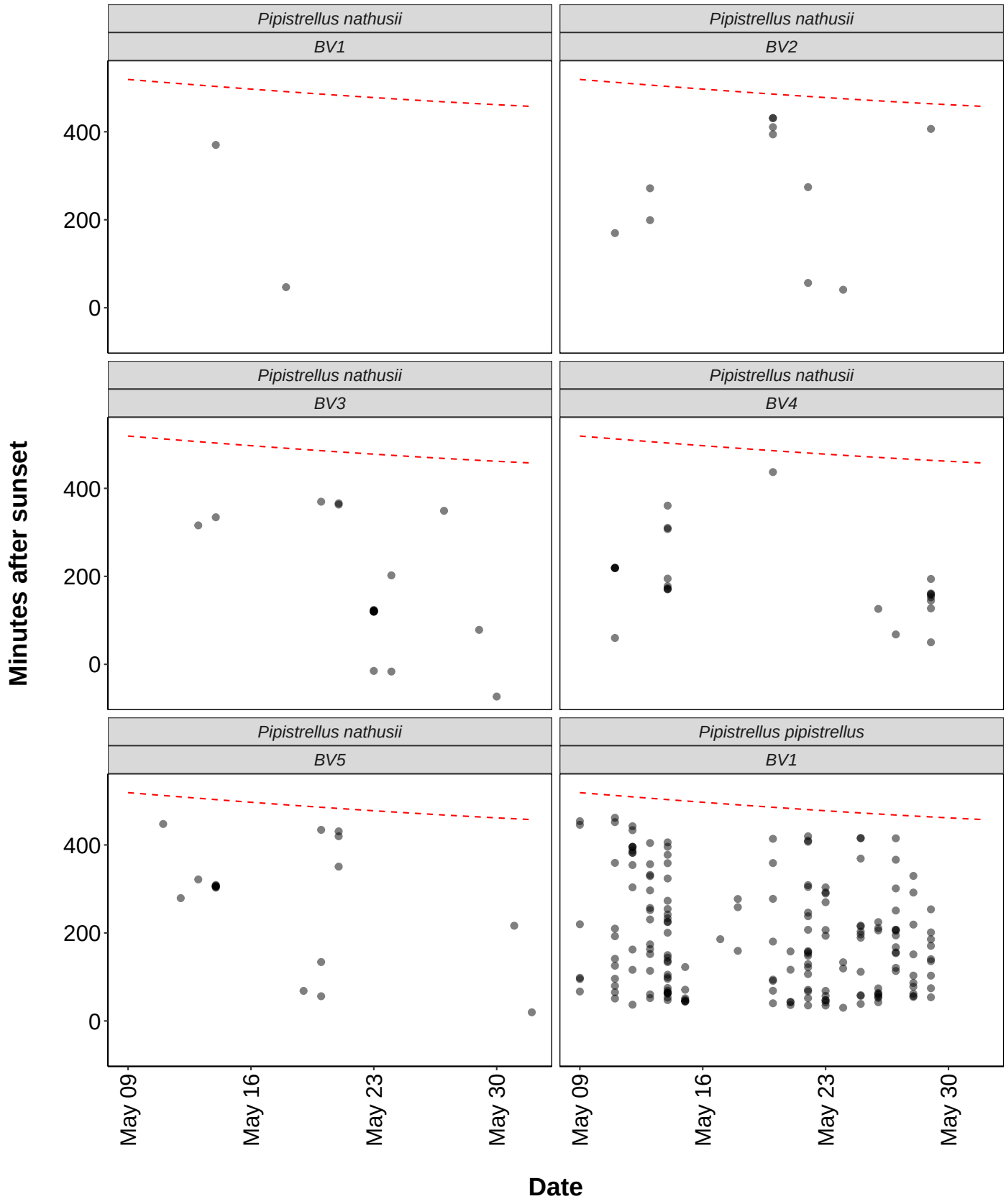
Per Detector

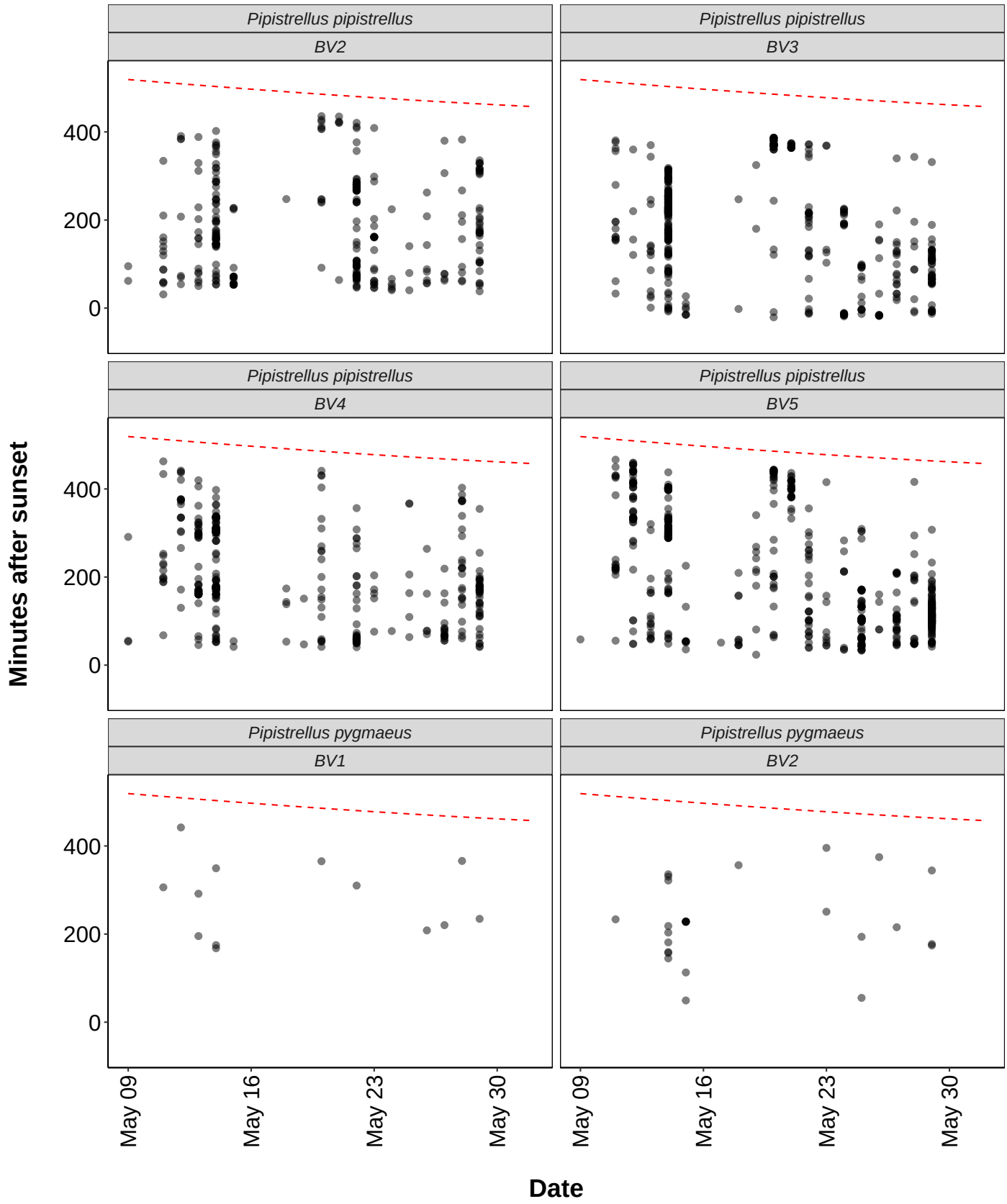
Figure 7. Timing of bat calls plotted as minutes before/after sunset, whereby 0 on the y axis represents sunset. Sunrise throughout the survey period is depicted as the red dashed line. Colours indicate kernel densities, with darkest colours showing peaks of activity. These colours are comparative only within each plot, and do not account for overall activity.

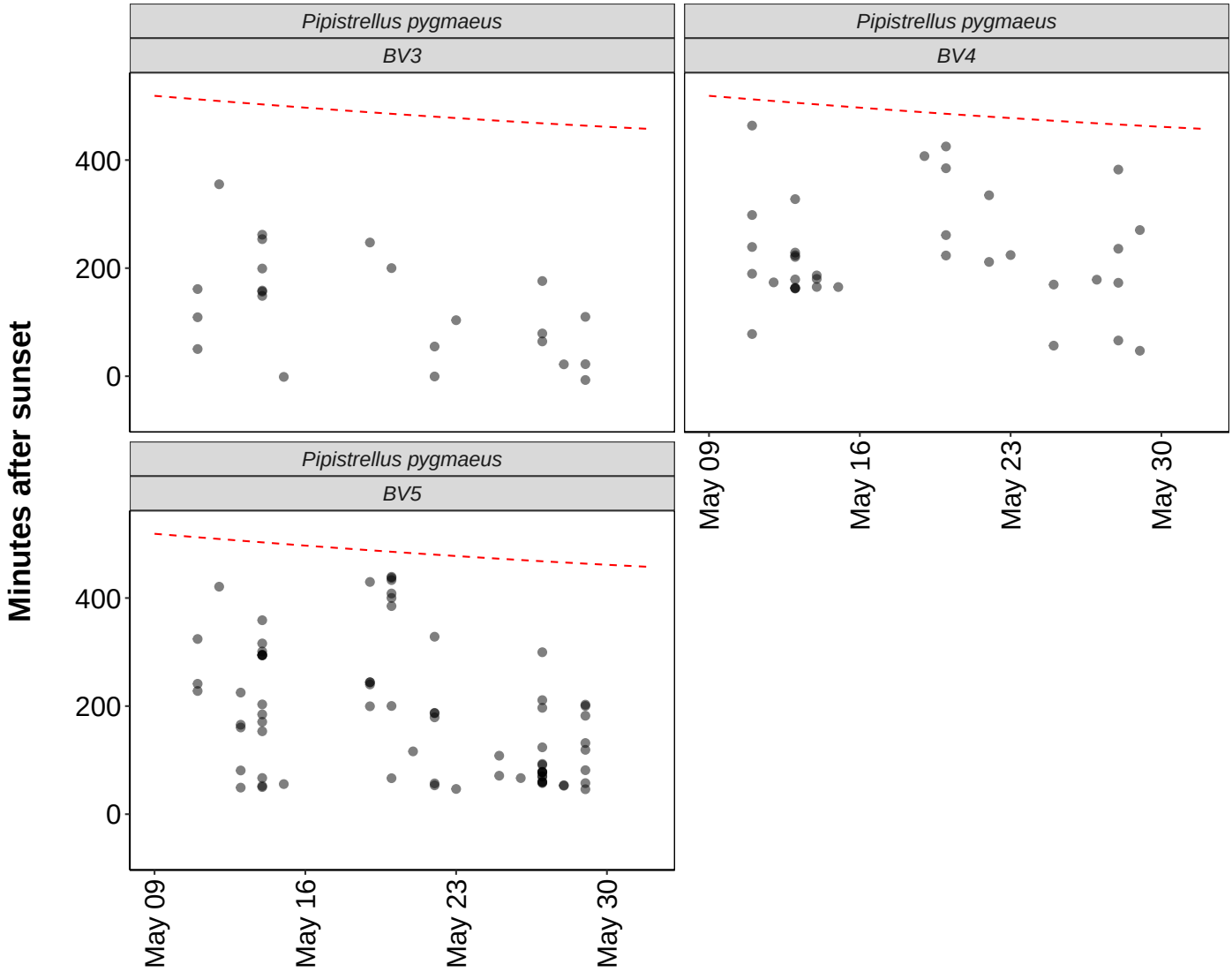

Myotis daubentonii
BV1
Myotis daubentonii
BV2
Myotis daubentonii
BV3
Myotis daubentonii
BV4
Myotis daubentonii
BV5
Myotis mystacinus
BV2
Minutes after sunset
400
200
0
May 09
May 16
May 23
May 30
Date


Myotis mystacinus
BV3
Myotis mystacinus
BV4
Myotis mystacinus
BV5
Myotis nattereri
BV2
Myotis nattereri
BV3
Myotis nattereri
BV4
Minutes after sunset
400
200
0
May 09
May 16
May 23
May 30
Date


Myotis nattereri
BV5
Nyctalus leisleri
BV1
Nyctalus leisleri
BV2
Nyctalus leisleri
BV3
Nyctalus leisleri
BV4
Nyctalus leisleri
BV5
Minutes after sunset
400
200
0
May 09
May 16
May 23
May 30
Date


Pipistrellus nathusii
BV1
Pipistrellus nathusii
BV2
Pipistrellus nathusii
BV3
Pipistrellus nathusii
BV4
Pipistrellus nathusii
BV5
Pipistrellus pipistrellus
BV1
Minutes after sunset
400
200
0
May 09
May 16
May 23
May 30
Date


Pipistrellus pipistrellus
BV2
Pipistrellus pipistrellus
BV3
Pipistrellus pipistrellus
BV4
Pipistrellus pipistrellus
BV5
Pipistrellus pygmaeus
BV1
Pipistrellus pygmaeus
BV2
Minutes after sunset
0
200
400
May 09
May 16
May 23
May 30
Date


Pipistrellus pygmaeus
BV3
Pipistrellus pygmaeus
BV4
Pipistrellus pygmaeus
BV5
Minutes after sunset
400
200
0
May 09
May 16
May 23
May 30
Date

Roost Emergence Time and Bat Observation

Based on: *Russ, Jon. 2012. British Bat Calls a Guide to species Identification. Pelagic Publishing.*

For more information see https://rbats-blog.updog.co/2018/05/29/bat-emergence/

Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012) - Table

Table 12. Number of bat calls recorded before the upper time of the species-specific emergence time range, and which therefore may potentially indicate the presence of a nearby roost.

Table 12: Table continues below

Species	Detector ID	2022-05-09	2022-05-11	2022-05-12	2022-05-13	2022-05-14
Common pipistrelle	BV1	0	0	0	0	0
Common pipistrelle	BV2	0	1	0	0	0
Common pipistrelle	BV3	0	0	0	3	8
Common pipistrelle	BV5	0	0	0	0	0
Soprano pipistrelle	BV3	0	0	0	0	0
Nathusius'	BV3	0	0	0	0	0
Nathusius'	BV5	0	0	0	0	0
Leisler's	BV1	0	0	0	0	0
Leisler's	BV2	0	0	0	0	0
Leisler's	BV3	1	6	2	6	11
Leisler's	BV4	0	0	0	1	0
Daubenton's	BV1	0	1	1	0	0
Daubenton's	BV2	0	0	0	0	0
Daubenton's	BV3	0	1	0	1	0
Daubenton's	BV4	0	0	0	1	0
Natterer's	BV3	0	0	0	0	0

Table 13: Table continues below

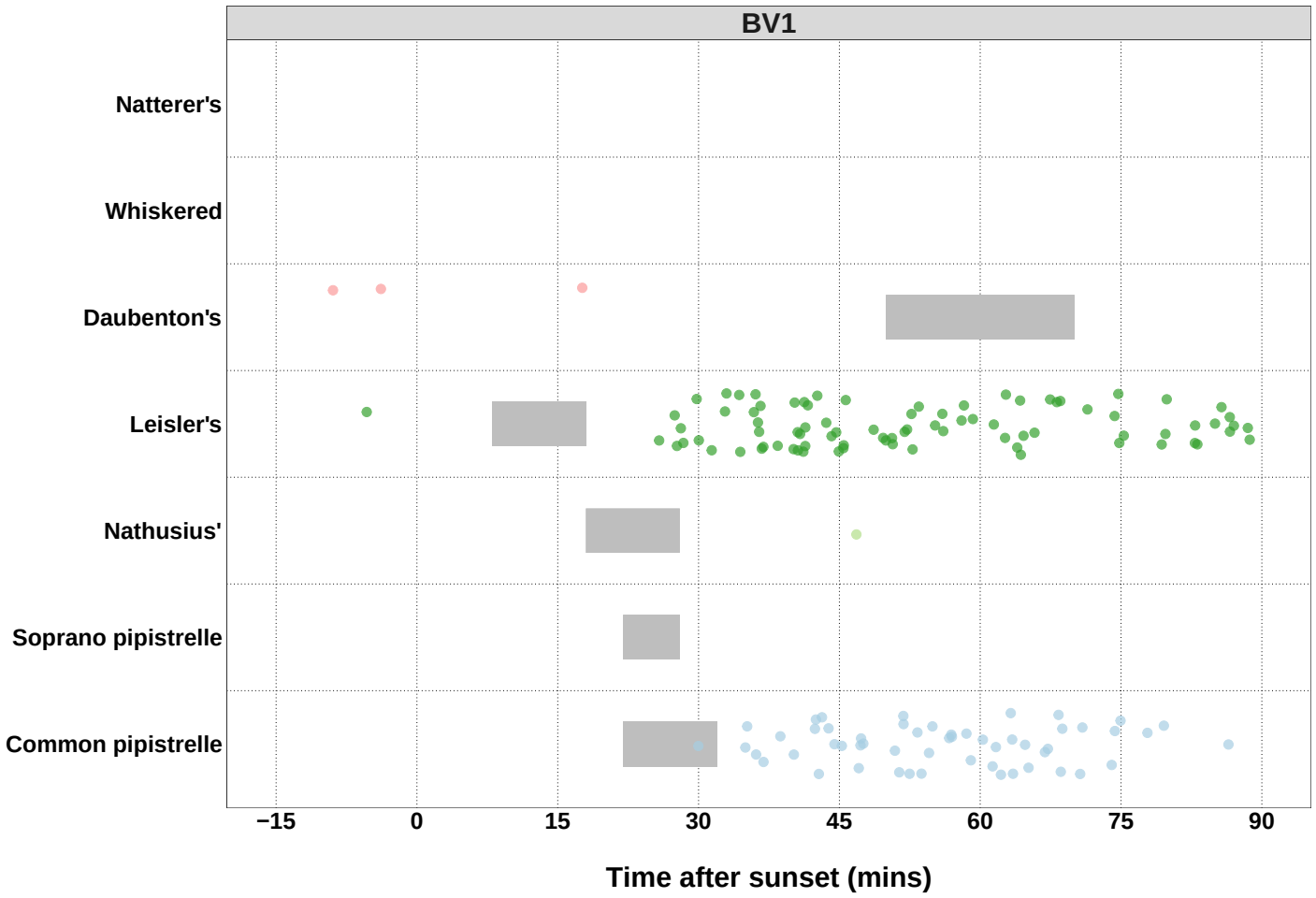
2022-05-15	2022-05-18	2022-05-19	2022-05-20	2022-05-21	2022-05-22	2022-05-23
0	0	0	0	0	0	0
0	0	0	0	0	0	0
7	1	0	2	0	5	0
0	0	1	0	0	0	0
1	0	0	0	0	1	0
0	0	0	0	0	0	1
0	0	0	0	0	0	0
0	0	0	0	1	0	0
0	0	0	0	0	0	0
1	0	1	1	0	0	8
0	0	0	0	0	0	0
0	0	0	0	0	1	0
0	0	0	0	0	0	0
0	0	0	14	0	0	4
0	1	0	0	0	0	0
0	0	0	0	0	0	0

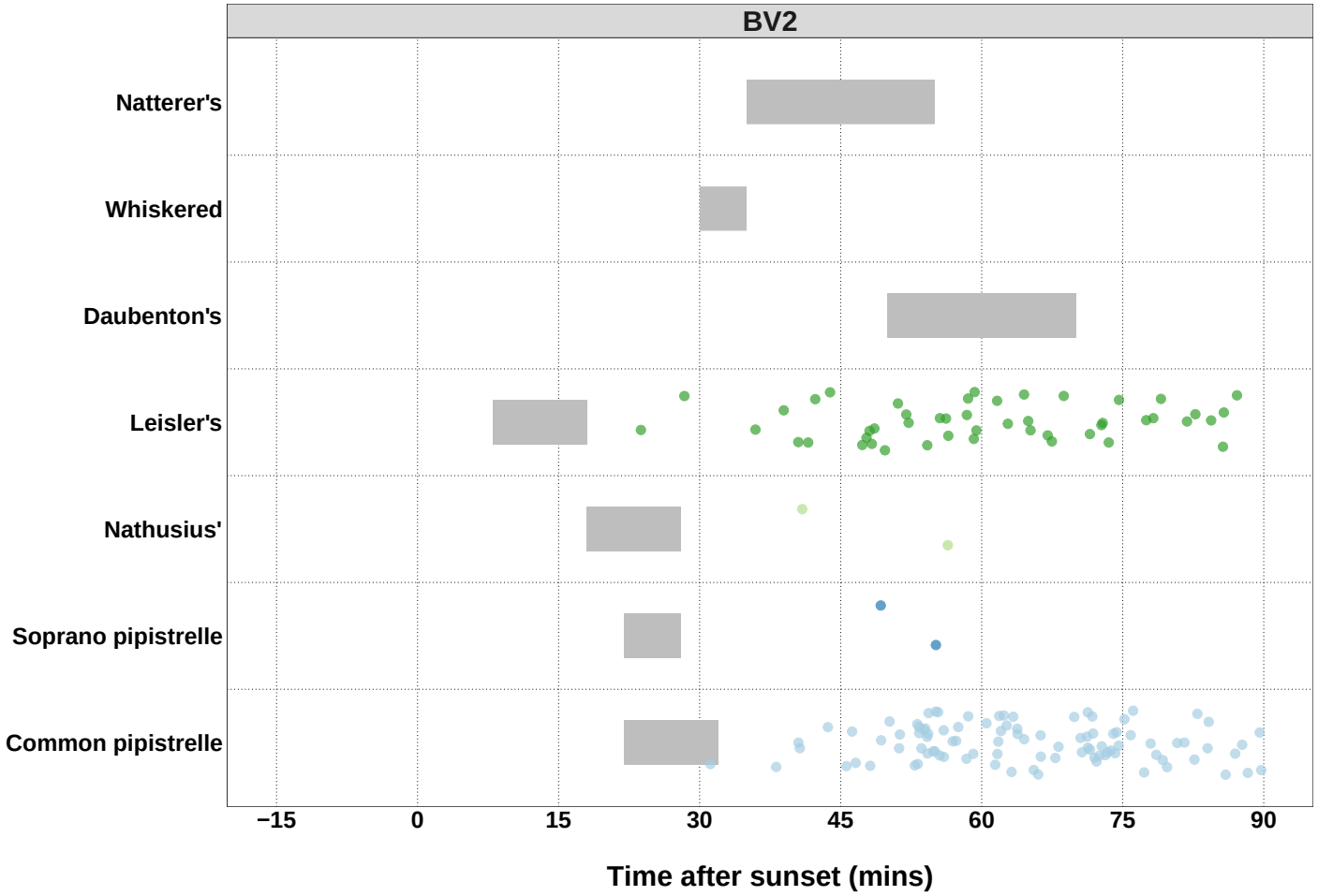
2022-05-24	2022-05-25	2022-05-26	2022-05-27	2022-05-28	2022-05-29	2022-05-30	2022-06-01
1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

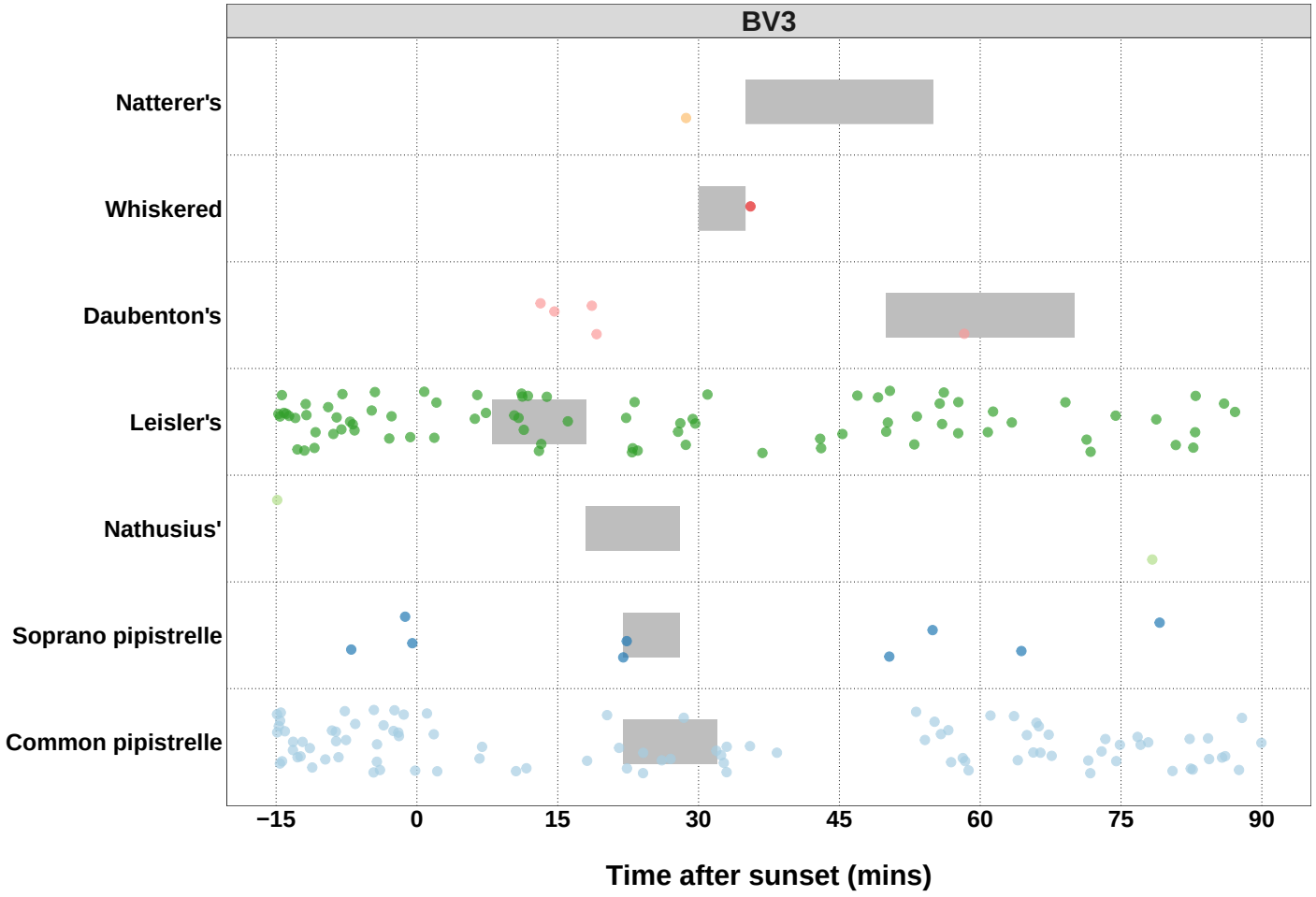
2022-05-24	2022-05-25	2022-05-26	2022-05-27	2022-05-28	2022-05-29	2022-05-30	2022-06-01
13	7	7	2	3	7	0	0
0	0	0	0	0	0	0	0
0	0	0	0	1	2	0	0
1	0	0	0	0	0	1	0
0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0
0	2	0	0	0	0	0	0
0	3	3	1	5	3	0	0
0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0
0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	3	0	0
0	0	1	0	0	0	0	0

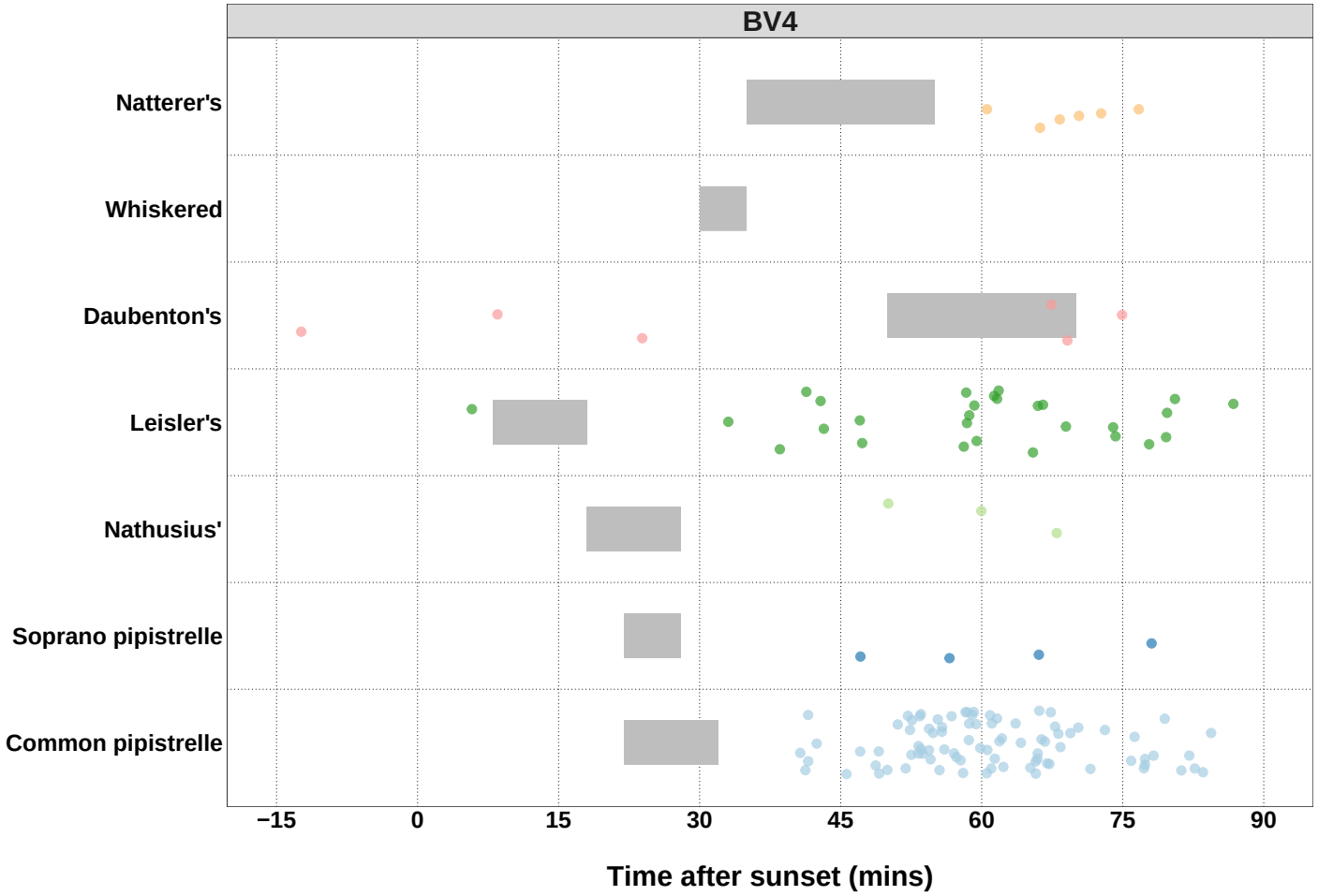
Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012) - Figures

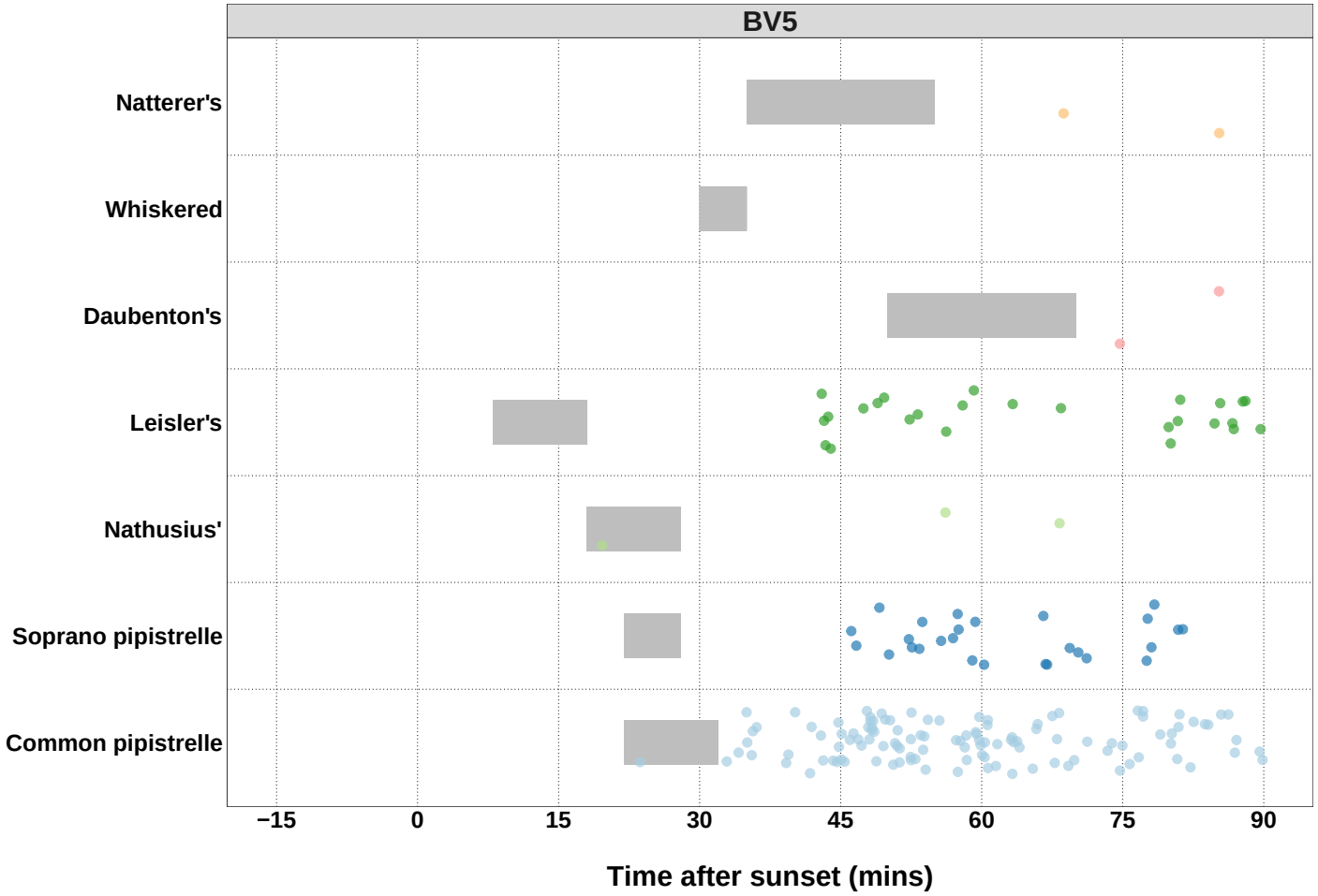
Figure 8. Time from 15 minutes before to 90 minutes after sunset. Species-specific emergence time ranges are shown as grey bars. Bat passes overlapping species-specific grey bars, or occuring earlier than this time range, may potentially indicate the presence of a nearby roost.




BV2
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV3
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV4
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV5
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

Counts of Bat Passes

All detectors

Table 14. The total number of passes recorded for each species across all of the detectors. The 'Total' percentage may not be exactly 100% due to rounding of the percentages per species.

Species	Passes (No.)	Percentage of total (%)
Common pipistrelle	2668	48.3
Soprano pipistrelle	194	3.5
Nathusius'	73	1.3
Leisler's	2330	42.2
Daubenton's	203	3.7
Whiskered	15	0.3
Natterer's	37	0.7
Total	5520	100.0

Page Break

Counts of Bat Passes

Per Detector

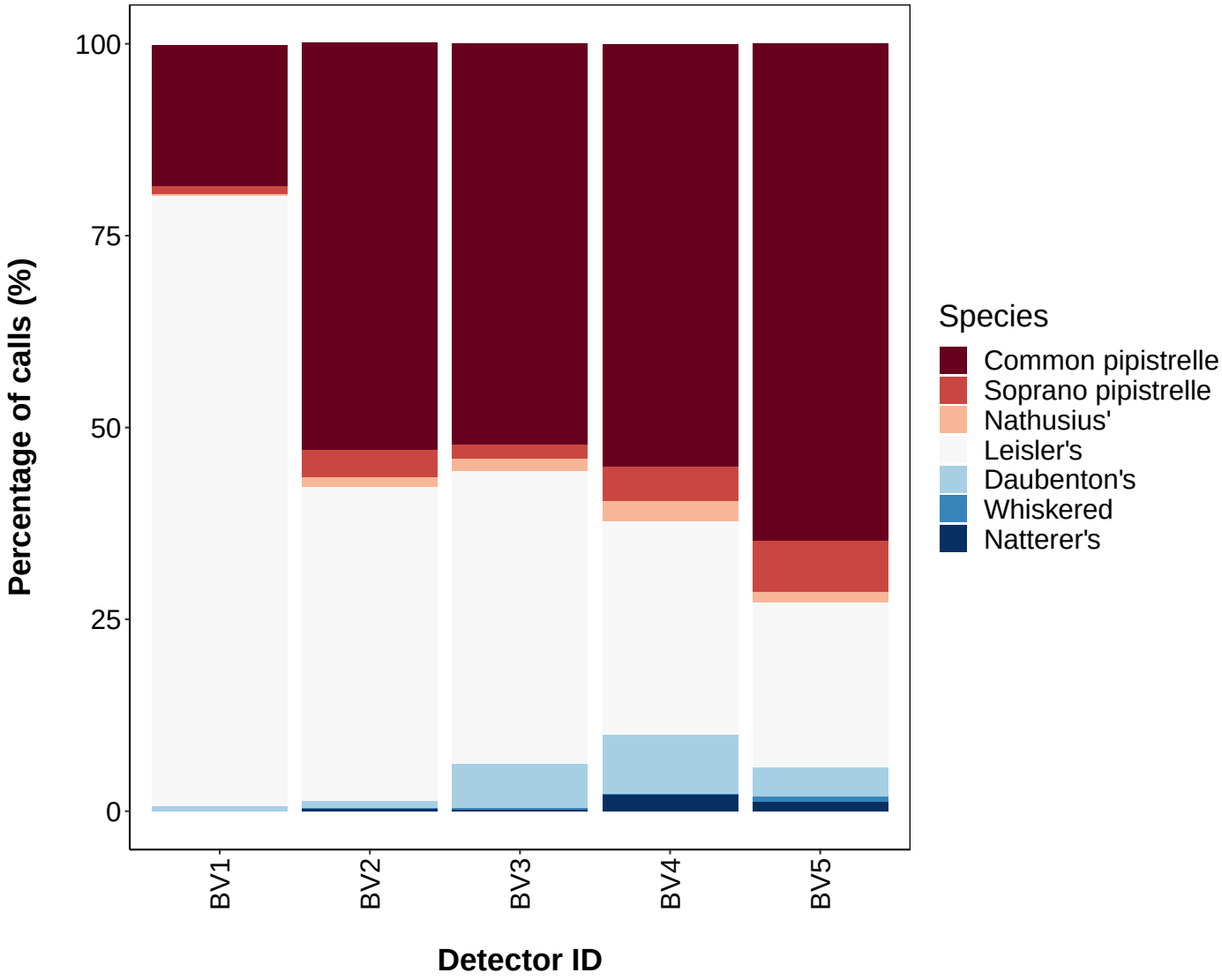
Table 15. The number of passes recorded for each species at each detector.

Species	Detector ID	Count (No)	Percentage by Detector (%)
Common pipistrelle	BV1	231	18.5
Common pipistrelle	BV2	417	53.0
Common pipistrelle	BV3	678	52.3
Common pipistrelle	BV4	442	55.0
Common pipistrelle	BV5	900	64.9
Soprano pipistrelle	BV1	13	1.0
Soprano pipistrelle	BV2	28	3.6
Soprano pipistrelle	BV3	24	1.9
Soprano pipistrelle	BV4	36	4.5
Soprano pipistrelle	BV5	93	6.7
Nathusius'	BV1	2	0.2
Nathusius'	BV2	10	1.3
Nathusius'	BV3	21	1.6
Nathusius'	BV4	21	2.6
Nathusius'	BV5	19	1.4
Leisler's	BV1	994	79.6
Leisler's	BV2	322	40.9
Leisler's	BV3	495	38.2
Leisler's	BV4	223	27.8
Leisler's	BV5	296	21.4
Daubenton's	BV1	8	0.6
Daubenton's	BV2	7	0.9
Daubenton's	BV3	74	5.7
Daubenton's	BV4	62	7.7
Daubenton's	BV5	52	3.8
Whiskered	BV2	1	0.1
Whiskered	BV3	2	0.2

Species	Detector ID	Count (No)	Percentage by Detector (%)
Whiskered	BV4	2	0.2
Whiskered	BV5	10	0.7
Natterer's	BV2	2	0.3
Natterer's	BV3	2	0.2
Natterer's	BV4	17	2.1
Natterer's	BV5	16	1.2

Species Composition

Figure 10. Percentage species composition of passes at each detector.



PART 2a: Presence Only

THE NEXT SECTION OF THE REPORT FEATURES THE RAW DATA SUPPLIED TO ECOBAT AND ONLY TAKES INTO ACCOUNT THE PRESENCE, AND NOT THE ABSENCE, OF EACH BAT SPECIES. FOR EACH NIGHT, THERE IS NO 'ZERO DATA' FOR WHEN SPECIES WERE NOT DETECTED.

Nightly Bat Pass Rate (Bat passes per hour)

Median Per Detector

Table 16. The median Nightly Pass Rate (bat passes per hour, per night) of each species. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Median Pass Rate
Common pipistrelle	BV1	1.8
Common pipistrelle	BV2	1.9
Common pipistrelle	BV3	3.2
Common pipistrelle	BV4	2.2
Common pipistrelle	BV5	5.2
Soprano pipistrelle	BV1	0.1
Soprano pipistrelle	BV2	0.1
Soprano pipistrelle	BV3	0.3
Soprano pipistrelle	BV4	0.3
Soprano pipistrelle	BV5	0.7
Nathusius'	BV1	0.1
Nathusius'	BV2	0.1
Nathusius'	BV3	0.1
Nathusius'	BV4	0.3
Nathusius'	BV5	0.2
Leisler's	BV1	1.5
Leisler's	BV2	1.2
Leisler's	BV3	1.8
Leisler's	BV4	0.8
Leisler's	BV5	0.9
Daubenton's	BV1	0.1
Daubenton's	BV2	0.1
Daubenton's	BV3	1.3
Daubenton's	BV4	0.4
Daubenton's	BV5	0.4
Whiskered	BV2	0.1
Whiskered	BV3	0.1
Whiskered	BV4	0.1
Whiskered	BV5	0.1
Natterer's	BV2	0.2
Natterer's	BV3	0.1
Natterer's	BV4	0.2
Natterer's	BV5	0.2

Nightly Bat Pass Rate (Bat passes per hour)

Mean per Detector

Table 17. The mean Nightly Pass Rate (bat passes per hour, per night) of each species at each detector. Values are given to 1 decimal place.

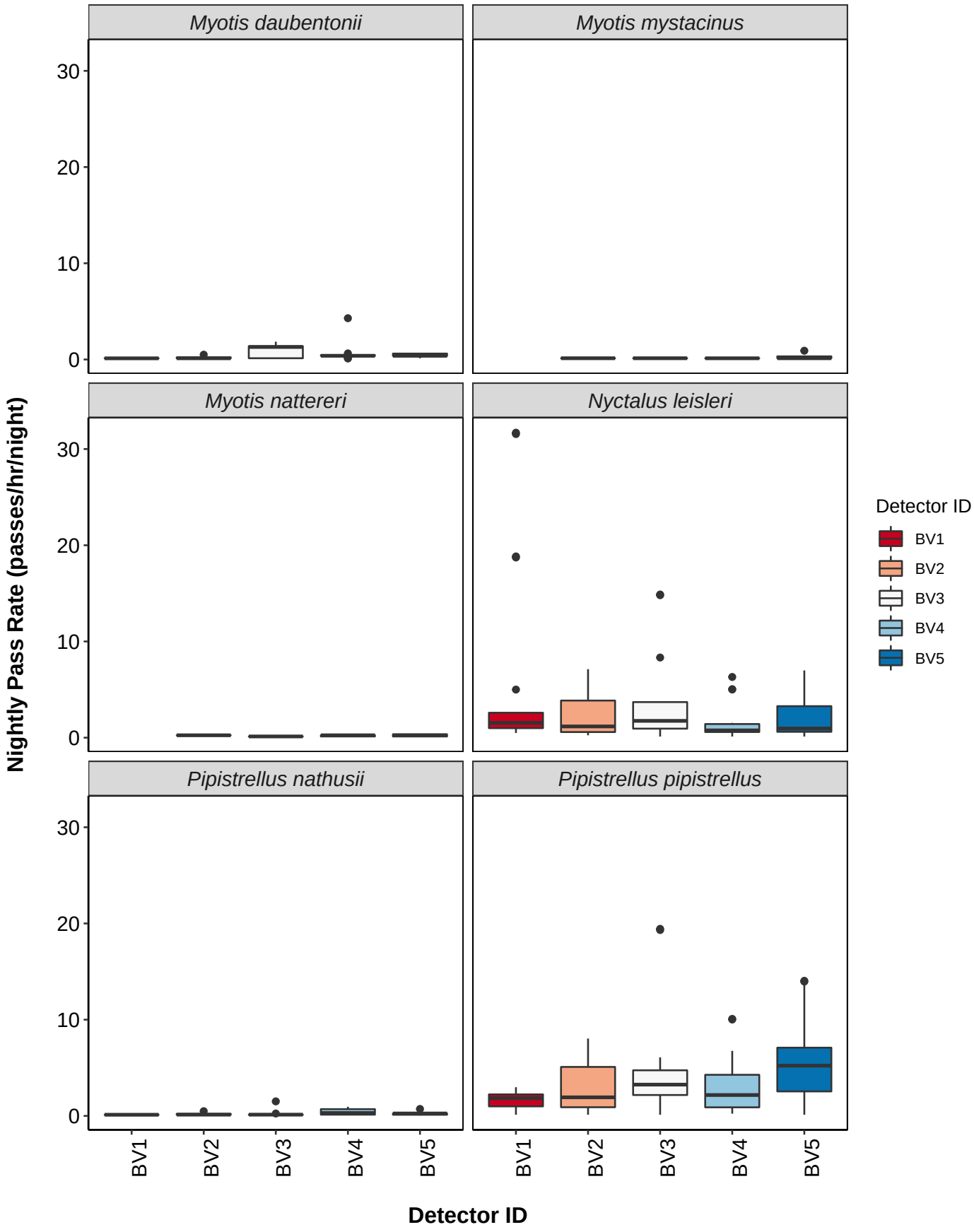
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

Species	Detector ID	Mean Pass Rate
Common pipistrelle	BV1	1.6
Common pipistrelle	BV2	3.0
Common pipistrelle	BV3	4.9
Common pipistrelle	BV4	3.2
Common pipistrelle	BV5	5.9
Soprano pipistrelle	BV1	0.2
Soprano pipistrelle	BV2	0.4
Soprano pipistrelle	BV3	0.3
Soprano pipistrelle	BV4	0.3
Soprano pipistrelle	BV5	0.8
Nathusius'	BV1	0.1
Nathusius'	BV2	0.2
Nathusius'	BV3	0.3
Nathusius'	BV4	0.4
Nathusius'	BV5	0.3
Leisler's	BV1	6.2
Leisler's	BV2	2.5
Leisler's	BV3	3.7
Leisler's	BV4	1.6
Leisler's	BV5	2.1
Daubenton's	BV1	0.1
Daubenton's	BV2	0.2
Daubenton's	BV3	1.0
Daubenton's	BV4	0.8
Daubenton's	BV5	0.5
Whiskered	BV2	0.1
Whiskered	BV3	0.1
Whiskered	BV4	0.1
Whiskered	BV5	0.3
Natterer's	BV2	0.2
Natterer's	BV3	0.1
Natterer's	BV4	0.2
Natterer's	BV5	0.2

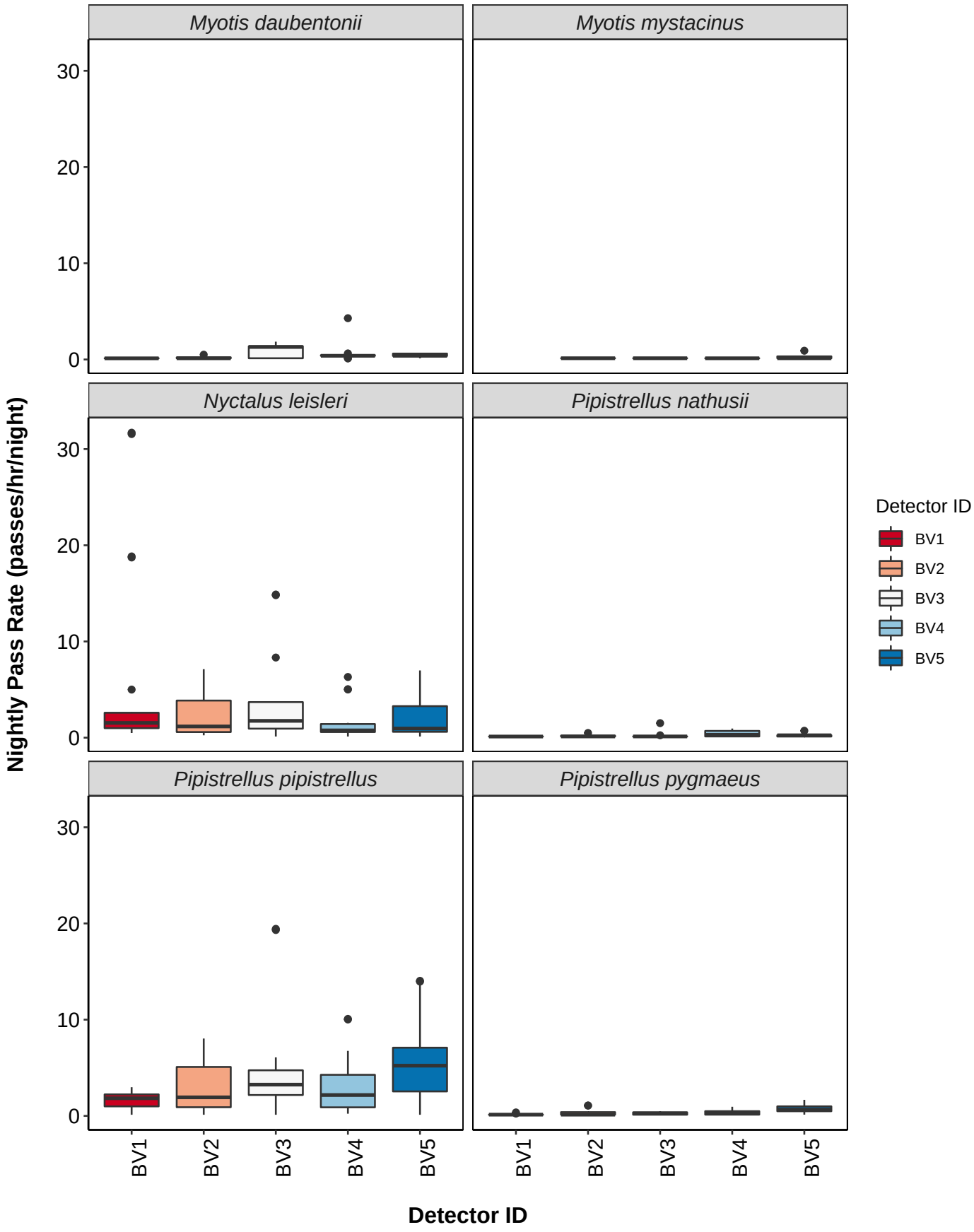
Nightly Bat Passes (Bat passes per hour)

Per Detector - Figures

Figure 11. Boxplots for the number of bat passes per hour each night, for each detector. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.

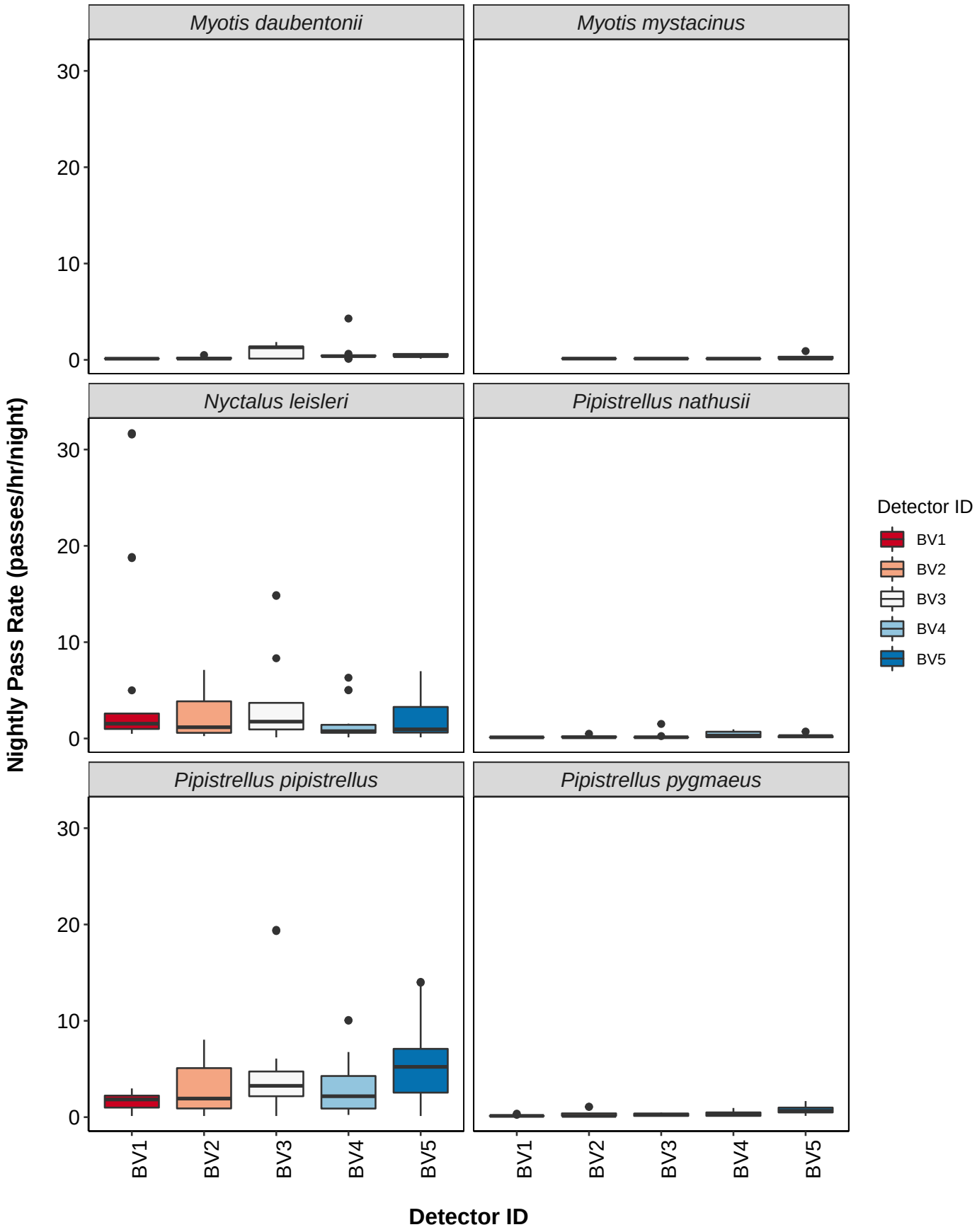


Error: Cannot create zero-length unit vector ("unit" subsetting)


Myotis daubentonii
Myotis mystacinus
Nyctalus leisleri
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Nightly Pass Rate (passes/hr/night)
0
10
20
30
BV1
BV2
BV3
BV4
BV5
Detector ID
Detector ID
BV1
BV2
BV3
BV4
BV5

```
[[1]]
NULL
```

[[2]]


Myotis daubentonii
Myotis mystacinus
Nyctalus leisleri
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Nightly Pass Rate (passes/hr/night)
0
10
20
30
BV1
BV2
BV3
BV4
BV5
Detector ID
Detector ID
BV1
BV2
BV3
BV4
BV5

SPLIT BY MONTH

Total Bat Passes per Detector, each Month

Per Detector

Table 18. The total number of bat passes of each species in each month at each detector. This table simply tells you how many bats of each species were recorded passing each detector during each month. These numbers are not standardised by the night length, or how many nights each detector was active for during each month.

Species	Detector ID	May	Jun
Common pipistrelle	BV1	231	0
Common pipistrelle	BV2	417	0
Common pipistrelle	BV3	678	0
Common pipistrelle	BV4	442	0
Common pipistrelle	BV5	900	0
Soprano pipistrelle	BV1	13	0
Soprano pipistrelle	BV2	28	0
Soprano pipistrelle	BV3	24	0
Soprano pipistrelle	BV4	36	0
Soprano pipistrelle	BV5	93	0
Nathusius'	BV1	2	0
Nathusius'	BV2	10	0
Nathusius'	BV3	21	0
Nathusius'	BV4	21	0
Nathusius'	BV5	17	2
Leisler's	BV1	994	0
Leisler's	BV2	322	0
Leisler's	BV3	495	0
Leisler's	BV4	223	0
Leisler's	BV5	296	0
Daubenton's	BV1	8	0
Daubenton's	BV2	7	0
Daubenton's	BV3	74	0
Daubenton's	BV4	62	0
Daubenton's	BV5	52	0
Whiskered	BV2	1	0
Whiskered	BV3	2	0
Whiskered	BV4	2	0
Whiskered	BV5	10	0
Natterer's	BV2	2	0
Natterer's	BV3	2	0
Natterer's	BV4	17	0
Natterer's	BV5	16	0

Survey Effort

Table 19. The number of survey nights per month per detector.

Month	Detector ID	No. of Survey Nights
May	BV1	20
May	BV2	18
May	BV3	20
May	BV4	18
May	BV5	22
Jun	BV5	1

Nightly Bat Pass Rate for each Month

Median Per Detector

Table 20. The median Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	May	Jun
Common pipistrelle	BV1	1.8	NA
Common pipistrelle	BV2	1.9	NA
Common pipistrelle	BV3	3.2	NA
Common pipistrelle	BV4	2.2	NA
Common pipistrelle	BV5	5.2	NA
Soprano pipistrelle	BV1	0.1	NA
Soprano pipistrelle	BV2	0.1	NA
Soprano pipistrelle	BV3	0.3	NA
Soprano pipistrelle	BV4	0.3	NA
Soprano pipistrelle	BV5	0.7	NA
Nathusius'	BV1	0.1	NA
Nathusius'	BV2	0.1	NA
Nathusius'	BV3	0.1	NA
Nathusius'	BV4	0.3	NA
Nathusius'	BV5	0.2	0.3
Leisler's	BV1	1.5	NA
Leisler's	BV2	1.2	NA
Leisler's	BV3	1.8	NA
Leisler's	BV4	0.8	NA
Leisler's	BV5	0.9	NA
Daubenton's	BV1	0.1	NA
Daubenton's	BV2	0.1	NA
Daubenton's	BV3	1.3	NA
Daubenton's	BV4	0.4	NA
Daubenton's	BV5	0.4	NA
Whiskered	BV2	0.1	NA
Whiskered	BV3	0.1	NA
Whiskered	BV4	0.1	NA
Whiskered	BV5	0.1	NA
Natterer's	BV2	0.2	NA
Natterer's	BV3	0.1	NA
Natterer's	BV4	0.2	NA
Natterer's	BV5	0.2	NA

Nightly Bat Pass Rate for each Month

Mean per Detector

Table 21: The mean Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. Values are given to 1 decimal place.

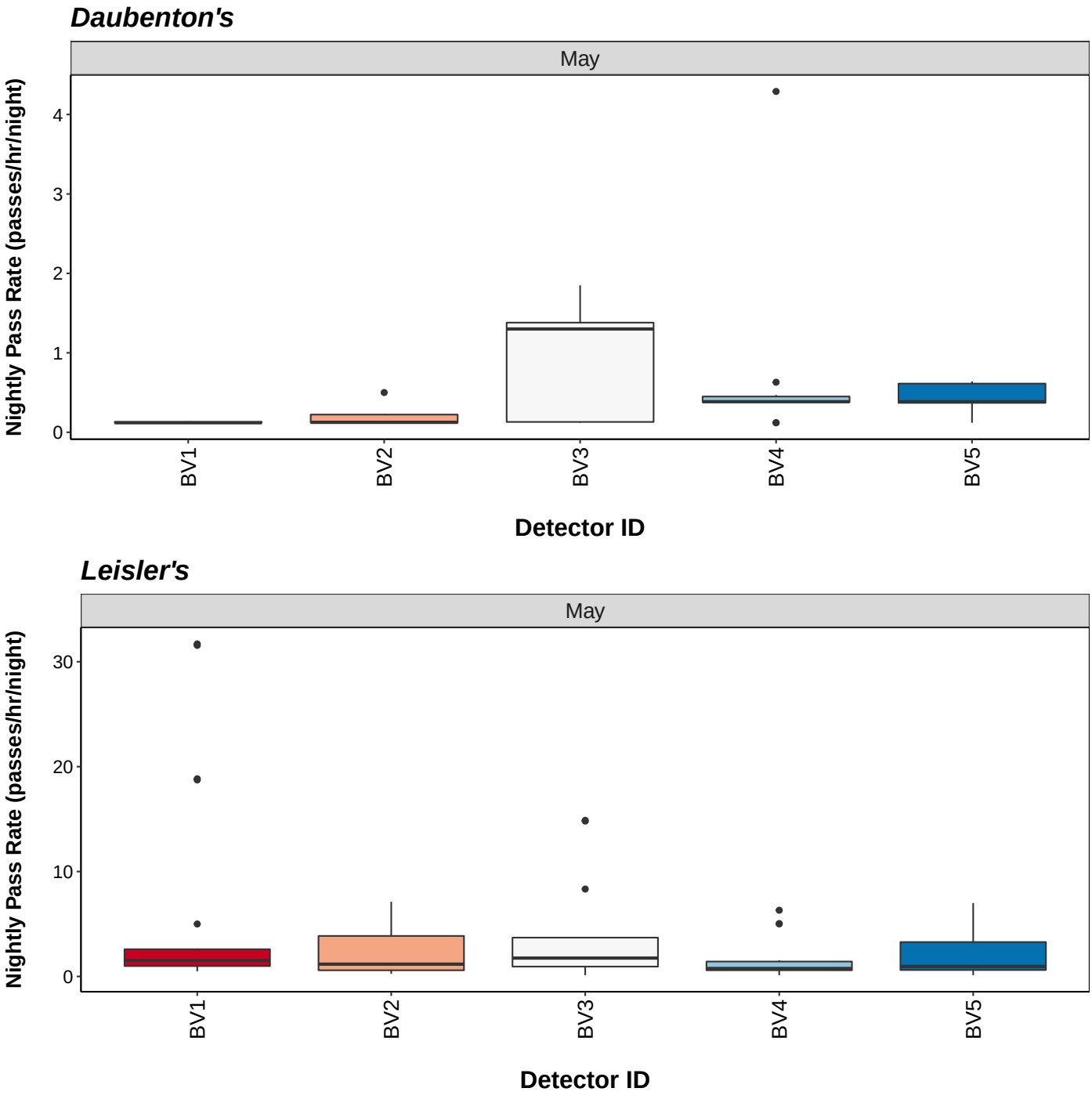
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

Species	Detector ID	May	Jun
Common pipistrelle	BV1	1.6	NA
Common pipistrelle	BV2	3.0	NA
Common pipistrelle	BV3	4.9	NA
Common pipistrelle	BV4	3.2	NA
Common pipistrelle	BV5	5.9	NA
Soprano pipistrelle	BV1	0.2	NA
Soprano pipistrelle	BV2	0.4	NA
Soprano pipistrelle	BV3	0.3	NA
Soprano pipistrelle	BV4	0.3	NA
Soprano pipistrelle	BV5	0.8	NA
Nathusius'	BV1	0.1	NA
Nathusius'	BV2	0.2	NA
Nathusius'	BV3	0.3	NA
Nathusius'	BV4	0.4	NA
Nathusius'	BV5	0.3	0.3
Leisler's	BV1	6.2	NA
Leisler's	BV2	2.5	NA
Leisler's	BV3	3.7	NA
Leisler's	BV4	1.6	NA
Leisler's	BV5	2.1	NA
Daubenton's	BV1	0.1	NA
Daubenton's	BV2	0.2	NA
Daubenton's	BV3	1.0	NA
Daubenton's	BV4	0.8	NA
Daubenton's	BV5	0.5	NA
Whiskered	BV2	0.1	NA
Whiskered	BV3	0.1	NA
Whiskered	BV4	0.1	NA
Whiskered	BV5	0.3	NA
Natterer's	BV2	0.2	NA
Natterer's	BV3	0.1	NA
Natterer's	BV4	0.2	NA
Natterer's	BV5	0.2	NA

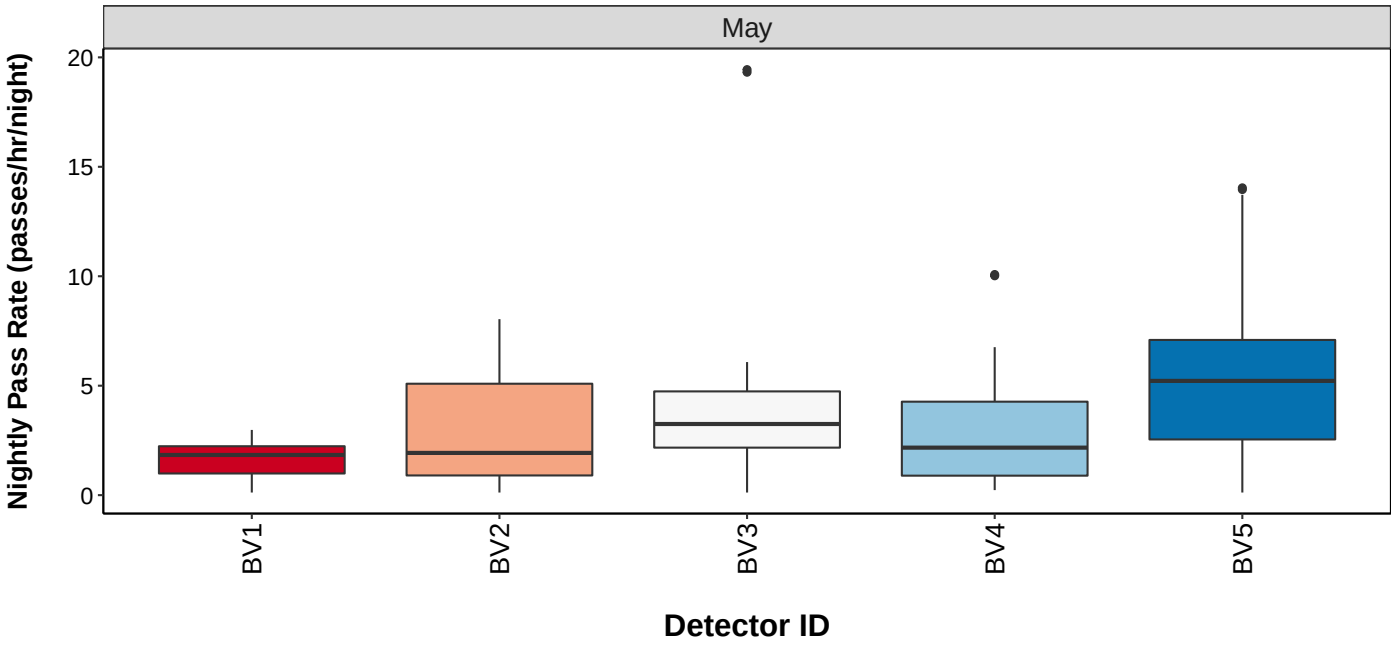
Nightly Bat Pass Rate for each Month

Per Detector - Figures

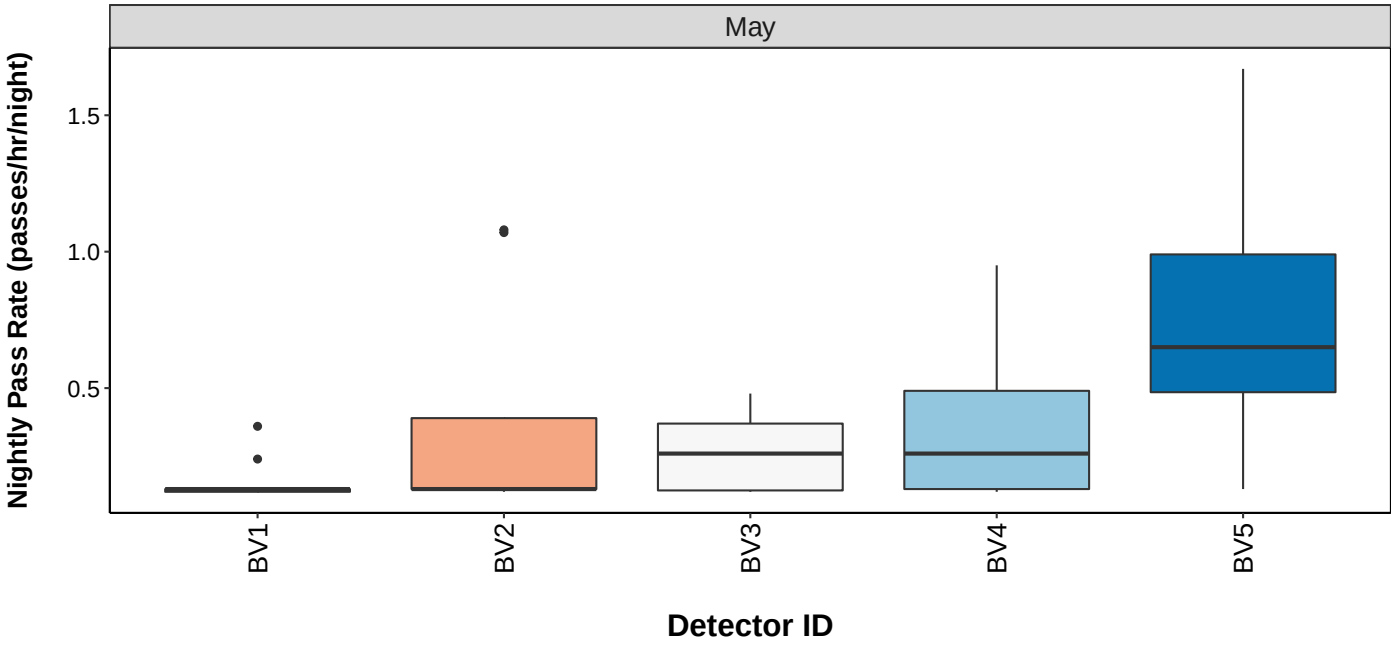
Figure 12. Figures show boxplots for the number of bat passes per hour by detector, for each month. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.

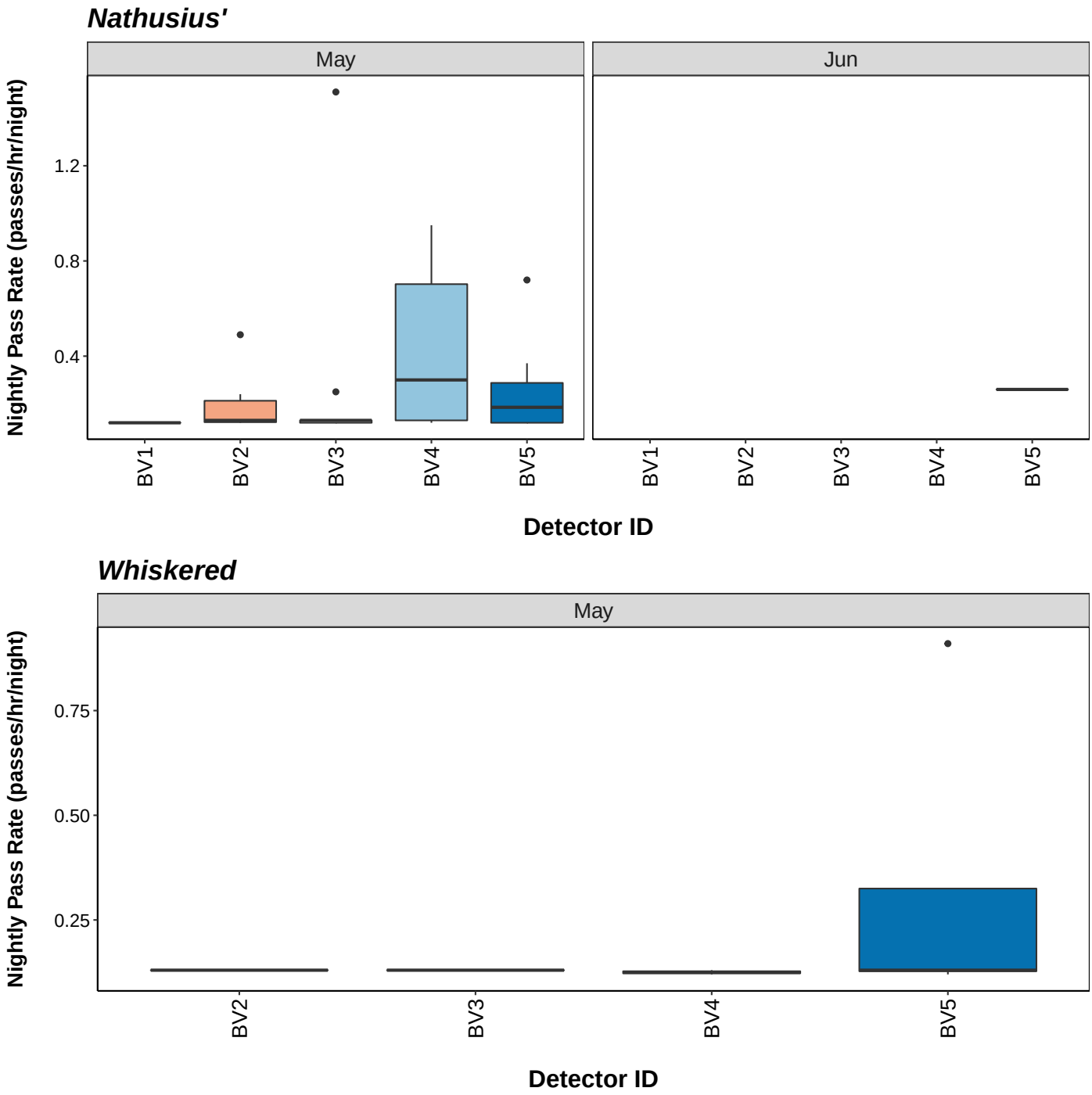


Common pipistrelle

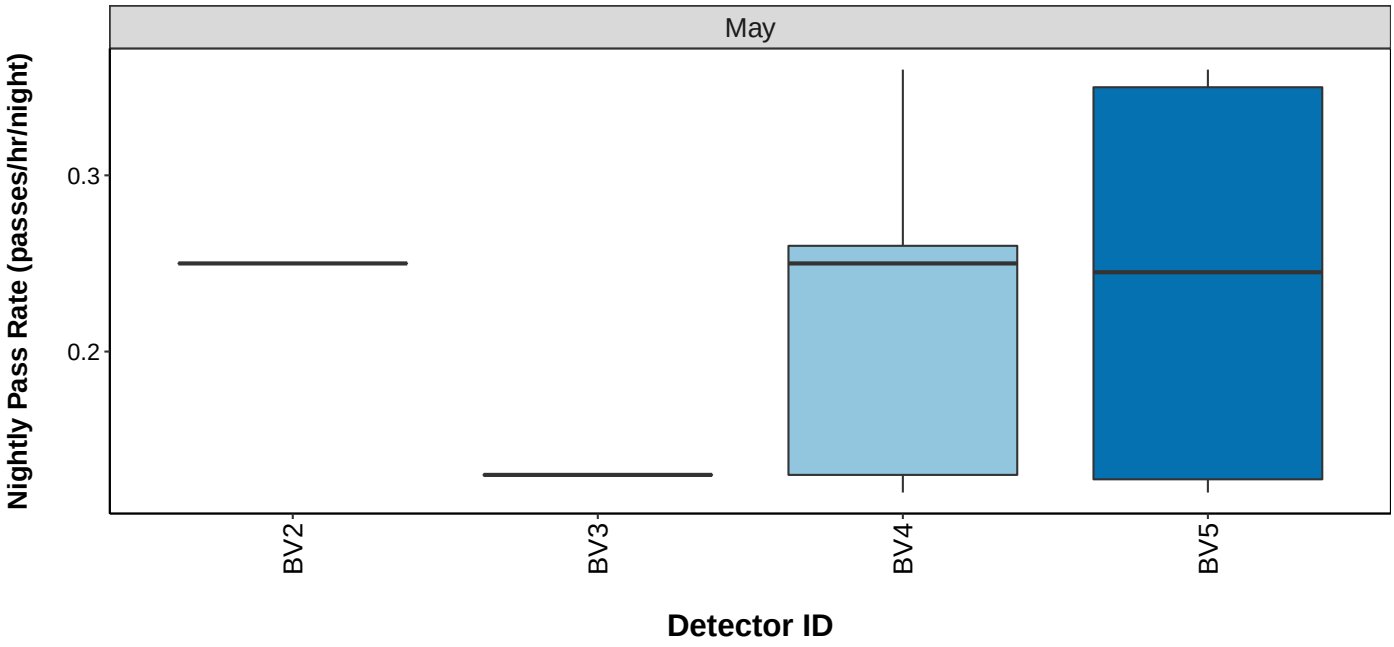


Soprano pipistrelle




Nathusius'
May
Jun
Nightly Pass Rate (passes/hr/night)
1.2
0.8
0.4
BV1
BV2
BV3
BV4
BV5
Detector ID
Whiskered
May
Nightly Pass Rate (passes/hr/night)
0.75
0.50
0.25
BV2
BV3
BV4
BV5
Detector ID

Natterer's


May
Nightly Pass Rate (passes/hr/night)
0.3
0.2
BV2
BV3
BV4
BV5
Detector ID

Bat Activity per Detector Location

Figure 13. Detector ID reference:

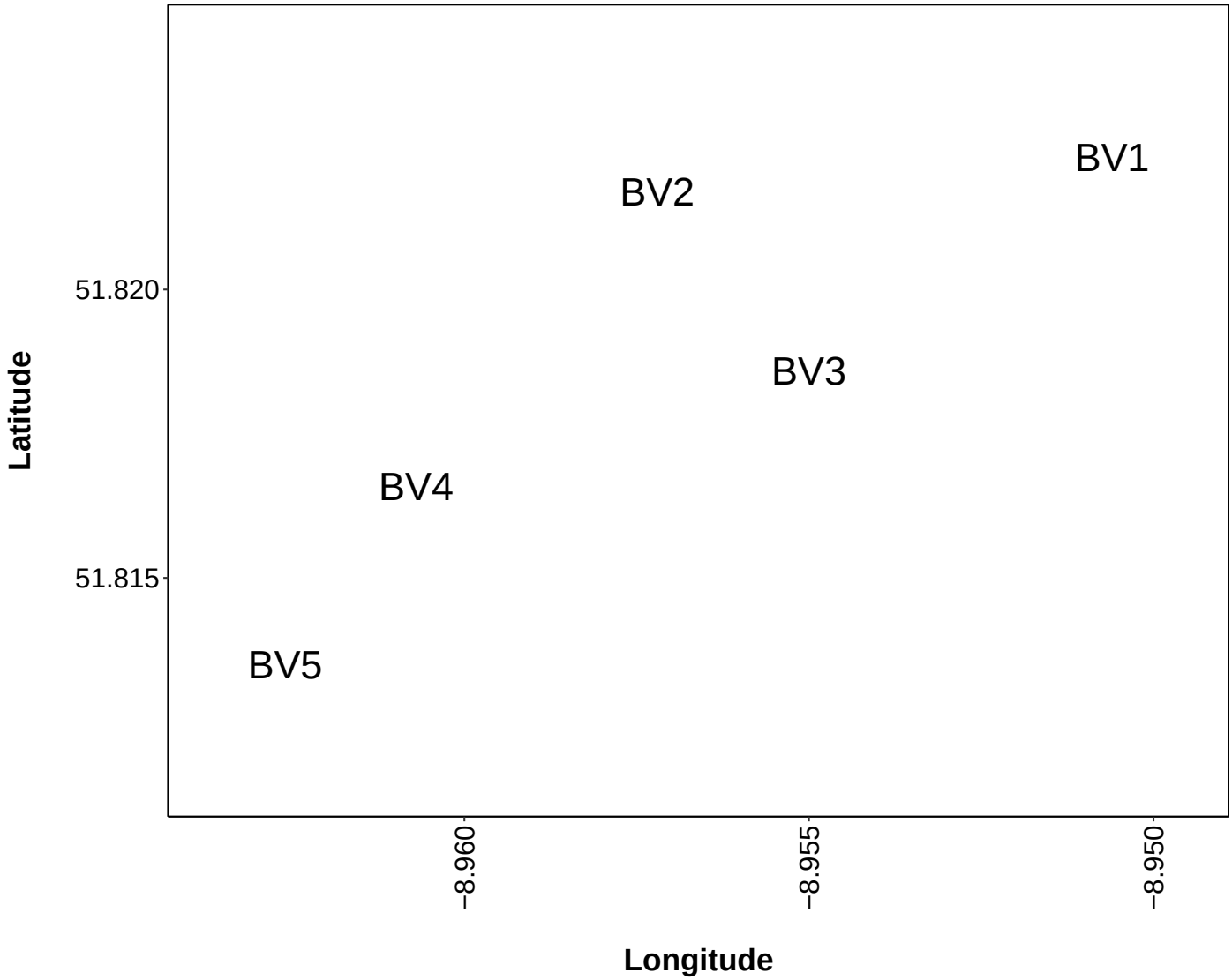
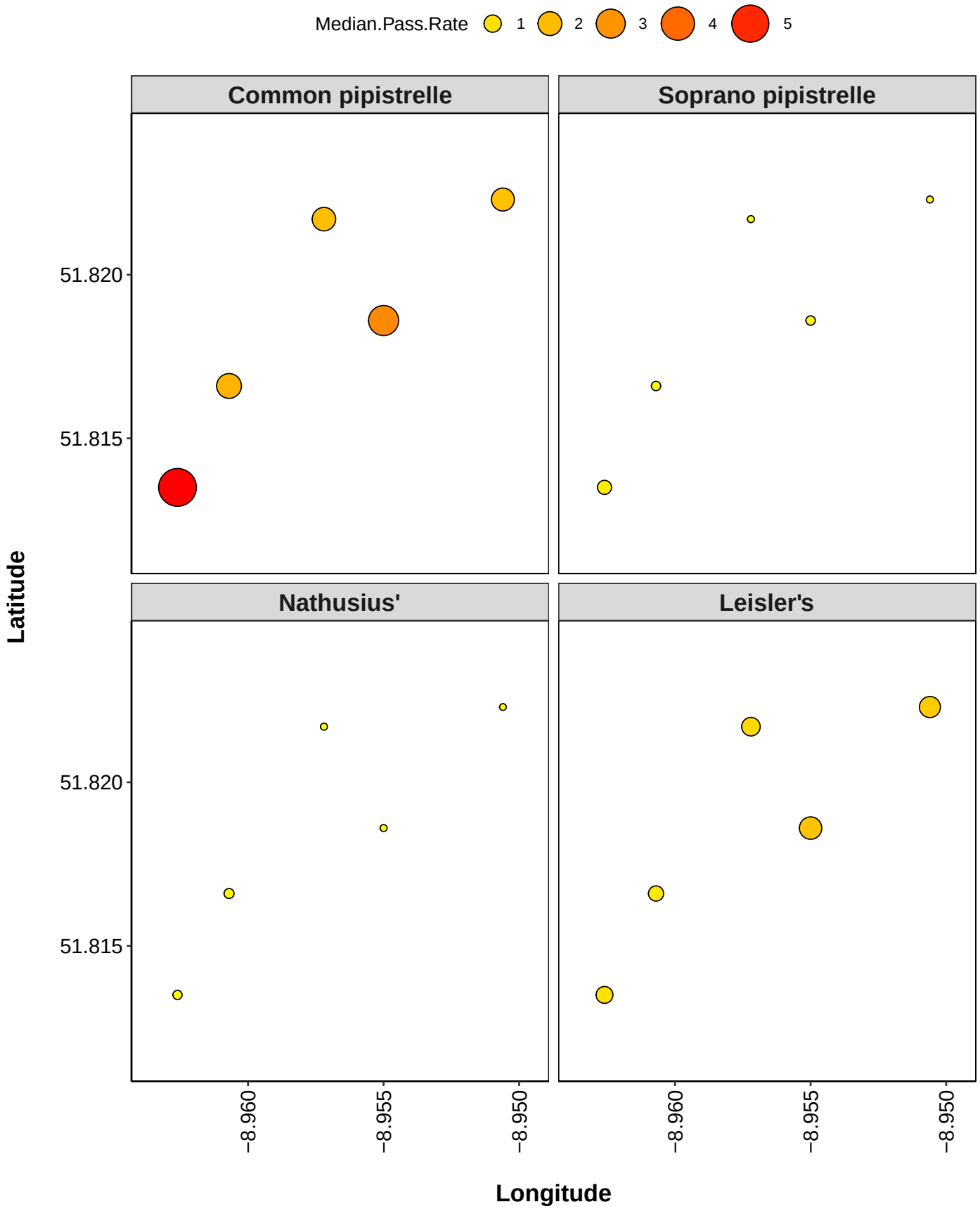


Figure 14. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.



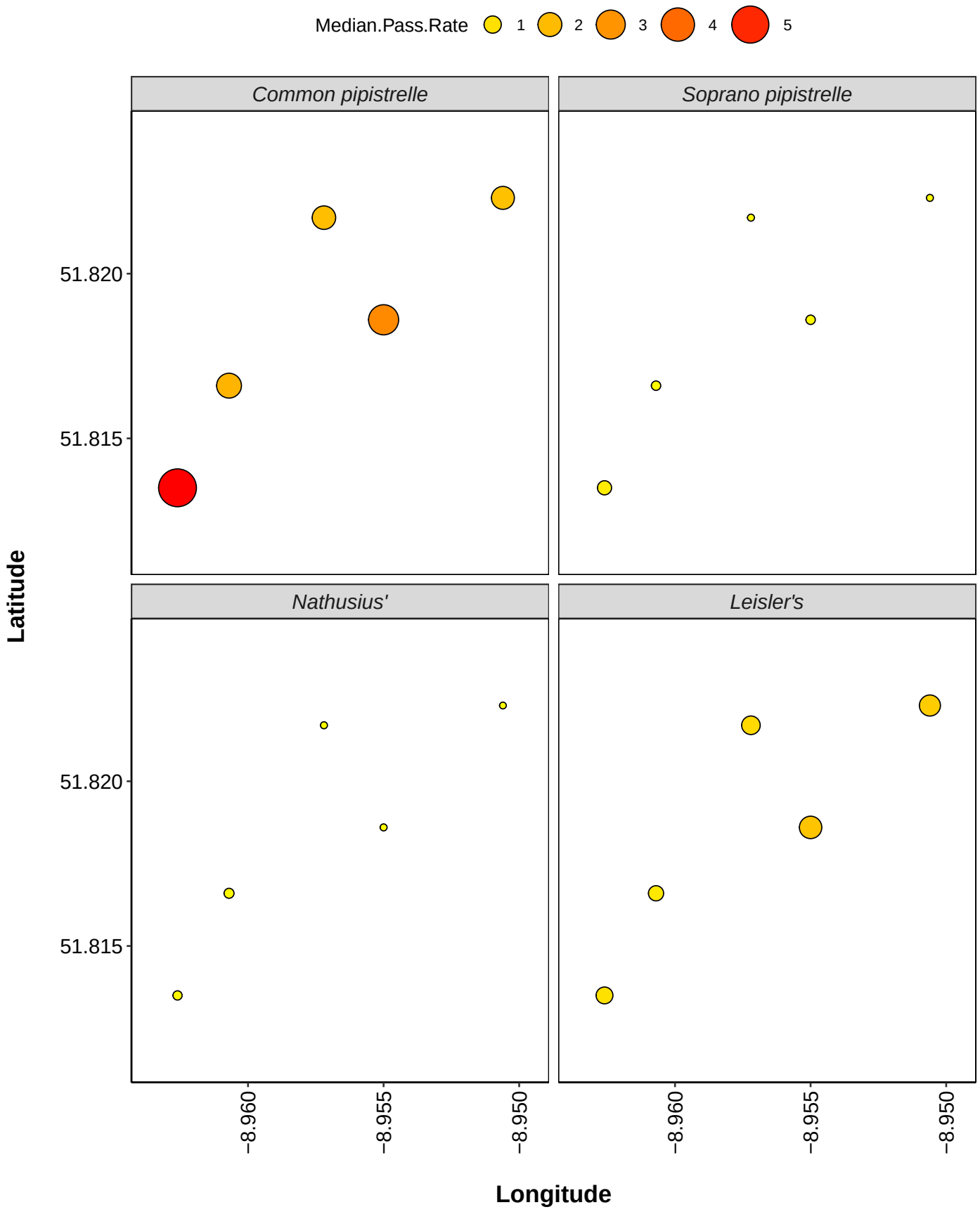
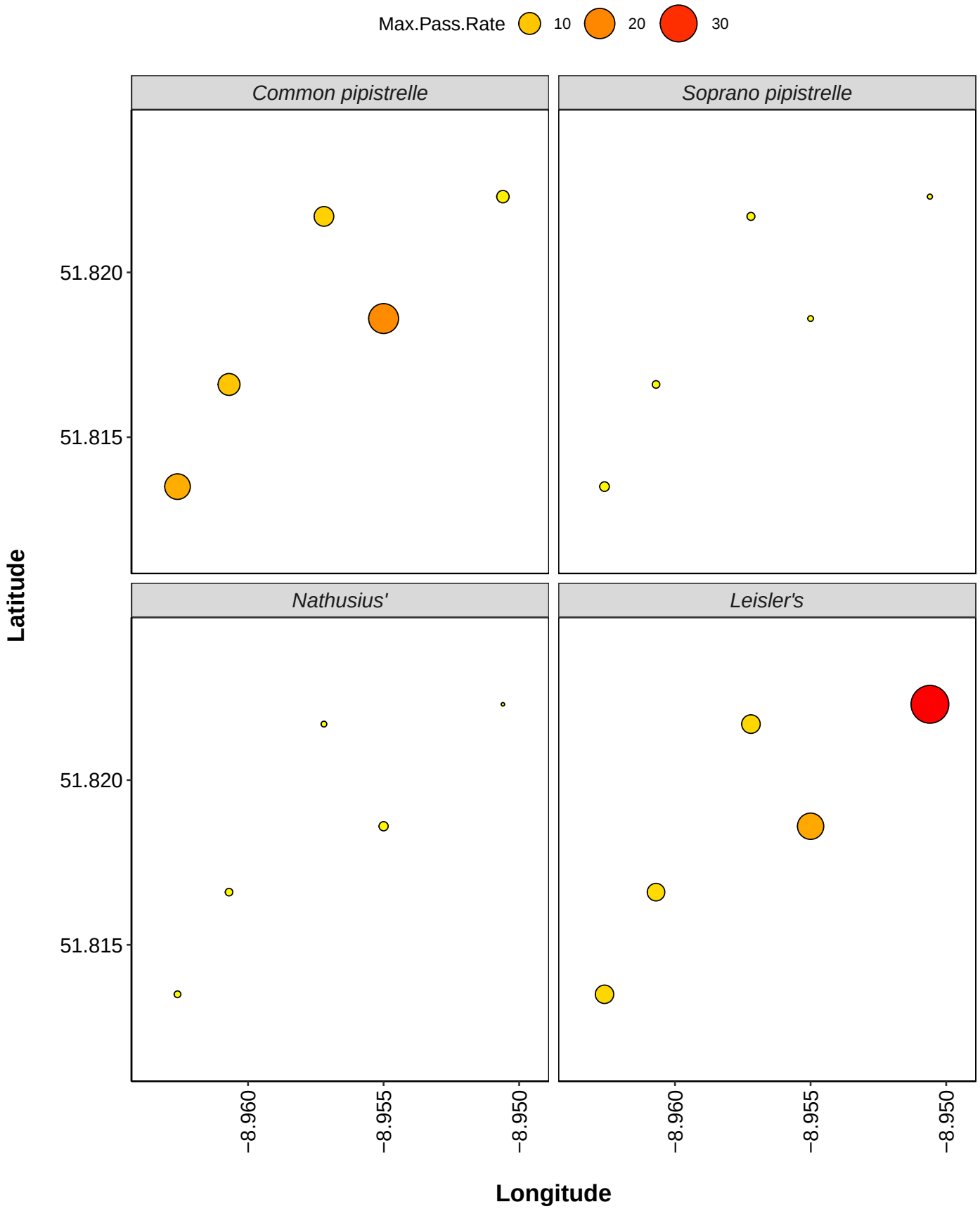
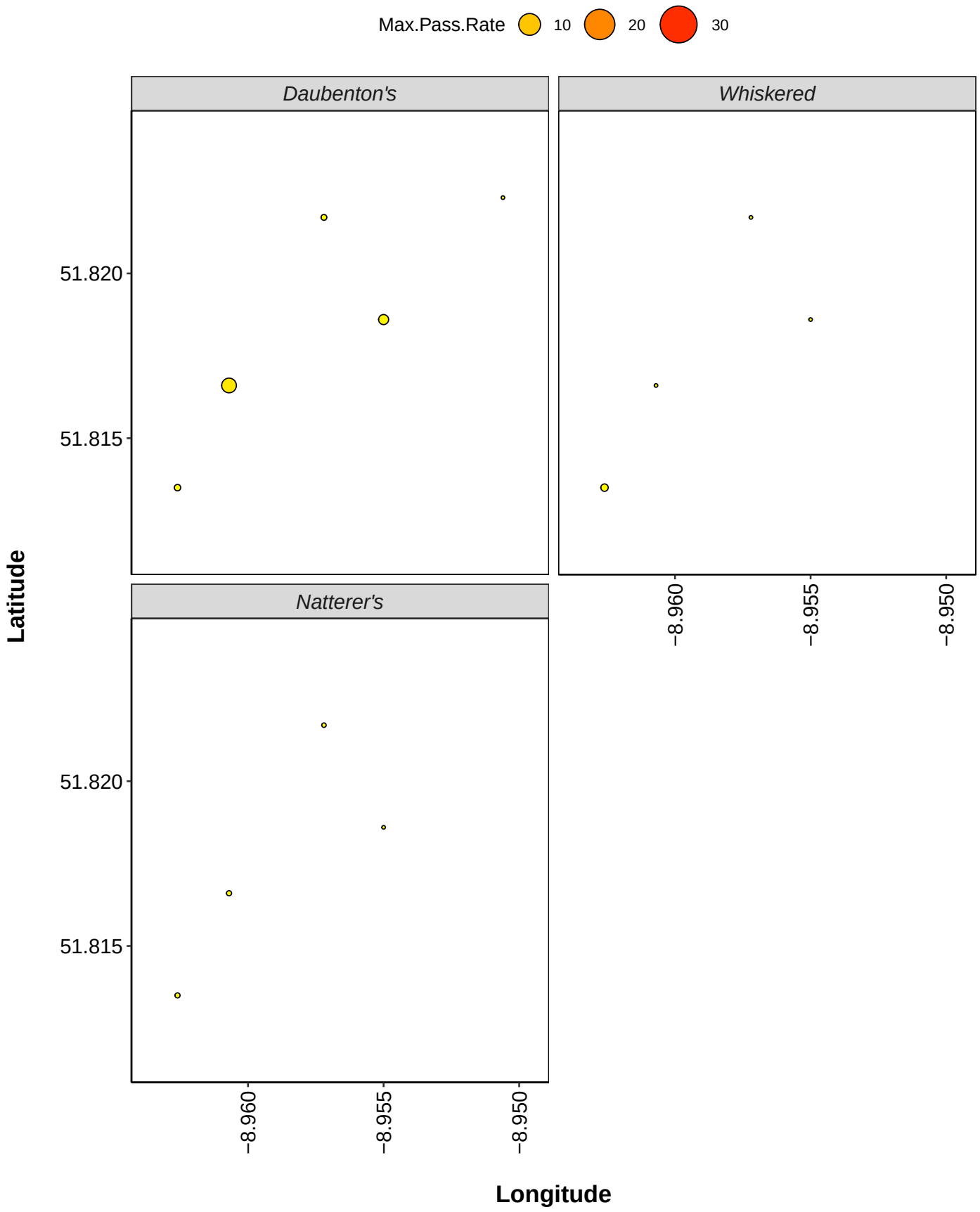

Median.Pass.Rate
1
2
3
4
5
Common pipistrelle
Soprano pipistrelle
Nathusius'
Leisler's
51.820
51.815
51.820
51.815
−8.960
−8.955
−8.950
−8.960
−8.955
−8.950
Latitude
Longitude

Figure 15. Maximum Nightly Pass Rate (bat passes/hr/night) recorded in a single night throughout the survey period - represented by the size and colour of the point at each detector location.




Max.Pass.Rate
10
20
30
Daubenton's
Whiskered
Natterer's
Latitude
51.820
51.815
−8.960
−8.955
−8.950
Longitude

PART 2B: Includes absences

THE NEXT SECTION OF THE REPORT FEATURES THE DATA SUPPLIED TO ECOBAT BUT TAKES INTO ACCOUNT SPECIES ABSENCES, AND THEREFORE INCLUDES 'ZERO DATA' FOR WHEN SPECIES WERE NOT DETECTED AT EACH DETECTOR ON A NIGHT. THIS DRAMATICALLY LOWERS THE MEANS AND MEDIANS OF THE DATA PRESENTED.

Nightly Bat Pass Rate (Bat passes per hour)

Median Per Detector

Table 22. The median Nightly Pass Rate (bat passes per hour, per night) of each species. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Median Pass Rate
Common pipistrelle	BV1	1.5
Common pipistrelle	BV2	1.7
Common pipistrelle	BV3	2.8
Common pipistrelle	BV4	1.9
Common pipistrelle	BV5	3.3
Daubenton's	BV1	0.0
Daubenton's	BV2	0.0
Daubenton's	BV3	0.0
Daubenton's	BV4	0.1
Daubenton's	BV5	0.4
Leisler's	BV1	1.5
Leisler's	BV2	0.8
Leisler's	BV3	1.5
Leisler's	BV4	0.8
Leisler's	BV5	0.6
Nathusius'	BV1	0.0
Nathusius'	BV2	0.0
Nathusius'	BV3	0.0
Nathusius'	BV4	0.0
Nathusius'	BV5	0.0
Natterer's	BV1	0.0
Natterer's	BV2	0.0
Natterer's	BV3	0.0
Natterer's	BV4	0.1
Natterer's	BV5	0.0
Soprano pipistrelle	BV1	0.1
Soprano pipistrelle	BV2	0.1
Soprano pipistrelle	BV3	0.1
Soprano pipistrelle	BV4	0.1
Soprano pipistrelle	BV5	0.3
Whiskered	BV1	0.0
Whiskered	BV2	0.0
Whiskered	BV3	0.0
Whiskered	BV4	0.0
Whiskered	BV5	0.0

Nightly Bat Pass Rate (Bat passes per hour)

Mean per Detector

Table 23. The mean Nightly Pass Rate (bat passes per hour, per night) of each species at each detector. Values are given to 1 decimal place.

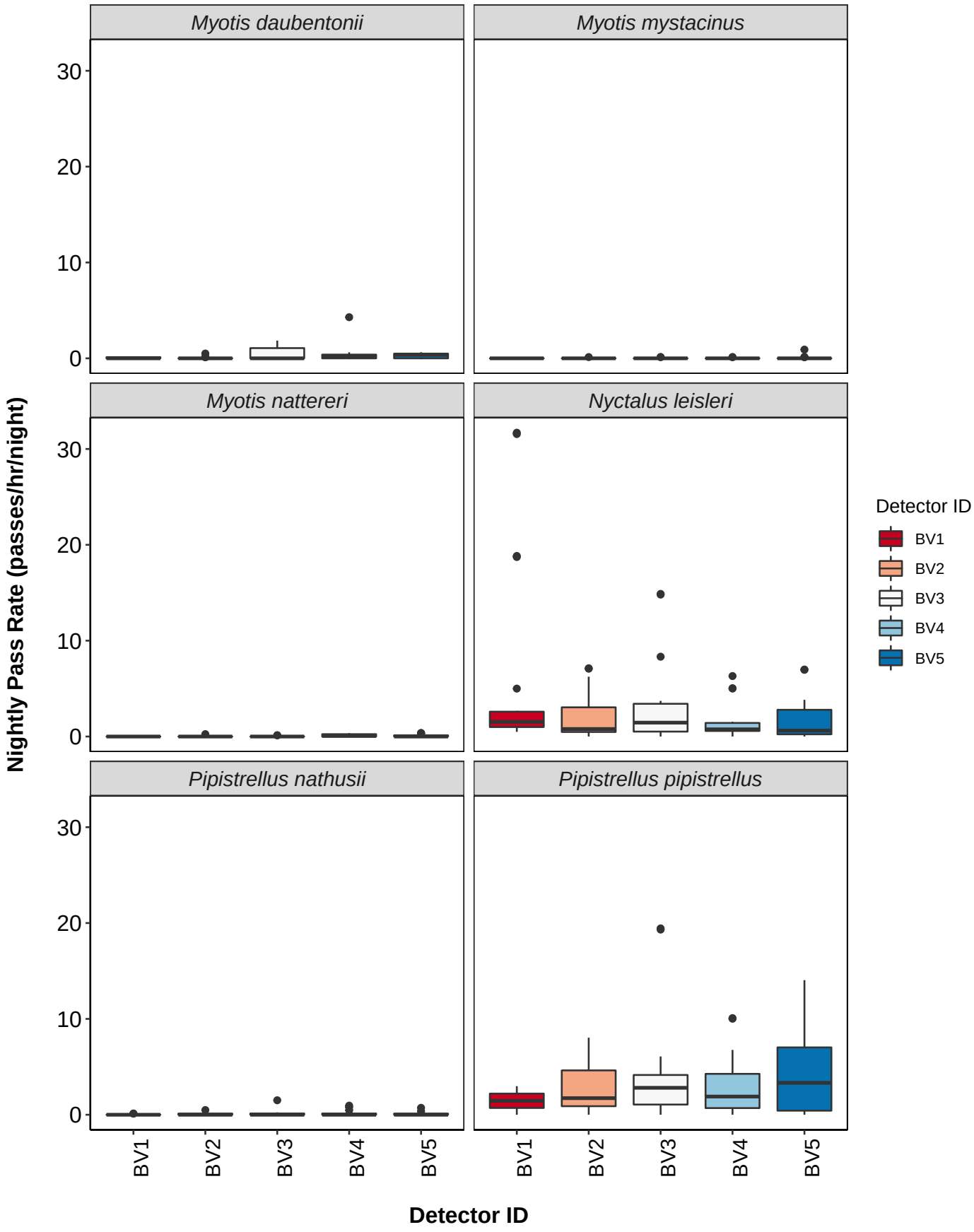
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

Species	Detector ID	Mean Pass Rate
Common pipistrelle	BV1	1.4
Common pipistrelle	BV2	2.9
Common pipistrelle	BV3	4.2
Common pipistrelle	BV4	3.0
Common pipistrelle	BV5	4.8
Daubenton's	BV1	0.0
Daubenton's	BV2	0.0
Daubenton's	BV3	0.5
Daubenton's	BV4	0.4
Daubenton's	BV5	0.3
Leisler's	BV1	6.2
Leisler's	BV2	2.2
Leisler's	BV3	3.1
Leisler's	BV4	1.5
Leisler's	BV5	1.6
Nathusius'	BV1	0.0
Nathusius'	BV2	0.1
Nathusius'	BV3	0.1
Nathusius'	BV4	0.1
Nathusius'	BV5	0.1
Natterer's	BV1	0.0
Natterer's	BV2	0.0
Natterer's	BV3	0.0
Natterer's	BV4	0.1
Natterer's	BV5	0.1
Soprano pipistrelle	BV1	0.1
Soprano pipistrelle	BV2	0.2
Soprano pipistrelle	BV3	0.1
Soprano pipistrelle	BV4	0.2
Soprano pipistrelle	BV5	0.5
Whiskered	BV1	0.0
Whiskered	BV2	0.0
Whiskered	BV3	0.0
Whiskered	BV4	0.0
Whiskered	BV5	0.1

Nightly Bat Passes (Bat passes per hour)

Per Detector - Figures

Figure 16. Figures show boxplots for the number of bat passes per hour each night, for each detector. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.



Error: Cannot create zero-length unit vector ("unit" subsetting)

Survey Effort

Table 24. The number of nights bats were detected per month per detector.

Month	Detector ID	No of Survey Nights
May	BV1	20
May	BV2	18
May	BV3	20
May	BV4	18
May	BV5	22
Jun	BV5	1

Nightly Bat Pass Rate for each Month

Median Per Detector

Table 25. The median Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Jun	May
Common pipistrelle	BV1	NA	1.5
Common pipistrelle	BV2	NA	1.7
Common pipistrelle	BV3	NA	2.8
Common pipistrelle	BV4	NA	1.9
Common pipistrelle	BV5	0.0	3.3
Daubenton's	BV1	NA	0.0
Daubenton's	BV2	NA	0.0
Daubenton's	BV3	NA	0.0
Daubenton's	BV4	NA	0.1
Daubenton's	BV5	0.0	0.4
Leisler's	BV1	NA	1.5
Leisler's	BV2	NA	0.8
Leisler's	BV3	NA	1.5
Leisler's	BV4	NA	0.8
Leisler's	BV5	0.0	0.7
Nathusius'	BV1	NA	0.0
Nathusius'	BV2	NA	0.0
Nathusius'	BV3	NA	0.0
Nathusius'	BV4	NA	0.0
Nathusius'	BV5	0.3	0.0
Natterer's	BV1	NA	0.0
Natterer's	BV2	NA	0.0
Natterer's	BV3	NA	0.0
Natterer's	BV4	NA	0.1
Natterer's	BV5	0.0	0.0
Soprano pipistrelle	BV1	NA	0.1
Soprano pipistrelle	BV2	NA	0.1
Soprano pipistrelle	BV3	NA	0.1
Soprano pipistrelle	BV4	NA	0.1
Soprano pipistrelle	BV5	0.0	0.5
Whiskered	BV1	NA	0.0
Whiskered	BV2	NA	0.0
Whiskered	BV3	NA	0.0
Whiskered	BV4	NA	0.0
Whiskered	BV5	0.0	0.0

Nightly Bat Pass Rate for each Month

Mean per Detector

Table 26. The mean Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. Values are given to 1 decimal place.

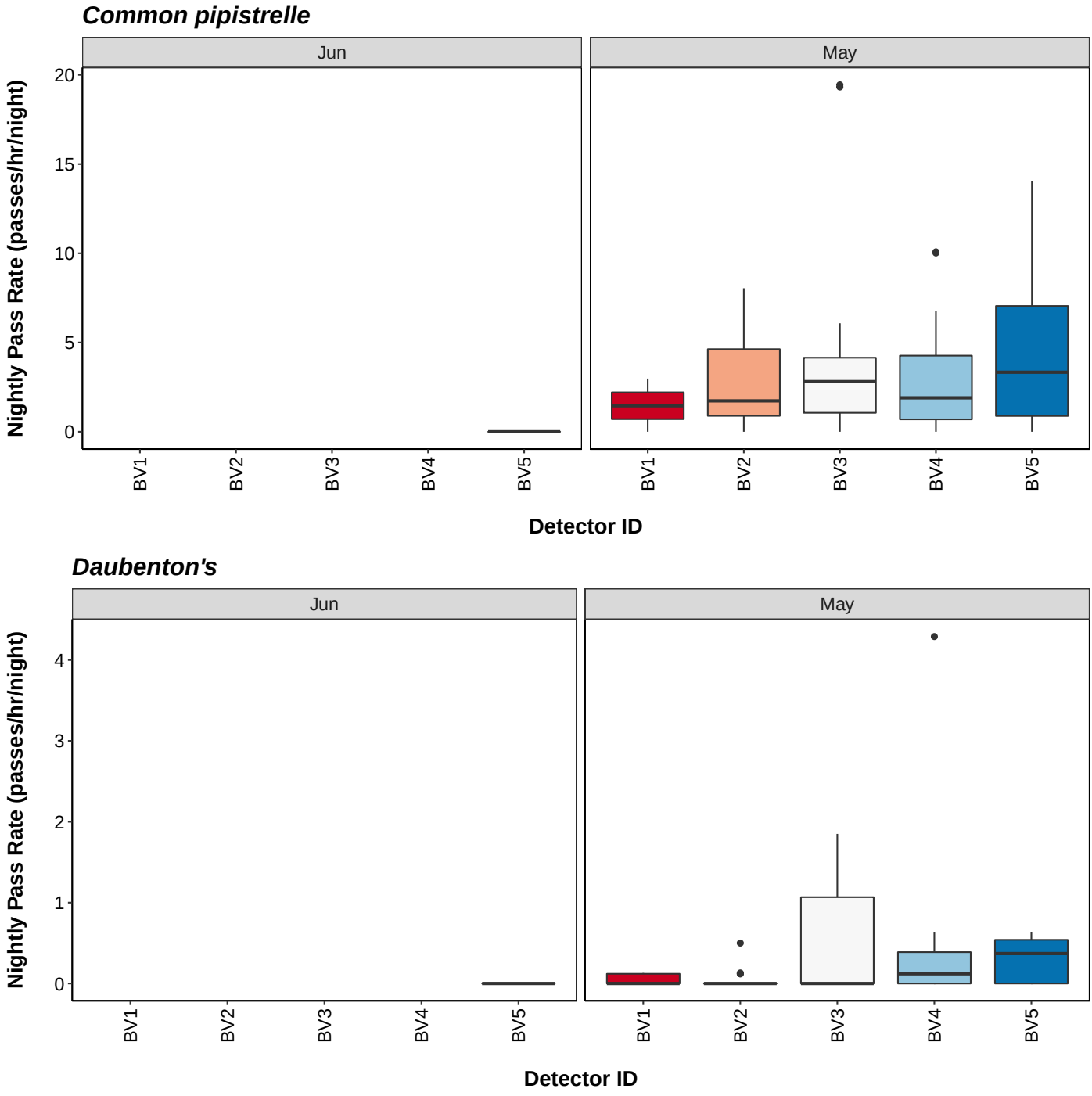
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

Species	Detector ID	Jun	May
Common pipistrelle	BV1	NA	1.4
Common pipistrelle	BV2	NA	2.9
Common pipistrelle	BV3	NA	4.2
Common pipistrelle	BV4	NA	3.0
Common pipistrelle	BV5	0.0	5.1
Daubenton's	BV1	NA	0.0
Daubenton's	BV2	NA	0.0
Daubenton's	BV3	NA	0.5
Daubenton's	BV4	NA	0.4
Daubenton's	BV5	0.0	0.3
Leisler's	BV1	NA	6.2
Leisler's	BV2	NA	2.2
Leisler's	BV3	NA	3.1
Leisler's	BV4	NA	1.5
Leisler's	BV5	0.0	1.7
Nathusius'	BV1	NA	0.0
Nathusius'	BV2	NA	0.1
Nathusius'	BV3	NA	0.1
Nathusius'	BV4	NA	0.1
Nathusius'	BV5	0.3	0.1
Natterer's	BV1	NA	0.0
Natterer's	BV2	NA	0.0
Natterer's	BV3	NA	0.0
Natterer's	BV4	NA	0.1
Natterer's	BV5	0.0	0.1
Soprano pipistrelle	BV1	NA	0.1
Soprano pipistrelle	BV2	NA	0.2
Soprano pipistrelle	BV3	NA	0.1
Soprano pipistrelle	BV4	NA	0.2
Soprano pipistrelle	BV5	0.0	0.5
Whiskered	BV1	NA	0.0
Whiskered	BV2	NA	0.0
Whiskered	BV3	NA	0.0
Whiskered	BV4	NA	0.0
Whiskered	BV5	0.0	0.1

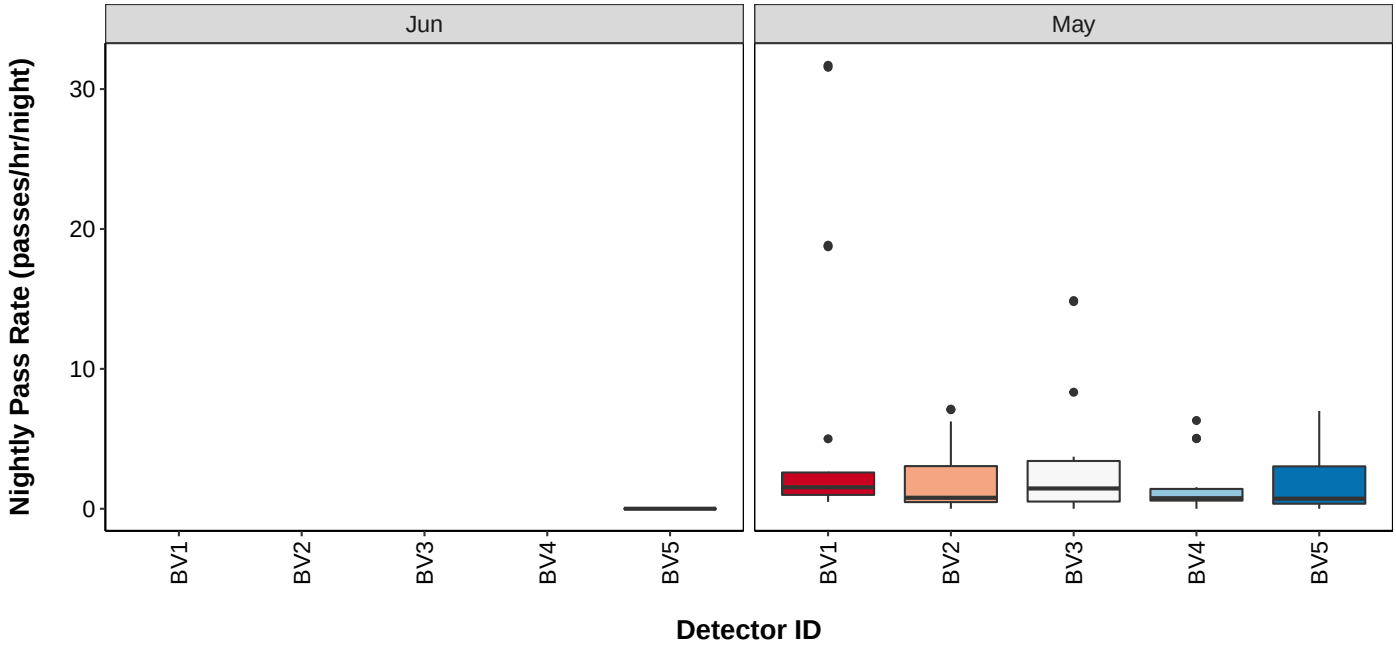
Nightly Bat Pass Rate for each Month

Per Detector - Figures

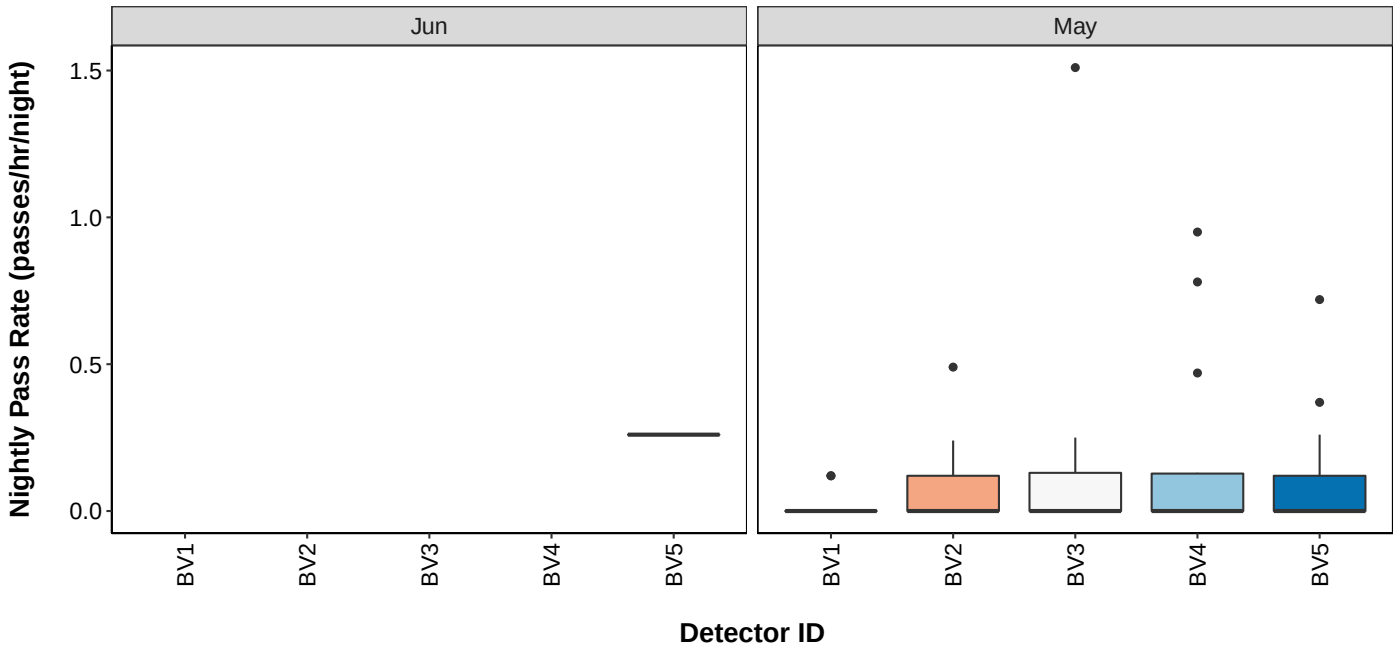
Figure 17. Figures show boxplots for the number of bat passes per hour by detector, for each month. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.



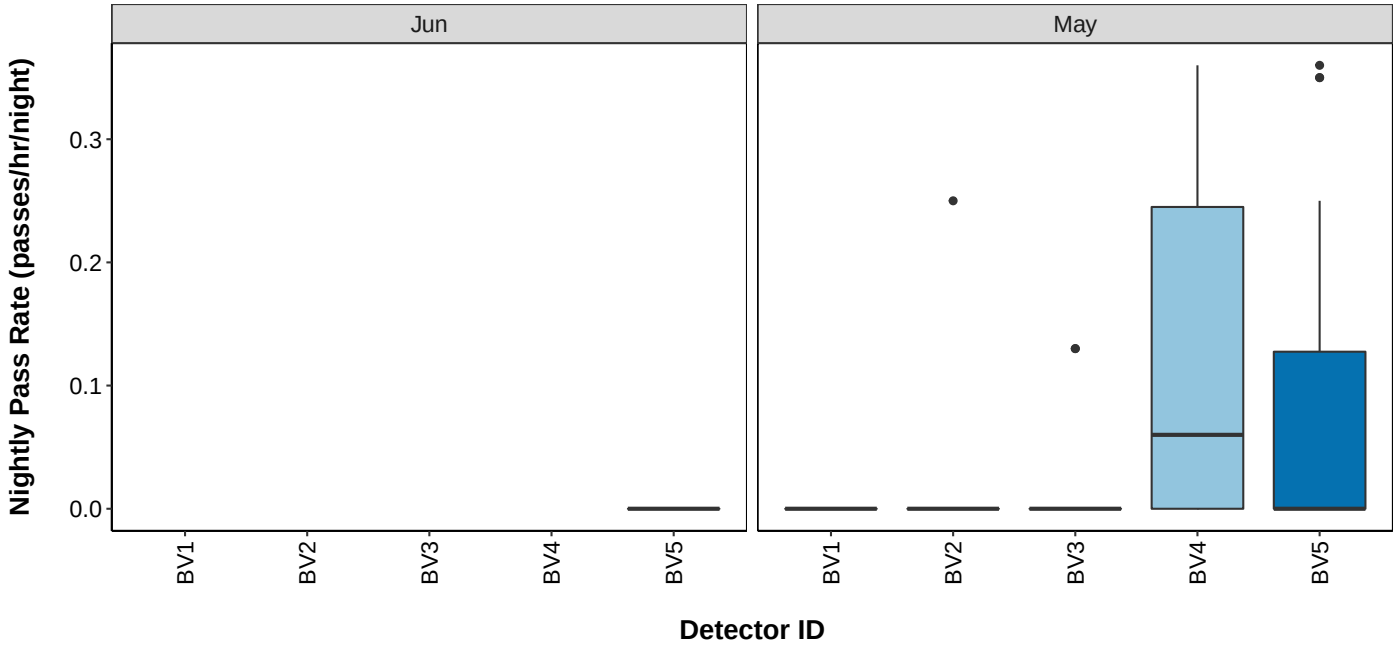
Leisler's



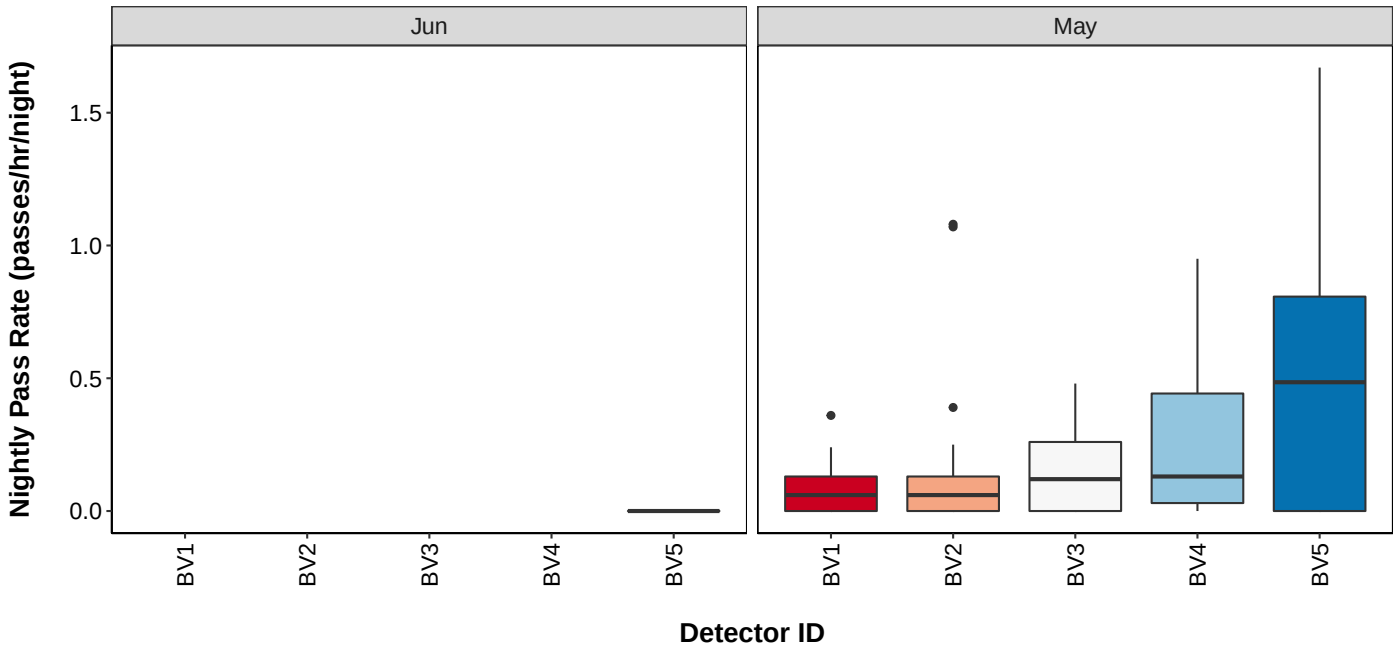
Nathusius'



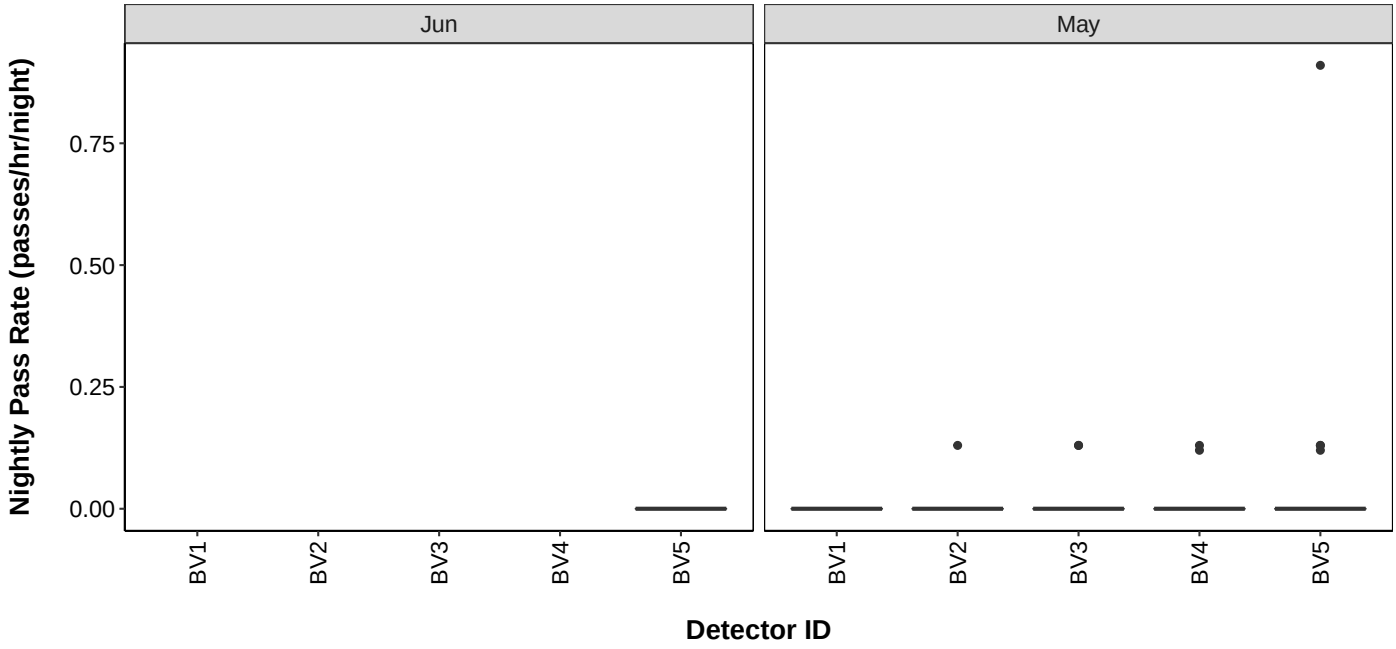
Natterer's



Soprano pipistrelle



Whiskered


Jun
May
Nightly Pass Rate (passes/hr/night)
0.75
0.50
0.25
0.00
BV1
BV2
BV3
BV4
BV5
Detector ID

Bat Activity per Detector Location

Figure 18. Detector ID reference:

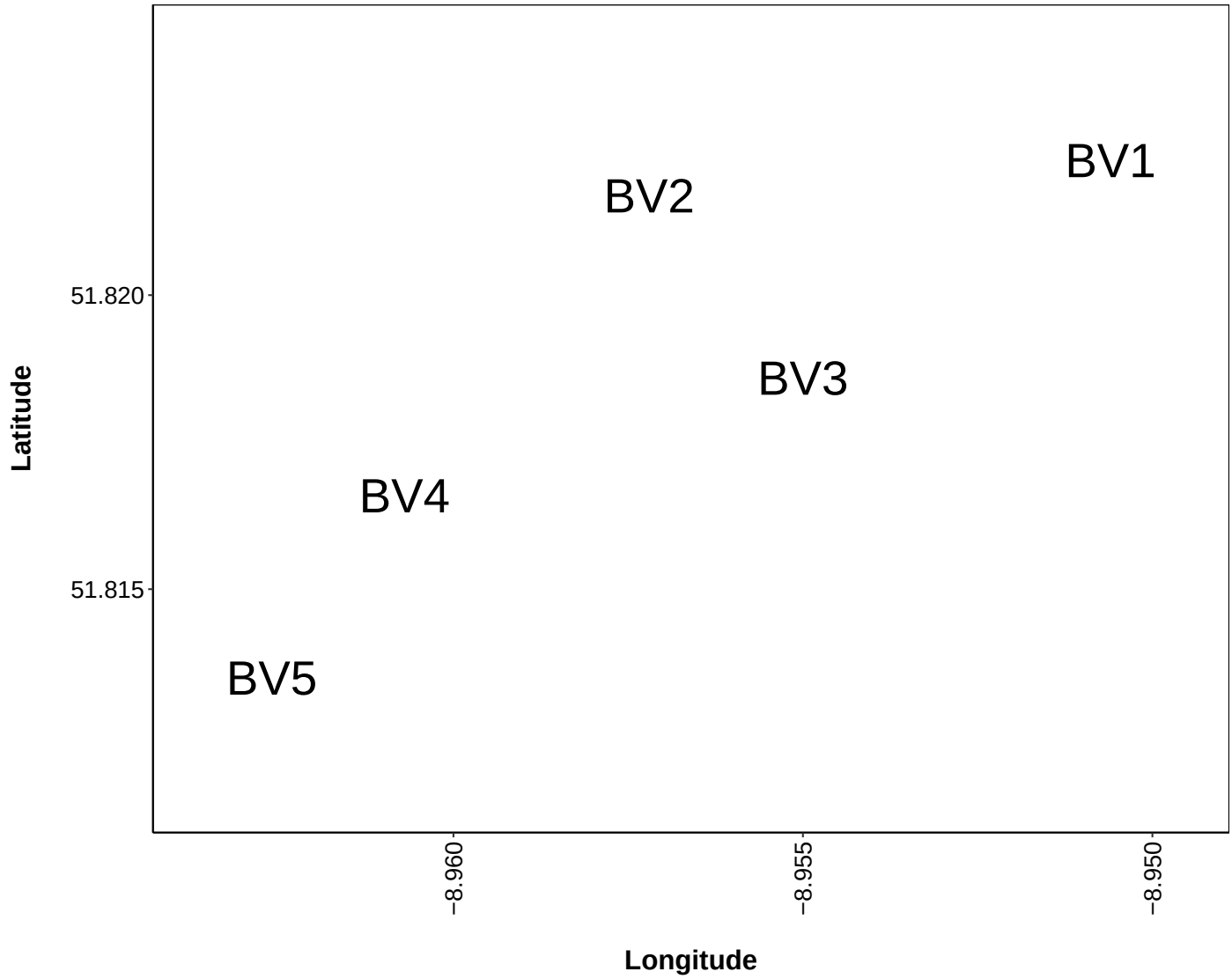
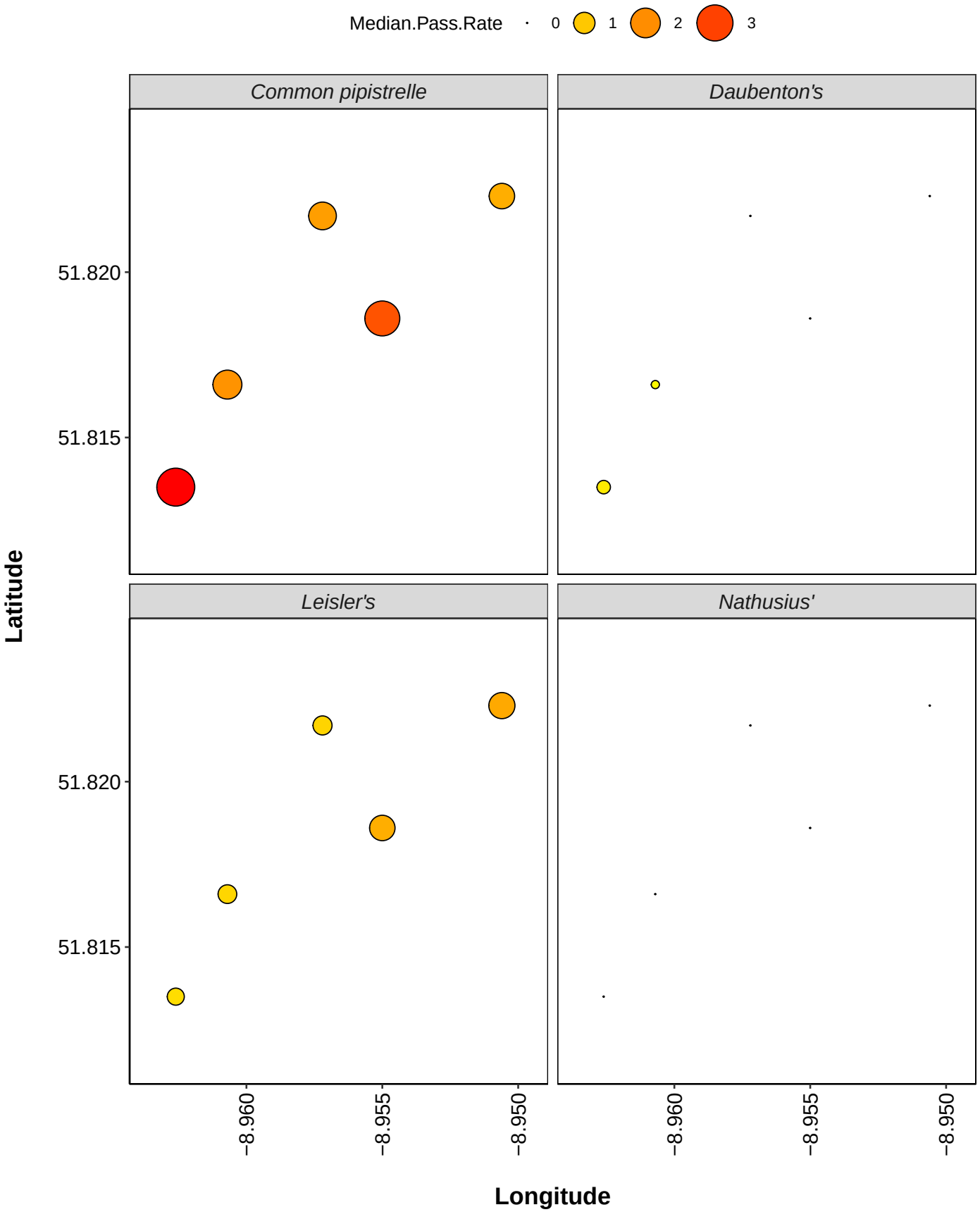


Figure 19. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.



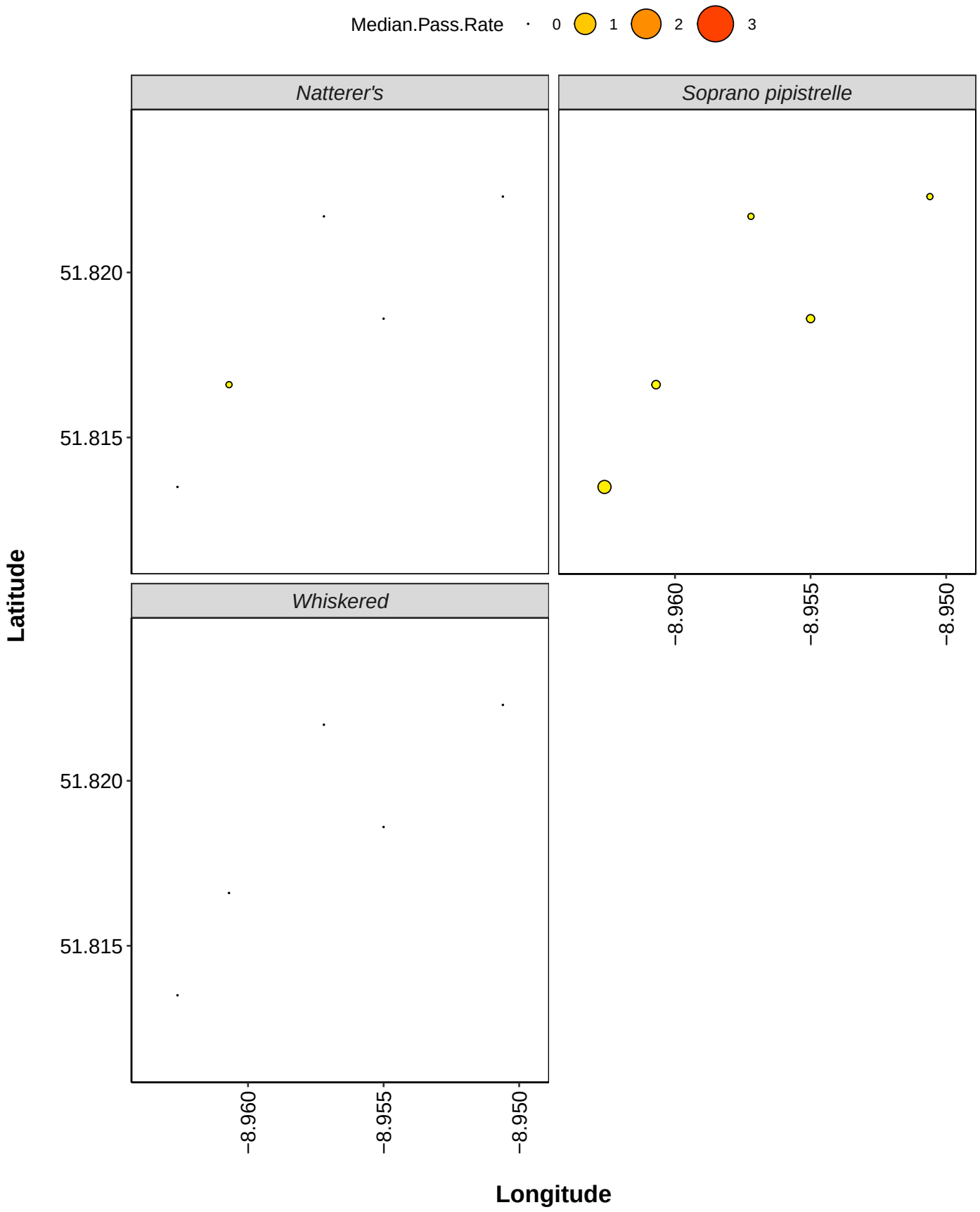
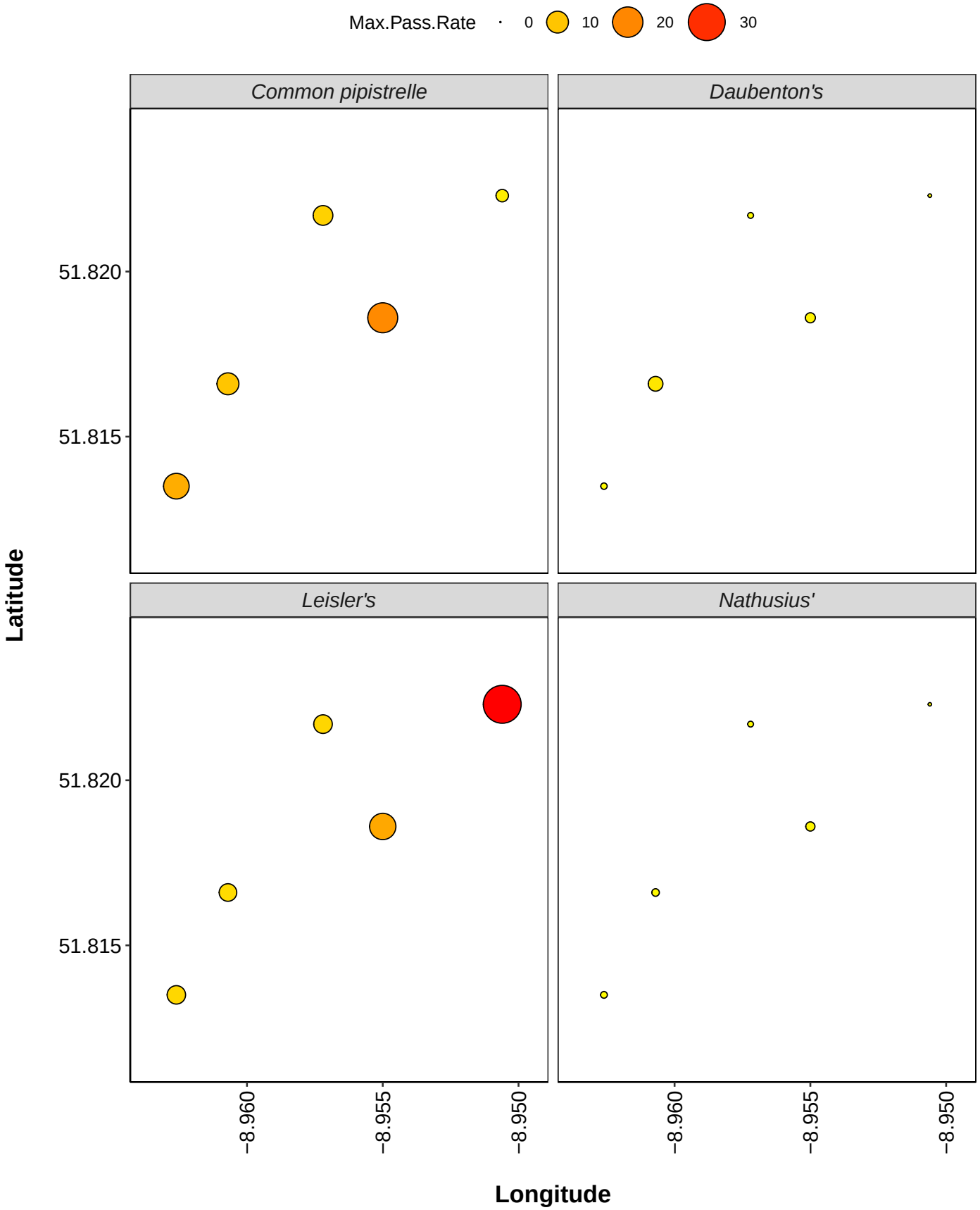
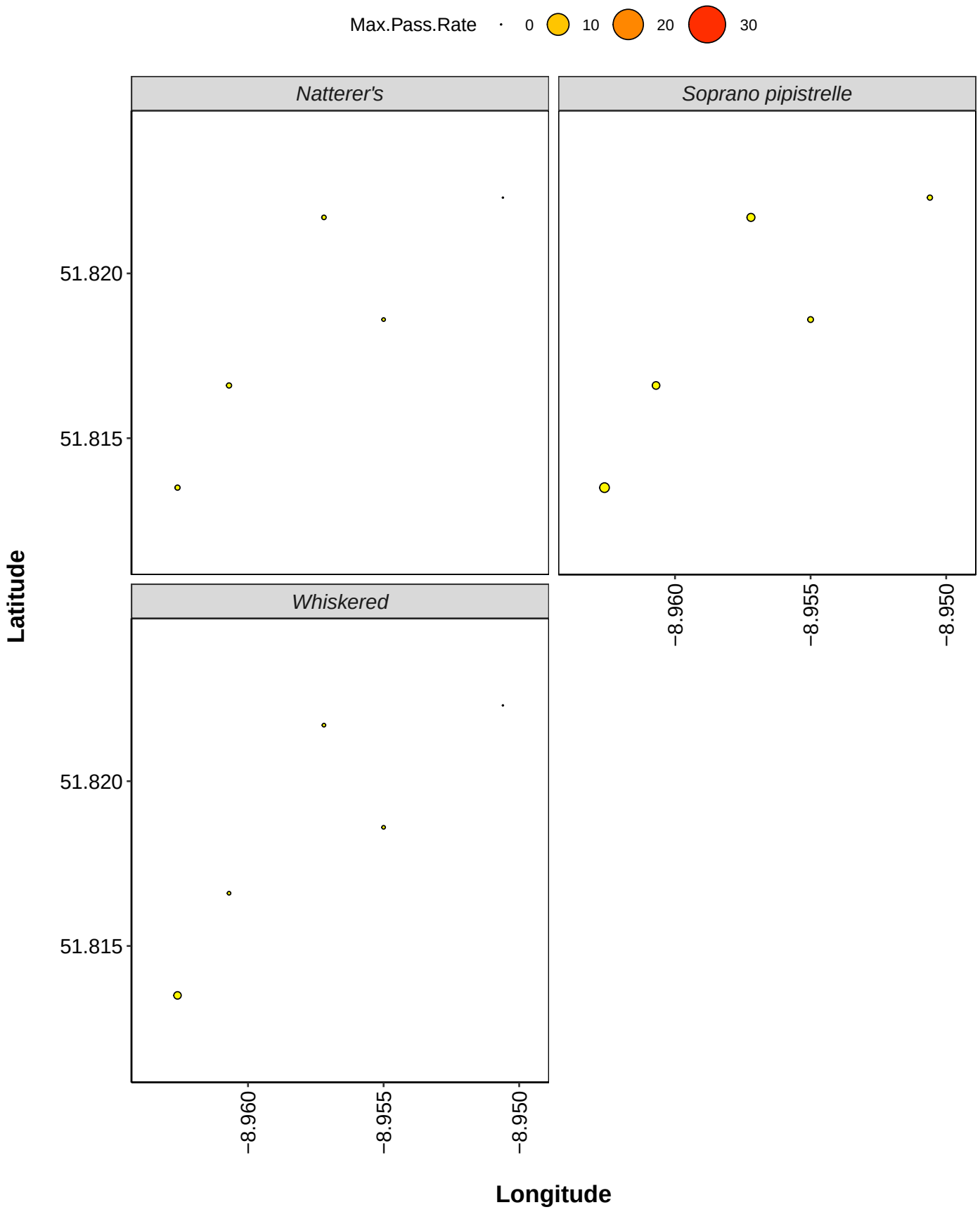

Median.Pass.Rate
0
1
2
3
Natterer's
Soprano pipistrelle
Whiskered
51.820
51.815
−8.960
−8.955
−8.950
Latitude
Longitude

Figure 20. Maximum Nightly Pass Rate (bat passes/hr/night) recorded in a single night throughout the survey period - represented by the size and colour of the point at each detector location.





Thank you for using Ecobat! If you have any questions please email info@themammalsociety.org

Bat Activity Analysis

Site Name: Barnadivane

Author: David Daly

2022-11-17 16:54:56

Summary

The geographic filter was: **Country** The time filter was: **All Data**

Bats were detected on **19** nights between **2022-06-22** and **2022-07-12**, using **5** static bat detectors. Throughout this period **7** species were recorded. **Table 1.** Detectors were placed at the following locations:

latlon	date	Detector ID	Latitude	Longitude
51.8223_-8.9506	04/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	13/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	27/06/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	09/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	01/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	23/06/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	10/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	08/07/2022	BV1	51.8223	-8.9506
51.8217_-8.9572	08/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	11/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	06/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	13/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	10/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	23/06/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	12/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	02/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	09/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	04/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	05/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	30/06/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	24/06/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	01/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	07/07/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	27/06/2022	BV2	51.8217	-8.9572
51.8186_-8.955	29/06/2022	BV3	51.8186	-8.9550
51.8186_-8.955	12/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	11/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	30/06/2022	BV3	51.8186	-8.9550
51.8186_-8.955	26/06/2022	BV3	51.8186	-8.9550
51.8186_-8.955	06/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	23/06/2022	BV3	51.8186	-8.9550
51.8186_-8.955	02/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	03/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	01/07/2022	BV3	51.8186	-8.9550
51.8166_-8.9607	10/07/2022	BV4	51.8166	-8.9607

latlon	date	Detector ID	Latitude	Longitude
51.8166_-8.9607	12/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	13/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	09/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	01/07/2022	BV4	51.8166	-8.9607
51.8101_-8.9618	12/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	13/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	09/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	07/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	23/06/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	06/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	11/07/2022	BV6	51.8101	-8.9618
51.8223_-8.9506	30/06/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	29/06/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	03/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	06/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	07/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	22/06/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	05/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	12/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	11/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	02/07/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	26/06/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	24/06/2022	BV1	51.8223	-8.9506
51.8217_-8.9572	29/06/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	22/06/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	26/06/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	03/07/2022	BV2	51.8217	-8.9572
51.8186_-8.955	04/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	22/06/2022	BV3	51.8186	-8.9550
51.8186_-8.955	10/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	05/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	08/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	09/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	07/07/2022	BV3	51.8186	-8.9550
51.8186_-8.955	24/06/2022	BV3	51.8186	-8.9550
51.8166_-8.9607	29/06/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	22/06/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	06/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	05/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	11/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	07/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	04/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	23/06/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	30/06/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	08/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	02/07/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	24/06/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	03/07/2022	BV4	51.8166	-8.9607
51.8101_-8.9618	10/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	28/06/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	22/06/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	01/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	08/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	05/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	30/06/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	04/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	24/06/2022	BV6	51.8101	-8.9618

latlon	date	Detector ID	Latitude	Longitude
51.8223_-8.9506	28/06/2022	BV1	51.8223	-8.9506
51.8186_-8.955	27/06/2022	BV3	51.8186	-8.9550
51.8101_-8.9618	03/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	02/07/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	29/06/2022	BV6	51.8101	-8.9618

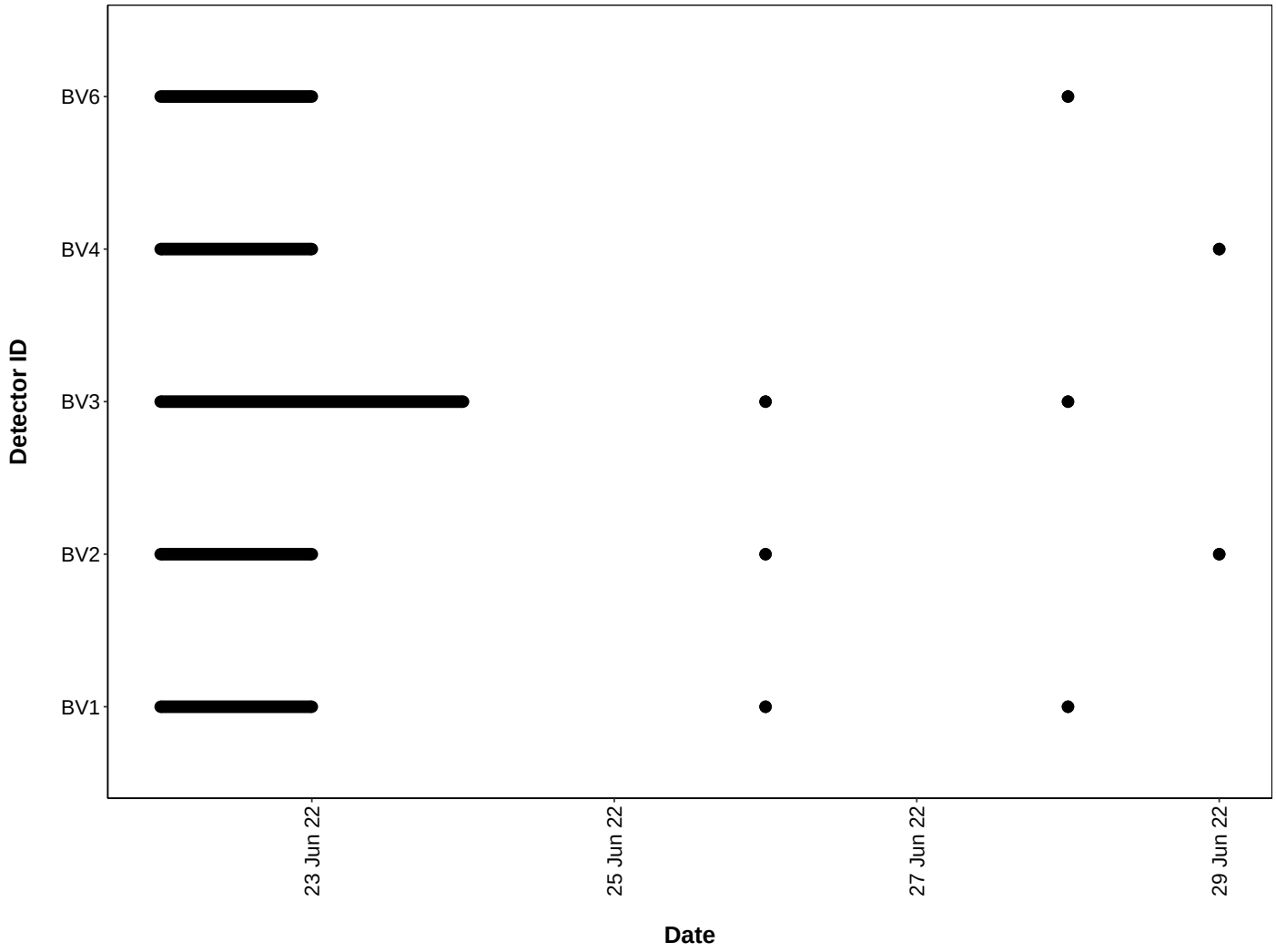
Survey Nights

Table 2. The number of nights that bats were detected on each recorder. This is not the same as the number of nights that detectors were active if there were nights when no bats were detected.

Detector ID	No. of nights
BV1	18
BV2	17
BV3	18
BV4	16
BV6	17

Survey Nights

Figure 1. Horizontal bars show nights when acoustic detectors recorded bats.



PART 1: Percentiles Analysis

This first part of the analysis looks at the relative activity levels of the bats you recorded. We take your value for the total bat passes each night for each species, and compare this to the values in our reference database. We tell you what percentile your data falls at, and therefore what the relative activity level is. For example, if the reference database has values of 5, 10, 15, 20 and you submit a value of 18, this will be the 80th percentile, and be classed as high activity.

The reference range dataset was stratified to include:

PER DETECTOR

Table 3. Summary table showing the number of nights recorded bat activity fell into each activity band for each species.

Detector ID	Species/Species Group	Night.exclu	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV1	*Myotis daubentonii*	0	0	1	0	0	6
BV1	*Nyctalus leisleri*	0	0	0	0	1	15
BV1	*Pipistrellus nathusii*	1	0	0	0	0	8
BV1	*Pipistrellus pipistrellus*	0	0	0	0	0	17
BV1	*Pipistrellus pygmaeus*	0	0	0	0	0	12
BV2	*Myotis daubentonii*	1	0	0	0	1	14
BV2	*Myotis mystacinus*	0	0	0	0	4	3
BV2	*Myotis nattereri*	0	0	2	1	2	5
BV2	*Nyctalus leisleri*	0	0	0	0	0	16
BV2	*Pipistrellus nathusii*	0	0	0	0	4	4
BV2	*Pipistrellus pipistrellus*	0	0	0	0	0	16
BV2	*Pipistrellus pygmaeus*	0	0	0	0	0	13
BV3	*Myotis daubentonii*	0	0	0	0	0	10
BV3	*Myotis mystacinus*	0	0	0	0	0	2
BV3	*Myotis nattereri*	0	0	0	0	0	8
BV3	*Nyctalus leisleri*	0	0	0	0	6	11
BV3	*Pipistrellus nathusii*	0	0	0	0	3	6
BV3	*Pipistrellus pipistrellus*	0	0	0	0	0	17
BV3	*Pipistrellus pygmaeus*	0	0	0	0	0	12
BV4	*Myotis daubentonii*	0	0	0	0	2	3
BV4	*Myotis mystacinus*	0	0	0	0	0	4
BV4	*Myotis nattereri*	0	0	0	0	0	7
BV4	*Nyctalus leisleri*	0	0	0	0	0	15
BV4	*Pipistrellus nathusii*	0	0	0	1	0	0
BV4	*Pipistrellus pipistrellus*	0	0	0	0	0	15

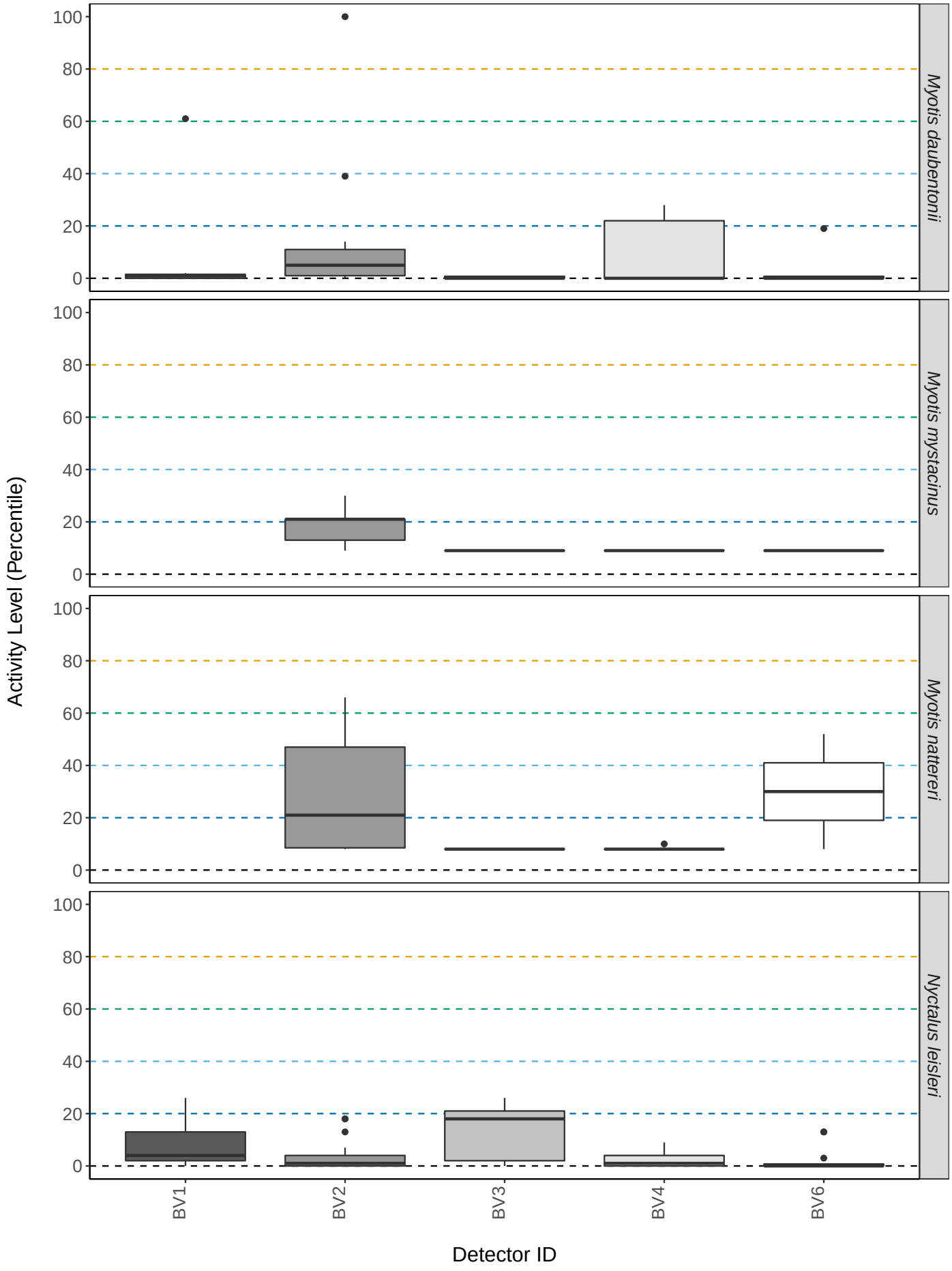
Detector ID	Species/Species Group	Night.exclip	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV4	*Pipistrellus pygmaeus*	0	0	0	0	0	12
BV6	*Myotis daubentonii*	0	0	0	0	0	6
BV6	*Myotis mystacinus*	0	0	0	0	0	1
BV6	*Myotis nattereri*	0	0	0	1	0	1
BV6	*Nyctalus leisleri*	0	0	0	0	0	14
BV6	*Pipistrellus nathusii*	0	0	2	2	2	7
BV6	*Pipistrellus pipistrellus*	0	0	0	0	0	17
BV6	*Pipistrellus pygmaeus*	0	0	0	0	0	15

Table 4. Summary table showing key metrics for each species recorded. The reference range is the number of nights for each species that your data were compared to. We recommend a Reference Range of 200+ to be confident in the relative activity level.

Detector ID	Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded	Reference Range
BV1	*Myotis daubentonii*	1	1 - 31	61	7	3319
BV1	*Nyctalus leisleri*	4	3 - 13	26	16	28602
BV1	*Pipistrellus nathusii*	10	10 - 19	100	9	453
BV1	*Pipistrellus pipistrellus*	0	0 - 0	0	17	194790
BV1	*Pipistrellus pygmaeus*	0	0 - 0	0	12	82592
BV2	*Myotis daubentonii*	5	3 - 20	100	16	3319
BV2	*Myotis mystacinus*	21	13 - 25.5	30	7	144
BV2	*Myotis nattereri*	21	9 - 49	66	10	296
BV2	*Nyctalus leisleri*	1	1.5 - 12.5	18	16	28602
BV2	*Pipistrellus nathusii*	21	10 - 34	37	8	453
BV2	*Pipistrellus pipistrellus*	0	0 - 0	1	16	194790
BV2	*Pipistrellus pygmaeus*	0	0 - 0	0	13	82592
BV3	*Myotis daubentonii*	0	0 - 0	1	10	3319
BV3	*Myotis mystacinus*	9	9 - 9	9	2	144
BV3	*Myotis nattereri*	8	8 - 8	8	8	296
BV3	*Nyctalus leisleri*	18	10.5 - 21	26	17	28602
BV3	*Pipistrellus nathusii*	19	10 - 28	39	9	453
BV3	*Pipistrellus pipistrellus*	0	0 - 0	1	17	194790
BV3	*Pipistrellus pygmaeus*	0	0 - 0	0	12	82592
BV4	*Myotis daubentonii*	0	25 - 25	28	5	3319
BV4	*Myotis mystacinus*	9	9 - 9	9	4	144
BV4	*Myotis nattereri*	8	8 - 8	10	7	296
BV4	*Nyctalus leisleri*	1	1 - 9	9	15	28602
BV4	*Pipistrellus nathusii*	58	0	58	1	453
BV4	*Pipistrellus pipistrellus*	0	0 - 0	0	15	194790
BV4	*Pipistrellus pygmaeus*	0	0 - 0	0	12	82592
BV6	*Myotis daubentonii*	0	10 - 10	19	6	3319
BV6	*Myotis mystacinus*	9	0	9	1	144
BV6	*Myotis nattereri*	30	30 - 30	52	2	296
BV6	*Nyctalus leisleri*	0	3 - 13	13	14	28602
BV6	*Pipistrellus nathusii*	19	14.5 - 44	69	13	453
BV6	*Pipistrellus pipistrellus*	1	1 - 4.5	8	17	194790
BV6	*Pipistrellus pygmaeus*	0	0 - 0	2	15	82592

Figures

Figure 2. The recorded activity of bats during the survey. The centre line indicates the median activity level whereas the box represents the interquartile range (the spread of the middle 50% of nights of activity)


Activity Level (Percentile)
100
80
60
40
20
0
Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus leisleri
BV1
BV2
BV3
BV4
BV6
Detector ID

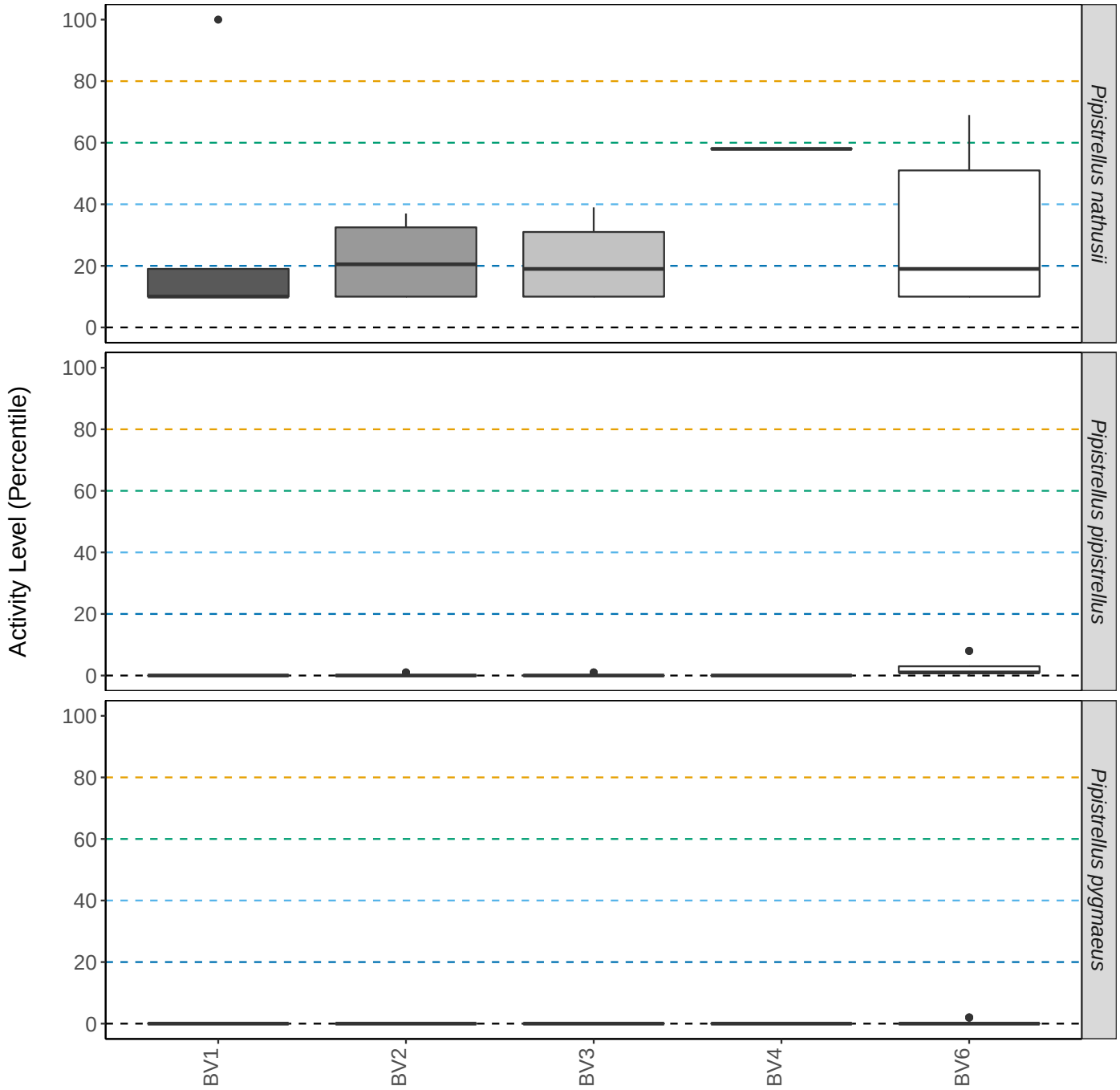
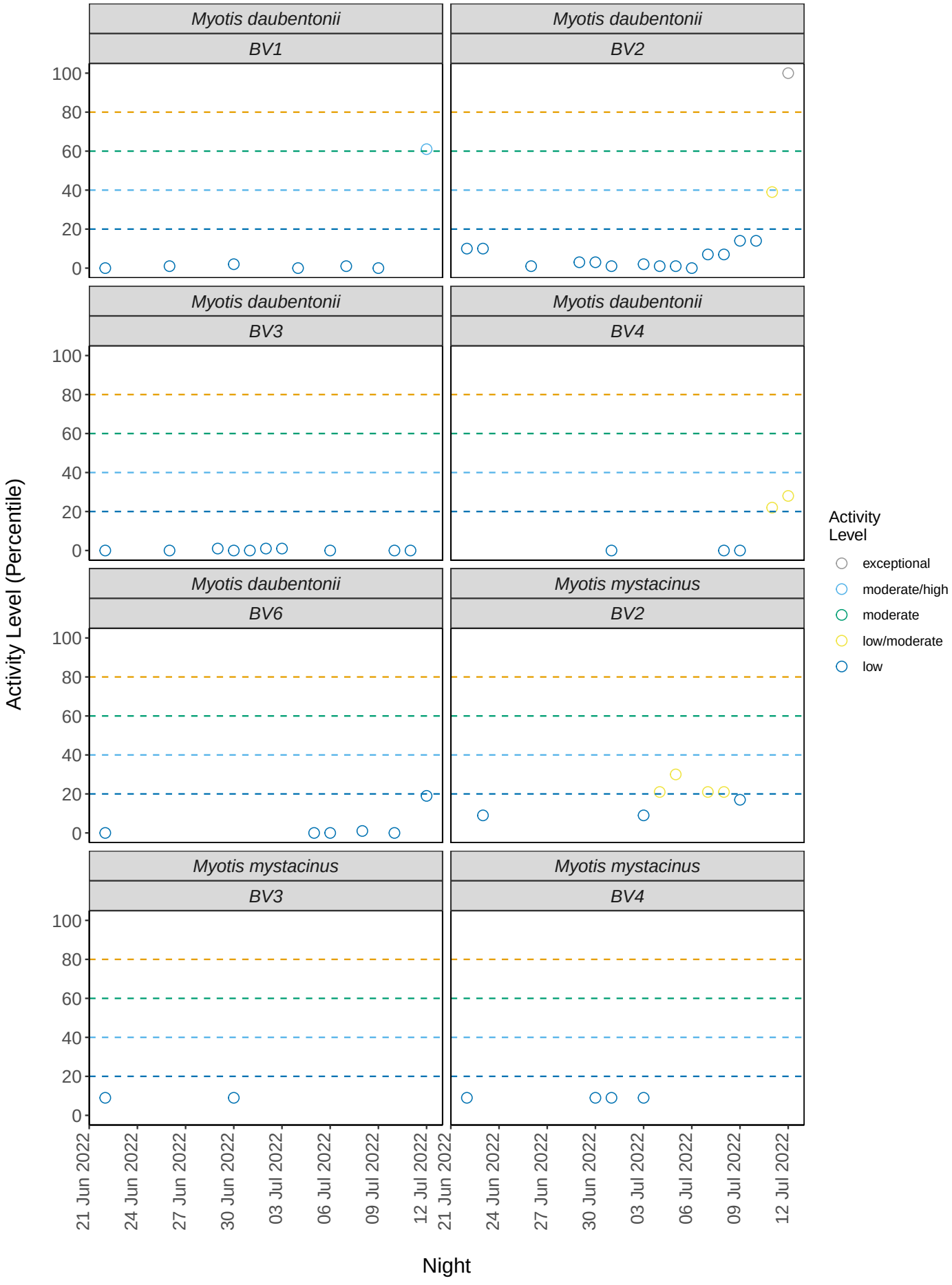
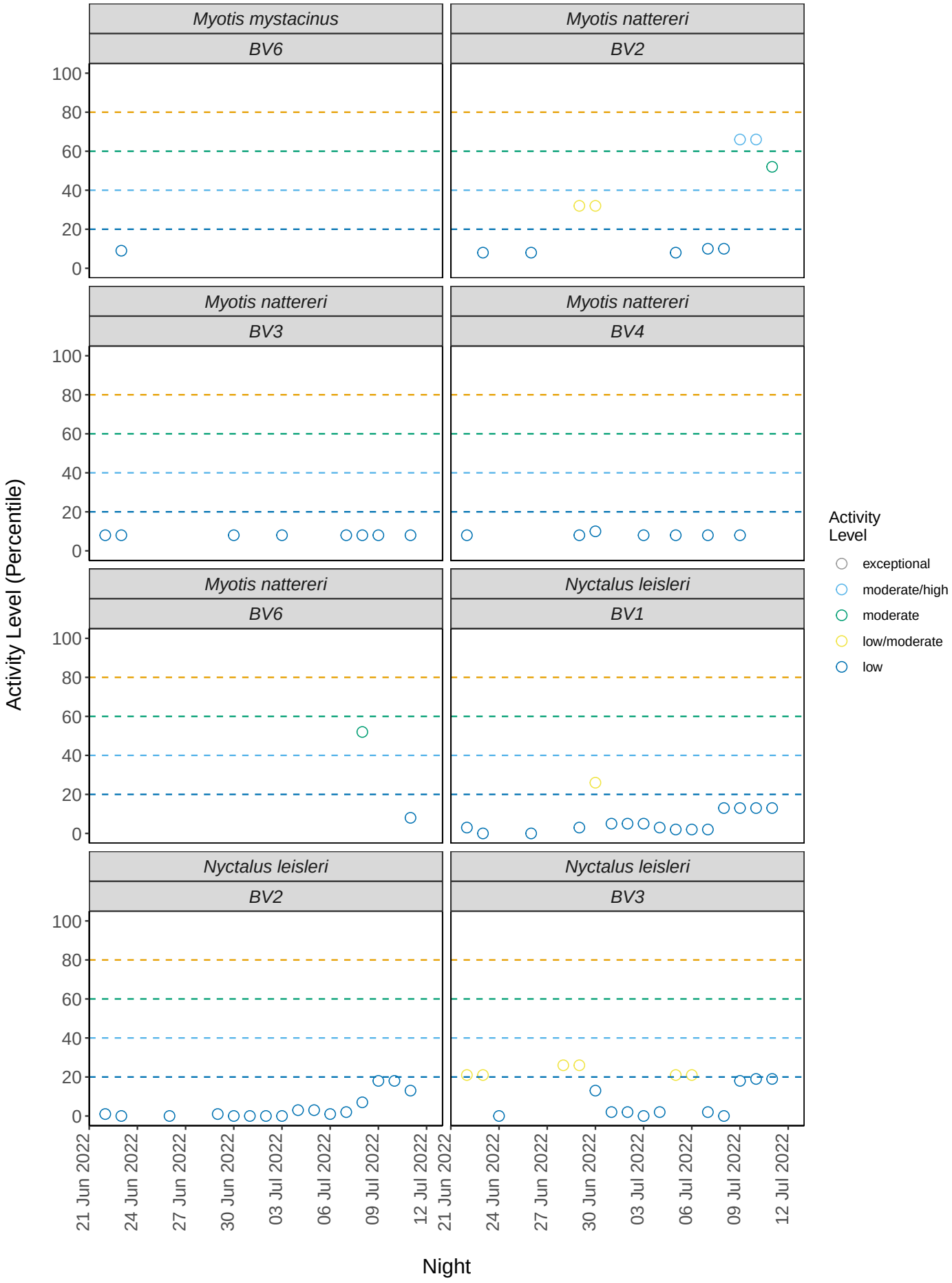
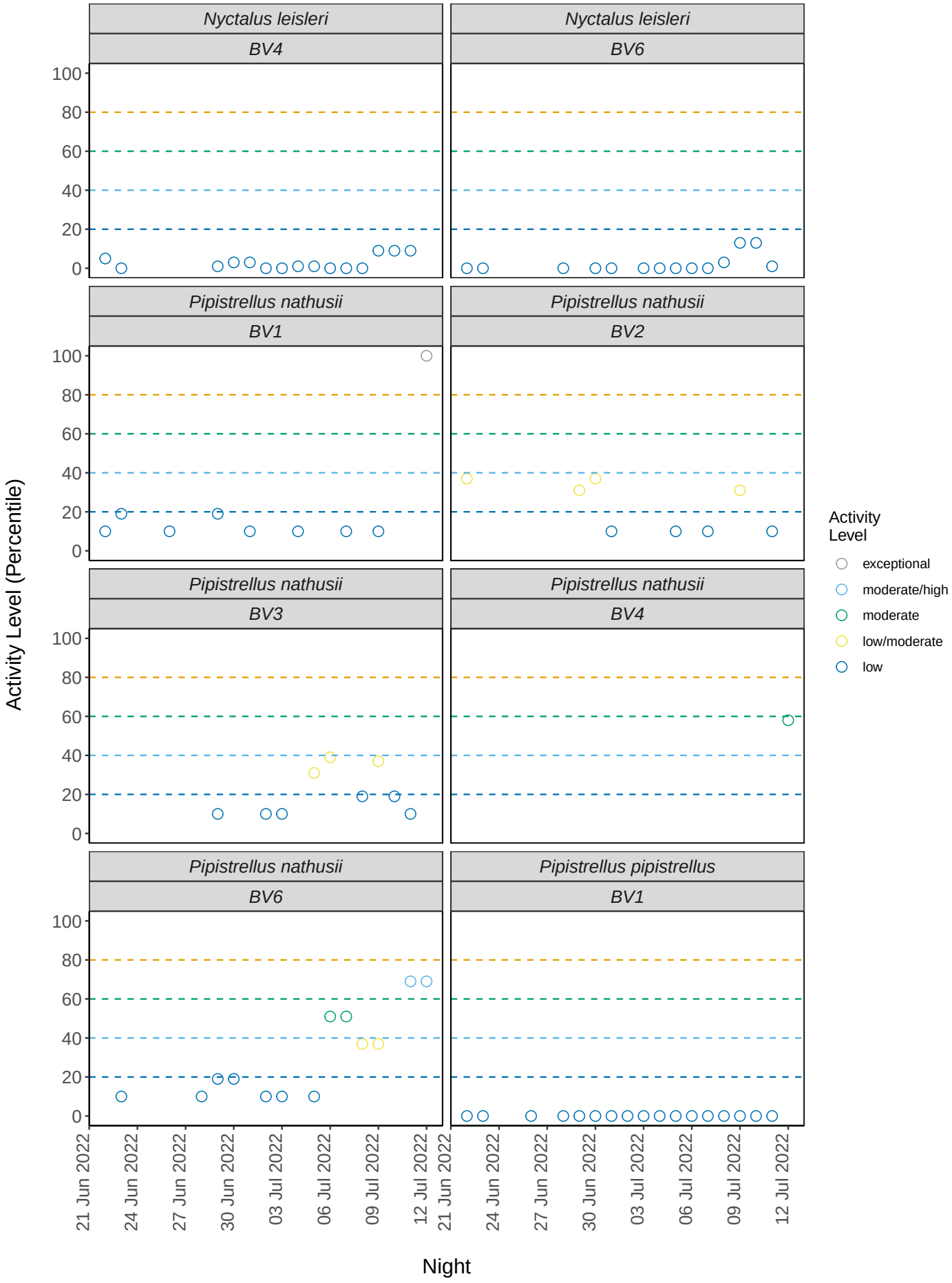
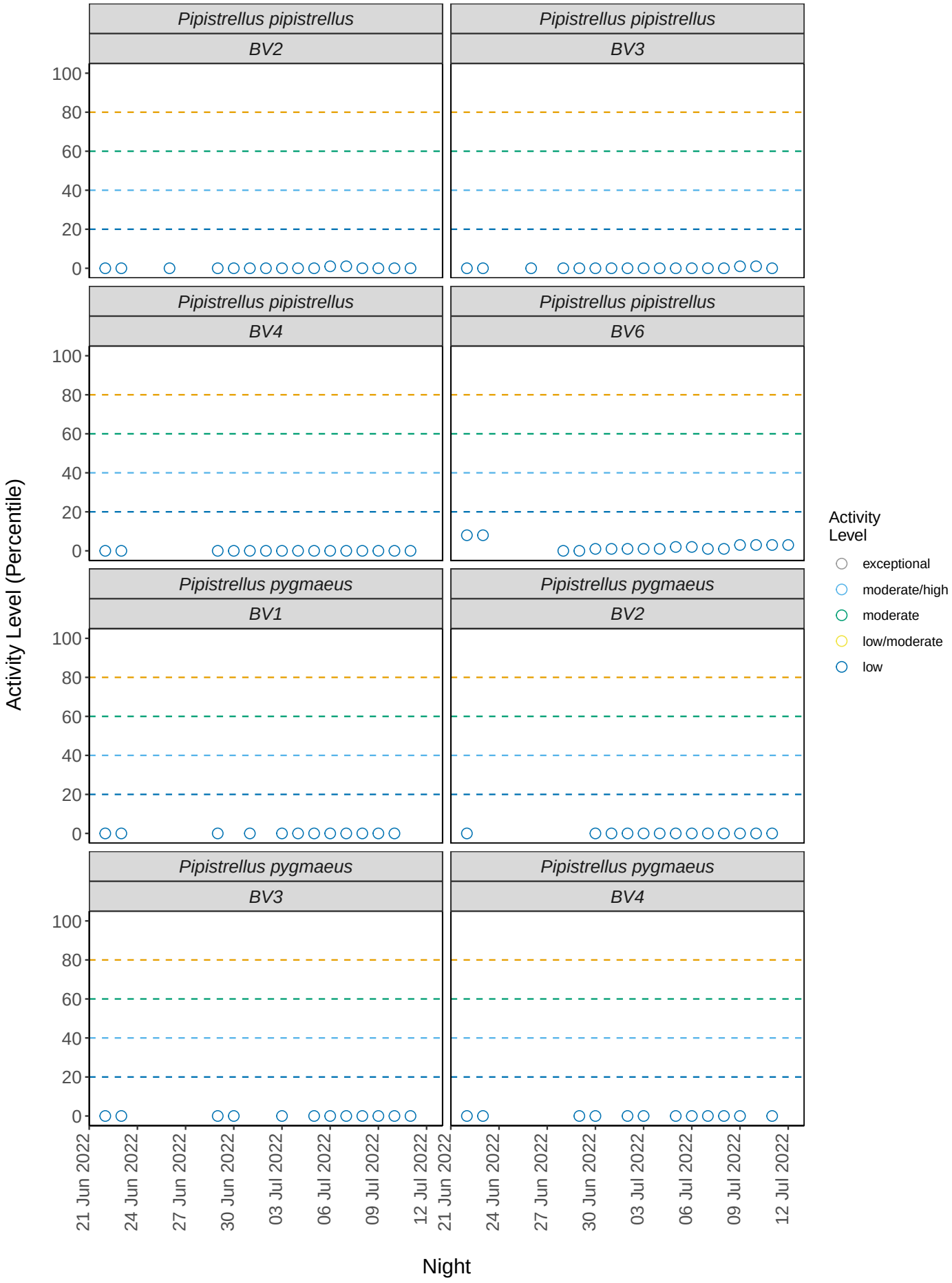

Activity Level (Percentile)
100
80
60
40
20
0
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
BV1
BV2
BV3
BV4
BV6
Detector ID

Figure 3. The activity level (percentile) of bats recorded across each night of the bat survey.


Myotis daubentonii
BV1
Myotis daubentonii
BV2
Myotis daubentonii
BV3
Myotis daubentonii
BV4
Myotis daubentonii
BV6
Myotis mystacinus
BV2
Myotis mystacinus
BV3
Myotis mystacinus
BV4
Activity Level (Percentile)
0
20
40
60
80
100
21 Jun 2022
24 Jun 2022
27 Jun 2022
30 Jun 2022
03 Jul 2022
06 Jul 2022
09 Jul 2022
12 Jul 2022
Night
Activity Level
exceptional
moderate/high
moderate
low/moderate
low


Myotis mystacinus
BV6
Myotis nattereri
BV2
Myotis nattereri
BV3
Myotis nattereri
BV4
Myotis nattereri
BV6
Nyctalus leisleri
BV1
Nyctalus leisleri
BV2
Nyctalus leisleri
BV3
Activity Level (Percentile)
0
20
40
60
80
100
21 Jun 2022
24 Jun 2022
27 Jun 2022
30 Jun 2022
03 Jul 2022
06 Jul 2022
09 Jul 2022
12 Jul 2022
Night
Activity Level
exceptional
moderate/high
moderate
low/moderate
low


Nyctalus leisleri
BV4
Nyctalus leisleri
BV6
Pipistrellus nathusii
BV1
Pipistrellus nathusii
BV2
Pipistrellus nathusii
BV3
Pipistrellus nathusii
BV4
Pipistrellus nathusii
BV6
Pipistrellus pipistrellus
BV1
Activity Level (Percentile)
0
20
40
60
80
100
21 Jun 2022
24 Jun 2022
27 Jun 2022
30 Jun 2022
03 Jul 2022
06 Jul 2022
09 Jul 2022
12 Jul 2022
Night
Activity Level
exceptional
moderate/high
moderate
low/moderate
low


Pipistrellus pipistrellus
BV2
Pipistrellus pipistrellus
BV3
Pipistrellus pipistrellus
BV4
Pipistrellus pipistrellus
BV6
Pipistrellus pygmaeus
BV1
Pipistrellus pygmaeus
BV2
Pipistrellus pygmaeus
BV3
Pipistrellus pygmaeus
BV4
Activity Level (Percentile)
0
20
40
60
80
100
21 Jun 2022
24 Jun 2022
27 Jun 2022
30 Jun 2022
03 Jul 2022
06 Jul 2022
09 Jul 2022
12 Jul 2022
Night
Activity Level
exceptional
moderate/high
moderate
low/moderate
low

PER DETECTOR, PER MONTH

Table 5. Summary table showing the number of nights recorded bat activity fell into each activity band for each species at each detector during each month.

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV1	*Myotis daubentonii*	Jun	0	0	0	0	0	3
BV1	*Myotis daubentonii*	Jul	0	0	1	0	0	3
BV1	*Nyctalus leisleri*	Jun	0	0	0	0	1	4
BV1	*Nyctalus leisleri*	Jul	0	0	0	0	0	11
BV1	*Pipistrellus nathusii*	Jun	0	0	0	0	0	4
BV1	*Pipistrellus nathusii*	Jul	1	0	0	0	0	4
BV1	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	6
BV1	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	11
BV1	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	3
BV1	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	9
BV2	*Myotis daubentonii*	Jun	0	0	0	0	0	5
BV2	*Myotis daubentonii*	Jul	1	0	0	0	1	9
BV2	*Myotis mystacinus*	Jun	0	0	0	0	0	1
BV2	*Myotis mystacinus*	Jul	0	0	0	0	4	2
BV2	*Myotis nattereri*	Jun	0	0	0	0	2	2
BV2	*Myotis nattereri*	Jul	0	0	2	1	0	3
BV2	*Nyctalus leisleri*	Jun	0	0	0	0	0	5
BV2	*Nyctalus leisleri*	Jul	0	0	0	0	0	11
BV2	*Pipistrellus nathusii*	Jun	0	0	0	0	3	0
BV2	*Pipistrellus nathusii*	Jul	0	0	0	0	1	4
BV2	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	5
BV2	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	11
BV2	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	2
BV2	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	11
BV3	*Myotis daubentonii*	Jun	0	0	0	0	0	4

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV3	*Myotis daubentonii*	Jul	0	0	0	0	0	6
BV3	*Myotis mystacinus*	Jun	0	0	0	0	0	2
BV3	*Myotis nattereri*	Jun	0	0	0	0	0	3
BV3	*Myotis nattereri*	Jul	0	0	0	0	0	5
BV3	*Nyctalus leisleri*	Jun	0	0	0	0	4	2
BV3	*Nyctalus leisleri*	Jul	0	0	0	0	2	9
BV3	*Pipistrellus nathusii*	Jun	0	0	0	0	0	1
BV3	*Pipistrellus nathusii*	Jul	0	0	0	0	3	5
BV3	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	6
BV3	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	11
BV3	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	4
BV3	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	8
BV4	*Myotis daubentonii*	Jul	0	0	0	0	2	3
BV4	*Myotis mystacinus*	Jun	0	0	0	0	0	2
BV4	*Myotis mystacinus*	Jul	0	0	0	0	0	2
BV4	*Myotis nattereri*	Jun	0	0	0	0	0	3
BV4	*Myotis nattereri*	Jul	0	0	0	0	0	4
BV4	*Nyctalus leisleri*	Jun	0	0	0	0	0	4
BV4	*Nyctalus leisleri*	Jul	0	0	0	0	0	11
BV4	*Pipistrellus nathusii*	Jul	0	0	0	1	0	0
BV4	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	4
BV4	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	11
BV4	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	4
BV4	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	8
BV6	*Myotis daubentonii*	Jun	0	0	0	0	0	1
BV6	*Myotis daubentonii*	Jul	0	0	0	0	0	5
BV6	*Myotis mystacinus*	Jun	0	0	0	0	0	1

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV6	*Myotis nattereri*	Jul	0	0	0	1	0	1
BV6	*Nyctalus leisleri*	Jun	0	0	0	0	0	4
BV6	*Nyctalus leisleri*	Jul	0	0	0	0	0	10
BV6	*Pipistrellus nathusii*	Jun	0	0	0	0	0	4
BV6	*Pipistrellus nathusii*	Jul	0	0	2	2	2	3
BV6	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	5
BV6	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	12
BV6	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	5
BV6	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	10

Table 6. Summary table showing key metrics for each species recorded per month. Please note that we cannot split the reference range by month, hence this column is not shown in this table.

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
BV1	*Myotis daubentonii*	Jun	1	1 - 31	2	3
BV1	*Myotis daubentonii*	Jul	1	1 - 31	61	4
BV1	*Nyctalus leisleri*	Jun	3	3 - 13	26	5
BV1	*Nyctalus leisleri*	Jul	5	3 - 13	13	11
BV1	*Pipistrellus nathusii*	Jun	15	10 - 19	19	4
BV1	*Pipistrellus nathusii*	Jul	10	10 - 19	100	5
BV1	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	6
BV1	*Pipistrellus pipistrellus*	Jul	0	0 - 0	0	11
BV1	*Pipistrellus pygmaeus*	Jun	0	0 - 0	0	3
BV1	*Pipistrellus pygmaeus*	Jul	0	0 - 0	0	9
BV2	*Myotis daubentonii*	Jun	3	3 - 20	10	5
BV2	*Myotis daubentonii*	Jul	7	3 - 20	100	11
BV2	*Myotis mystacinus*	Jun	9	13 - 25.5	9	1
BV2	*Myotis mystacinus*	Jul	21	13 - 25.5	30	6
BV2	*Myotis nattereri*	Jun	20	9 - 49	32	4
BV2	*Myotis nattereri*	Jul	31	9 - 49	66	6
BV2	*Nyctalus leisleri*	Jun	0	1.5 - 12.5	1	5
BV2	*Nyctalus leisleri*	Jul	3	1.5 - 12.5	18	11
BV2	*Pipistrellus nathusii*	Jun	37	10 - 34	37	3
BV2	*Pipistrellus nathusii*	Jul	10	10 - 34	31	5
BV2	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	5
BV2	*Pipistrellus pipistrellus*	Jul	0	0 - 0	1	11
BV2	*Pipistrellus pygmaeus*	Jun	0	0 - 0	0	2
BV2	*Pipistrellus pygmaeus*	Jul	0	0 - 0	0	11
BV3	*Myotis daubentonii*	Jun	0	0 - 0	1	4
BV3	*Myotis daubentonii*	Jul	0	0 - 0	1	6
BV3	*Myotis mystacinus*	Jun	9	9 - 9	9	2
BV3	*Myotis nattereri*	Jun	8	8 - 8	8	3
BV3	*Myotis nattereri*	Jul	8	8 - 8	8	5
BV3	*Nyctalus leisleri*	Jun	21	10.5 - 21	26	6
BV3	*Nyctalus leisleri*	Jul	2	10.5 - 21	21	11
BV3	*Pipistrellus nathusii*	Jun	10	10 - 28	10	1
BV3	*Pipistrellus nathusii*	Jul	19	10 - 28	39	8
BV3	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	6
BV3	*Pipistrellus pipistrellus*	Jul	0	0 - 0	1	11
BV3	*Pipistrellus pygmaeus*	Jun	0	0 - 0	0	4
BV3	*Pipistrellus pygmaeus*	Jul	0	0 - 0	0	8
BV4	*Myotis daubentonii*	Jul	0	25 - 25	28	5
BV4	*Myotis mystacinus*	Jun	9	9 - 9	9	2
BV4	*Myotis mystacinus*	Jul	9	9 - 9	9	2
BV4	*Myotis nattereri*	Jun	8	8 - 8	10	3
BV4	*Myotis nattereri*	Jul	8	8 - 8	8	4
BV4	*Nyctalus leisleri*	Jun	2	1 - 9	5	4
BV4	*Nyctalus leisleri*	Jul	1	1 - 9	9	11
BV4	*Pipistrellus nathusii*	Jul	58	0	58	1
BV4	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	4
BV4	*Pipistrellus pipistrellus*	Jul	0	0 - 0	0	11
BV4	*Pipistrellus pygmaeus*	Jun	0	0 - 0	0	4
BV4	*Pipistrellus pygmaeus*	Jul	0	0 - 0	0	8
BV6	*Myotis daubentonii*	Jun	0	10 - 10	0	1
BV6	*Myotis daubentonii*	Jul	0	10 - 10	19	5
BV6	*Myotis mystacinus*	Jun	9	0	9	1
BV6	*Myotis nattereri*	Jul	30	30 - 30	52	2

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
BV6	*Nyctalus leisleri*	Jun	0	3 - 13	0	4
BV6	*Nyctalus leisleri*	Jul	0	3 - 13	13	10
BV6	*Pipistrellus nathusii*	Jun	15	14.5 - 44	19	4
BV6	*Pipistrellus nathusii*	Jul	37	14.5 - 44	69	9
BV6	*Pipistrellus pipistrellus*	Jun	1	1 - 4.5	8	5
BV6	*Pipistrellus pipistrellus*	Jul	2	1 - 4.5	3	12
BV6	*Pipistrellus pygmaeus*	Jun	0	0 - 0	2	5
BV6	*Pipistrellus pygmaeus*	Jul	0	0 - 0	2	10

PER SITE

In this 'Per Site' section of the analysis, all values are taken from across all of the detectors to provide site-wide averages/medians.

Table 7. Summary table showing the number of nights recorded bat activity fell into each activity band for each species.

Species/Species Group	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
Myotis daubentonii	1	0	1	0	3	39
Myotis mystacinus	0	0	0	0	4	10
Myotis nattereri	0	0	2	2	2	21
Nyctalus leisleri	0	0	0	0	7	71
Pipistrellus nathusii	1	0	2	3	9	25
Pipistrellus pipistrellus	0	0	0	0	0	82
Pipistrellus pygmaeus	0	0	0	0	0	64

Table 8. Summary table showing key metrics for each species recorded.

Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded
Myotis daubentonii	1	3 - 20	100	44
Myotis mystacinus	9	9 - 9	30	14
Myotis nattereri	8	9 - 49	66	27
Nyctalus leisleri	2	3 - 13	26	78
Pipistrellus nathusii	19	14.5 - 44	100	40
Pipistrellus pipistrellus	0	1 - 4.5	8	82
Pipistrellus pygmaeus	0	0 - 0	2	64

Figures

Figure 4. Texhe activity level (percentile) of bats recorded across each night of the bat survey for the **entire site**.

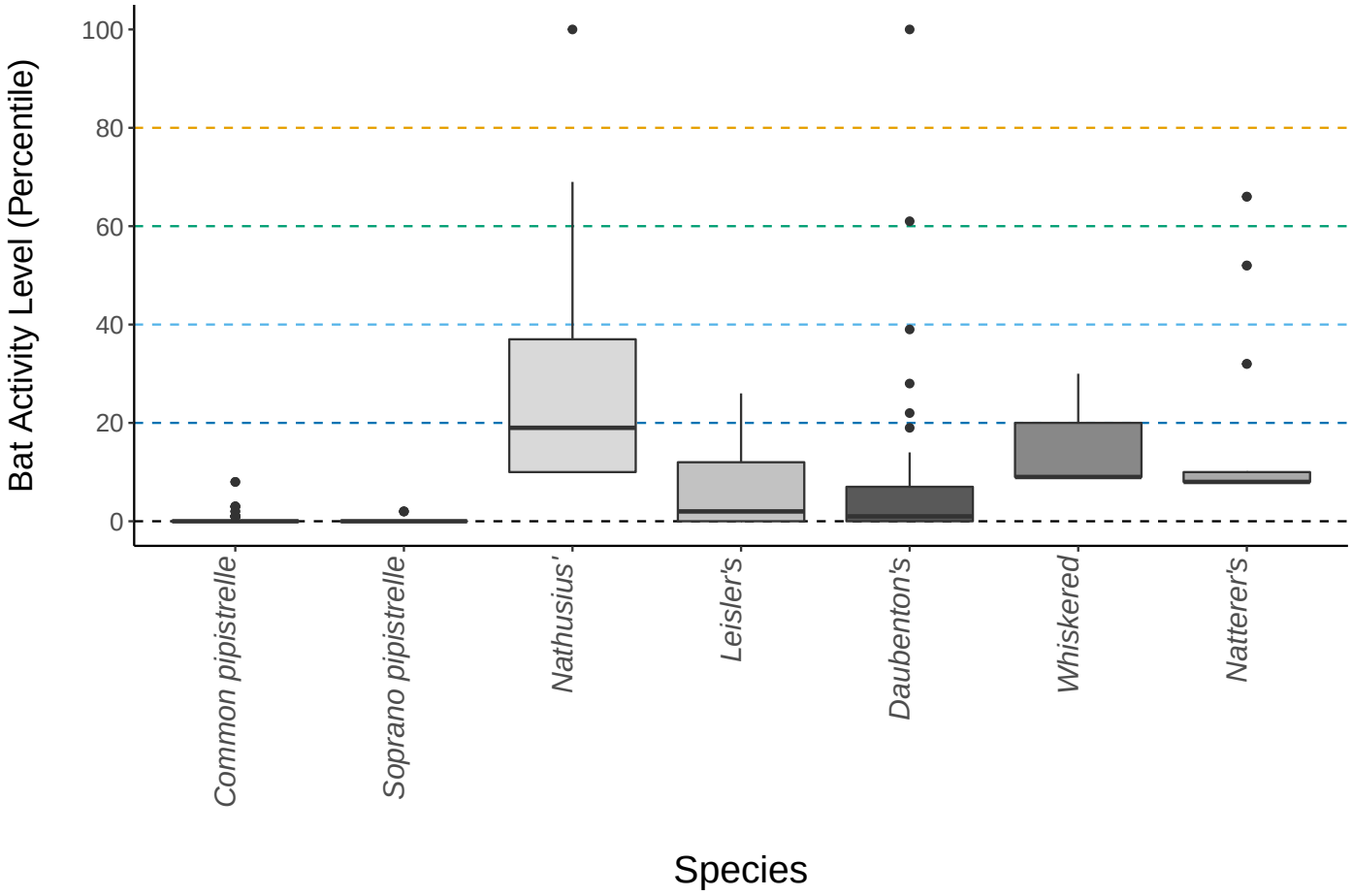
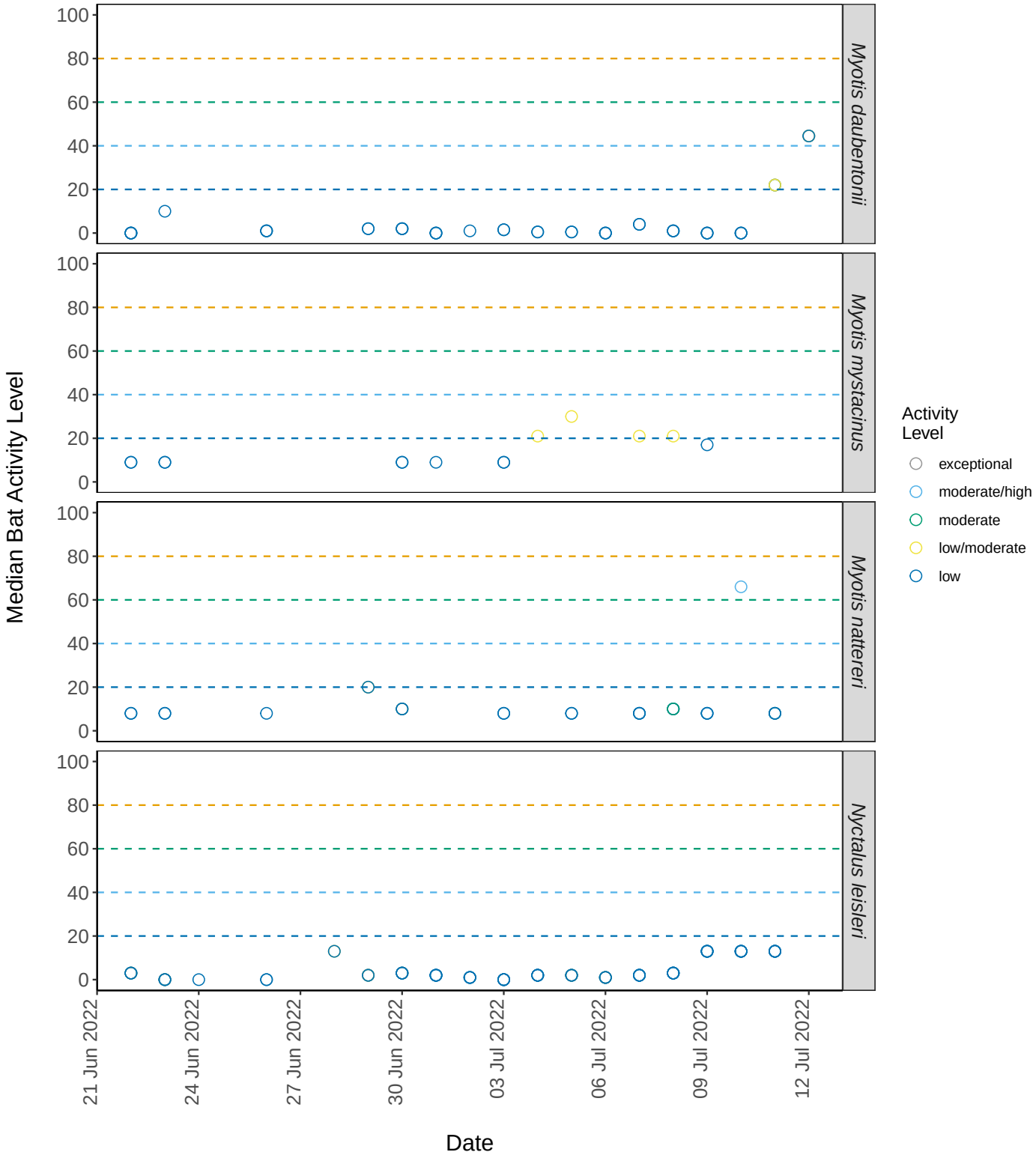
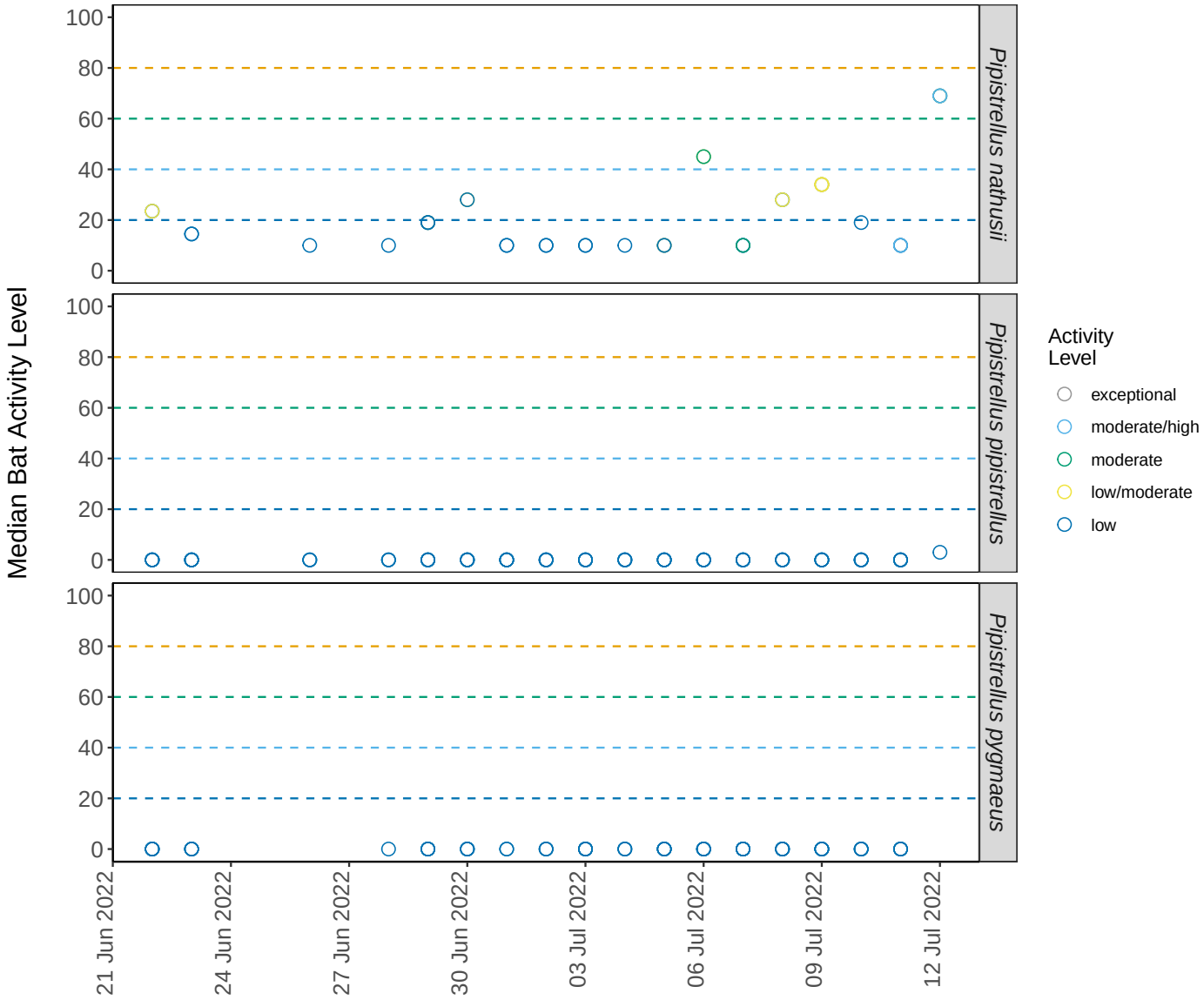


Figure 5. The median activity levels of bats recorded across all detectors each night.




Median Bat Activity Level
100
80
60
40
20
0
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
21 Jun 2022
24 Jun 2022
27 Jun 2022
30 Jun 2022
03 Jul 2022
06 Jul 2022
09 Jul 2022
12 Jul 2022
Date
Activity Level
exceptional
moderate/high
moderate
low/moderate
low

PER SITE, PER MONTH

Table 9. Summary table showing the number of nights recorded bat activity fell into each activity band for each species during each month.

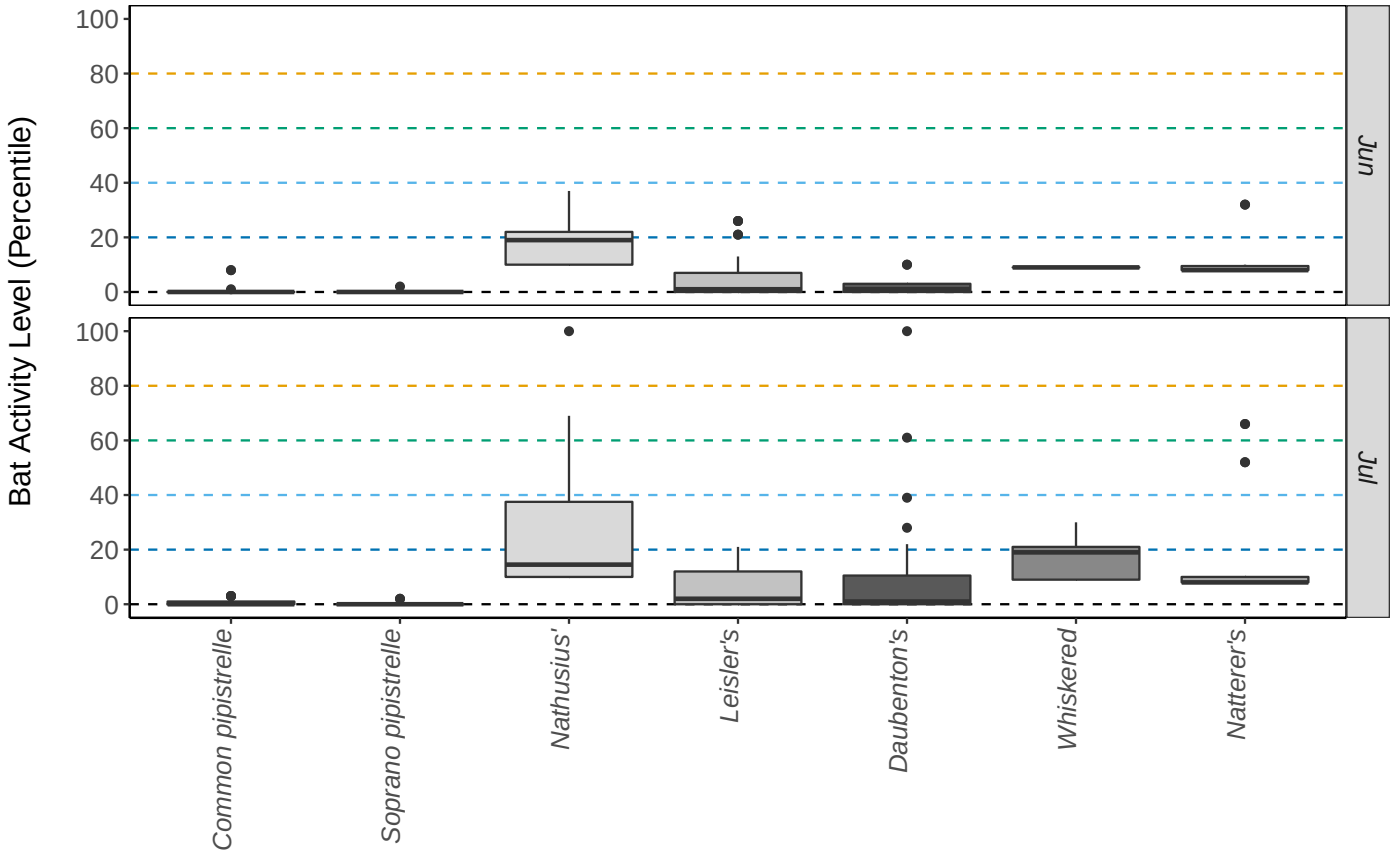
Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
Myotis daubentonii	Jun	0	0	0	0	0	13
Myotis daubentonii	Jul	1	0	1	0	3	26
Myotis mystacinus	Jun	0	0	0	0	0	6
Myotis mystacinus	Jul	0	0	0	0	4	4
Myotis nattereri	Jun	0	0	0	0	2	8
Myotis nattereri	Jul	0	0	2	2	0	13
Nyctalus leisleri	Jun	0	0	0	0	5	19
Nyctalus leisleri	Jul	0	0	0	0	2	52
Pipistrellus nathusii	Jun	0	0	0	0	3	9
Pipistrellus nathusii	Jul	1	0	2	3	6	16
Pipistrellus pipistrellus	Jun	0	0	0	0	0	26
Pipistrellus pipistrellus	Jul	0	0	0	0	0	56
Pipistrellus pygmaeus	Jun	0	0	0	0	0	18
Pipistrellus pygmaeus	Jul	0	0	0	0	0	46

Table 10. Summary table showing key metrics for each species recorded per month.

Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
Myotis daubentonii	Jun	1	3 - 20	10	13
Myotis daubentonii	Jul	1	3 - 20	100	31
Myotis mystacinus	Jun	9	9 - 9	9	6
Myotis mystacinus	Jul	19	9 - 9	30	8
Myotis nattereri	Jun	8	9 - 49	32	10
Myotis nattereri	Jul	8	9 - 49	66	17
Nyctalus leisleri	Jun	1	3 - 13	26	24
Nyctalus leisleri	Jul	2	3 - 13	21	54
Pipistrellus nathusii	Jun	19	14.5 - 44	37	12
Pipistrellus nathusii	Jul	15	14.5 - 44	100	28
Pipistrellus pipistrellus	Jun	0	1 - 4.5	8	26
Pipistrellus pipistrellus	Jul	0	1 - 4.5	3	56
Pipistrellus pygmaeus	Jun	0	0 - 0	2	18
Pipistrellus pygmaeus	Jul	0	0 - 0	2	46

Figures

Figure 6. The activity level (percentile) of bats recorded across each night of the bat survey for the entire site, split between months.



PART 2: Nightly Analysis

ENTIRE SURVEY PERIOD

Sunrise and Sunset Times

Table 11. The times of sunset and sunrise the following morning for surveys beginning on the date shown.

Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8223_-8.9506	23/06/2022	2022-06-22	21:59	05:18	7.3
51.8217_-8.9572	23/06/2022	2022-06-22	21:59	05:18	7.3
51.8186_-8.955	23/06/2022	2022-06-22	21:59	05:18	7.3
51.8101_-8.9618	23/06/2022	2022-06-22	21:59	05:18	7.3
51.8223_-8.9506	22/06/2022	2022-06-22	21:59	05:18	7.3
51.8217_-8.9572	22/06/2022	2022-06-22	21:59	05:18	7.3
51.8186_-8.955	22/06/2022	2022-06-22	21:59	05:18	7.3
51.8166_-8.9607	22/06/2022	2022-06-22	21:59	05:18	7.3
51.8166_-8.9607	23/06/2022	2022-06-22	21:59	05:18	7.3
51.8101_-8.9618	22/06/2022	2022-06-22	21:59	05:18	7.3
51.8217_-8.9572	23/06/2022	2022-06-23	22:00	05:18	7.3
51.8217_-8.9572	24/06/2022	2022-06-23	22:00	05:18	7.3
51.8223_-8.9506	23/06/2022	2022-06-23	22:00	05:18	7.3
51.8223_-8.9506	24/06/2022	2022-06-23	22:00	05:18	7.3
51.8186_-8.955	23/06/2022	2022-06-23	22:00	05:18	7.3
51.8186_-8.955	24/06/2022	2022-06-23	22:00	05:18	7.3
51.8166_-8.9607	23/06/2022	2022-06-23	22:00	05:18	7.3
51.8166_-8.9607	24/06/2022	2022-06-23	22:00	05:18	7.3
51.8101_-8.9618	23/06/2022	2022-06-23	22:00	05:18	7.3
51.8101_-8.9618	24/06/2022	2022-06-23	22:00	05:18	7.3
51.8186_-8.955	24/06/2022	2022-06-24	22:00	05:19	7.3
51.8223_-8.9506	27/06/2022	2022-06-26	22:00	05:19	7.3
51.8217_-8.9572	27/06/2022	2022-06-26	22:00	05:19	7.3
51.8186_-8.955	26/06/2022	2022-06-26	22:00	05:19	7.3
51.8223_-8.9506	26/06/2022	2022-06-26	22:00	05:19	7.3
51.8217_-8.9572	26/06/2022	2022-06-26	22:00	05:19	7.3
51.8186_-8.955	27/06/2022	2022-06-26	22:00	05:19	7.3
51.8186_-8.955	29/06/2022	2022-06-28	22:00	05:20	7.3
51.8101_-8.9618	28/06/2022	2022-06-28	22:00	05:20	7.3
51.8223_-8.9506	28/06/2022	2022-06-28	22:00	05:20	7.3
51.8101_-8.9618	29/06/2022	2022-06-28	22:00	05:20	7.3
51.8217_-8.9572	30/06/2022	2022-06-29	21:59	05:21	7.4
51.8186_-8.955	29/06/2022	2022-06-29	21:59	05:21	7.4
51.8186_-8.955	30/06/2022	2022-06-29	21:59	05:21	7.4
51.8223_-8.9506	29/06/2022	2022-06-29	21:59	05:21	7.4
51.8217_-8.9572	29/06/2022	2022-06-29	21:59	05:21	7.4
51.8166_-8.9607	29/06/2022	2022-06-29	21:59	05:21	7.4
51.8223_-8.9506	30/06/2022	2022-06-29	21:59	05:21	7.4
51.8101_-8.9618	29/06/2022	2022-06-29	21:59	05:21	7.4
51.8101_-8.9618	30/06/2022	2022-06-29	21:59	05:21	7.4
51.8166_-8.9607	30/06/2022	2022-06-29	21:59	05:21	7.4
51.8223_-8.9506	01/07/2022	2022-06-30	21:59	05:22	7.4
51.8217_-8.9572	30/06/2022	2022-06-30	21:59	05:22	7.4
51.8217_-8.9572	01/07/2022	2022-06-30	21:59	05:22	7.4
51.8186_-8.955	01/07/2022	2022-06-30	21:59	05:22	7.4
51.8223_-8.9506	30/06/2022	2022-06-30	21:59	05:22	7.4
51.8186_-8.955	30/06/2022	2022-06-30	21:59	05:22	7.4

Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8166_-8.9607	30/06/2022	2022-06-30	21:59	05:22	7.4
51.8166_-8.9607	01/07/2022	2022-06-30	21:59	05:22	7.4
51.8101_-8.9618	30/06/2022	2022-06-30	21:59	05:22	7.4
51.8101_-8.9618	01/07/2022	2022-06-30	21:59	05:22	7.4
51.8217_-8.9572	02/07/2022	2022-07-01	21:59	05:22	7.4
51.8186_-8.955	02/07/2022	2022-07-01	21:59	05:22	7.4
51.8166_-8.9607	01/07/2022	2022-07-01	21:59	05:22	7.4
51.8223_-8.9506	01/07/2022	2022-07-01	21:59	05:22	7.4
51.8217_-8.9572	01/07/2022	2022-07-01	21:59	05:22	7.4
51.8186_-8.955	01/07/2022	2022-07-01	21:59	05:22	7.4
51.8166_-8.9607	02/07/2022	2022-07-01	21:59	05:22	7.4
51.8101_-8.9618	01/07/2022	2022-07-01	21:59	05:22	7.4
51.8223_-8.9506	02/07/2022	2022-07-01	21:59	05:22	7.4
51.8101_-8.9618	02/07/2022	2022-07-01	21:59	05:22	7.4
51.8186_-8.955	03/07/2022	2022-07-02	21:59	05:23	7.4
51.8223_-8.9506	03/07/2022	2022-07-02	21:59	05:23	7.4
51.8223_-8.9506	02/07/2022	2022-07-02	21:59	05:23	7.4
51.8217_-8.9572	02/07/2022	2022-07-02	21:59	05:23	7.4
51.8217_-8.9572	03/07/2022	2022-07-02	21:59	05:23	7.4
51.8186_-8.955	02/07/2022	2022-07-02	21:59	05:23	7.4
51.8166_-8.9607	02/07/2022	2022-07-02	21:59	05:23	7.4
51.8166_-8.9607	03/07/2022	2022-07-02	21:59	05:23	7.4
51.8101_-8.9618	03/07/2022	2022-07-02	21:59	05:23	7.4
51.8101_-8.9618	02/07/2022	2022-07-02	21:59	05:23	7.4
51.8217_-8.9572	04/07/2022	2022-07-03	21:58	05:24	7.4
51.8186_-8.955	03/07/2022	2022-07-03	21:58	05:24	7.4
51.8223_-8.9506	03/07/2022	2022-07-03	21:58	05:24	7.4
51.8223_-8.9506	04/07/2022	2022-07-03	21:58	05:24	7.4
51.8217_-8.9572	03/07/2022	2022-07-03	21:58	05:24	7.4
51.8166_-8.9607	04/07/2022	2022-07-03	21:58	05:24	7.4
51.8166_-8.9607	03/07/2022	2022-07-03	21:58	05:24	7.4
51.8101_-8.9618	04/07/2022	2022-07-03	21:58	05:24	7.4
51.8186_-8.955	04/07/2022	2022-07-03	21:58	05:24	7.4
51.8101_-8.9618	03/07/2022	2022-07-03	21:58	05:24	7.4
51.8223_-8.9506	04/07/2022	2022-07-04	21:58	05:25	7.5
51.8217_-8.9572	05/07/2022	2022-07-04	21:58	05:25	7.5
51.8223_-8.9506	05/07/2022	2022-07-04	21:58	05:25	7.5
51.8217_-8.9572	04/07/2022	2022-07-04	21:58	05:25	7.5
51.8186_-8.955	04/07/2022	2022-07-04	21:58	05:25	7.5
51.8186_-8.955	05/07/2022	2022-07-04	21:58	05:25	7.5
51.8166_-8.9607	04/07/2022	2022-07-04	21:58	05:25	7.5
51.8166_-8.9607	05/07/2022	2022-07-04	21:58	05:25	7.5
51.8101_-8.9618	05/07/2022	2022-07-04	21:58	05:25	7.5
51.8101_-8.9618	04/07/2022	2022-07-04	21:58	05:25	7.5
51.8217_-8.9572	06/07/2022	2022-07-05	21:57	05:26	7.5
51.8101_-8.9618	06/07/2022	2022-07-05	21:57	05:26	7.5
51.8223_-8.9506	06/07/2022	2022-07-05	21:57	05:26	7.5
51.8223_-8.9506	05/07/2022	2022-07-05	21:57	05:26	7.5
51.8217_-8.9572	05/07/2022	2022-07-05	21:57	05:26	7.5
51.8186_-8.955	06/07/2022	2022-07-05	21:57	05:26	7.5
51.8186_-8.955	05/07/2022	2022-07-05	21:57	05:26	7.5
51.8166_-8.9607	06/07/2022	2022-07-05	21:57	05:26	7.5
51.8166_-8.9607	05/07/2022	2022-07-05	21:57	05:26	7.5
51.8101_-8.9618	05/07/2022	2022-07-05	21:57	05:26	7.5
51.8217_-8.9572	07/07/2022	2022-07-06	21:57	05:27	7.5
51.8186_-8.955	06/07/2022	2022-07-06	21:57	05:27	7.5

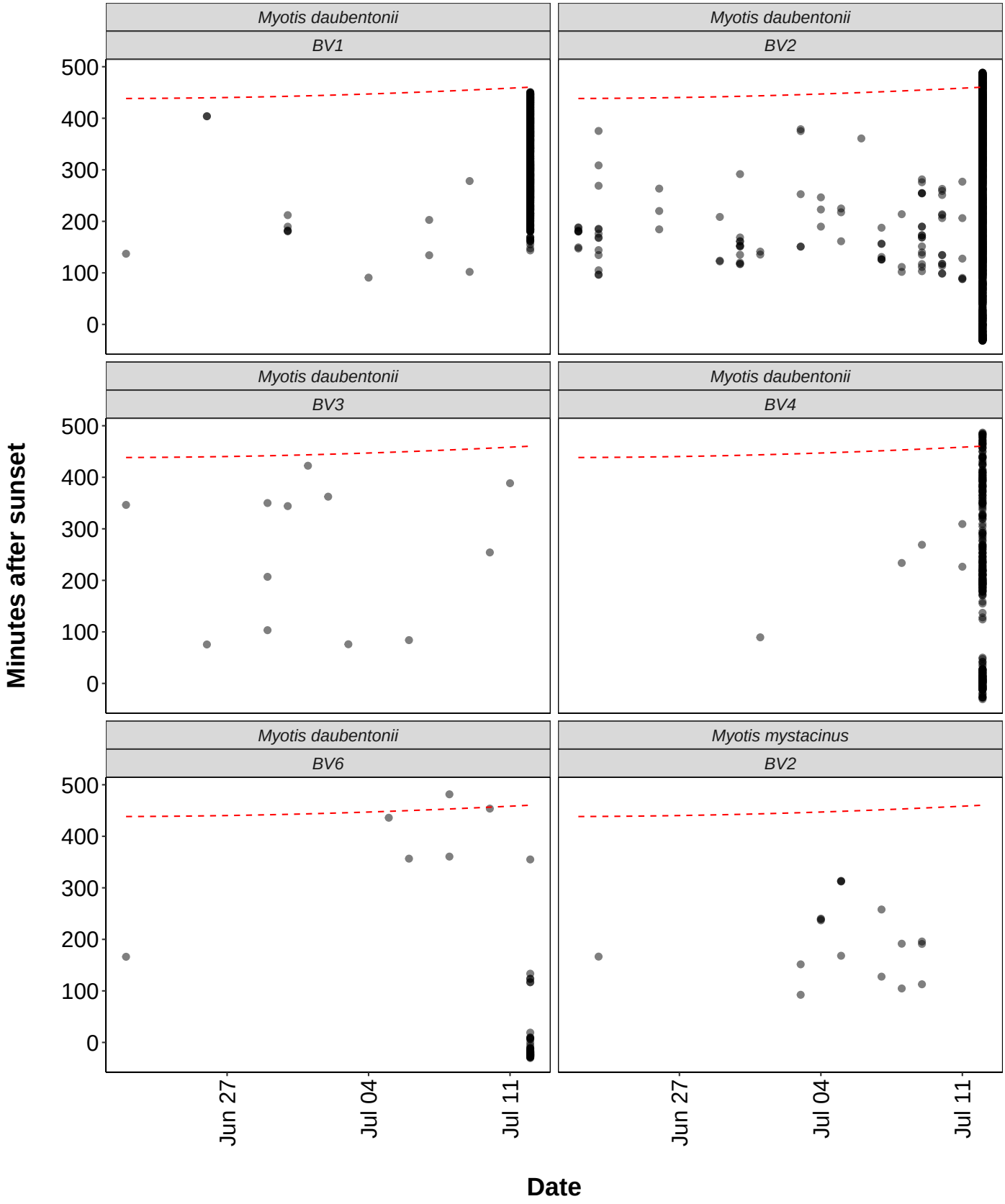
Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8101_-8.9618	07/07/2022	2022-07-06	21:57	05:27	7.5
51.8223_-8.9506	06/07/2022	2022-07-06	21:57	05:27	7.5
51.8223_-8.9506	07/07/2022	2022-07-06	21:57	05:27	7.5
51.8217_-8.9572	06/07/2022	2022-07-06	21:57	05:27	7.5
51.8186_-8.955	07/07/2022	2022-07-06	21:57	05:27	7.5
51.8166_-8.9607	06/07/2022	2022-07-06	21:57	05:27	7.5
51.8101_-8.9618	06/07/2022	2022-07-06	21:57	05:27	7.5
51.8166_-8.9607	07/07/2022	2022-07-06	21:57	05:27	7.5
51.8223_-8.9506	08/07/2022	2022-07-07	21:56	05:27	7.5
51.8217_-8.9572	08/07/2022	2022-07-07	21:56	05:27	7.5
51.8223_-8.9506	07/07/2022	2022-07-07	21:56	05:27	7.5
51.8217_-8.9572	07/07/2022	2022-07-07	21:56	05:27	7.5
51.8186_-8.955	08/07/2022	2022-07-07	21:56	05:27	7.5
51.8186_-8.955	07/07/2022	2022-07-07	21:56	05:27	7.5
51.8166_-8.9607	07/07/2022	2022-07-07	21:56	05:27	7.5
51.8166_-8.9607	08/07/2022	2022-07-07	21:56	05:27	7.5
51.8101_-8.9618	08/07/2022	2022-07-07	21:56	05:27	7.5
51.8101_-8.9618	07/07/2022	2022-07-07	21:56	05:27	7.5
51.8217_-8.9572	08/07/2022	2022-07-08	21:55	05:28	7.6
51.8217_-8.9572	09/07/2022	2022-07-08	21:55	05:28	7.6
51.8166_-8.9607	09/07/2022	2022-07-08	21:55	05:28	7.6
51.8101_-8.9618	09/07/2022	2022-07-08	21:55	05:28	7.6
51.8223_-8.9506	08/07/2022	2022-07-08	21:55	05:28	7.6
51.8223_-8.9506	09/07/2022	2022-07-08	21:55	05:28	7.6
51.8186_-8.955	08/07/2022	2022-07-08	21:55	05:28	7.6
51.8166_-8.9607	08/07/2022	2022-07-08	21:55	05:28	7.6
51.8101_-8.9618	08/07/2022	2022-07-08	21:55	05:28	7.6
51.8186_-8.955	09/07/2022	2022-07-08	21:55	05:28	7.6
51.8223_-8.9506	09/07/2022	2022-07-09	21:55	05:29	7.6
51.8223_-8.9506	10/07/2022	2022-07-09	21:55	05:29	7.6
51.8217_-8.9572	10/07/2022	2022-07-09	21:55	05:29	7.6
51.8217_-8.9572	09/07/2022	2022-07-09	21:55	05:29	7.6
51.8166_-8.9607	10/07/2022	2022-07-09	21:55	05:29	7.6
51.8186_-8.955	10/07/2022	2022-07-09	21:55	05:29	7.6
51.8186_-8.955	09/07/2022	2022-07-09	21:55	05:29	7.6
51.8166_-8.9607	09/07/2022	2022-07-09	21:55	05:29	7.6
51.8101_-8.9618	10/07/2022	2022-07-09	21:55	05:29	7.6
51.8101_-8.9618	09/07/2022	2022-07-09	21:55	05:29	7.6
51.8217_-8.9572	11/07/2022	2022-07-10	21:54	05:31	7.6
51.8217_-8.9572	10/07/2022	2022-07-10	21:54	05:31	7.6
51.8186_-8.955	11/07/2022	2022-07-10	21:54	05:31	7.6
51.8101_-8.9618	11/07/2022	2022-07-10	21:54	05:31	7.6
51.8223_-8.9506	10/07/2022	2022-07-10	21:54	05:31	7.6
51.8223_-8.9506	11/07/2022	2022-07-10	21:54	05:31	7.6
51.8186_-8.955	10/07/2022	2022-07-10	21:54	05:31	7.6
51.8166_-8.9607	10/07/2022	2022-07-10	21:54	05:31	7.6
51.8166_-8.9607	11/07/2022	2022-07-10	21:54	05:31	7.6
51.8101_-8.9618	10/07/2022	2022-07-10	21:54	05:31	7.6
51.8217_-8.9572	11/07/2022	2022-07-11	21:53	05:32	7.6
51.8217_-8.9572	12/07/2022	2022-07-11	21:53	05:32	7.6
51.8186_-8.955	12/07/2022	2022-07-11	21:53	05:32	7.6
51.8166_-8.9607	12/07/2022	2022-07-11	21:53	05:32	7.6
51.8223_-8.9506	12/07/2022	2022-07-11	21:53	05:32	7.6
51.8223_-8.9506	11/07/2022	2022-07-11	21:53	05:32	7.6
51.8186_-8.955	11/07/2022	2022-07-11	21:53	05:32	7.6
51.8166_-8.9607	11/07/2022	2022-07-11	21:53	05:32	7.6

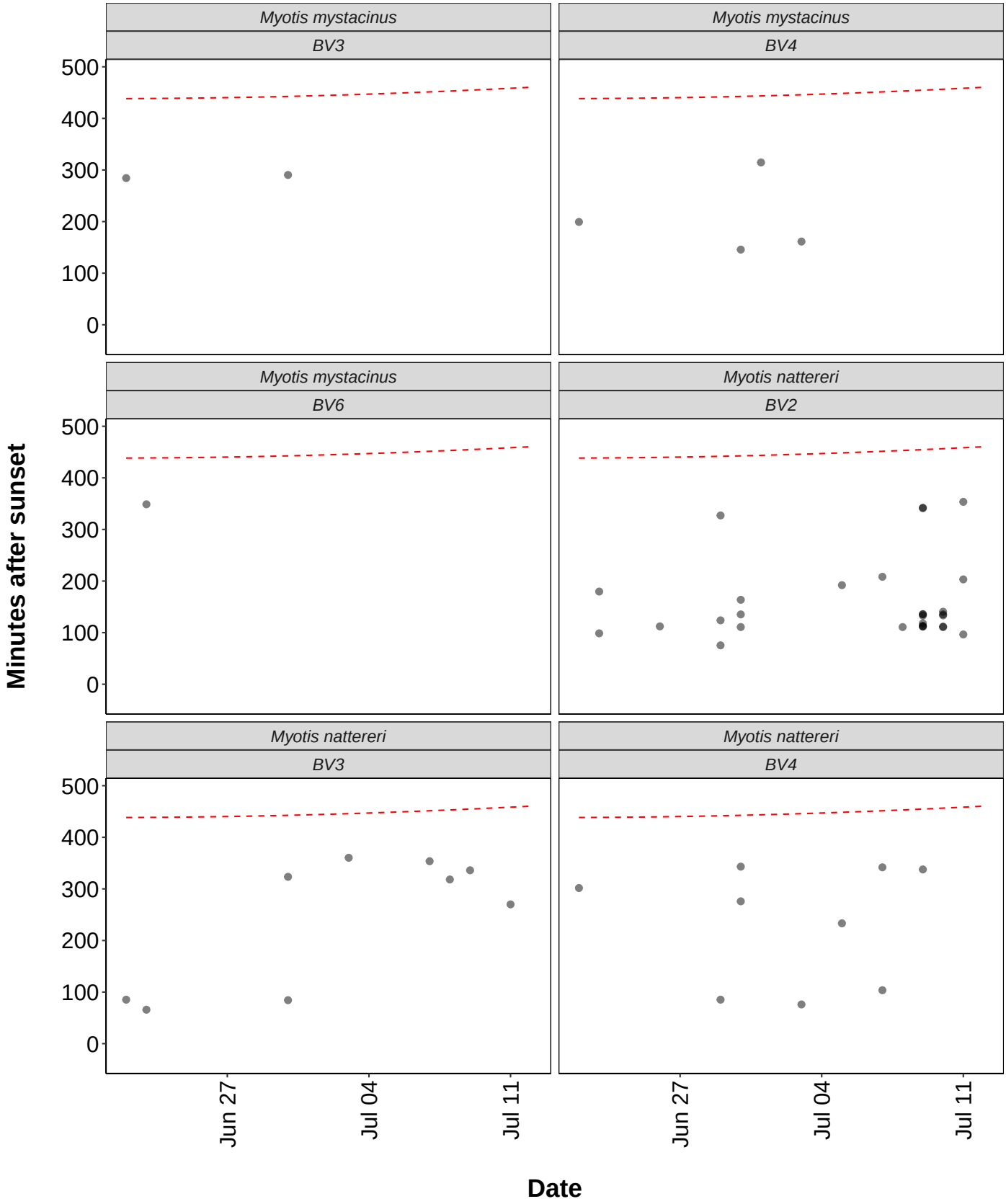
Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8101_-8.9618	11/07/2022	2022-07-11	21:53	05:32	7.6
51.8101_-8.9618	12/07/2022	2022-07-11	21:53	05:32	7.6
51.8223_-8.9506	13/07/2022	2022-07-12	21:52	05:33	7.7
51.8217_-8.9572	13/07/2022	2022-07-12	21:52	05:33	7.7
51.8217_-8.9572	12/07/2022	2022-07-12	21:52	05:33	7.7
51.8166_-8.9607	12/07/2022	2022-07-12	21:52	05:33	7.7
51.8166_-8.9607	13/07/2022	2022-07-12	21:52	05:33	7.7
51.8101_-8.9618	12/07/2022	2022-07-12	21:52	05:33	7.7
51.8101_-8.9618	13/07/2022	2022-07-12	21:52	05:33	7.7
51.8223_-8.9506	12/07/2022	2022-07-12	21:52	05:33	7.7

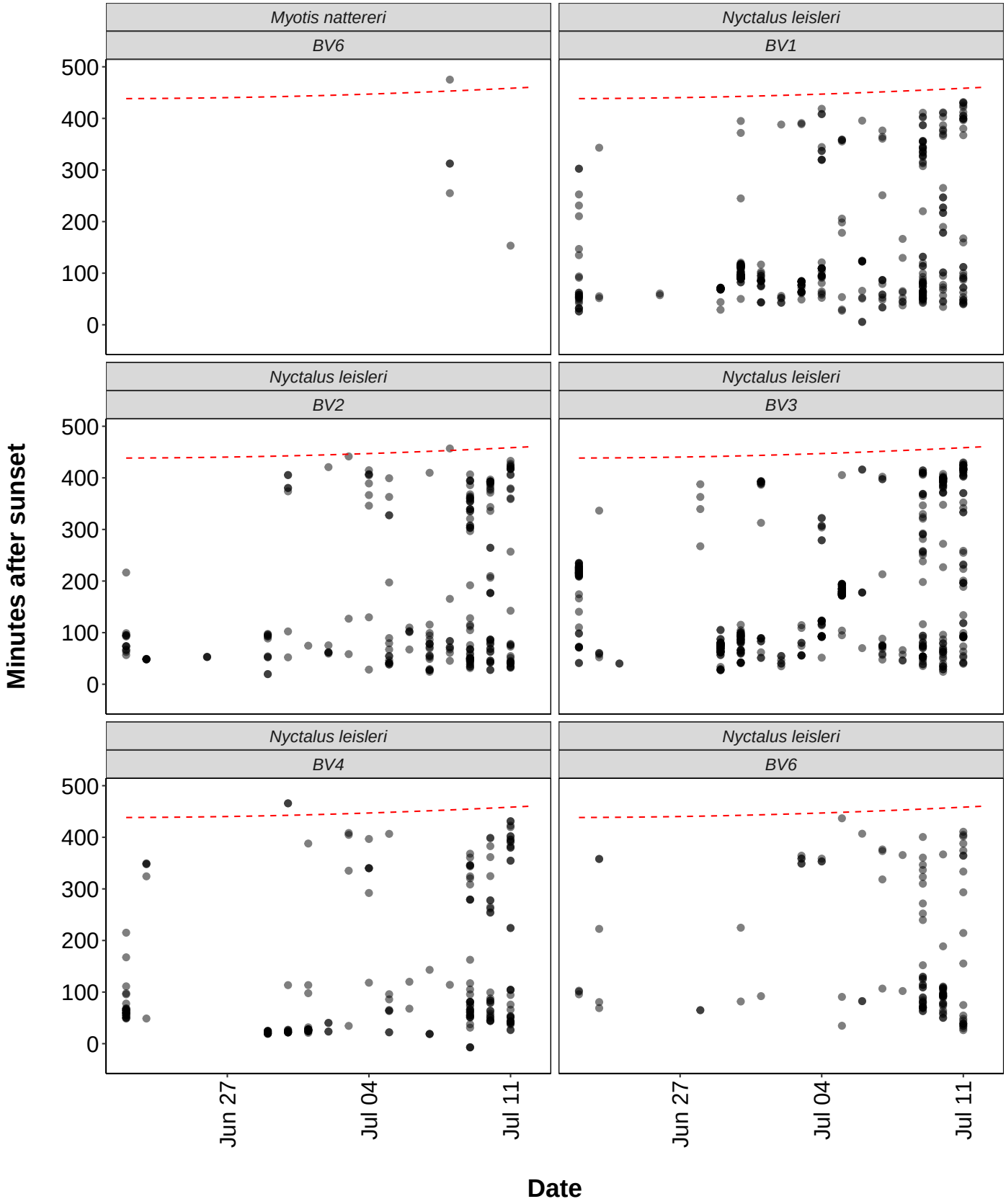
Distribution of Bat Activity Across the Night through Time

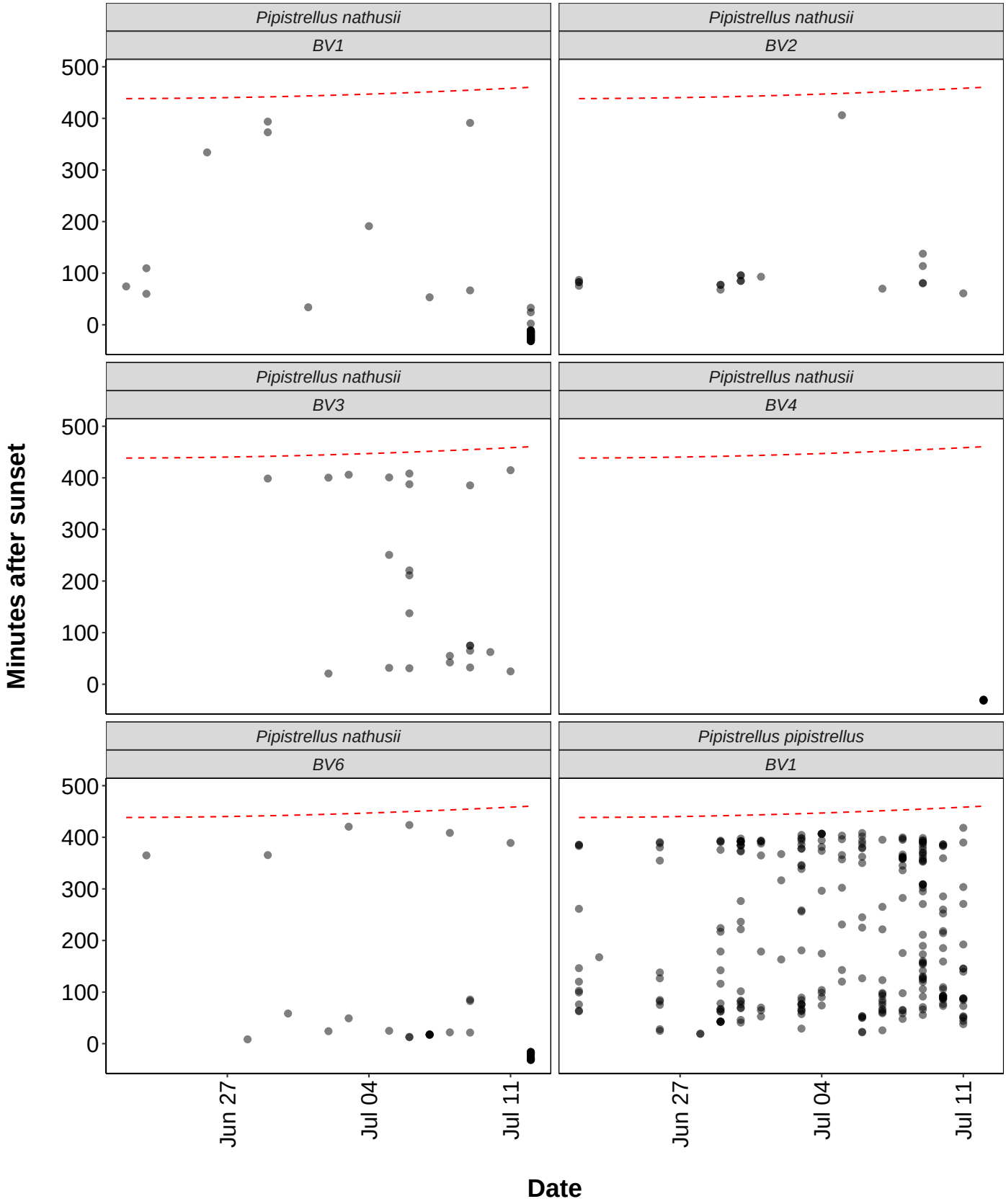
Per Detector

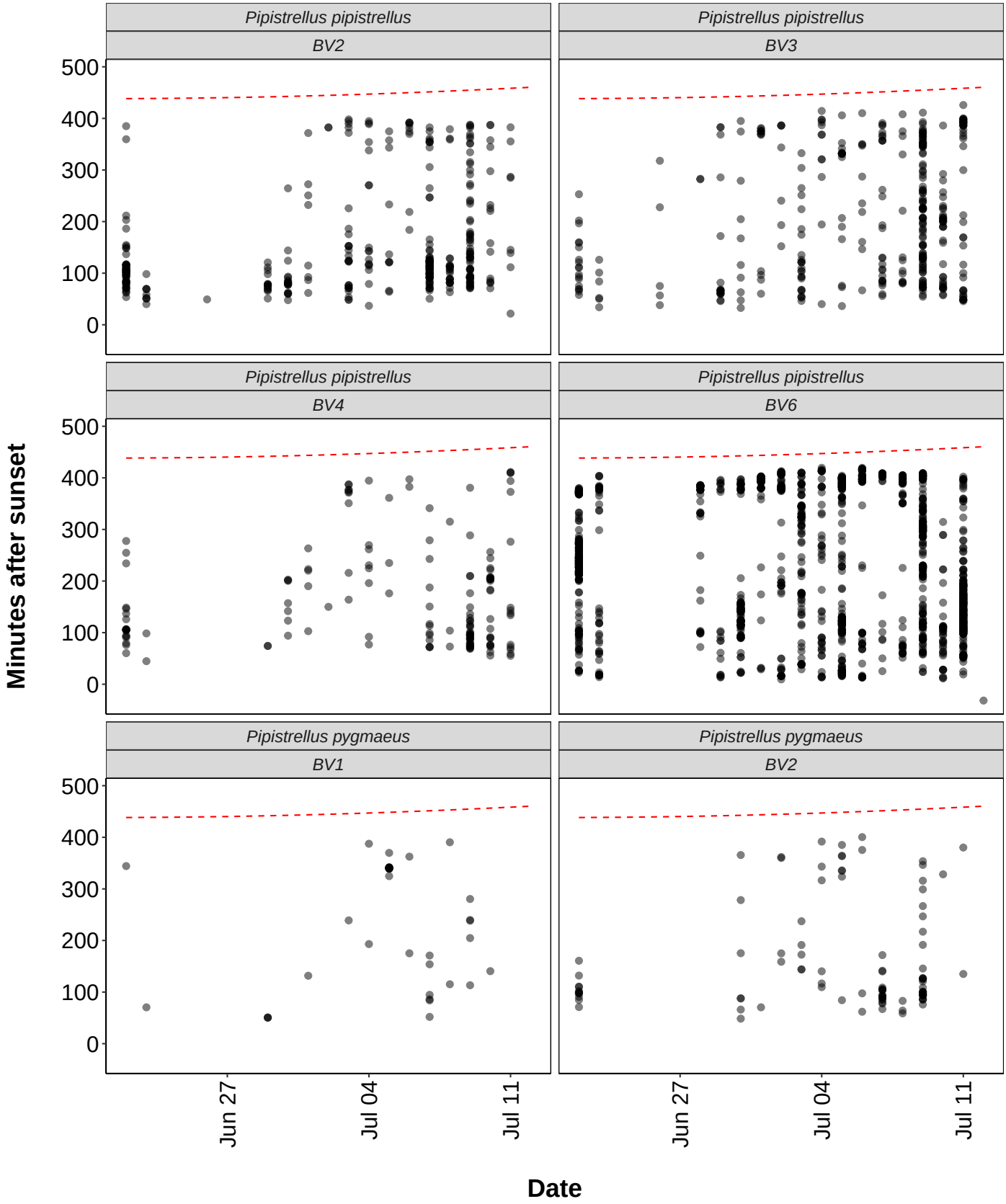
Figure 7. Timing of bat calls plotted as minutes before/after sunset, whereby 0 on the y axis represents sunset. Sunrise throughout the survey period is depicted as the red dashed line. Colours indicate kernel densities, with darkest colours showing peaks of activity. These colours are comparative only within each plot, and do not account for overall activity.

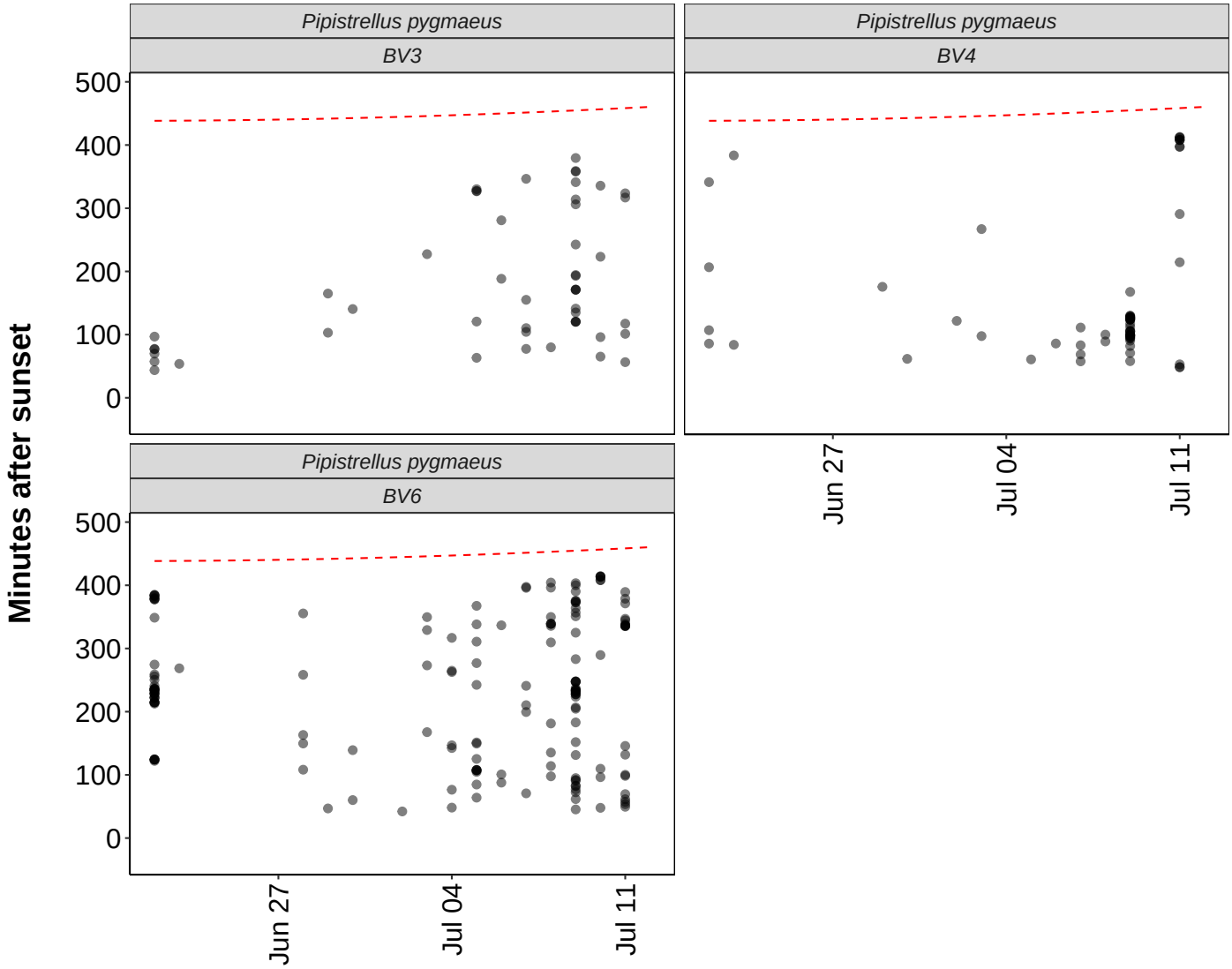

Myotis daubentonii
BV1
Myotis daubentonii
BV2
Myotis daubentonii
BV3
Myotis daubentonii
BV4
Myotis daubentonii
BV6
Myotis mystacinus
BV2
Minutes after sunset
0
100
200
300
400
500
Jun 27
Jul 04
Jul 11
Date


Myotis mystacinus
BV3
Myotis mystacinus
BV4
Myotis mystacinus
BV6
Myotis nattereri
BV2
Myotis nattereri
BV3
Myotis nattereri
BV4
Minutes after sunset
500
400
300
200
100
0
Jun 27
Jul 04
Jul 11
Date


Myotis nattereri
BV6
Nyctalus leisleri
BV1
Nyctalus leisleri
BV2
Nyctalus leisleri
BV3
Nyctalus leisleri
BV4
Nyctalus leisleri
BV6
Minutes after sunset
0
100
200
300
400
500
Jun 27
Jul 04
Jul 11
Date


Pipistrellus nathusii
BV1
Pipistrellus nathusii
BV2
Pipistrellus nathusii
BV3
Pipistrellus nathusii
BV4
Pipistrellus nathusii
BV6
Pipistrellus pipistrellus
BV1
Minutes after sunset
500
400
300
200
100
0
Jun 27
Jul 04
Jul 11
Date


Pipistrellus pipistrellus
BV2
Pipistrellus pipistrellus
BV3
Pipistrellus pipistrellus
BV4
Pipistrellus pipistrellus
BV6
Pipistrellus pygmaeus
BV1
Pipistrellus pygmaeus
BV2
Minutes after sunset
0
100
200
300
400
500
Jun 27
Jul 04
Jul 11
Date


Pipistrellus pygmaeus
BV3
Pipistrellus pygmaeus
BV4
Pipistrellus pygmaeus
BV6
Minutes after sunset
500
400
300
200
100
0
Jun 27
Jul 04
Jul 11
Date

Roost Emergence Time and Bat Observation

Based on: *Russ, Jon. 2012. British Bat Calls a Guide to species Identification. Pelagic Publishing.*

For more information see https://rbats-blog.updog.co/2018/05/29/bat-emergence/

Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012) - Table

Table 12. Number of bat calls recorded before the upper time of the species-specific emergence time range, and which therefore may potentially indicate the presence of a nearby roost.

Table 12: Table continues below

Species	Detector ID	2022-06-22	2022-06-23	2022-06-26	2022-06-28	2022-06-29
Common pipistrelle	BV1	0	0	2	2	0
Common pipistrelle	BV2	0	0	0	0	0
Common pipistrelle	BV6	5	9	0	0	5
Nathusius'	BV1	0	0	0	0	0
Nathusius'	BV3	0	0	0	0	0
Nathusius'	BV4	0	0	0	0	0
Nathusius'	BV6	0	0	0	1	0
Leisler's	BV1	0	0	0	0	0
Leisler's	BV4	0	0	0	0	0
Daubenton's	BV2	0	0	0	0	0
Daubenton's	BV4	0	0	0	0	0
Daubenton's	BV6	0	0	0	0	0

Table 13: Table continues below

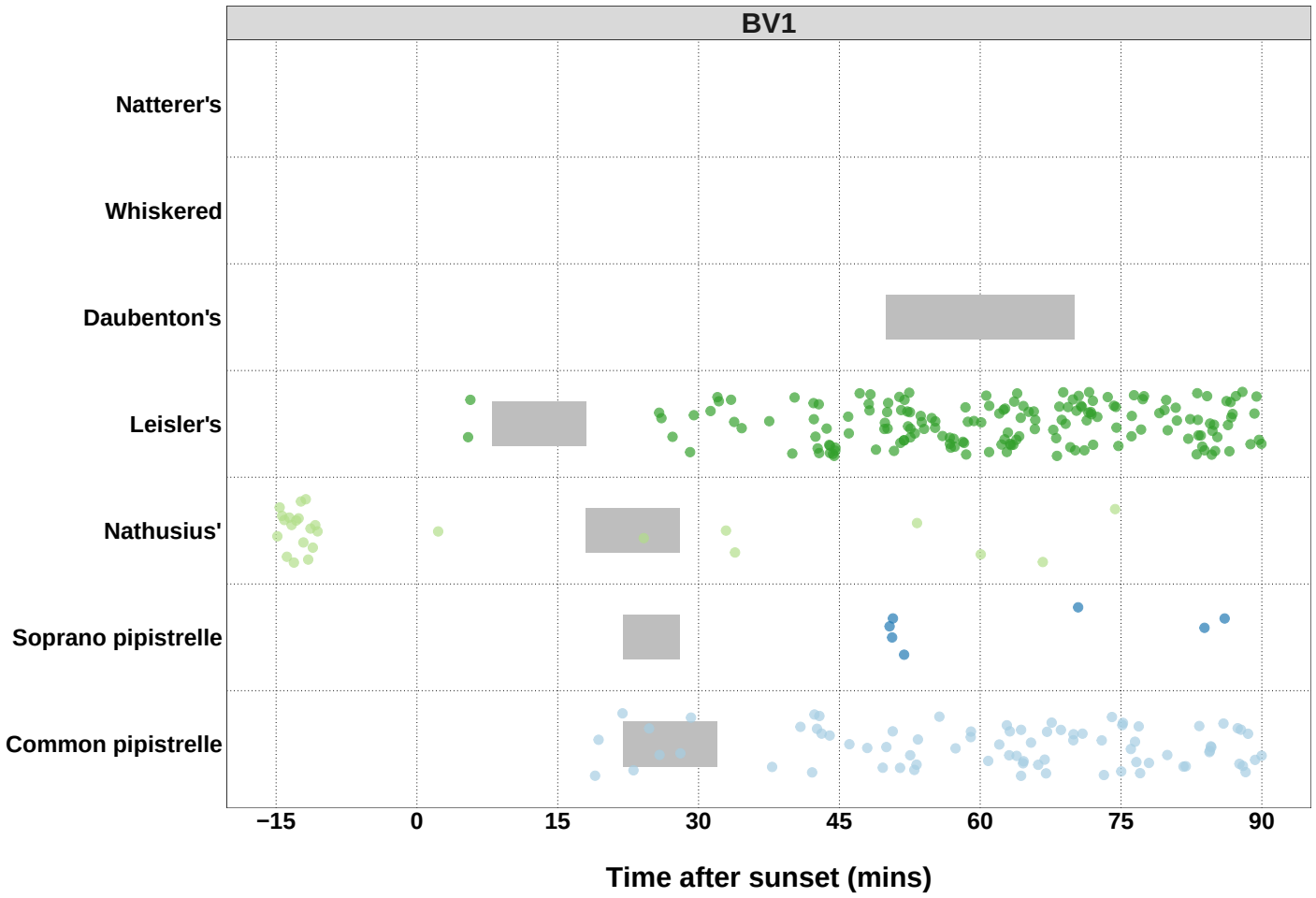
2022-06-30	2022-07-01	2022-07-02	2022-07-03	2022-07-04	2022-07-05	2022-07-06
0	0	0	1	0	0	2
0	0	0	0	0	0	0
4	3	11	1	5	27	8
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	0	0	0	0	0	0
0	0	1	0	0	1	2
0	0	0	0	0	0	2
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

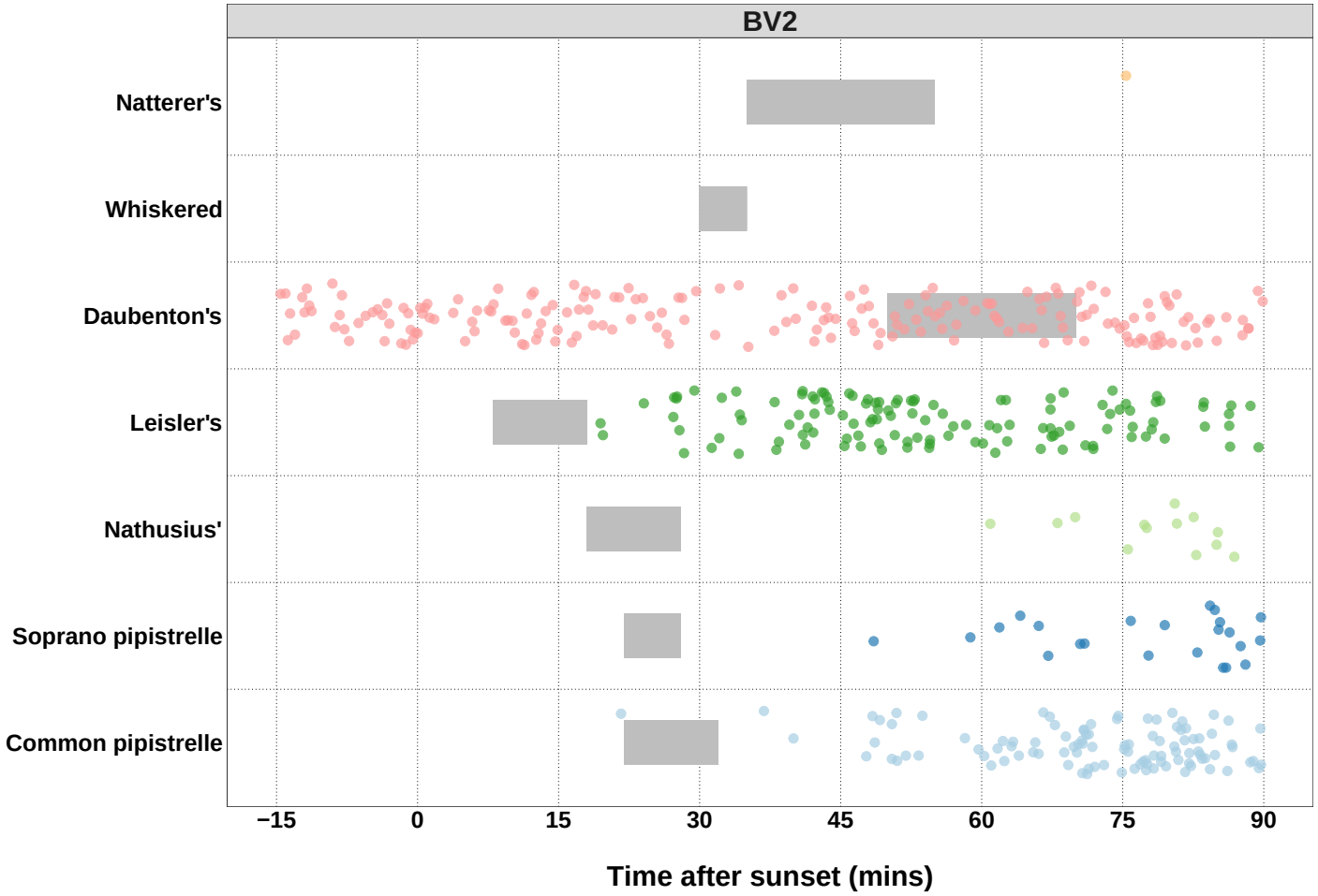
2022-07-07	2022-07-08	2022-07-09	2022-07-10	2022-07-11	2022-07-12
1	0	0	0	0	0
0	0	0	0	1	0
1	0	3	7	2	1
0	0	0	0	0	88
0	0	0	0	1	0
0	0	0	0	0	8
5	1	1	0	0	25
0	0	0	0	0	0
0	0	3	0	0	0
0	0	0	0	0	211

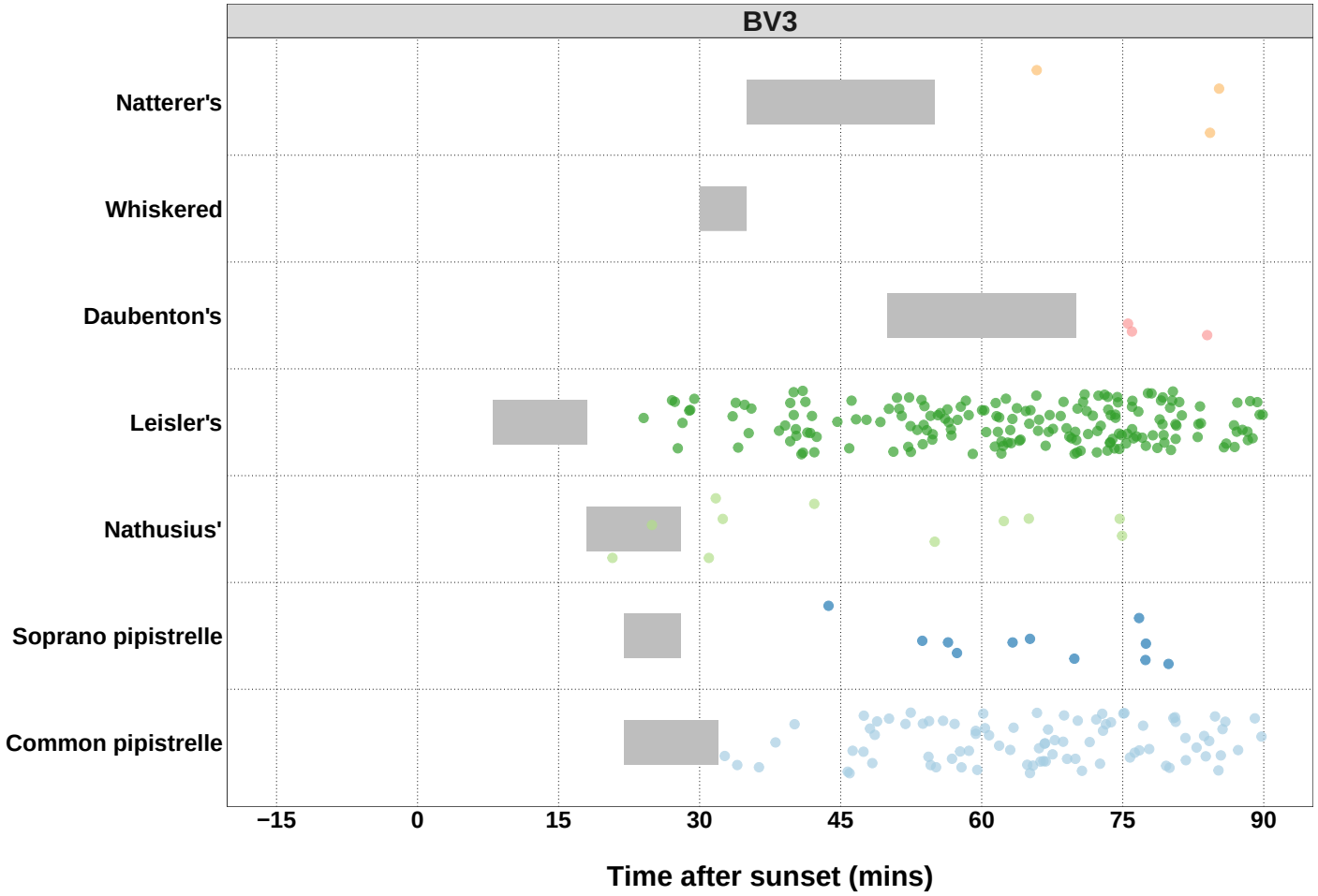
2022-07-07	2022-07-08	2022-07-09	2022-07-10	2022-07-11	2022-07-12
0	0	0	0	0	96
0	0	0	0	0	53

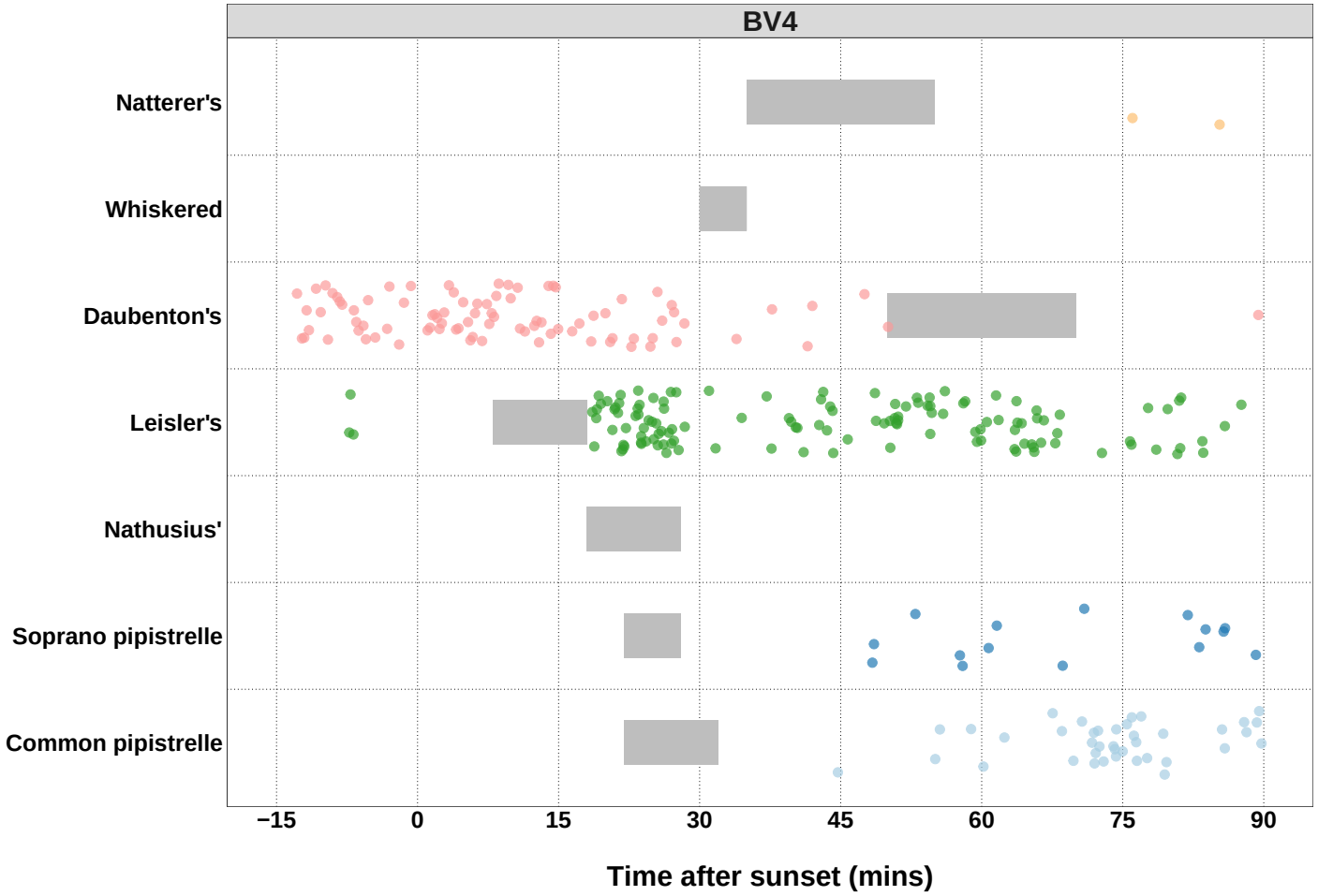
Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012) - Figures

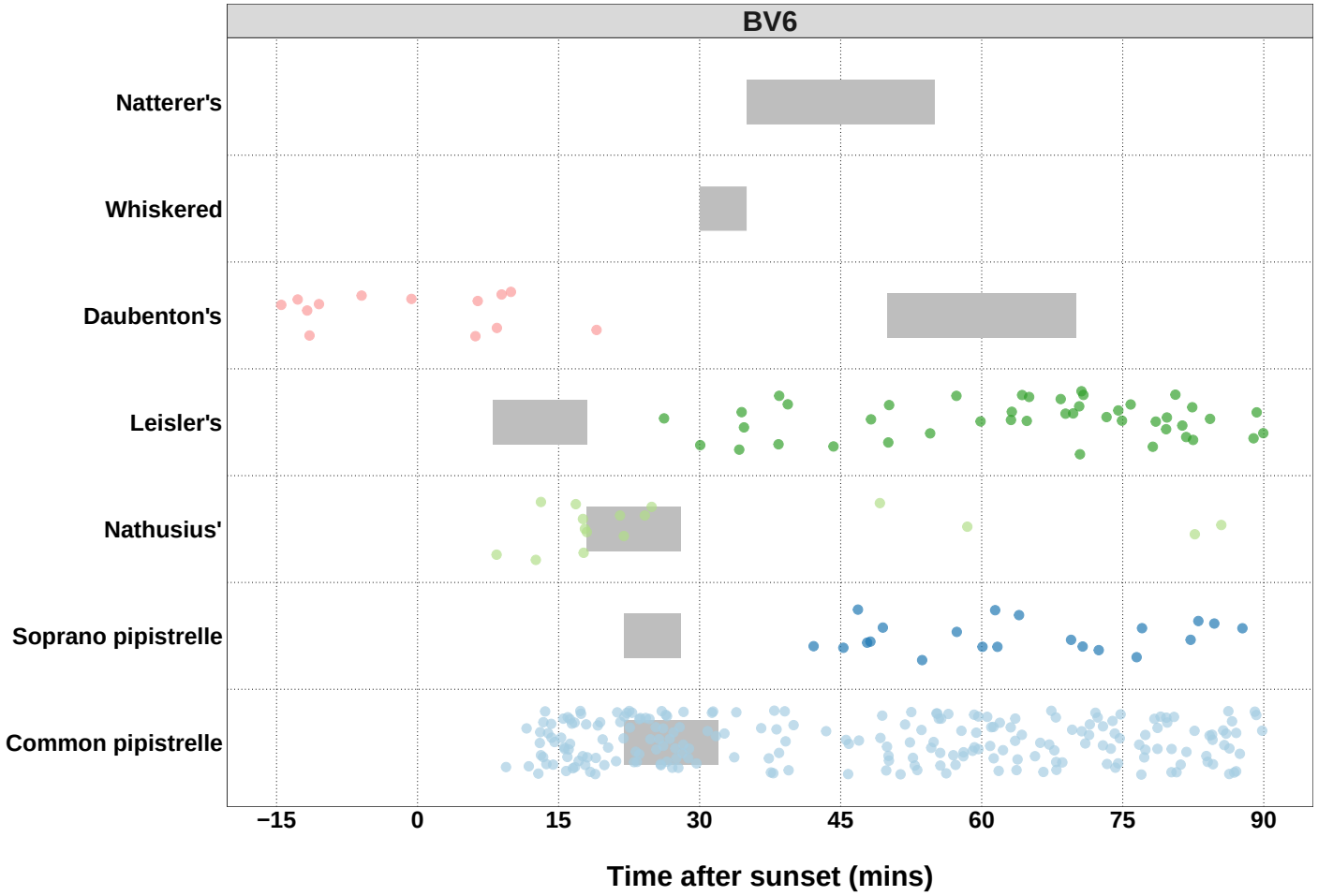
Figure 8. Time from 15 minutes before to 90 minutes after sunset. Species-specific emergence time ranges are shown as grey bars. Bat passes overlapping species-specific grey bars, or occuring earlier than this time range, may potentially indicate the presence of a nearby roost.




BV2
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV3
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV4
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV6
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

Counts of Bat Passes

All detectors

Table 14. The total number of passes recorded for each species across all of the detectors. The 'Total' percentage may not be exactly 100% due to rounding of the percentages per species.

Species	Passes (No.)	Percentage of total (%)
Common pipistrelle	3417	39.2
Soprano pipistrelle	469	5.4
Nathusius'	226	2.6
Leisler's	1641	18.8
Daubenton's	2880	33.1
Whiskered	24	0.3
Natterer's	52	0.6
Total	8709	100.0

Page Break

Counts of Bat Passes

Per Detector

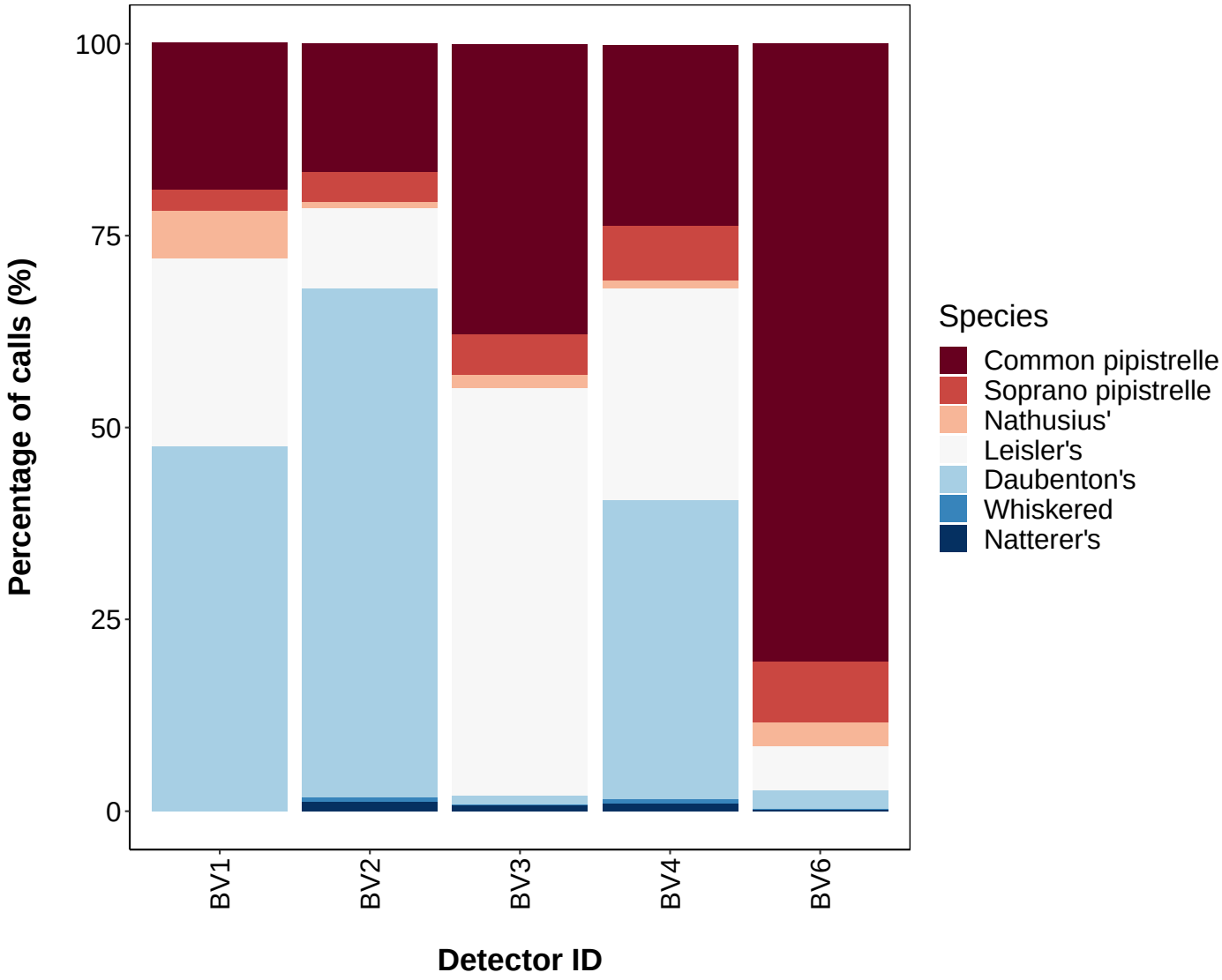
Table 15. The number of passes recorded for each species at each detector.

Species	Detector ID	Count (No)	Percentage by Detector (%)
Common pipistrelle	BV1	304	19.1
Common pipistrelle	BV2	441	16.7
Common pipistrelle	BV3	439	37.8
Common pipistrelle	BV4	182	23.5
Common pipistrelle	BV6	2051	80.5
Soprano pipistrelle	BV1	44	2.8
Soprano pipistrelle	BV2	105	4.0
Soprano pipistrelle	BV3	63	5.4
Soprano pipistrelle	BV4	56	7.2
Soprano pipistrelle	BV6	201	7.9
Nathusius'	BV1	99	6.2
Nathusius'	BV2	18	0.7
Nathusius'	BV3	20	1.7
Nathusius'	BV4	8	1.0
Nathusius'	BV6	81	3.2
Leisler's	BV1	389	24.5
Leisler's	BV2	277	10.5
Leisler's	BV3	616	53.1
Leisler's	BV4	214	27.6
Leisler's	BV6	145	5.7
Daubenton's	BV1	755	47.5
Daubenton's	BV2	1747	66.3
Daubenton's	BV3	13	1.1
Daubenton's	BV4	302	39.0
Daubenton's	BV6	63	2.5
Whiskered	BV2	17	0.6
Whiskered	BV3	2	0.2

Species	Detector ID	Count (No)	Percentage by Detector (%)
Whiskered	BV4	4	0.5
Whiskered	BV6	1	0.0
Natterer's	BV2	31	1.2
Natterer's	BV3	8	0.7
Natterer's	BV4	8	1.0
Natterer's	BV6	5	0.2

Species Composition

Figure 10. Percentage species composition of passes at each detector.



PART 2a: Presence Only

THE NEXT SECTION OF THE REPORT FEATURES THE RAW DATA SUPPLIED TO ECOBAT AND ONLY TAKES INTO ACCOUNT THE PRESENCE, AND NOT THE ABSENCE, OF EACH BAT SPECIES. FOR EACH NIGHT, THERE IS NO 'ZERO DATA' FOR WHEN SPECIES WERE NOT DETECTED.

Nightly Bat Pass Rate (Bat passes per hour)

Median Per Detector

Table 16. The median Nightly Pass Rate (bat passes per hour, per night) of each species. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Median Pass Rate
Common pipistrelle	BV1	2.3
Common pipistrelle	BV2	2.8
Common pipistrelle	BV3	2.0
Common pipistrelle	BV4	1.3
Common pipistrelle	BV6	13.0
Soprano pipistrelle	BV1	0.3
Soprano pipistrelle	BV2	0.9
Soprano pipistrelle	BV3	0.5
Soprano pipistrelle	BV4	0.3
Soprano pipistrelle	BV6	1.3
Nathusius'	BV1	0.1
Nathusius'	BV2	0.3
Nathusius'	BV3	0.3
Nathusius'	BV4	1.0
Nathusius'	BV6	0.3
Leisler's	BV1	2.9
Leisler's	BV2	1.6
Leisler's	BV3	5.9
Leisler's	BV4	1.6
Leisler's	BV6	0.6
Daubenton's	BV1	0.3
Daubenton's	BV2	1.1
Daubenton's	BV3	0.1
Daubenton's	BV4	0.1
Daubenton's	BV6	0.1
Whiskered	BV2	0.4
Whiskered	BV3	0.1
Whiskered	BV4	0.1
Whiskered	BV6	0.1
Natterer's	BV2	0.3
Natterer's	BV3	0.1
Natterer's	BV4	0.1
Natterer's	BV6	0.3

Nightly Bat Pass Rate (Bat passes per hour)

Mean per Detector

Table 17. The mean Nightly Pass Rate (bat passes per hour, per night) of each species at each detector. Values are given to 1 decimal place.

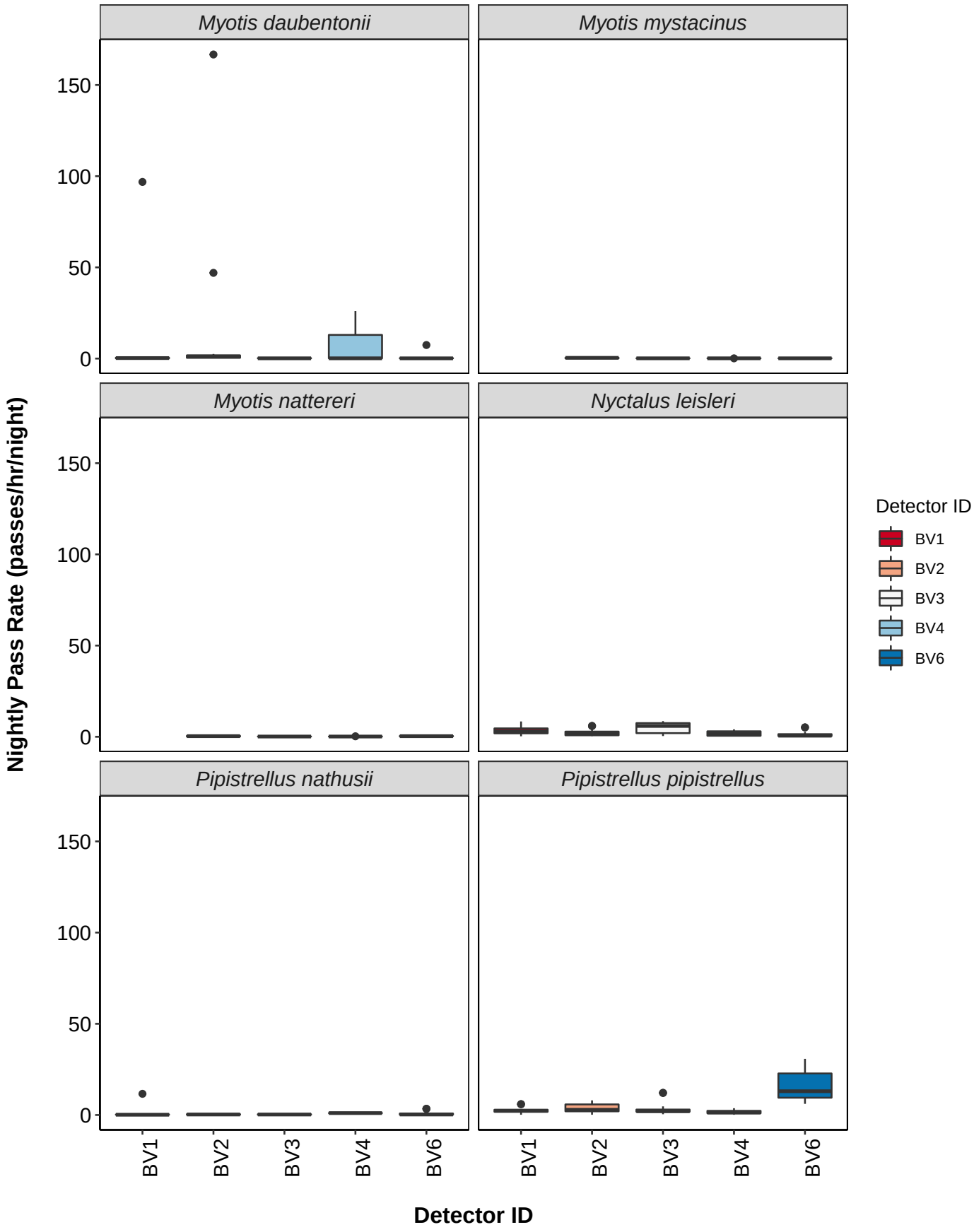
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

Species	Detector ID	Mean Pass Rate
Common pipistrelle	BV1	2.4
Common pipistrelle	BV2	3.7
Common pipistrelle	BV3	3.4
Common pipistrelle	BV4	1.6
Common pipistrelle	BV6	16.1
Soprano pipistrelle	BV1	0.5
Soprano pipistrelle	BV2	1.1
Soprano pipistrelle	BV3	0.7
Soprano pipistrelle	BV4	0.6
Soprano pipistrelle	BV6	1.8
Nathusius'	BV1	1.4
Nathusius'	BV2	0.3
Nathusius'	BV3	0.3
Nathusius'	BV4	1.0
Nathusius'	BV6	0.8
Leisler's	BV1	3.3
Leisler's	BV2	2.3
Leisler's	BV3	4.9
Leisler's	BV4	1.9
Leisler's	BV6	1.4
Daubenton's	BV1	14.1
Daubenton's	BV2	14.3
Daubenton's	BV3	0.2
Daubenton's	BV4	7.9
Daubenton's	BV6	1.4
Whiskered	BV2	0.3
Whiskered	BV3	0.1
Whiskered	BV4	0.1
Whiskered	BV6	0.1
Natterer's	BV2	0.4
Natterer's	BV3	0.1
Natterer's	BV4	0.2
Natterer's	BV6	0.3

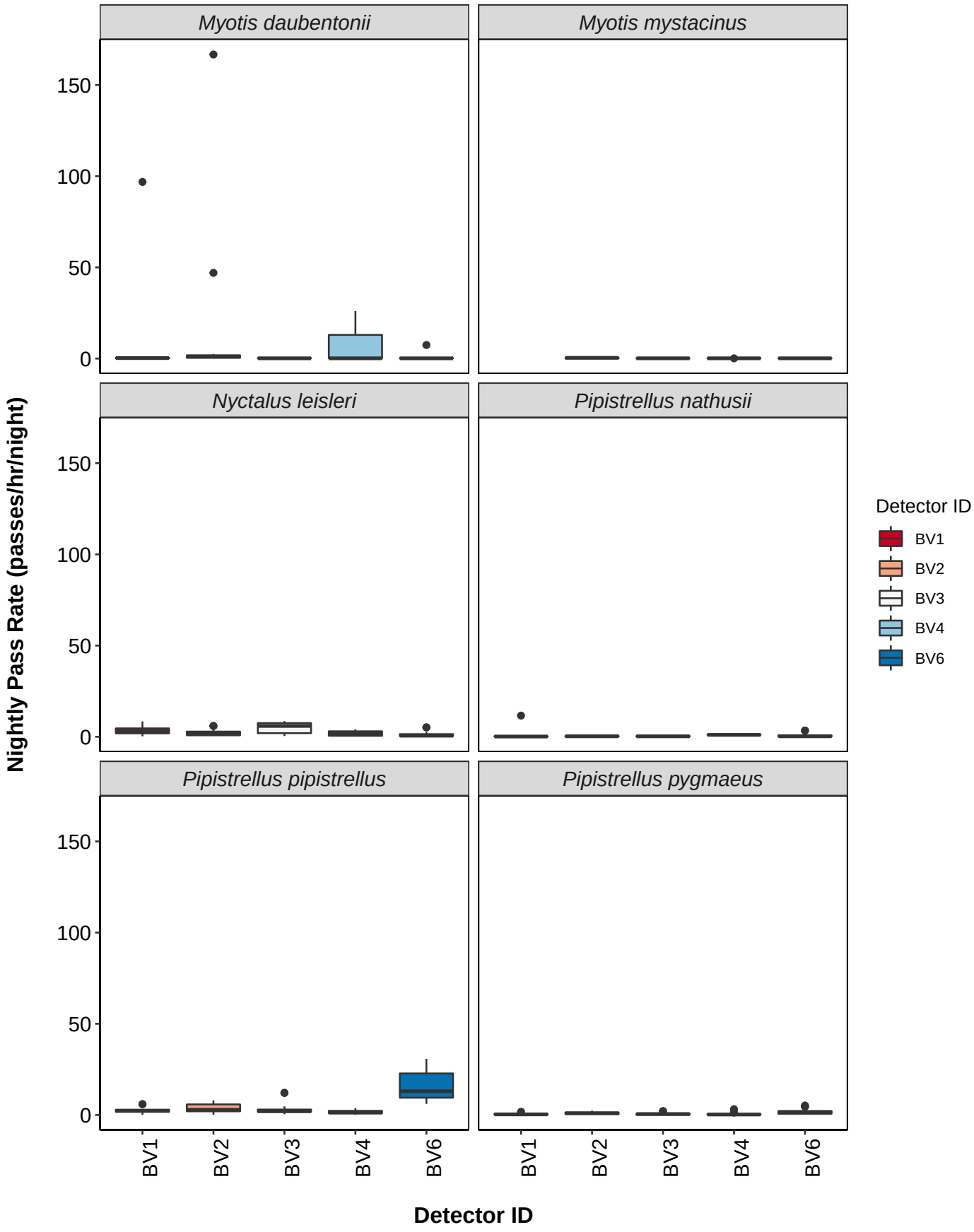
Nightly Bat Passes (Bat passes per hour)

Per Detector - Figures

Figure 11. Boxplots for the number of bat passes per hour each night, for each detector. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.

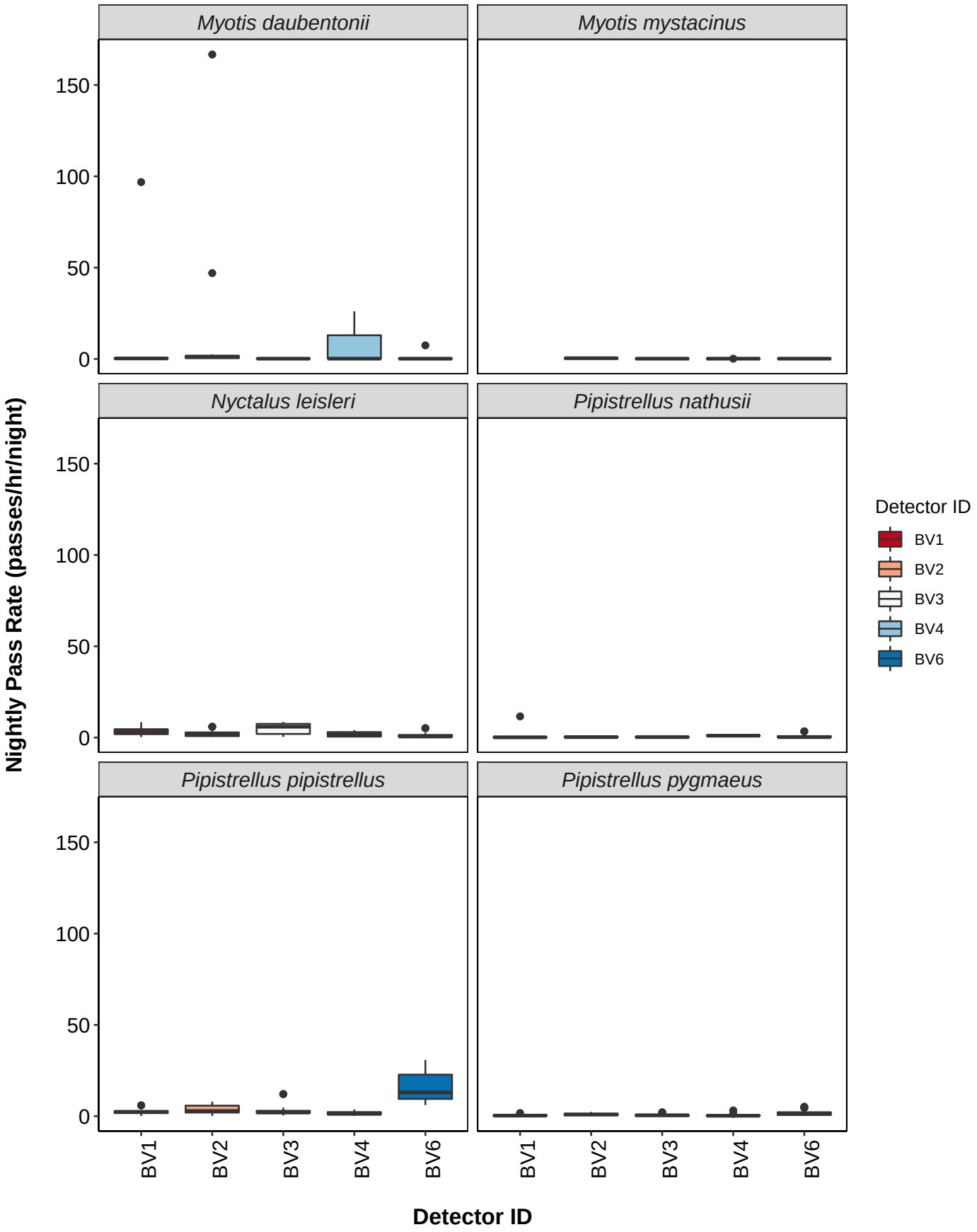


Error: Cannot create zero-length unit vector ("unit" subsetting)


Myotis daubentonii
Myotis mystacinus
Nyctalus leisleri
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Nightly Pass Rate (passes/hr/night)
150
100
50
0
BV1
BV2
BV3
BV4
BV6
Detector ID
Detector ID
BV1
BV2
BV3
BV4
BV6

```
[[1]]
NULL
```

[[2]]


Myotis daubentonii
Myotis mystacinus
Nyctalus leisleri
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Nightly Pass Rate (passes/hr/night)
0
50
100
150
BV1
BV2
BV3
BV4
BV6
Detector ID
Detector ID
BV1
BV2
BV3
BV4
BV6

SPLIT BY MONTH

Total Bat Passes per Detector, each Month

Per Detector

Table 18. The total number of bat passes of each species in each month at each detector. This table simply tells you how many bats of each species were recorded passing each detector during each month. These numbers are not standardised by the night length, or how many nights each detector was active for during each month.

Species	Detector ID	Jun	Jul
Common pipistrelle	BV1	48	256
Common pipistrelle	BV2	96	345
Common pipistrelle	BV3	69	370
Common pipistrelle	BV4	31	151
Common pipistrelle	BV6	610	1441
Soprano pipistrelle	BV1	7	37
Soprano pipistrelle	BV2	14	91
Soprano pipistrelle	BV3	9	54
Soprano pipistrelle	BV4	10	46
Soprano pipistrelle	BV6	50	151
Nathusius'	BV1	6	93
Nathusius'	BV2	11	7
Nathusius'	BV3	1	19
Nathusius'	BV4	0	8
Nathusius'	BV6	6	75
Leisler's	BV1	113	276
Leisler's	BV2	39	238
Leisler's	BV3	279	337
Leisler's	BV4	61	153
Leisler's	BV6	10	135
Daubenton's	BV1	8	747
Daubenton's	BV2	39	1708
Daubenton's	BV3	5	8
Daubenton's	BV4	0	302
Daubenton's	BV6	1	62
Whiskered	BV2	1	16
Whiskered	BV3	2	0
Whiskered	BV4	2	2
Whiskered	BV6	1	0
Natterer's	BV2	8	23
Natterer's	BV3	3	5
Natterer's	BV4	4	4
Natterer's	BV6	0	5

Survey Effort

Table 19. The number of survey nights per month per detector.

Month	Detector ID	No. of Survey Nights
Jun	BV1	6
Jun	BV2	5
Jun	BV3	7
Jun	BV4	4
Jun	BV6	5
Jul	BV1	12
Jul	BV2	12
Jul	BV3	11
Jul	BV4	12
Jul	BV6	12

Nightly Bat Pass Rate for each Month

Median Per Detector

Table 20. The median Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Jun	Jul
Common pipistrelle	BV1	0.8	2.8
Common pipistrelle	BV2	2.3	3.1
Common pipistrelle	BV3	1.8	3.0
Common pipistrelle	BV4	1.1	1.5
Common pipistrelle	BV6	9.5	15.2
Soprano pipistrelle	BV1	0.3	0.4
Soprano pipistrelle	BV2	1.0	0.9
Soprano pipistrelle	BV3	0.1	0.7
Soprano pipistrelle	BV4	0.3	0.3
Soprano pipistrelle	BV6	0.7	1.6
Nathusius'	BV1	0.2	0.1
Nathusius'	BV2	0.5	0.1
Nathusius'	BV3	0.1	0.3
Nathusius'	BV4	NA	1.0
Nathusius'	BV6	0.2	0.5
Leisler's	BV1	2.6	3.0
Leisler's	BV2	1.0	2.5
Leisler's	BV3	7.7	2.0
Leisler's	BV4	2.3	1.6
Leisler's	BV6	0.3	0.7
Daubenton's	BV1	0.3	0.2
Daubenton's	BV2	1.1	1.2
Daubenton's	BV3	0.1	0.1
Daubenton's	BV4	NA	0.1
Daubenton's	BV6	0.1	0.1
Whiskered	BV2	0.1	0.4
Whiskered	BV3	0.1	NA
Whiskered	BV4	0.1	0.1
Whiskered	BV6	0.1	NA
Natterer's	BV2	0.3	0.4
Natterer's	BV3	0.1	0.1
Natterer's	BV4	0.1	0.1
Natterer's	BV6	NA	0.3

Nightly Bat Pass Rate for each Month

Mean per Detector

Table 21: The mean Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. Values are given to 1 decimal place.

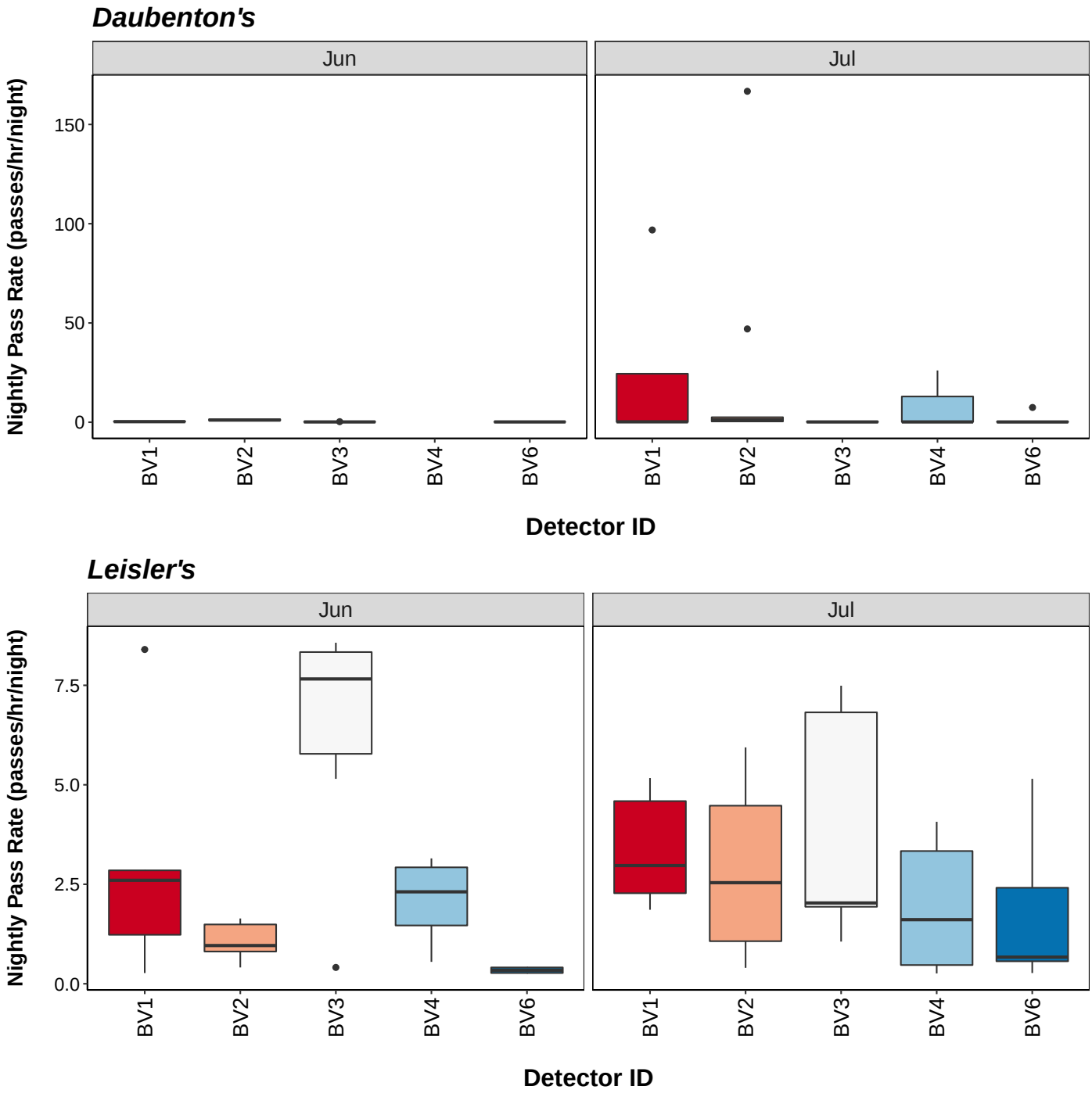
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

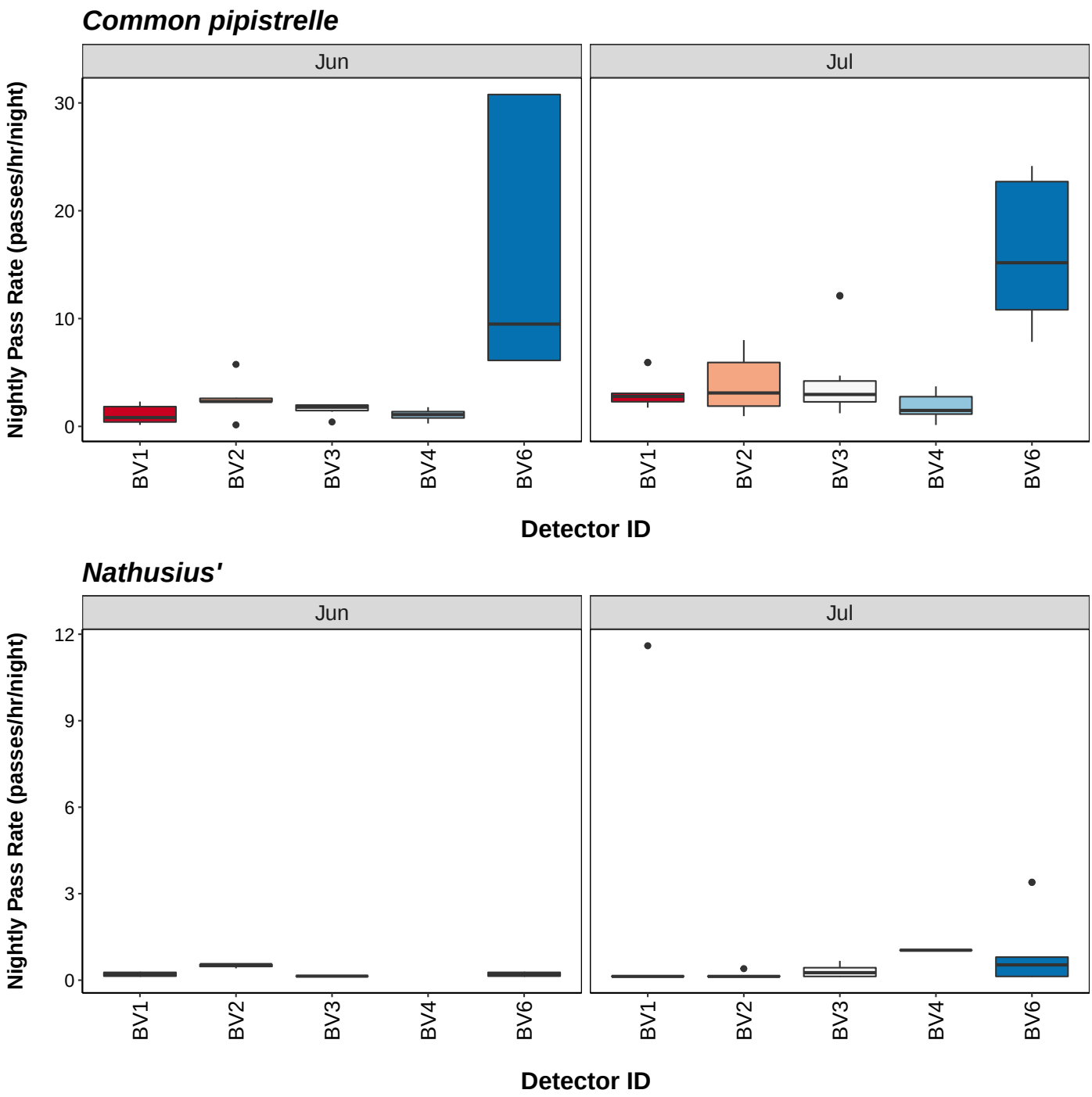
Species	Detector ID	Jun	Jul
Common pipistrelle	BV1	1.1	3.1
Common pipistrelle	BV2	2.6	4.2
Common pipistrelle	BV3	1.6	4.5
Common pipistrelle	BV4	1.1	1.8
Common pipistrelle	BV6	16.7	15.9
Soprano pipistrelle	BV1	0.3	0.5
Soprano pipistrelle	BV2	1.0	1.1
Soprano pipistrelle	BV3	0.3	0.9
Soprano pipistrelle	BV4	0.3	0.8
Soprano pipistrelle	BV6	1.4	2.0
Nathusius'	BV1	0.2	2.4
Nathusius'	BV2	0.5	0.2
Nathusius'	BV3	0.1	0.3
Nathusius'	BV4	NA	1.0
Nathusius'	BV6	0.2	1.1
Leisler's	BV1	3.1	3.3
Leisler's	BV2	1.1	2.9
Leisler's	BV3	6.3	4.1
Leisler's	BV4	2.1	1.8
Leisler's	BV6	0.3	1.8
Daubenton's	BV1	0.4	24.3
Daubenton's	BV2	1.1	20.3
Daubenton's	BV3	0.2	0.2
Daubenton's	BV4	NA	7.9
Daubenton's	BV6	0.1	1.6
Whiskered	BV2	0.1	0.4
Whiskered	BV3	0.1	NA
Whiskered	BV4	0.1	0.1
Whiskered	BV6	0.1	NA
Natterer's	BV2	0.3	0.5
Natterer's	BV3	0.1	0.1
Natterer's	BV4	0.2	0.1
Natterer's	BV6	NA	0.3

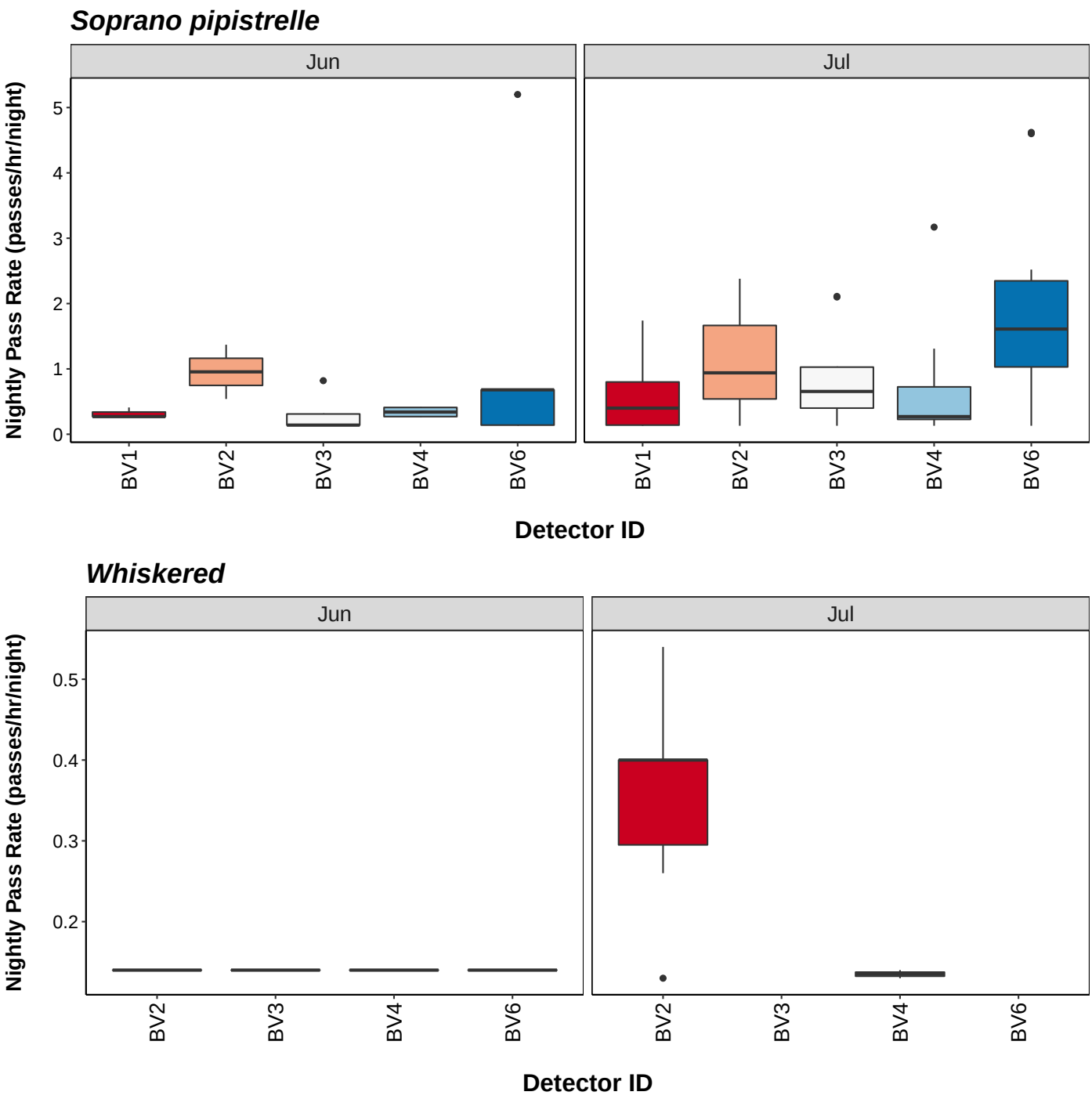
Nightly Bat Pass Rate for each Month

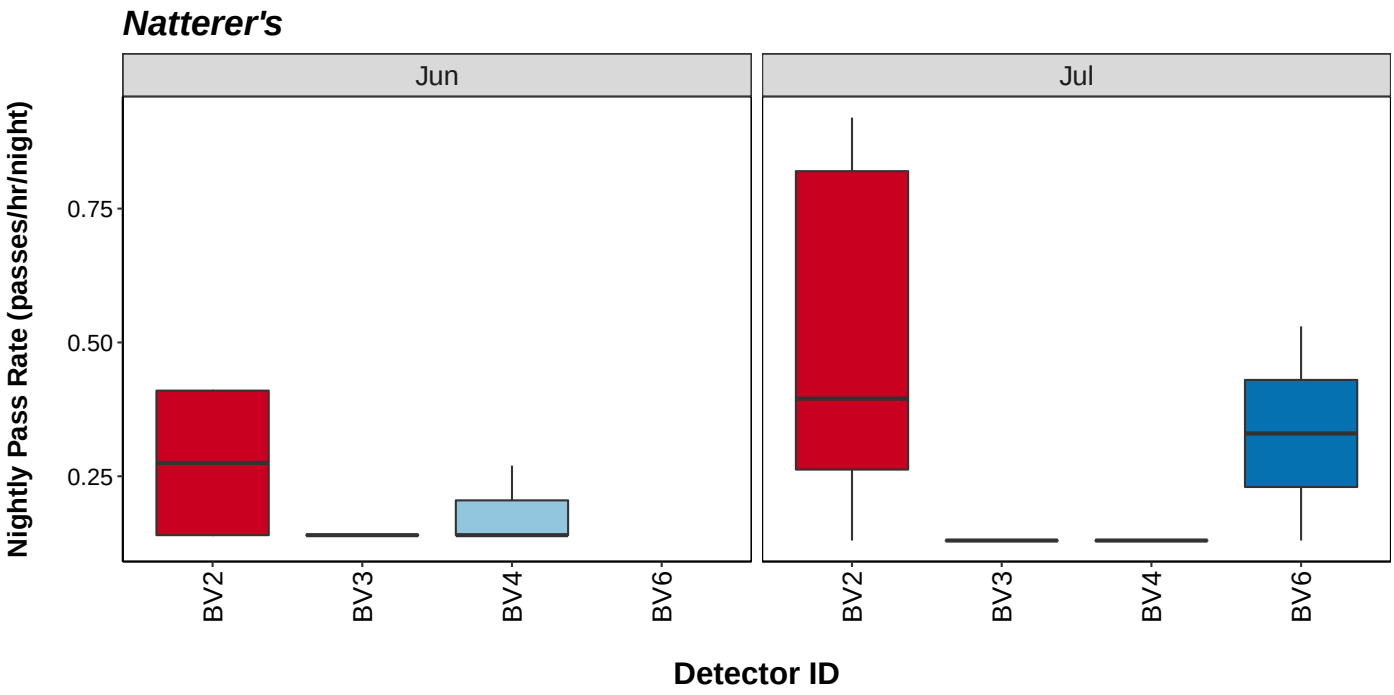
Per Detector - Figures

Figure 12. Figures show boxplots for the number of bat passes per hour by detector, for each month. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.




Common pipistrelle
Jun
Jul
Nightly Pass Rate (passes/hr/night)
0
10
20
30
BV1
BV2
BV3
BV4
BV6
Detector ID
Nathusius'
Jun
Jul
Nightly Pass Rate (passes/hr/night)
0
3
6
9
12
BV1
BV2
BV3
BV4
BV6
Detector ID


Soprano pipistrelle
Jun
Jul
Nightly Pass Rate (passes/hr/night)
0
1
2
3
4
5
BV1
BV2
BV3
BV4
BV6
Detector ID
Whiskered
Jun
Jul
Nightly Pass Rate (passes/hr/night)
0.2
0.3
0.4
0.5
BV2
BV3
BV4
BV6
Detector ID


Natterer's
Jun
Jul
Nightly Pass Rate (passes/hr/night)
0.75
0.50
0.25
BV2
BV3
BV4
BV6
Detector ID

Bat Activity per Detector Location

Figure 13. Detector ID reference:

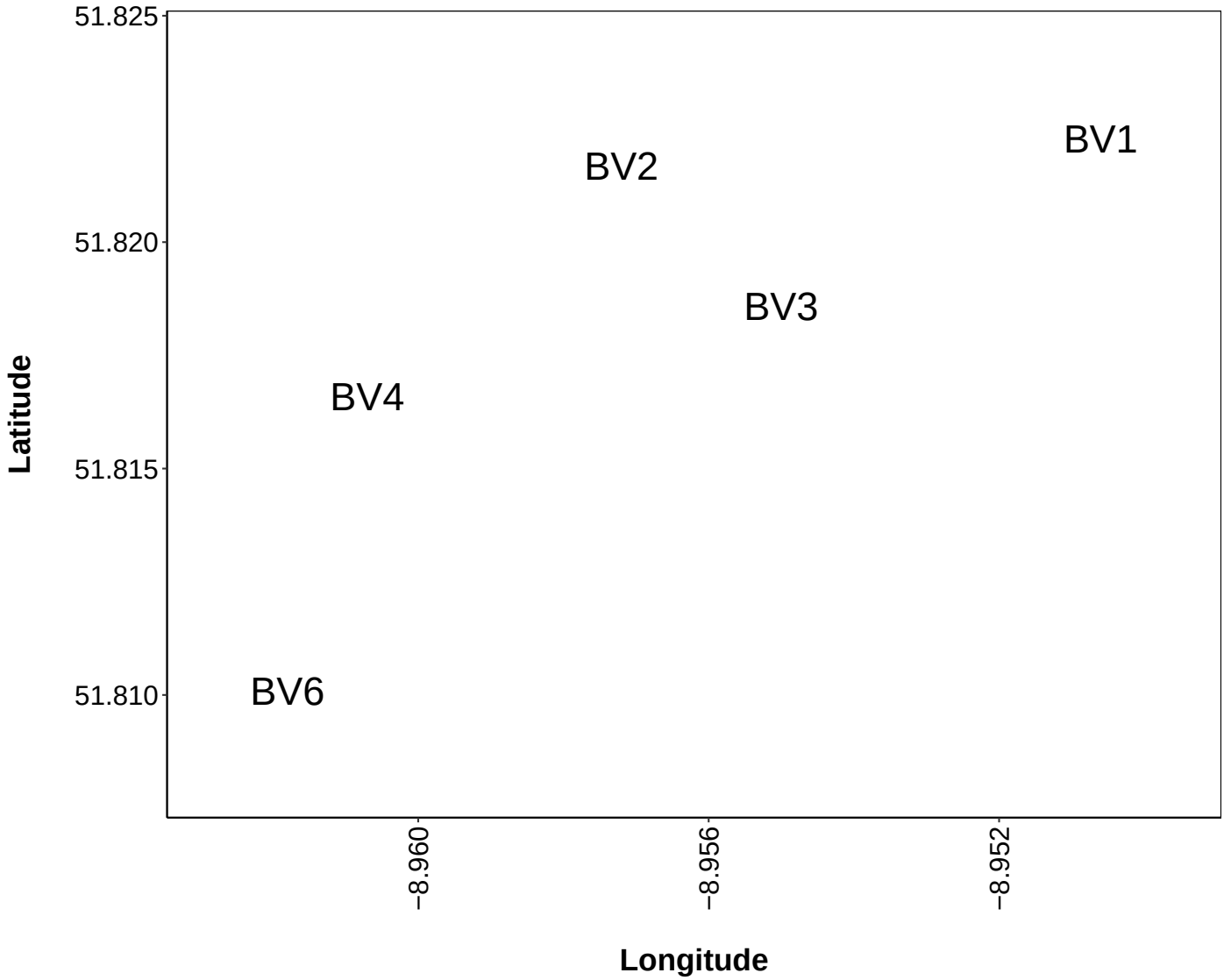
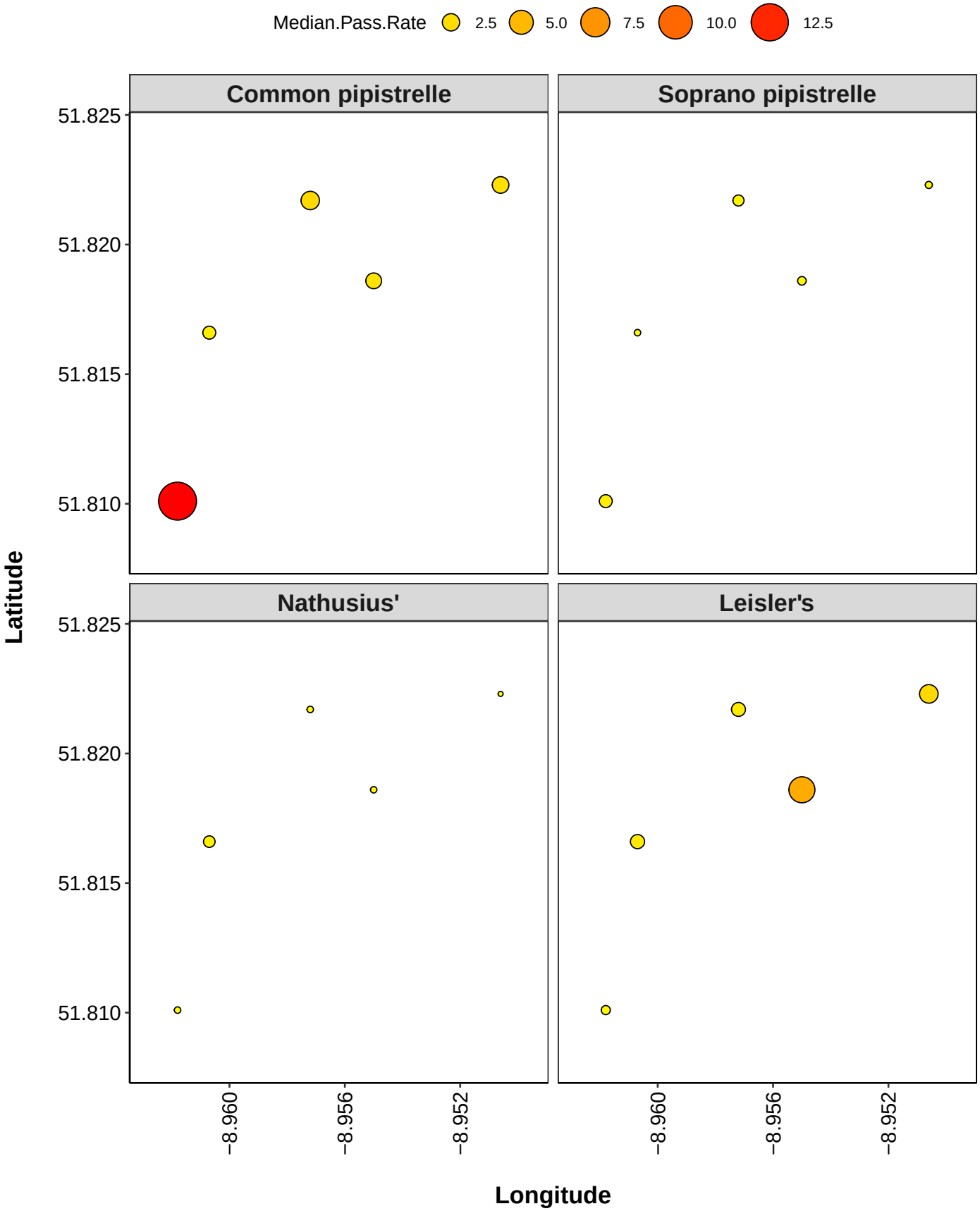


Figure 14. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.



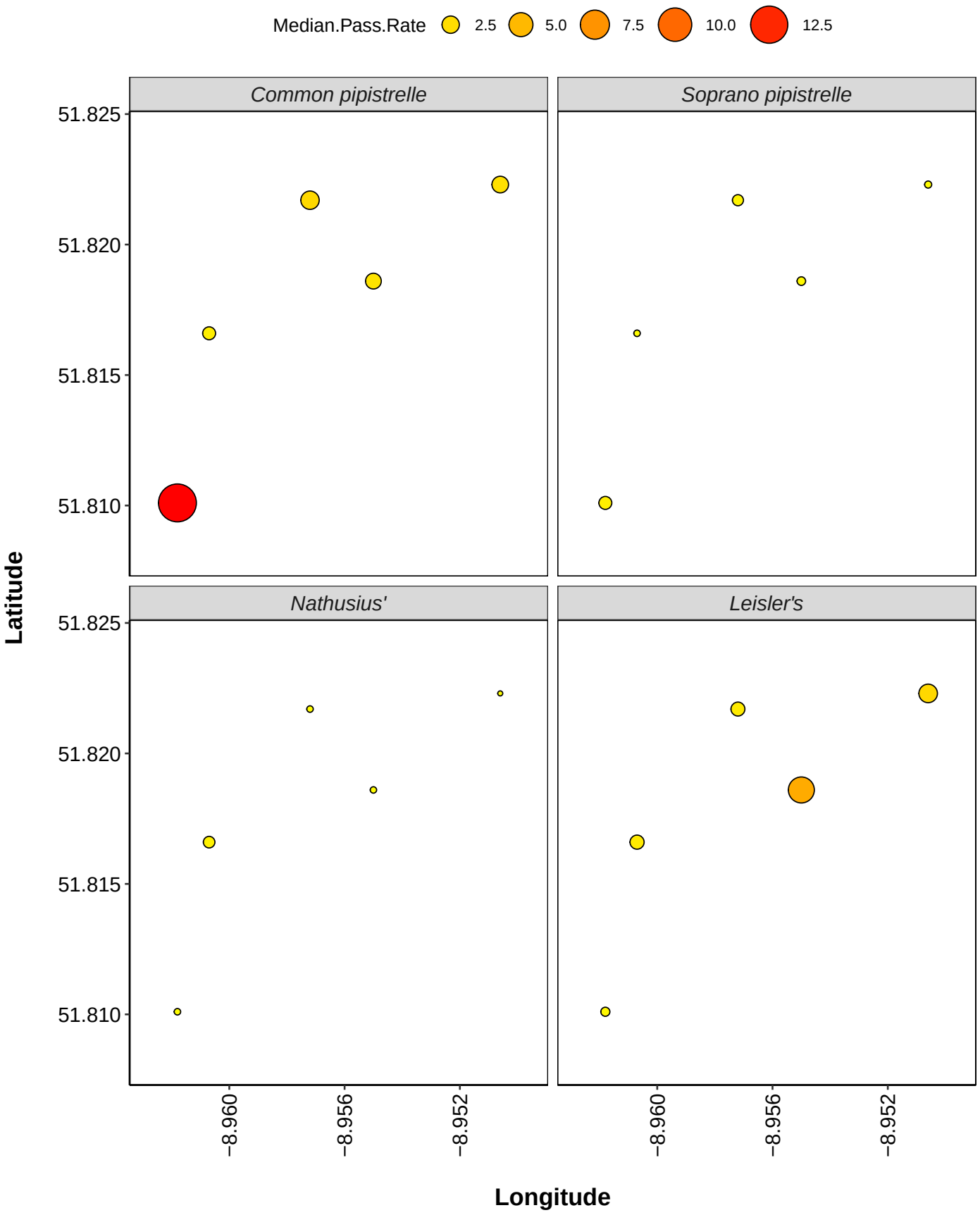
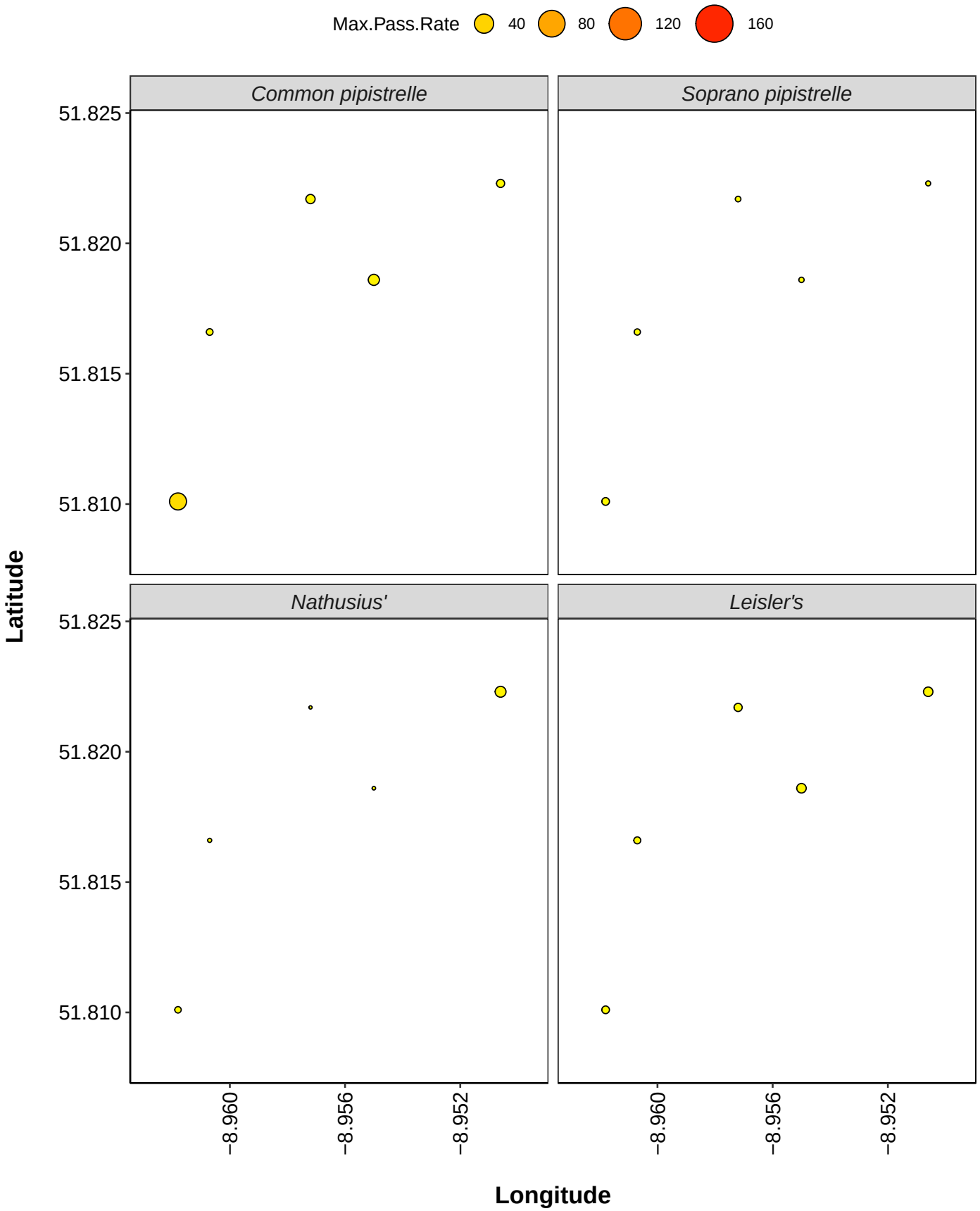
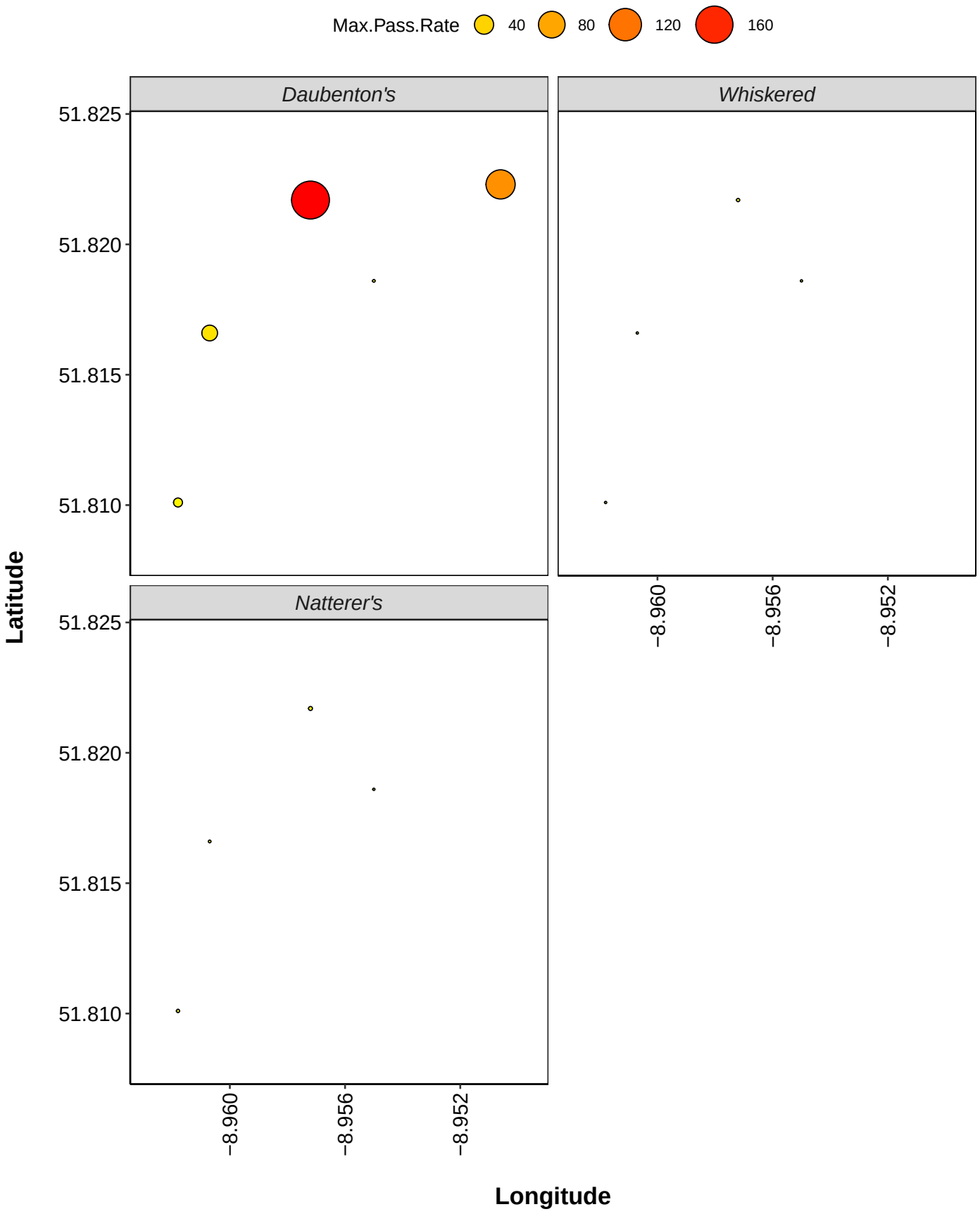

Median.Pass.Rate
2.5
5.0
7.5
10.0
12.5
Common pipistrelle
Soprano pipistrelle
Nathusius'
Leisler's
51.825
51.820
51.815
51.810
Latitude
−8.960
−8.956
−8.952
Longitude

Figure 15. Maximum Nightly Pass Rate (bat passes/hr/night) recorded in a single night throughout the survey period - represented by the size and colour of the point at each detector location.




Max.Pass.Rate
40
80
120
160
Daubenton's
Whiskered
Natterer's
51.825
51.820
51.815
51.810
−8.960
−8.956
−8.952
Latitude
Longitude

PART 2B: Includes absences

THE NEXT SECTION OF THE REPORT FEATURES THE DATA SUPPLIED TO ECOBAT BUT TAKES INTO ACCOUNT SPECIES ABSENCES, AND THEREFORE INCLUDES 'ZERO DATA' FOR WHEN SPECIES WERE NOT DETECTED AT EACH DETECTOR ON A NIGHT. THIS DRAMATICALLY LOWERS THE MEANS AND MEDIANS OF THE DATA PRESENTED.

Nightly Bat Pass Rate (Bat passes per hour)

Median Per Detector

Table 22. The median Nightly Pass Rate (bat passes per hour, per night) of each species. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Median Pass Rate
Common pipistrelle	BV1	2.3
Common pipistrelle	BV2	2.6
Common pipistrelle	BV3	2.0
Common pipistrelle	BV4	1.3
Common pipistrelle	BV6	13.0
Daubenton's	BV1	0.0
Daubenton's	BV2	1.1
Daubenton's	BV3	0.1
Daubenton's	BV4	0.0
Daubenton's	BV6	0.0
Leisler's	BV1	2.8
Leisler's	BV2	1.5
Leisler's	BV3	5.5
Leisler's	BV4	1.6
Leisler's	BV6	0.4
Nathusius'	BV1	0.1
Nathusius'	BV2	0.0
Nathusius'	BV3	0.1
Nathusius'	BV4	0.0
Nathusius'	BV6	0.1
Natterer's	BV1	0.0
Natterer's	BV2	0.1
Natterer's	BV3	0.0
Natterer's	BV4	0.0
Natterer's	BV6	0.0
Soprano pipistrelle	BV1	0.2
Soprano pipistrelle	BV2	0.5
Soprano pipistrelle	BV3	0.1
Soprano pipistrelle	BV4	0.3
Soprano pipistrelle	BV6	0.9
Whiskered	BV1	0.0
Whiskered	BV2	0.0
Whiskered	BV3	0.0
Whiskered	BV4	0.0
Whiskered	BV6	0.0

Nightly Bat Pass Rate (Bat passes per hour)

Mean per Detector

Table 23. The mean Nightly Pass Rate (bat passes per hour, per night) of each species at each detector. Values are given to 1 decimal place.

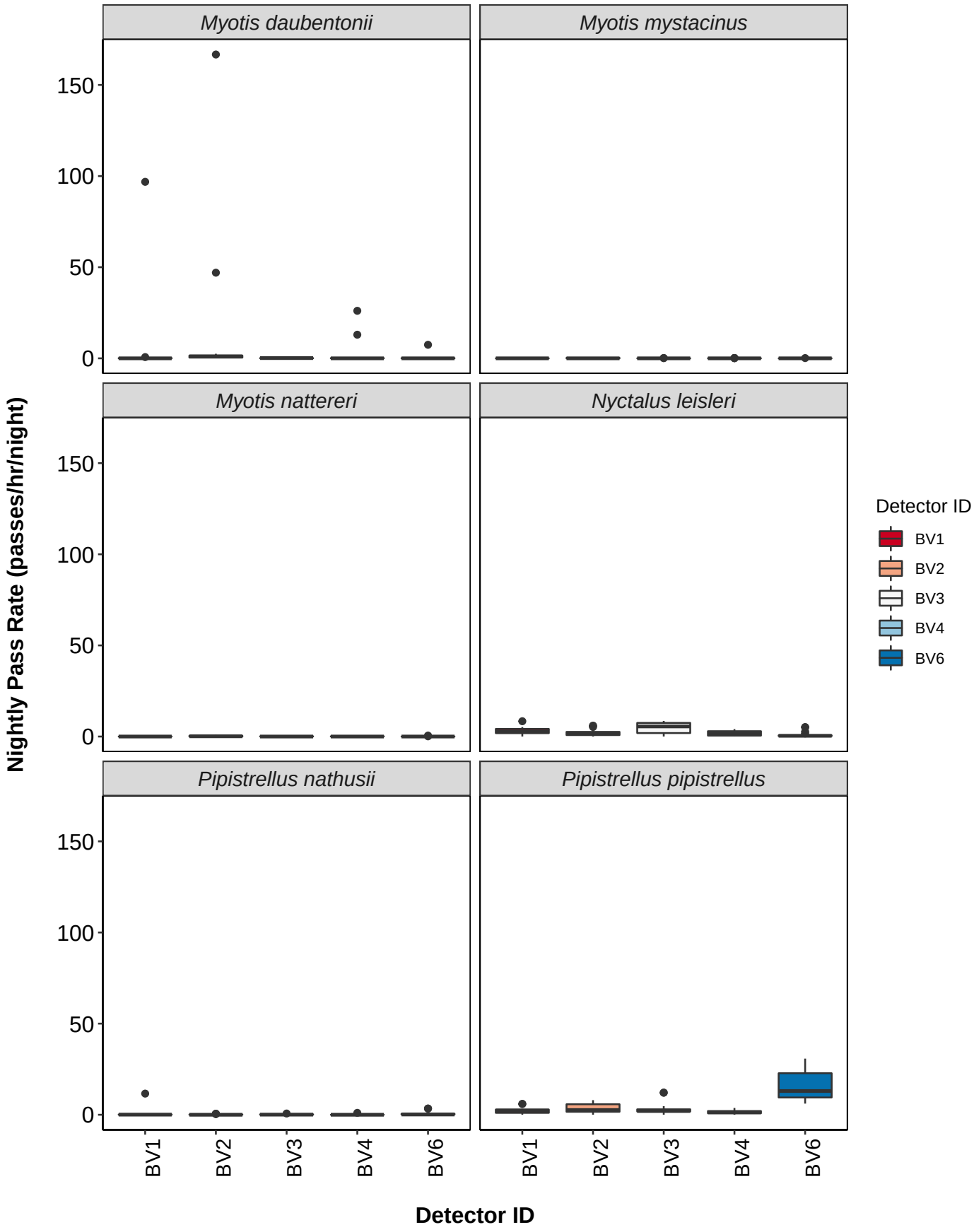
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

Species	Detector ID	Mean Pass Rate
Common pipistrelle	BV1	2.3
Common pipistrelle	BV2	3.5
Common pipistrelle	BV3	3.2
Common pipistrelle	BV4	1.5
Common pipistrelle	BV6	16.1
Daubenton's	BV1	5.5
Daubenton's	BV2	13.4
Daubenton's	BV3	0.1
Daubenton's	BV4	2.5
Daubenton's	BV6	0.5
Leisler's	BV1	2.9
Leisler's	BV2	2.2
Leisler's	BV3	4.6
Leisler's	BV4	1.8
Leisler's	BV6	1.1
Nathusius'	BV1	0.7
Nathusius'	BV2	0.1
Nathusius'	BV3	0.1
Nathusius'	BV4	0.1
Nathusius'	BV6	0.6
Natterer's	BV1	0.0
Natterer's	BV2	0.2
Natterer's	BV3	0.1
Natterer's	BV4	0.1
Natterer's	BV6	0.0
Soprano pipistrelle	BV1	0.3
Soprano pipistrelle	BV2	0.8
Soprano pipistrelle	BV3	0.5
Soprano pipistrelle	BV4	0.5
Soprano pipistrelle	BV6	1.6
Whiskered	BV1	0.0
Whiskered	BV2	0.1
Whiskered	BV3	0.0
Whiskered	BV4	0.0
Whiskered	BV6	0.0

Nightly Bat Passes (Bat passes per hour)

Per Detector - Figures

Figure 16. Figures show boxplots for the number of bat passes per hour each night, for each detector. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.



Error: Cannot create zero-length unit vector ("unit" subsetting)

Survey Effort

Table 24. The number of nights bats were detected per month per detector.

Month	Detector ID	No of Survey Nights
Jun	BV1	6
Jun	BV2	5
Jun	BV3	7
Jun	BV4	4
Jun	BV6	5
Jul	BV1	12
Jul	BV2	12
Jul	BV3	11
Jul	BV4	12
Jul	BV6	12

Nightly Bat Pass Rate for each Month

Median Per Detector

Table 25. The median Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Jul	Jun
Common pipistrelle	BV1	2.5	0.8
Common pipistrelle	BV2	3.1	2.3
Common pipistrelle	BV3	3.0	1.8
Common pipistrelle	BV4	1.4	1.1
Common pipistrelle	BV6	15.2	9.5
Daubenton's	BV1	0.0	0.1
Daubenton's	BV2	0.9	1.1
Daubenton's	BV3	0.1	0.1
Daubenton's	BV4	0.0	0.0
Daubenton's	BV6	0.0	0.0
Leisler's	BV1	3.0	1.9
Leisler's	BV2	2.5	1.0
Leisler's	BV3	2.0	7.7
Leisler's	BV4	1.1	2.3
Leisler's	BV6	0.7	0.3
Nathusius'	BV1	0.0	0.1
Nathusius'	BV2	0.0	0.4
Nathusius'	BV3	0.1	0.0
Nathusius'	BV4	0.0	0.0
Nathusius'	BV6	0.3	0.1
Natterer's	BV1	0.0	0.0
Natterer's	BV2	0.1	0.1
Natterer's	BV3	0.0	0.0
Natterer's	BV4	0.0	0.1
Natterer's	BV6	0.0	0.0
Soprano pipistrelle	BV1	0.2	0.1
Soprano pipistrelle	BV2	0.9	0.0
Soprano pipistrelle	BV3	0.4	0.1
Soprano pipistrelle	BV4	0.2	0.3
Soprano pipistrelle	BV6	1.5	0.7
Whiskered	BV1	0.0	0.0
Whiskered	BV2	0.1	0.0
Whiskered	BV3	0.0	0.0
Whiskered	BV4	0.0	0.1
Whiskered	BV6	0.0	0.0

Nightly Bat Pass Rate for each Month

Mean per Detector

Table 26. The mean Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. Values are given to 1 decimal place.

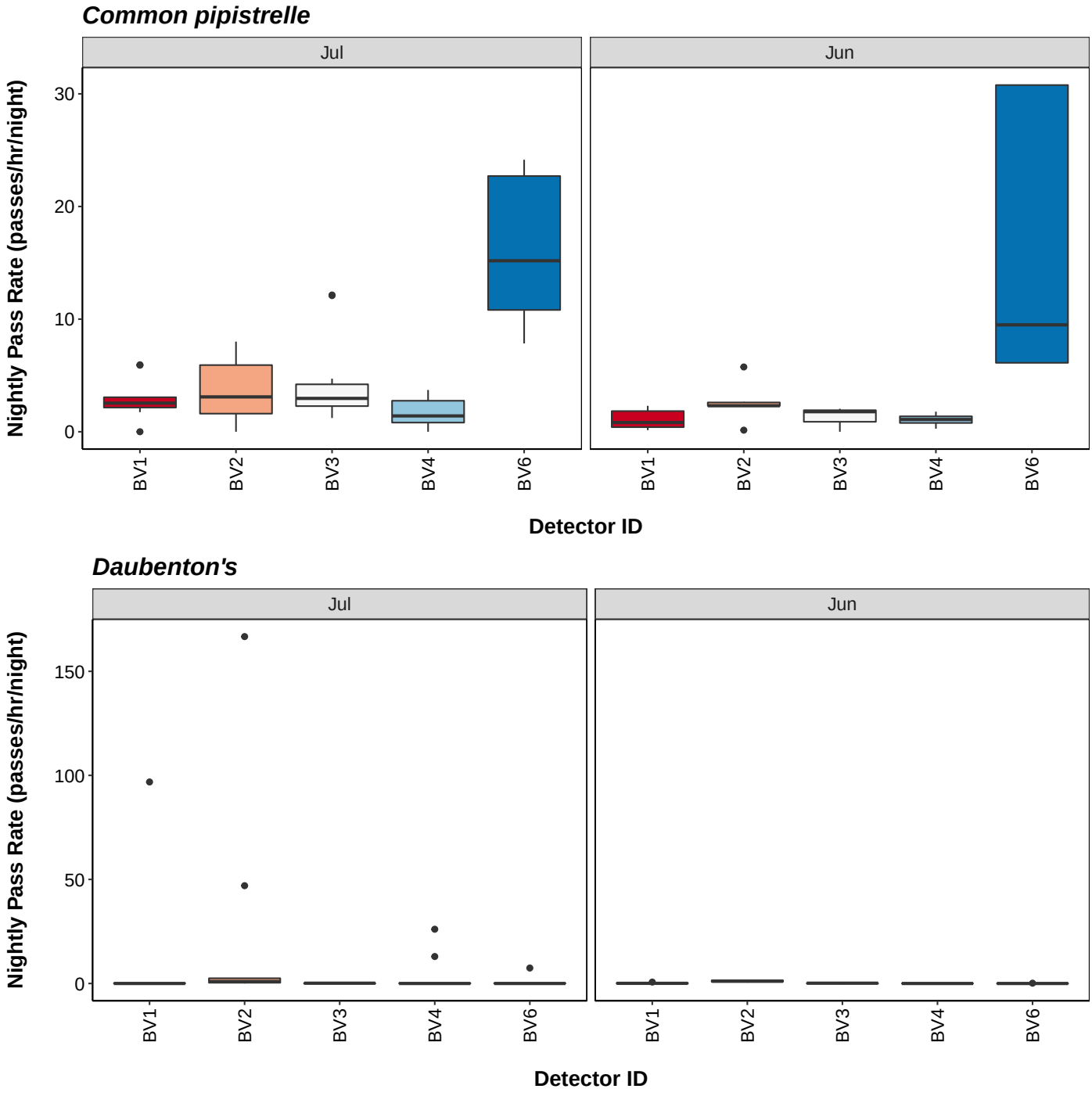
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

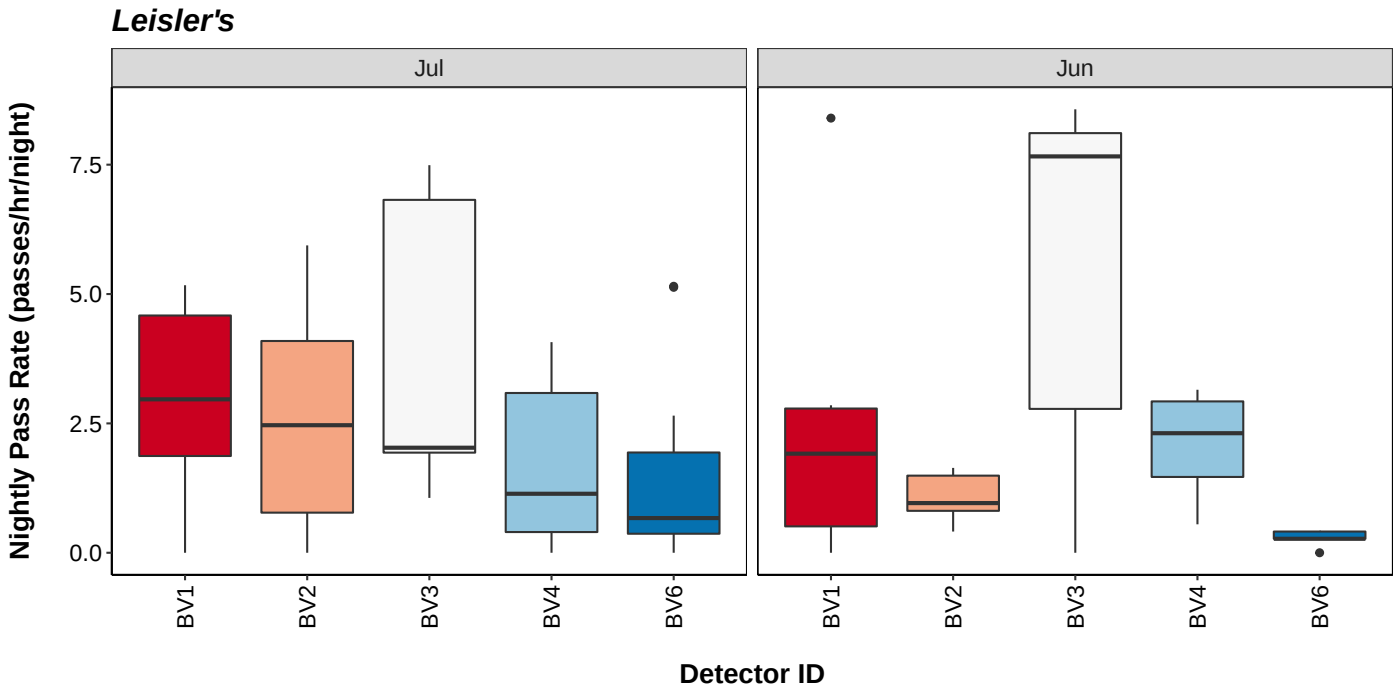
Species	Detector ID	Jul	Jun
Common pipistrelle	BV1	2.8	1.1
Common pipistrelle	BV2	3.8	2.6
Common pipistrelle	BV3	4.5	1.3
Common pipistrelle	BV4	1.7	1.1
Common pipistrelle	BV6	15.9	16.7
Daubenton's	BV1	8.1	0.2
Daubenton's	BV2	18.6	1.1
Daubenton's	BV3	0.1	0.1
Daubenton's	BV4	3.3	0.0
Daubenton's	BV6	0.7	0.0
Leisler's	BV1	3.1	2.6
Leisler's	BV2	2.6	1.1
Leisler's	BV3	4.1	5.4
Leisler's	BV4	1.7	2.1
Leisler's	BV6	1.5	0.3
Nathusius'	BV1	1.0	0.1
Nathusius'	BV2	0.1	0.3
Nathusius'	BV3	0.2	0.0
Nathusius'	BV4	0.1	0.0
Nathusius'	BV6	0.8	0.2
Natterer's	BV1	0.0	0.0
Natterer's	BV2	0.3	0.2
Natterer's	BV3	0.1	0.1
Natterer's	BV4	0.0	0.1
Natterer's	BV6	0.1	0.0
Soprano pipistrelle	BV1	0.4	0.2
Soprano pipistrelle	BV2	1.0	0.4
Soprano pipistrelle	BV3	0.6	0.2
Soprano pipistrelle	BV4	0.5	0.3
Soprano pipistrelle	BV6	1.7	1.4
Whiskered	BV1	0.0	0.0
Whiskered	BV2	0.2	0.0
Whiskered	BV3	0.0	0.0
Whiskered	BV4	0.0	0.1
Whiskered	BV6	0.0	0.0

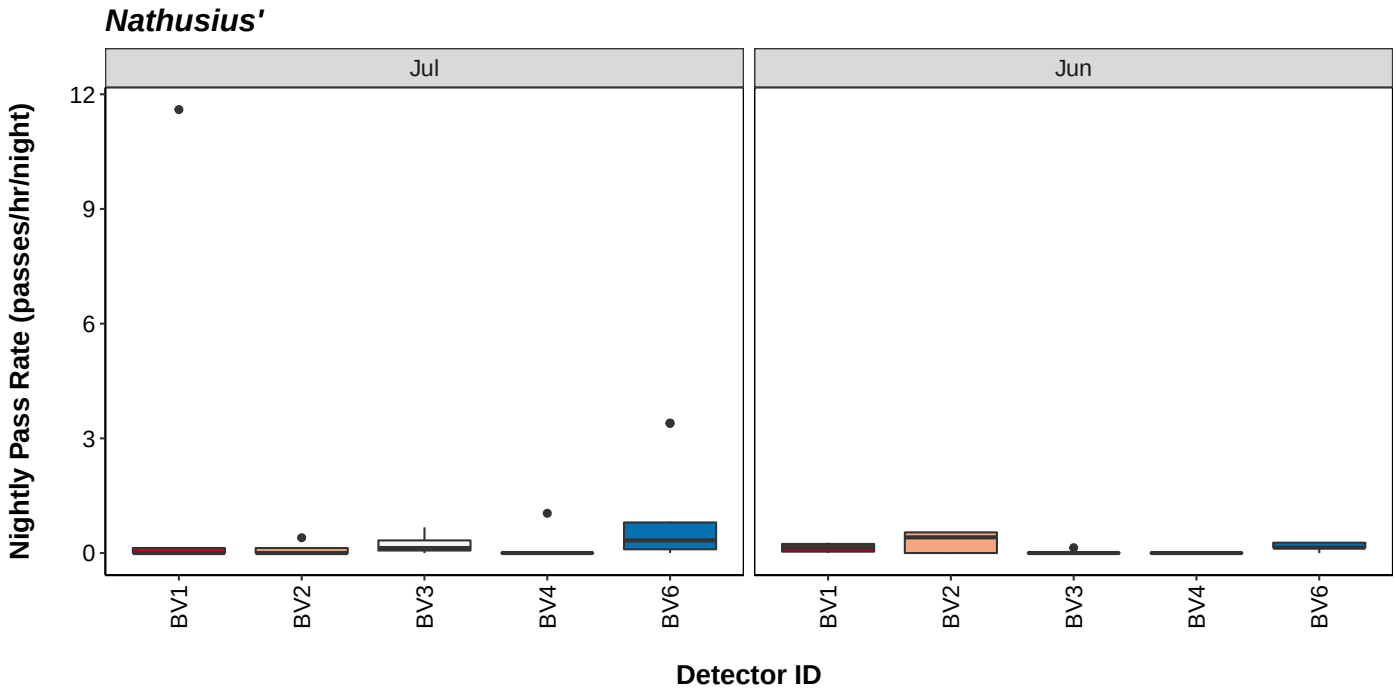
Nightly Bat Pass Rate for each Month

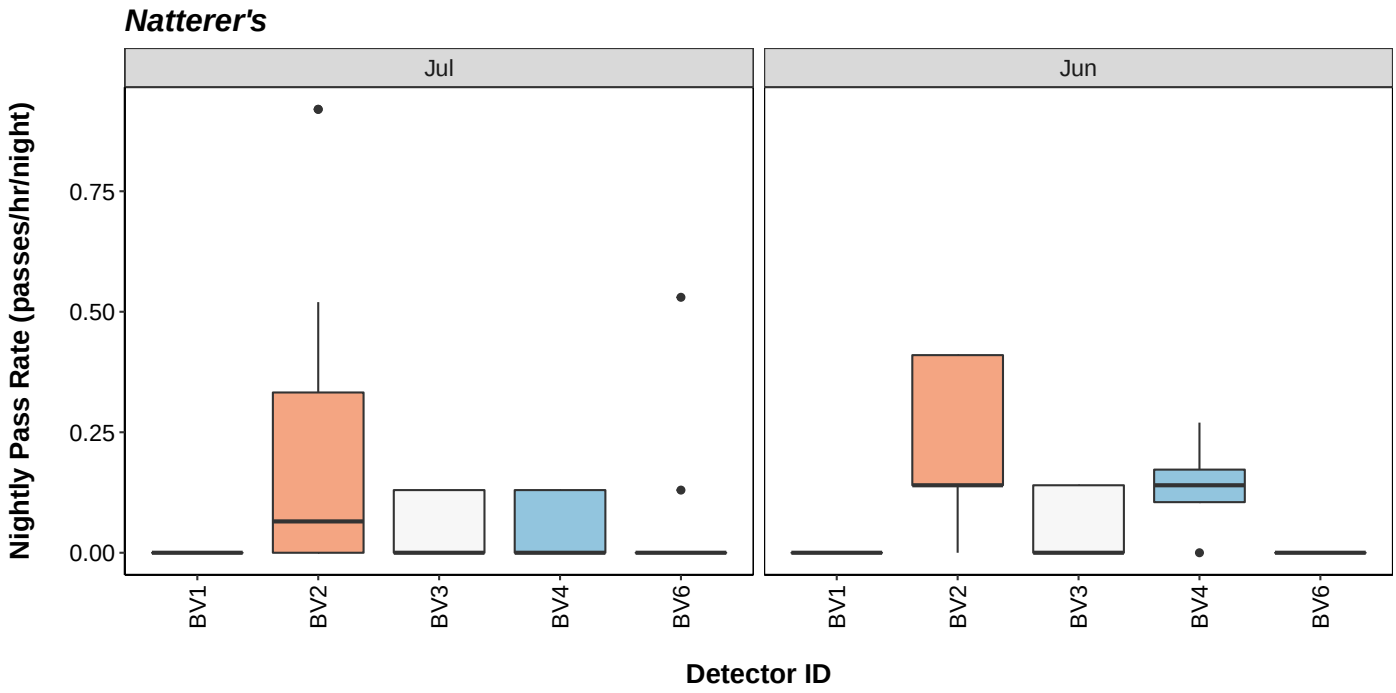
Per Detector - Figures

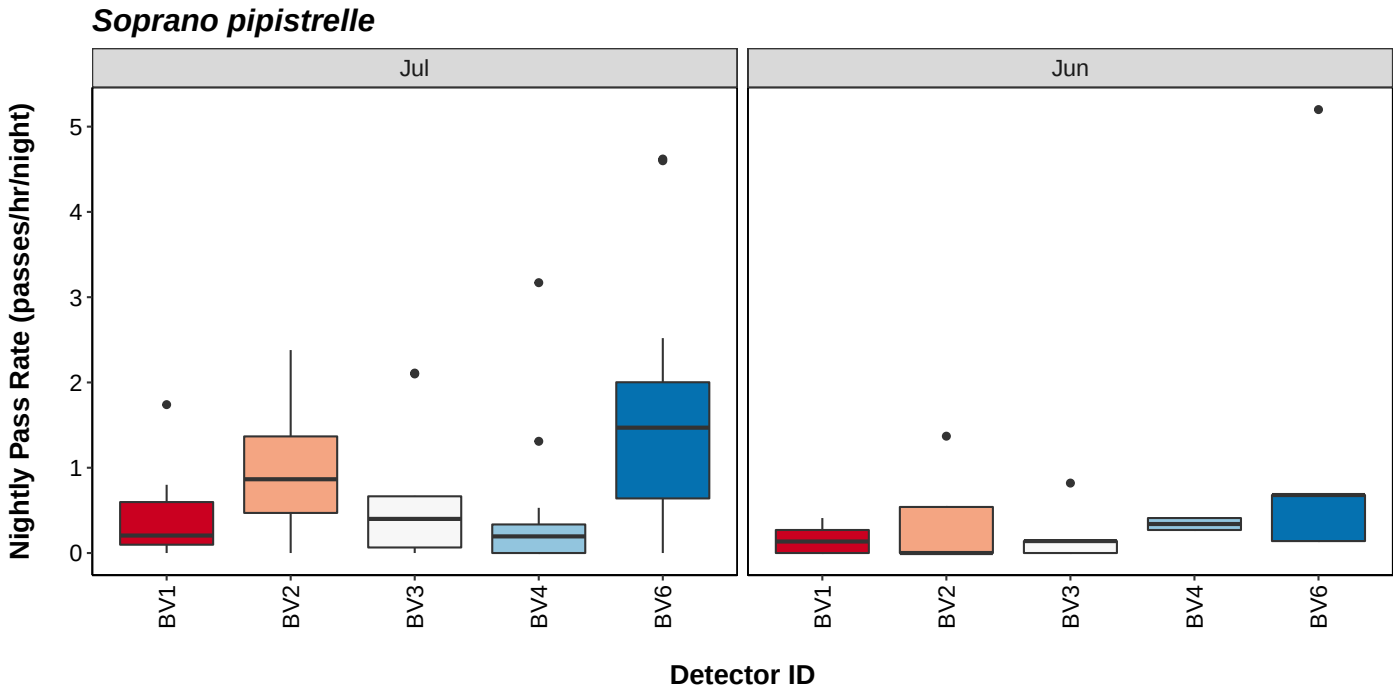
Figure 17. Figures show boxplots for the number of bat passes per hour by detector, for each month. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.



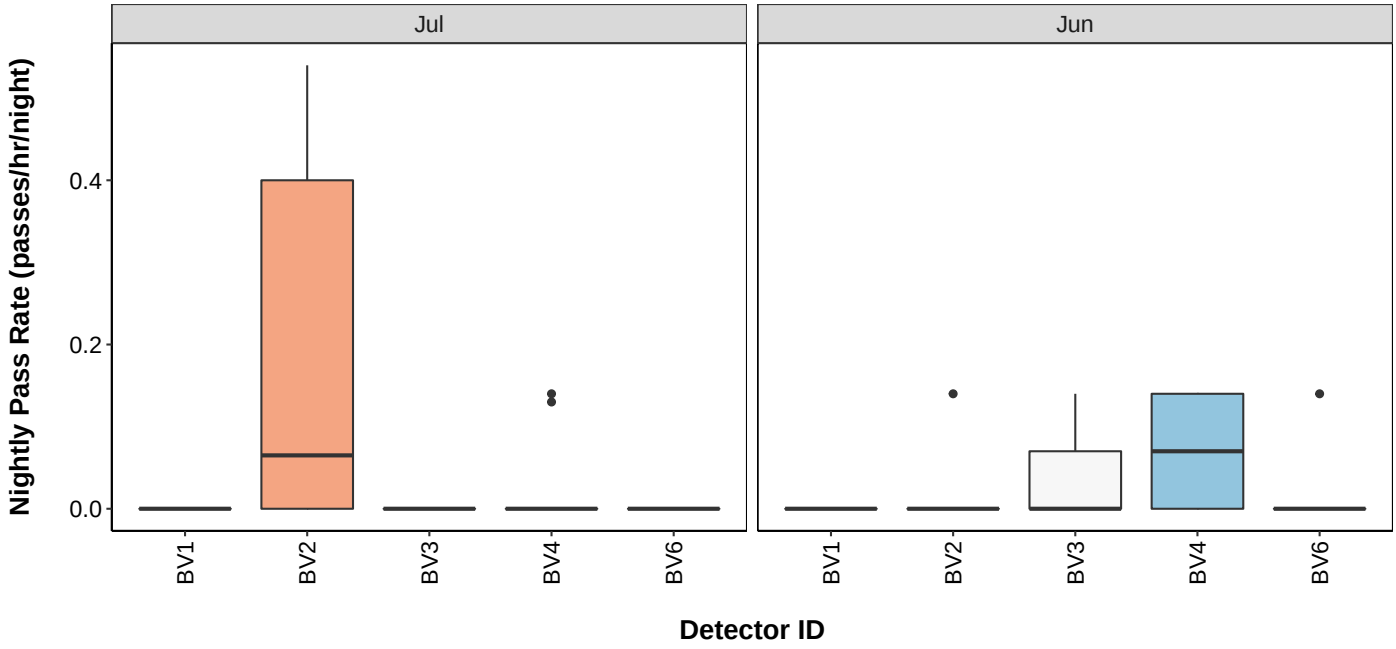

Leisler's
Jul
Jun
Nightly Pass Rate (passes/hr/night)
7.5
5.0
2.5
0.0
BV1
BV2
BV3
BV4
BV6
Detector ID


Nathusius'
Jul
Jun
Nightly Pass Rate (passes/hr/night)
12
9
6
3
0
BV1
BV2
BV3
BV4
BV6
Detector ID


Natterer's
Jul
Jun
Nightly Pass Rate (passes/hr/night)
0.00
0.25
0.50
0.75
BV1
BV2
BV3
BV4
BV6
Detector ID


Soprano pipistrelle
Jul
Jun
Nightly Pass Rate (passes/hr/night)
0
1
2
3
4
5
BV1
BV2
BV3
BV4
BV6
Detector ID

Whiskered


Jul
Jun
Nightly Pass Rate (passes/hr/night)
0.4
0.2
0.0
BV1
BV2
BV3
BV4
BV6
Detector ID

Bat Activity per Detector Location

Figure 18. Detector ID reference:

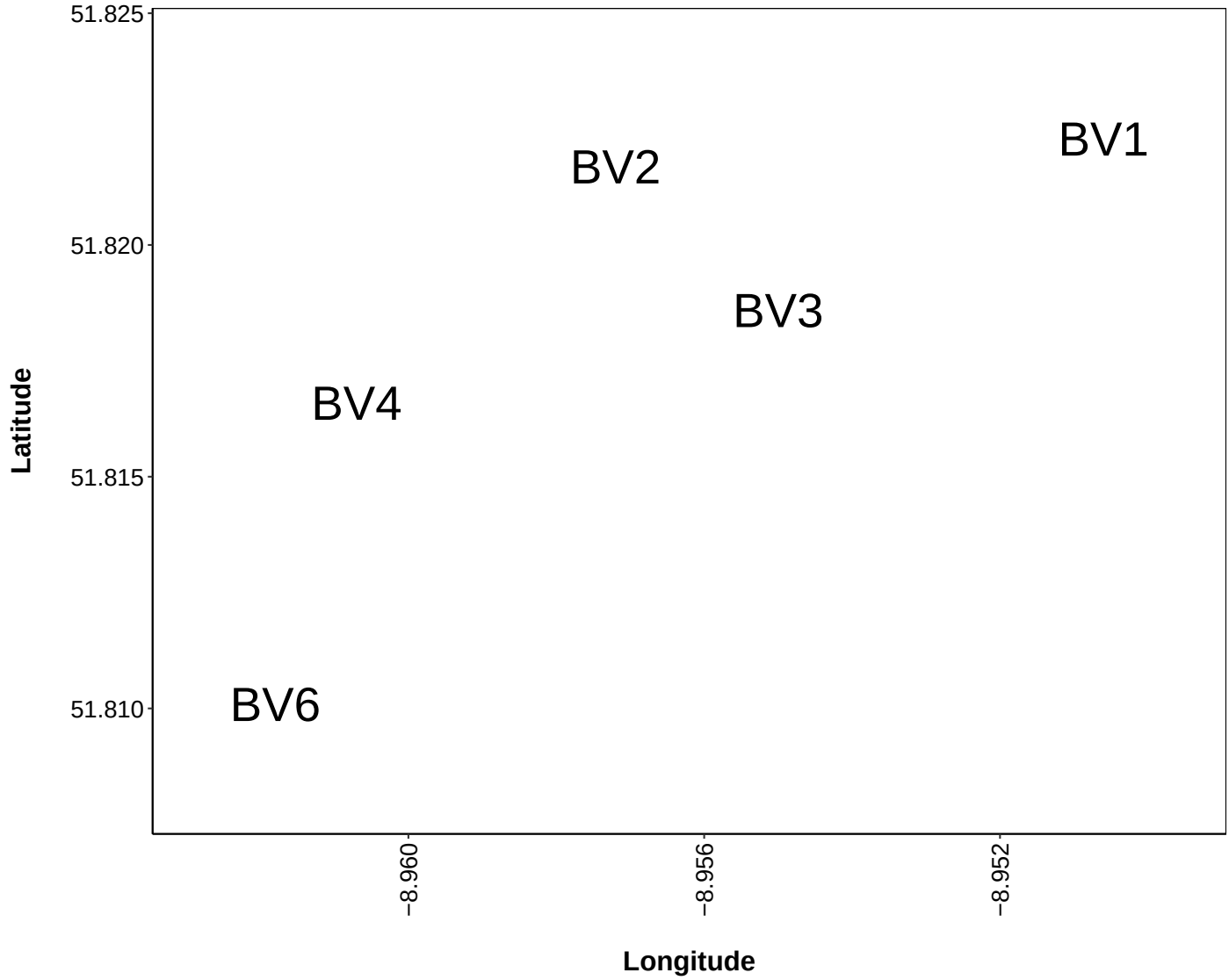
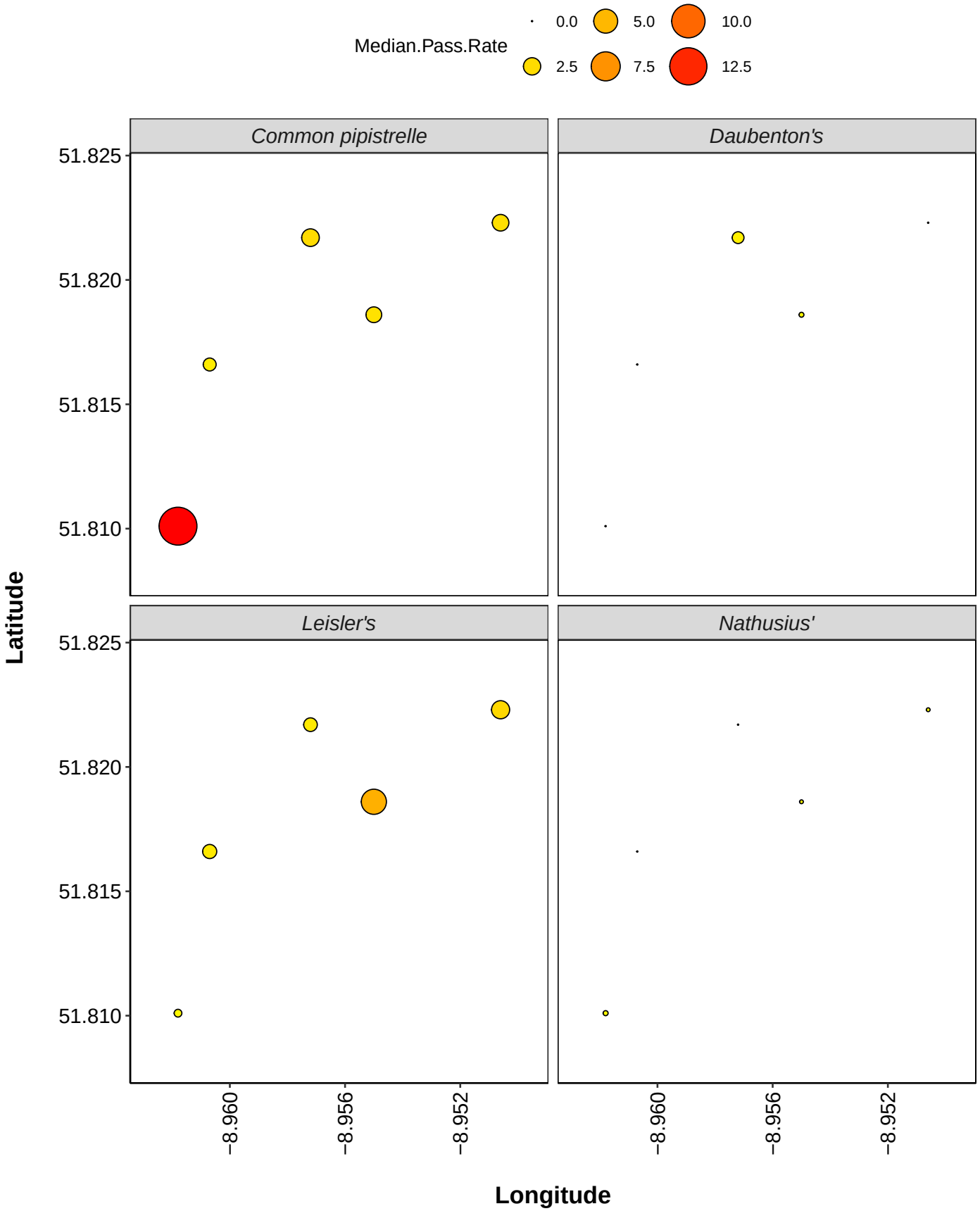


Figure 19. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.



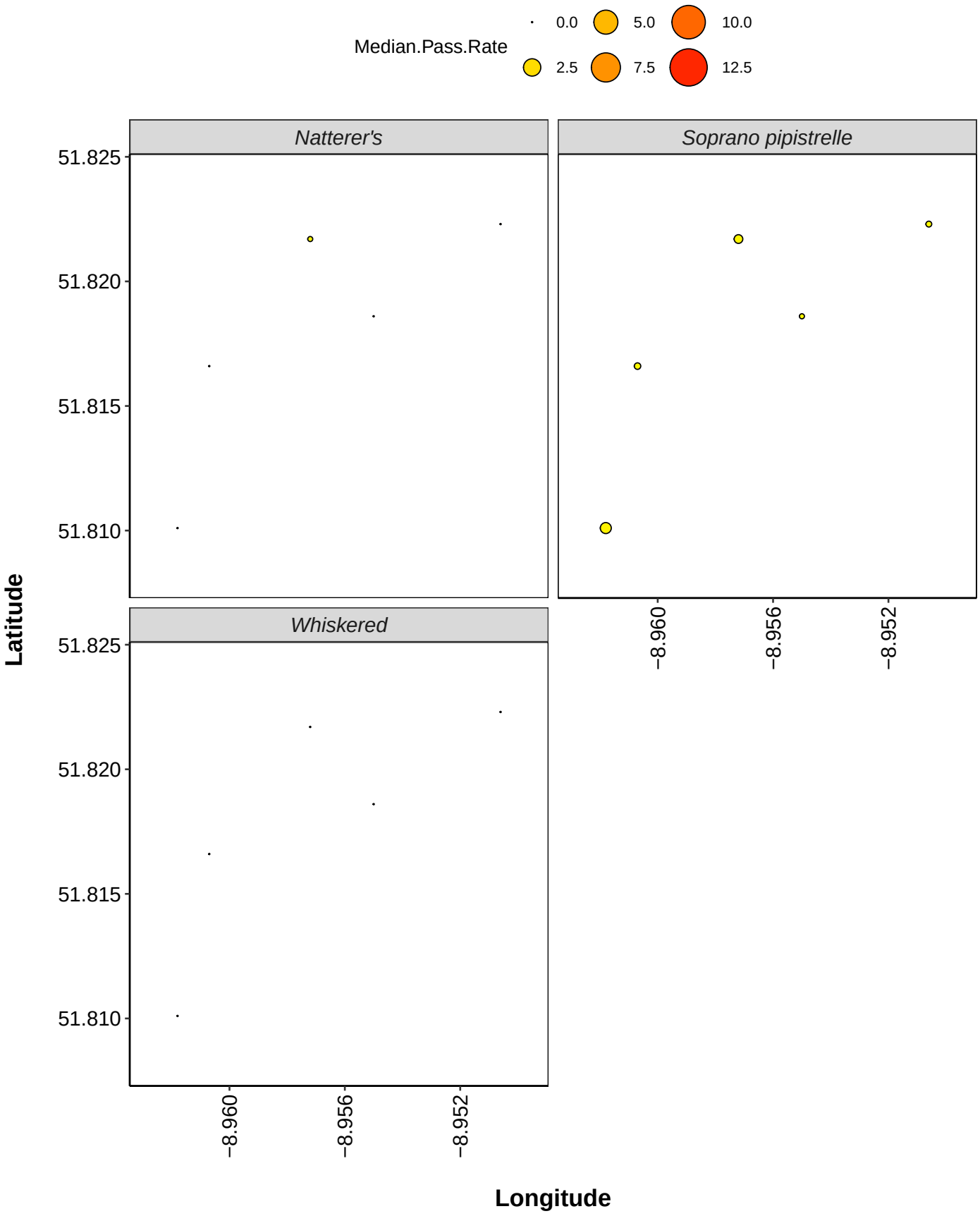
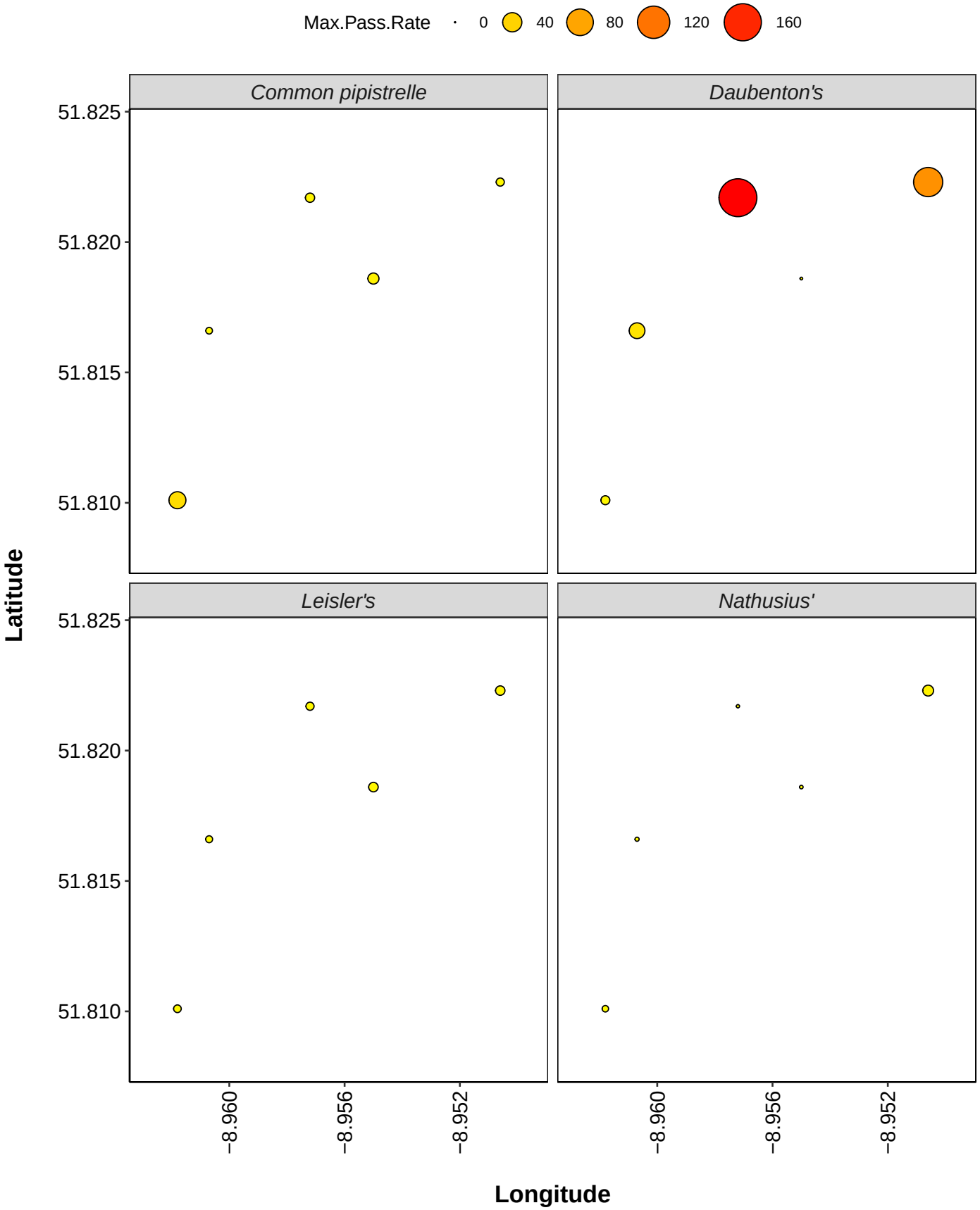
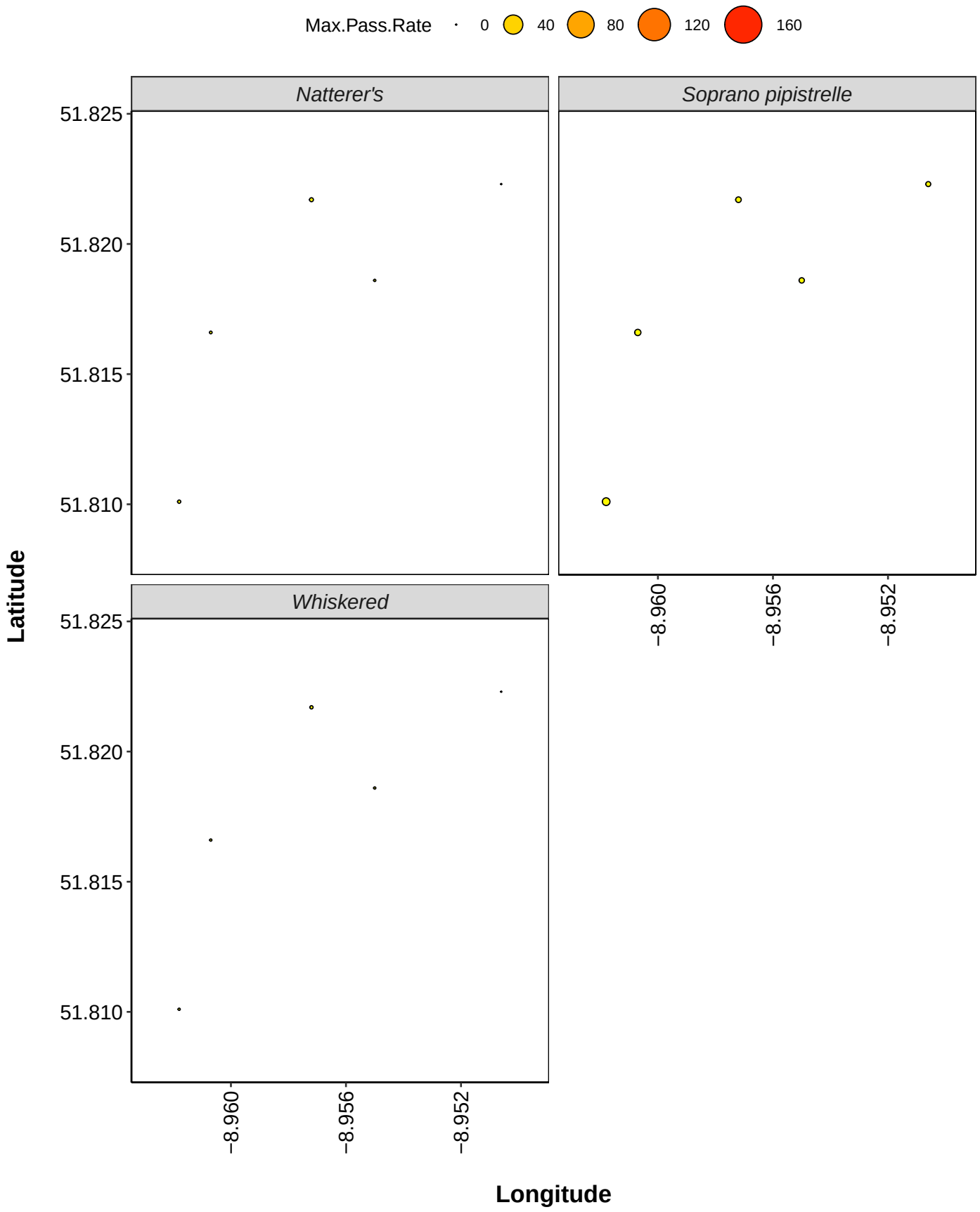

Median.Pass.Rate
0.0
2.5
5.0
7.5
10.0
12.5
Natterer's
Soprano pipistrelle
Whiskered
51.825
51.820
51.815
51.810
−8.960
−8.956
−8.952
Latitude
Longitude

Figure 20. Maximum Nightly Pass Rate (bat passes/hr/night) recorded in a single night throughout the survey period - represented by the size and colour of the point at each detector location.





Thank you for using Ecobat! If you have any questions please email info@themammalsociety.org

Bat Activity Analysis

Site Name: Barnadivane

Author: David Daly

2022-11-17 16:58:53

Summary

The geographic filter was: **Country** The time filter was: **All Data**

Bats were detected on **42** nights between **2022-08-15** and **2022-09-26**, using **6** static bat detectors. Throughout this period **8** species were recorded. **Table 1.** Detectors were placed at the following locations:

latlon	date	Detector ID	Latitude	Longitude
51.8223_-8.9506	03/09/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	23/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	28/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	24/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	04/09/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	01/09/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	18/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	31/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	25/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	02/09/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	26/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	21/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	27/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	29/08/2022	BV1	51.8223	-8.9506
51.8217_-8.9572	18/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	24/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	26/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	20/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	02/09/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	17/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	29/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	22/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	28/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	01/09/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	27/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	25/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	31/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	19/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	23/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	21/08/2022	BV2	51.8217	-8.9572
51.8186_-8.955	17/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	18/08/2022	BV3	51.8186	-8.9550
51.8166_-8.9607	27/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	29/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	28/08/2022	BV4	51.8166	-8.9607

latlon	date	Detector ID	Latitude	Longitude
51.8166_-8.9607	19/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	31/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	17/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	22/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	21/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	24/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	18/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	23/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	25/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	30/08/2022	BV4	51.8166	-8.9607
51.8135_-8.9626	23/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	22/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	18/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	25/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	27/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	10/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	27/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	21/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	22/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	19/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	23/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	16/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	21/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	20/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	24/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	18/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	17/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	14/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	17/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	09/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	11/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	24/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	15/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	08/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	29/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	19/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	28/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	13/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	20/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	25/08/2022	BV5	51.8135	-8.9626
51.8101_-8.9618	20/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	16/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	08/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	22/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	09/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	23/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	24/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	10/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	24/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	17/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	27/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	28/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	18/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	13/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	30/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	19/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	22/08/2022	BV6	51.8101	-8.9618

latlon	date	Detector ID	Latitude	Longitude
51.8101_-8.9618	21/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	12/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	14/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	21/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	19/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	26/09/2022	BV6	51.8101	-8.9618
51.8217_-8.9572	30/08/2022	BV2	51.8217	-8.9572
51.8166_-8.9607	02/09/2022	BV4	51.8166	-8.9607
51.8135_-8.9626	30/08/2022	BV5	51.8135	-8.9626
51.8101_-8.9618	31/08/2022	BV6	51.8101	-8.9618
51.8223_-8.9506	30/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	22/08/2022	BV1	51.8223	-8.9506
51.8166_-8.9607	01/09/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	16/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	03/09/2022	BV4	51.8166	-8.9607
51.8135_-8.9626	26/08/2022	BV5	51.8135	-8.9626
51.8101_-8.9618	11/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	16/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	18/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	15/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	23/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	25/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	29/08/2022	BV6	51.8101	-8.9618
51.8223_-8.9506	20/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	19/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	16/08/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	05/09/2022	BV1	51.8223	-8.9506
51.8223_-8.9506	17/08/2022	BV1	51.8223	-8.9506
51.8217_-8.9572	16/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	03/09/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	15/08/2022	BV2	51.8217	-8.9572
51.8217_-8.9572	04/09/2022	BV2	51.8217	-8.9572
51.8186_-8.955	26/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	20/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	24/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	28/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	30/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	19/08/2022	BV3	51.8186	-8.9550
51.8166_-8.9607	20/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	26/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	05/09/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	15/08/2022	BV4	51.8166	-8.9607
51.8166_-8.9607	04/09/2022	BV4	51.8166	-8.9607
51.8135_-8.9626	12/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	15/08/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	06/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	26/09/2022	BV5	51.8135	-8.9626
51.8135_-8.9626	07/09/2022	BV5	51.8135	-8.9626
51.8101_-8.9618	27/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	26/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	07/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	20/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	02/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	15/08/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	17/08/2022	BV6	51.8101	-8.9618
51.8186_-8.955	22/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	23/08/2022	BV3	51.8186	-8.9550

latlon	date	Detector ID	Latitude	Longitude
51.8186_-8.955	01/09/2022	BV3	51.8186	-8.9550
51.8186_-8.955	21/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	29/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	27/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	31/08/2022	BV3	51.8186	-8.9550
51.8186_-8.955	03/09/2022	BV3	51.8186	-8.9550
51.8135_-8.9626	16/08/2022	BV5	51.8135	-8.9626
51.8101_-8.9618	25/09/2022	BV6	51.8101	-8.9618
51.8101_-8.9618	06/09/2022	BV6	51.8101	-8.9618

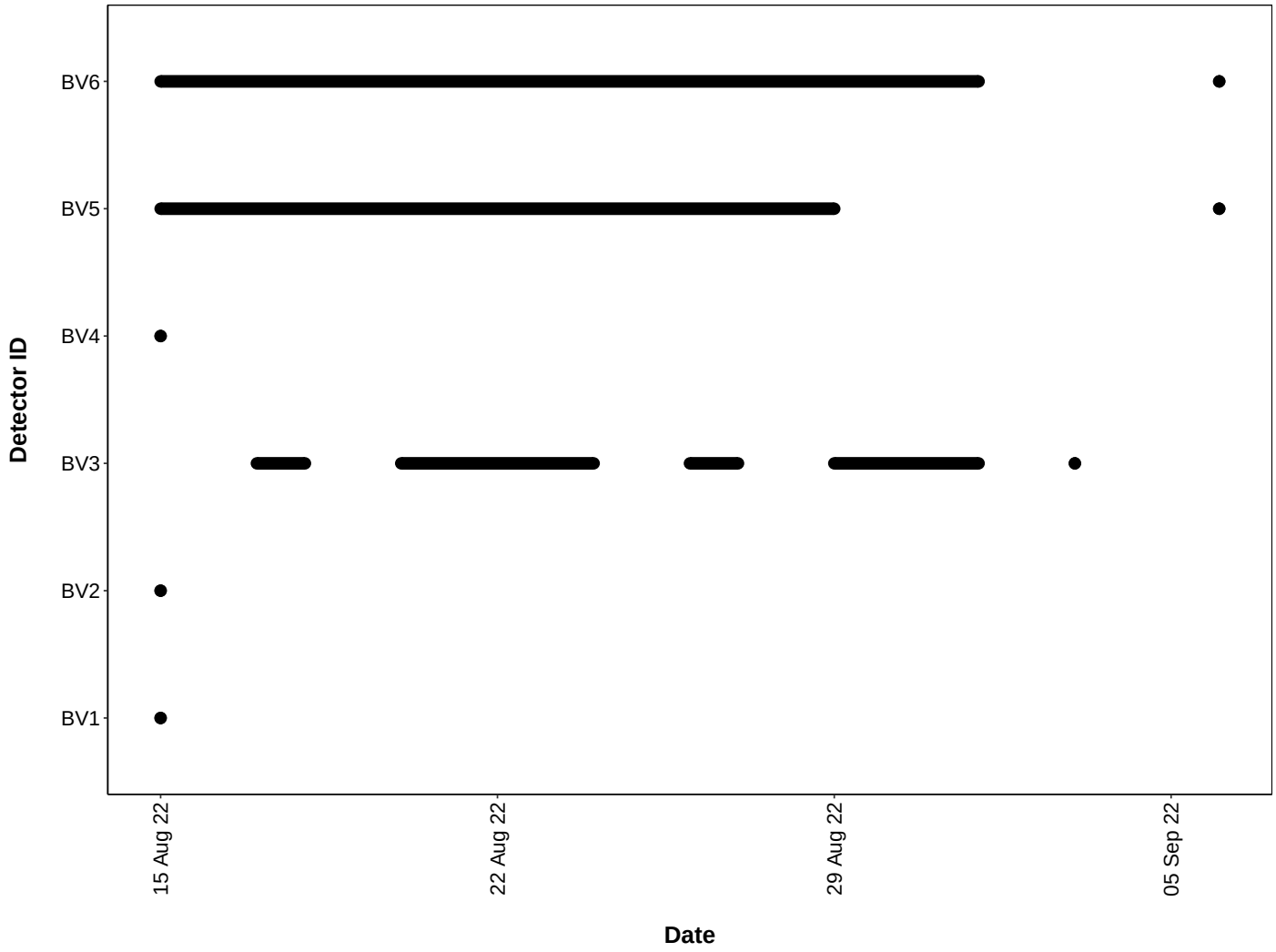
Survey Nights

Table 2. The number of nights that bats were detected on each recorder. This is not the same as the number of nights that detectors were active if there were nights when no bats were detected.

Detector ID	No. of nights
BV1	21
BV2	20
BV3	14
BV4	21
BV5	36
BV6	39

Survey Nights

Figure 1. Horizontal bars show nights when acoustic detectors recorded bats.



PART 1: Percentiles Analysis

This first part of the analysis looks at the relative activity levels of the bats you recorded. We take your value for the total bat passes each night for each species, and compare this to the values in our reference database. We tell you what percentile your data falls at, and therefore what the relative activity level is. For example, if the reference database has values of 5, 10, 15, 20 and you submit a value of 18, this will be the 80th percentile, and be classed as high activity.

The reference range dataset was stratified to include:

PER DETECTOR

Table 3. Summary table showing the number of nights recorded bat activity fell into each activity band for each species.

Detector ID	Species/Species Group	Night.exclu	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV1	*Myotis daubentonii*	0	0	0	0	0	12
BV1	*Myotis mystacinus*	0	0	0	0	0	2
BV1	*Myotis nattereri*	0	0	6	0	5	1
BV1	*Nyctalus leisleri*	0	0	0	0	3	17
BV1	*Pipistrellus nathusii*	0	0	0	0	0	1
BV1	*Pipistrellus pipistrellus*	0	0	0	0	0	20
BV1	*Pipistrellus pygmaeus*	0	0	0	0	0	16
BV1	*Rhinolophus hipposideros*	0	0	0	1	0	0
BV2	*Myotis daubentonii*	0	0	0	0	0	14
BV2	*Myotis mystacinus*	2	0	1	1	4	1
BV2	*Myotis nattereri*	0	0	3	0	3	3
BV2	*Nyctalus leisleri*	0	0	0	0	4	16
BV2	*Pipistrellus nathusii*	0	0	0	0	1	4
BV2	*Pipistrellus pipistrellus*	0	0	0	0	0	18
BV2	*Pipistrellus pygmaeus*	0	0	0	0	0	19
BV3	*Myotis daubentonii*	0	0	0	0	0	2
BV3	*Nyctalus leisleri*	0	1	0	0	1	5
BV3	*Pipistrellus pipistrellus*	0	0	0	0	0	14
BV3	*Pipistrellus pygmaeus*	0	0	0	0	0	6
BV4	*Myotis daubentonii*	0	0	0	0	0	12
BV4	*Myotis mystacinus*	0	0	0	0	3	1
BV4	*Myotis nattereri*	0	0	4	0	6	4
BV4	*Nyctalus leisleri*	0	0	0	0	1	20
BV4	*Pipistrellus nathusii*	0	0	0	0	0	1
BV4	*Pipistrellus pipistrellus*	0	0	0	0	0	16

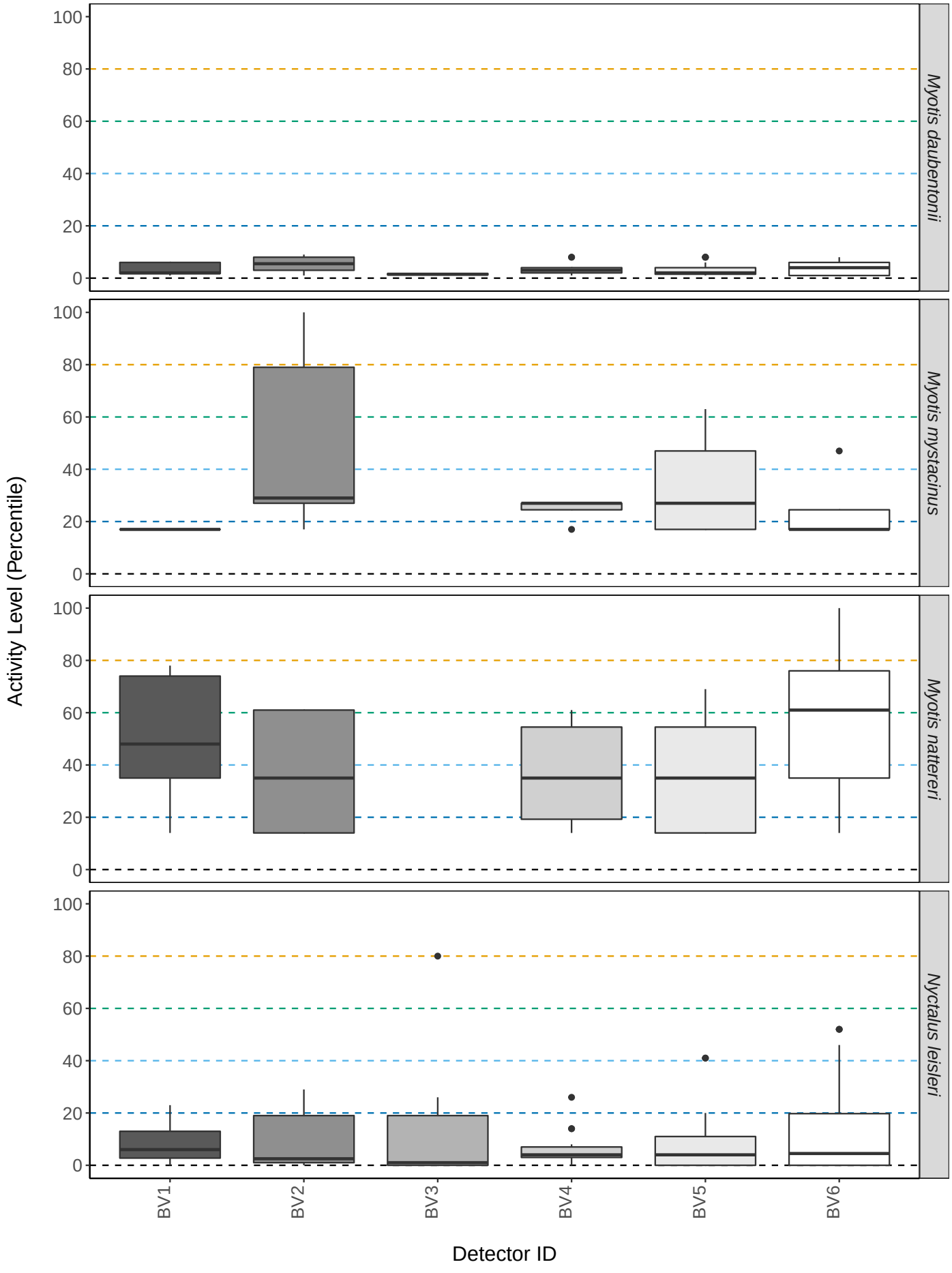
Detector ID	Species/Species Group	Night.exclip	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV4	*Pipistrellus pygmaeus*	0	0	0	0	0	15
BV5	*Myotis daubentonii*	0	0	0	0	0	27
BV5	*Myotis mystacinus*	0	0	1	2	1	3
BV5	*Myotis nattereri*	0	0	4	0	4	6
BV5	*Nyctalus leisleri*	0	0	0	2	1	32
BV5	*Pipistrellus nathusii*	0	0	0	0	0	5
BV5	*Pipistrellus pipistrellus*	0	0	0	0	0	32
BV5	*Pipistrellus pygmaeus*	0	0	0	0	2	29
BV6	*Myotis daubentonii*	0	0	0	0	0	21
BV6	*Myotis mystacinus*	0	0	0	1	0	3
BV6	*Myotis nattereri*	2	3	11	0	8	3
BV6	*Nyctalus leisleri*	0	0	0	3	6	25
BV6	*Pipistrellus nathusii*	0	0	0	0	2	2
BV6	*Pipistrellus pipistrellus*	0	0	0	0	0	35
BV6	*Pipistrellus pygmaeus*	0	0	0	0	0	34

Table 4. Summary table showing key metrics for each species recorded. The reference range is the number of nights for each species that your data were compared to. We recommend a Reference Range of 200+ to be confident in the relative activity level.

Detector ID	Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded	Reference Range
BV1	*Myotis daubentonii*	2	1.5 - 4.5	6	12	3319
BV1	*Myotis mystacinus*	17	17 - 17	17	2	144
BV1	*Myotis nattereri*	48	35 - 69.5	78	12	296
BV1	*Nyctalus leisleri*	6	6 - 14.5	23	20	28602
BV1	*Pipistrellus nathusii*	14	0	14	1	453
BV1	*Pipistrellus pipistrellus*	0	0 - 0	3	20	194790
BV1	*Pipistrellus pygmaeus*	0	0 - 0	0	16	82592
BV1	*Rhinolophus hipposideros*	43	0	43	1	39
BV2	*Myotis daubentonii*	6	3 - 8	9	14	3319
BV2	*Myotis mystacinus*	29	27 - 79	100	9	144
BV2	*Myotis nattereri*	35	14 - 61	61	9	296
BV2	*Nyctalus leisleri*	3	2.5 - 15.5	29	20	28602
BV2	*Pipistrellus nathusii*	6	6 - 22.5	39	5	453
BV2	*Pipistrellus pipistrellus*	3	2.5 - 4	5	18	194790
BV2	*Pipistrellus pygmaeus*	1	1.5 - 4.5	8	19	82592
BV3	*Myotis daubentonii*	2	1.5 - 1.5	2	2	3319
BV3	*Nyctalus leisleri*	1	1 - 80	80	7	28602
BV3	*Pipistrellus pipistrellus*	0	0 - 0	0	14	194790
BV3	*Pipistrellus pygmaeus*	0	0 - 0	0	6	82592
BV4	*Myotis daubentonii*	3	2 - 5	8	12	3319
BV4	*Myotis mystacinus*	27	27 - 27	27	4	144
BV4	*Myotis nattereri*	35	24.5 - 48	61	14	296
BV4	*Nyctalus leisleri*	4	3.5 - 9	26	21	28602
BV4	*Pipistrellus nathusii*	6	0	6	1	453
BV4	*Pipistrellus pipistrellus*	0	0 - 0	2	16	194790
BV4	*Pipistrellus pygmaeus*	0	8 - 8	8	15	82592
BV5	*Myotis daubentonii*	2	2 - 4	8	27	3319
BV5	*Myotis mystacinus*	27	17 - 47	63	7	144
BV5	*Myotis nattereri*	35	24.5 - 48	69	14	296
BV5	*Nyctalus leisleri*	4	6 - 12.5	41	35	28602
BV5	*Pipistrellus nathusii*	14	10 - 14	14	5	453
BV5	*Pipistrellus pipistrellus*	0	2.5 - 4	5	32	194790
BV5	*Pipistrellus pygmaeus*	1	3 - 15	29	31	82592
BV6	*Myotis daubentonii*	4	2.5 - 5	8	21	3319
BV6	*Myotis mystacinus*	17	17 - 17	47	4	144
BV6	*Myotis nattereri*	61	48 - 67.5	100	27	296
BV6	*Nyctalus leisleri*	5	9 - 25	52	34	28602
BV6	*Pipistrellus nathusii*	20	6 - 33	33	4	453
BV6	*Pipistrellus pipistrellus*	1	1.5 - 3	5	35	194790
BV6	*Pipistrellus pygmaeus*	4	3.5 - 6.5	16	34	82592

Figures

Figure 2. The recorded activity of bats during the survey. The centre line indicates the median activity level whereas the box represents the interquartile range (the spread of the middle 50% of nights of activity)


Activity Level (Percentile)
100
80
60
40
20
0
Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus leisleri
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID

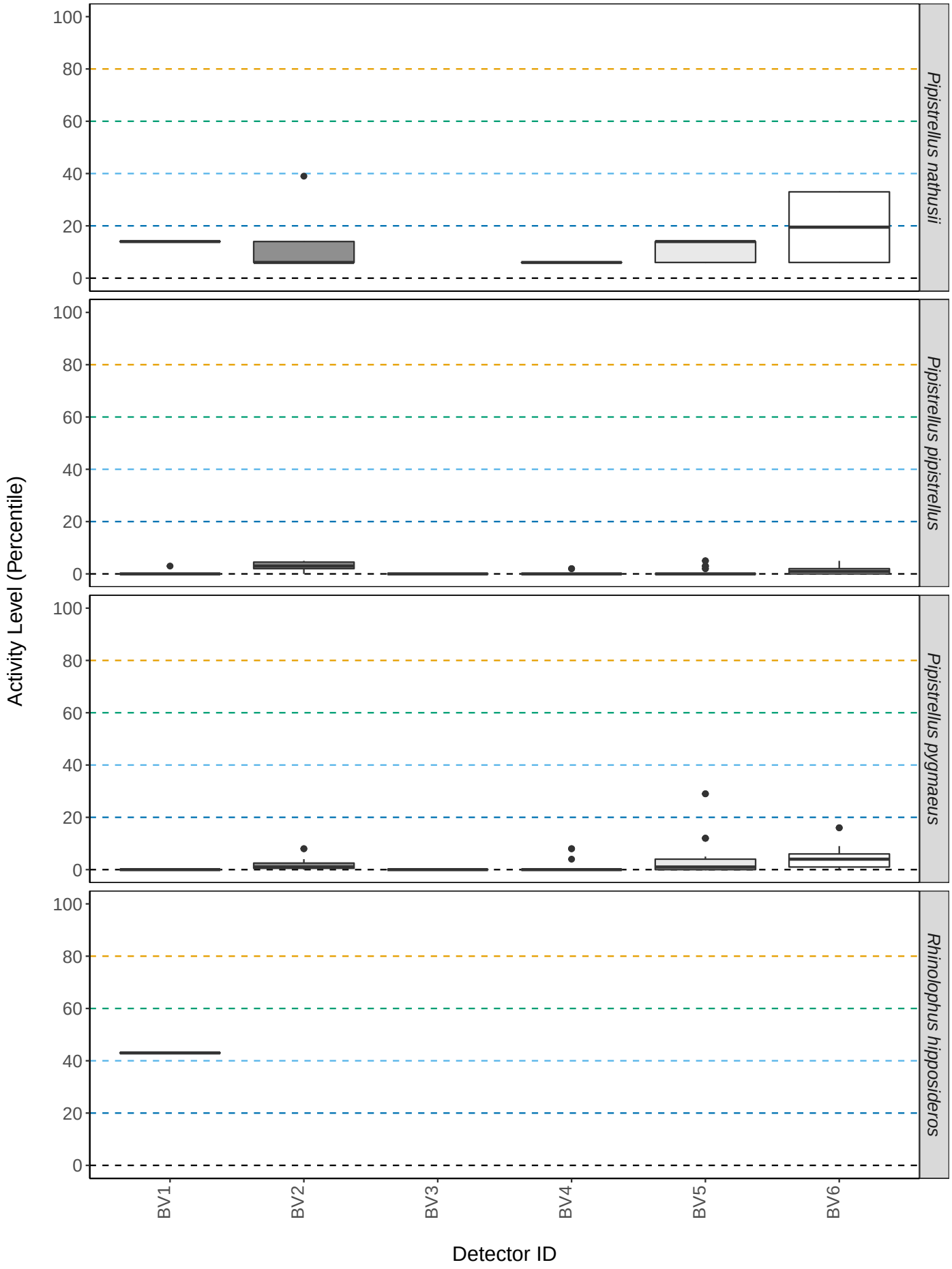
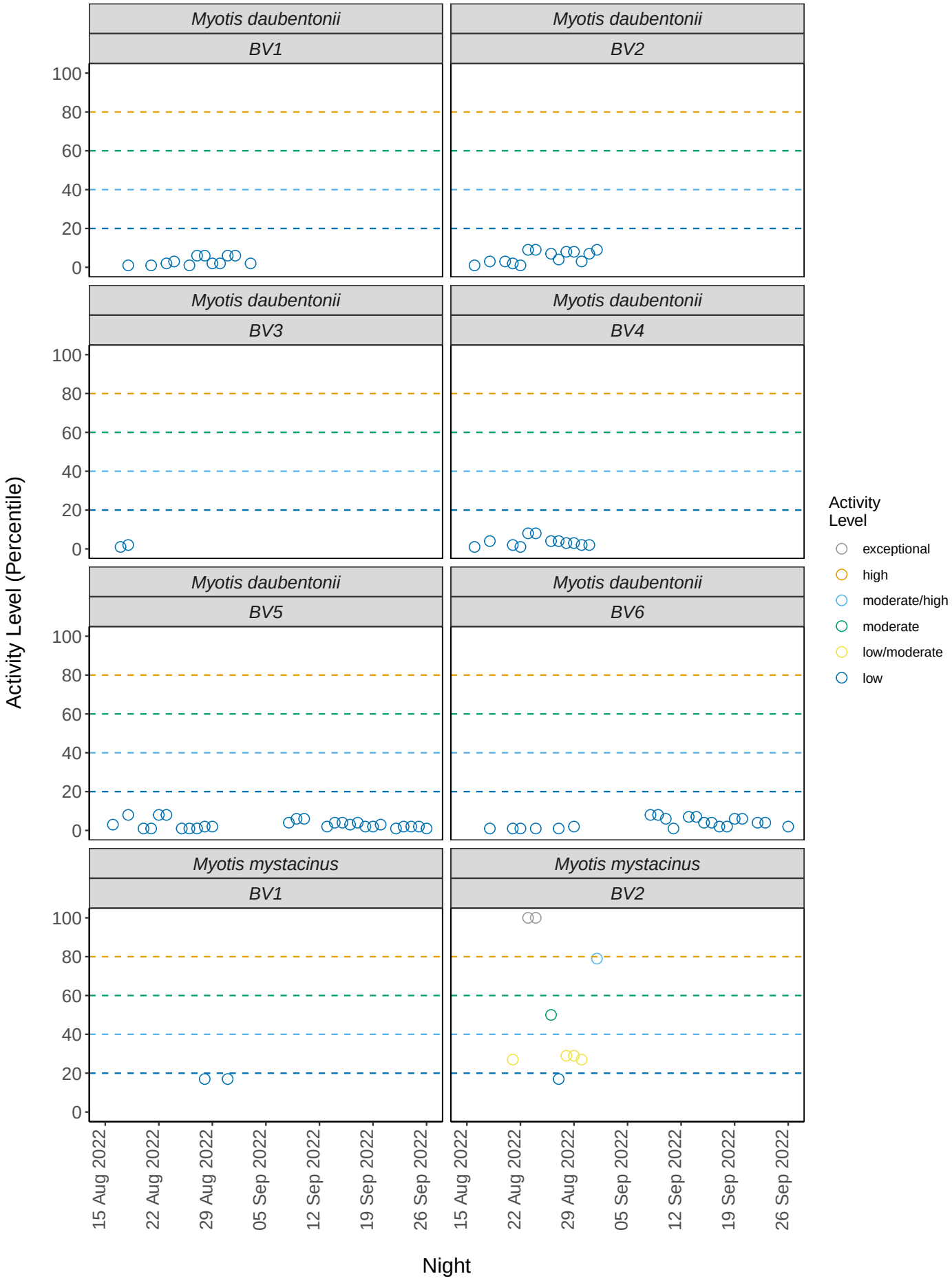
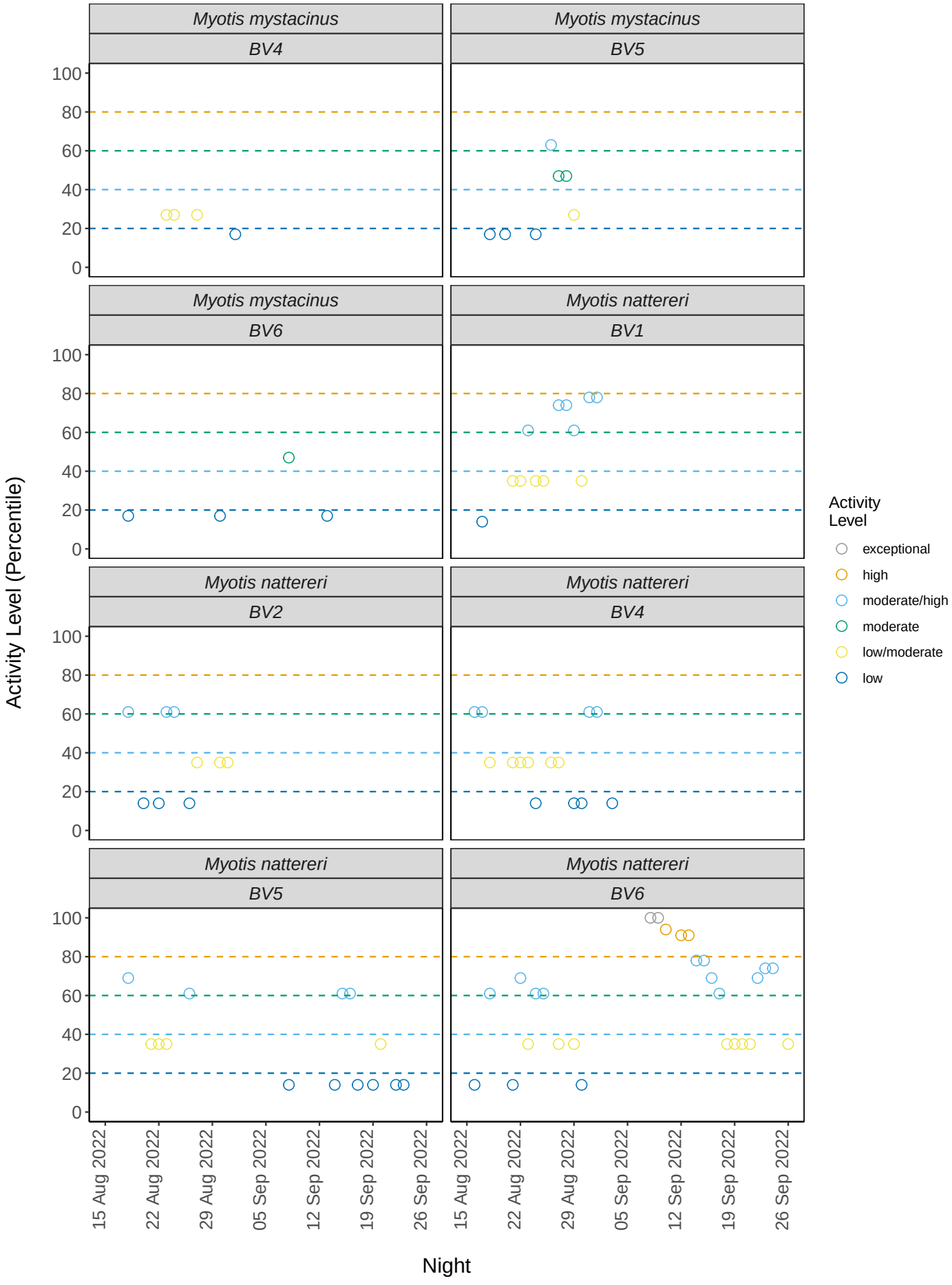
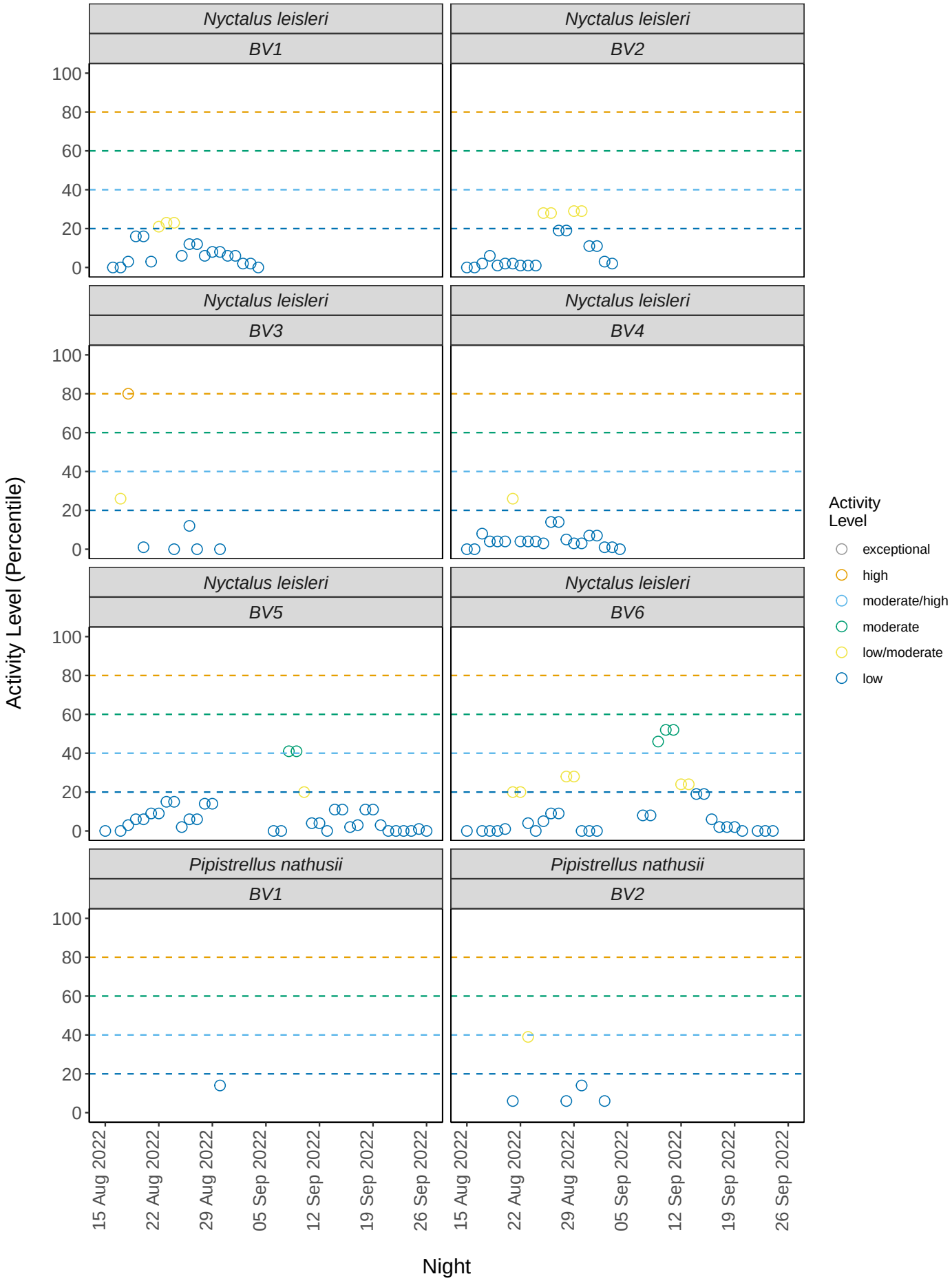
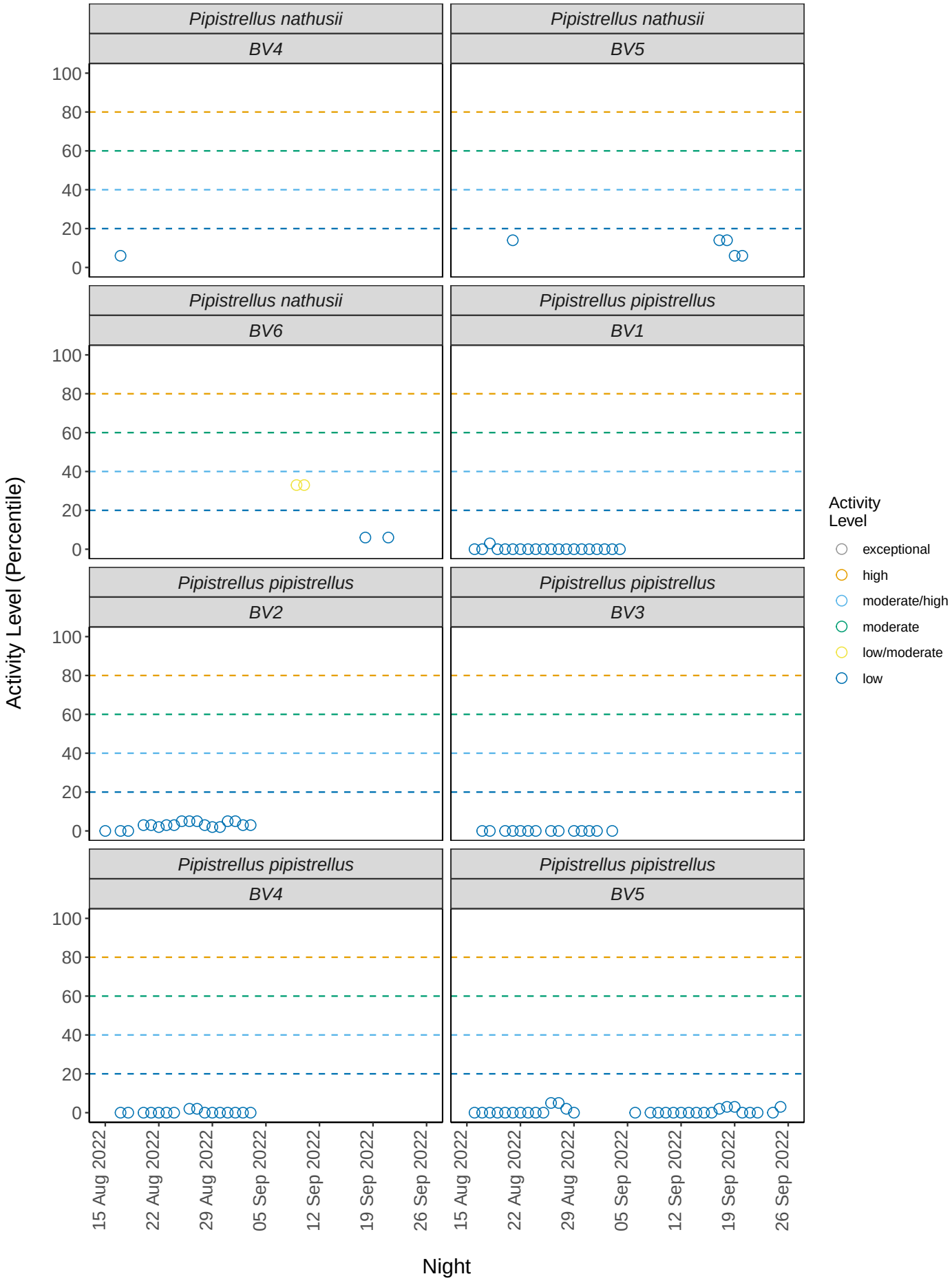

Activity Level (Percentile)
100
80
60
40
20
0
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Rhinolophus hipposideros
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID

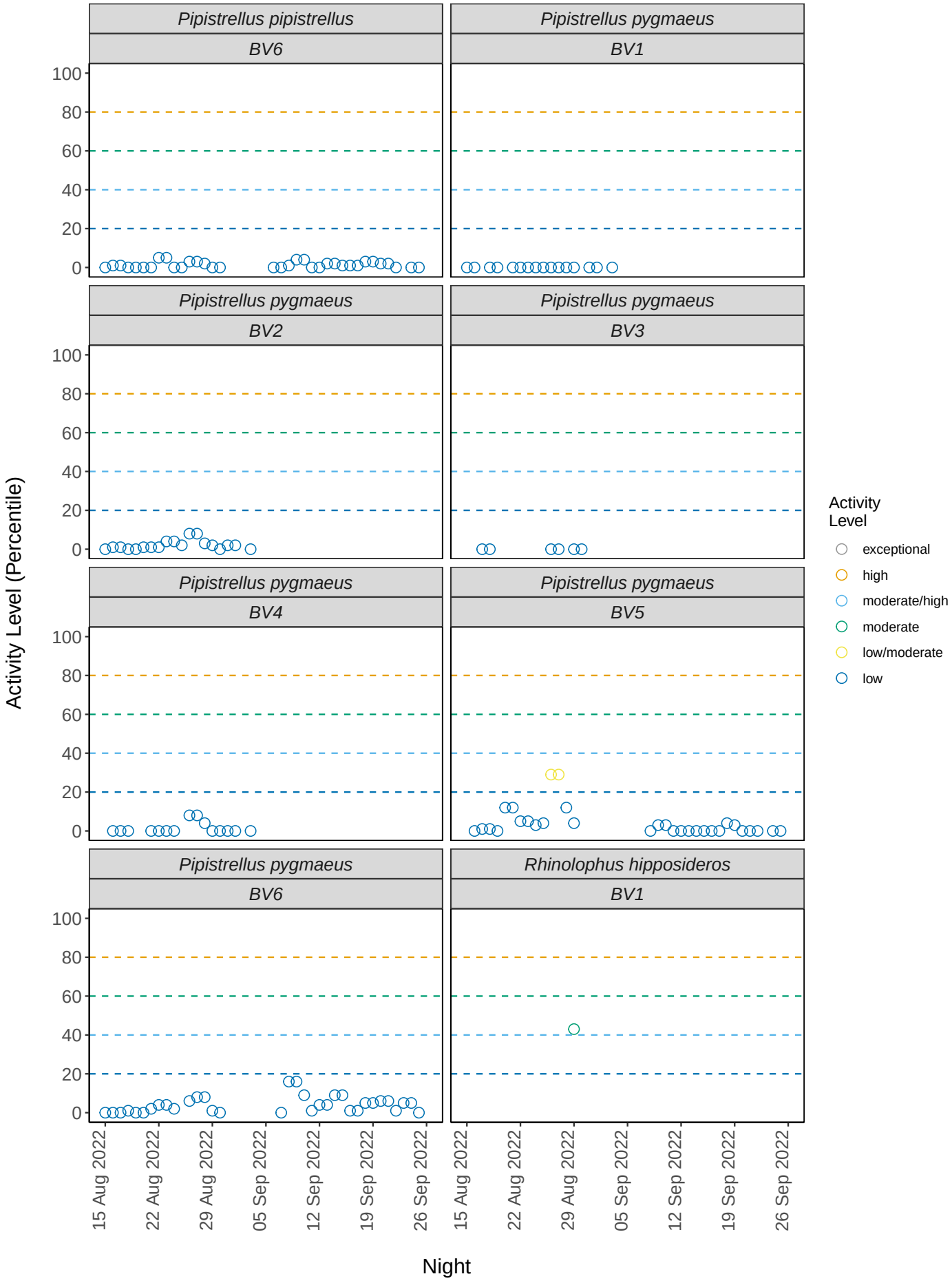
Figure 3. The activity level (percentile) of bats recorded across each night of the bat survey.


Myotis daubentonii
BV1
Myotis daubentonii
BV2
Myotis daubentonii
BV3
Myotis daubentonii
BV4
Myotis daubentonii
BV5
Myotis daubentonii
BV6
Myotis mystacinus
BV1
Myotis mystacinus
BV2
Activity Level (Percentile)
0
20
40
60
80
100
15 Aug 2022
22 Aug 2022
29 Aug 2022
05 Sep 2022
12 Sep 2022
19 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Myotis mystacinus
BV4
Myotis mystacinus
BV5
Myotis mystacinus
BV6
Myotis nattereri
BV1
Myotis nattereri
BV2
Myotis nattereri
BV4
Myotis nattereri
BV5
Myotis nattereri
BV6
Activity Level (Percentile)
0
20
40
60
80
100
15 Aug 2022
22 Aug 2022
29 Aug 2022
05 Sep 2022
12 Sep 2022
19 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Nyctalus leisleri
BV1
Nyctalus leisleri
BV2
Nyctalus leisleri
BV3
Nyctalus leisleri
BV4
Nyctalus leisleri
BV5
Nyctalus leisleri
BV6
Pipistrellus nathusii
BV1
Pipistrellus nathusii
BV2
Activity Level (Percentile)
0
20
40
60
80
100
15 Aug 2022
22 Aug 2022
29 Aug 2022
05 Sep 2022
12 Sep 2022
19 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Pipistrellus nathusii
BV4
Pipistrellus nathusii
BV5
Pipistrellus nathusii
BV6
Pipistrellus pipistrellus
BV1
Pipistrellus pipistrellus
BV2
Pipistrellus pipistrellus
BV3
Pipistrellus pipistrellus
BV4
Pipistrellus pipistrellus
BV5
Activity Level (Percentile)
0
20
40
60
80
100
15 Aug 2022
22 Aug 2022
29 Aug 2022
05 Sep 2022
12 Sep 2022
19 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Pipistrellus pipistrellus
BV6
Pipistrellus pygmaeus
BV1
Pipistrellus pygmaeus
BV2
Pipistrellus pygmaeus
BV3
Pipistrellus pygmaeus
BV4
Pipistrellus pygmaeus
BV5
Pipistrellus pygmaeus
BV6
Rhinolophus hipposideros
BV1
Activity Level (Percentile)
0
20
40
60
80
100
15 Aug 2022
22 Aug 2022
29 Aug 2022
05 Sep 2022
12 Sep 2022
19 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

PER DETECTOR, PER MONTH

Table 5. Summary table showing the number of nights recorded bat activity fell into each activity band for each species at each detector during each month.

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV1	*Myotis daubentonii*	Aug	0	0	0	0	0	10
BV1	*Myotis daubentonii*	Sep	0	0	0	0	0	2
BV1	*Myotis mystacinus*	Aug	0	0	0	0	0	2
BV1	*Myotis nattereri*	Aug	0	0	5	0	5	1
BV1	*Myotis nattereri*	Sep	0	0	1	0	0	0
BV1	*Nyctalus leisleri*	Aug	0	0	0	0	3	13
BV1	*Nyctalus leisleri*	Sep	0	0	0	0	0	4
BV1	*Pipistrellus nathusii*	Aug	0	0	0	0	0	1
BV1	*Pipistrellus pipistrellus*	Aug	0	0	0	0	0	16
BV1	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	4
BV1	*Pipistrellus pygmaeus*	Aug	0	0	0	0	0	14
BV1	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	2
BV1	*Rhinolophus hipposideros*	Aug	0	0	0	1	0	0
BV2	*Myotis daubentonii*	Aug	0	0	0	0	0	13
BV2	*Myotis daubentonii*	Sep	0	0	0	0	0	1
BV2	*Myotis mystacinus*	Aug	2	0	0	1	4	1
BV2	*Myotis mystacinus*	Sep	0	0	1	0	0	0
BV2	*Myotis nattereri*	Aug	0	0	3	0	3	3
BV2	*Nyctalus leisleri*	Aug	0	0	0	0	4	13
BV2	*Nyctalus leisleri*	Sep	0	0	0	0	0	3
BV2	*Pipistrellus nathusii*	Aug	0	0	0	0	1	3
BV2	*Pipistrellus nathusii*	Sep	0	0	0	0	0	1
BV2	*Pipistrellus pipistrellus*	Aug	0	0	0	0	0	15
BV2	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	3

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV2	*Pipistrellus pygmaeus*	Aug	0	0	0	0	0	17
BV2	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	2
BV3	*Myotis daubentonii*	Aug	0	0	0	0	0	2
BV3	*Nyctalus leisleri*	Aug	0	1	0	0	1	5
BV3	*Pipistrellus pipistrellus*	Aug	0	0	0	0	0	12
BV3	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	2
BV3	*Pipistrellus pygmaeus*	Aug	0	0	0	0	0	6
BV4	*Myotis daubentonii*	Aug	0	0	0	0	0	12
BV4	*Myotis mystacinus*	Aug	0	0	0	0	3	0
BV4	*Myotis mystacinus*	Sep	0	0	0	0	0	1
BV4	*Myotis nattereri*	Aug	0	0	3	0	6	3
BV4	*Myotis nattereri*	Sep	0	0	1	0	0	1
BV4	*Nyctalus leisleri*	Aug	0	0	0	0	1	16
BV4	*Nyctalus leisleri*	Sep	0	0	0	0	0	4
BV4	*Pipistrellus nathusii*	Aug	0	0	0	0	0	1
BV4	*Pipistrellus pipistrellus*	Aug	0	0	0	0	0	13
BV4	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	3
BV4	*Pipistrellus pygmaeus*	Aug	0	0	0	0	0	13
BV4	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	2
BV5	*Myotis daubentonii*	Aug	0	0	0	0	0	11
BV5	*Myotis daubentonii*	Sep	0	0	0	0	0	16
BV5	*Myotis mystacinus*	Aug	0	0	1	2	1	3
BV5	*Myotis nattereri*	Aug	0	0	2	0	3	0
BV5	*Myotis nattereri*	Sep	0	0	2	0	1	6
BV5	*Nyctalus leisleri*	Aug	0	0	0	0	0	14
BV5	*Nyctalus leisleri*	Sep	0	0	0	2	1	18
BV5	*Pipistrellus nathusii*	Aug	0	0	0	0	0	1

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
BV5	*Pipistrellus nathusii*	Sep	0	0	0	0	0	4
BV5	*Pipistrellus pipistrellus*	Aug	0	0	0	0	0	14
BV5	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	18
BV5	*Pipistrellus pygmaeus*	Aug	0	0	0	0	2	12
BV5	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	17
BV6	*Myotis daubentonii*	Aug	0	0	0	0	0	6
BV6	*Myotis daubentonii*	Sep	0	0	0	0	0	15
BV6	*Myotis mystacinus*	Aug	0	0	0	0	0	2
BV6	*Myotis mystacinus*	Sep	0	0	0	1	0	1
BV6	*Myotis nattereri*	Aug	0	0	4	0	3	3
BV6	*Myotis nattereri*	Sep	2	3	7	0	5	0
BV6	*Nyctalus leisleri*	Aug	0	0	0	0	4	12
BV6	*Nyctalus leisleri*	Sep	0	0	0	3	2	13
BV6	*Pipistrellus nathusii*	Sep	0	0	0	0	2	2
BV6	*Pipistrellus pipistrellus*	Aug	0	0	0	0	0	16
BV6	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	19
BV6	*Pipistrellus pygmaeus*	Aug	0	0	0	0	0	15
BV6	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	19

Table 6. Summary table showing key metrics for each species recorded per month. Please note that we cannot split the reference range by month, hence this column is not shown in this table.

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
BV1	*Myotis daubentonii*	Aug	2	1.5 - 4.5	6	10
BV1	*Myotis daubentonii*	Sep	4	1.5 - 4.5	6	2
BV1	*Myotis mystacinus*	Aug	17	17 - 17	17	2
BV1	*Myotis nattereri*	Aug	35	35 - 69.5	78	11
BV1	*Myotis nattereri*	Sep	78	35 - 69.5	78	1
BV1	*Nyctalus leisleri*	Aug	8	6 - 14.5	23	16
BV1	*Nyctalus leisleri*	Sep	2	6 - 14.5	6	4
BV1	*Pipistrellus nathusii*	Aug	14	0	14	1
BV1	*Pipistrellus pipistrellus*	Aug	0	0 - 0	3	16
BV1	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	4
BV1	*Pipistrellus pygmaeus*	Aug	0	0 - 0	0	14
BV1	*Pipistrellus pygmaeus*	Sep	0	0 - 0	0	2
BV1	*Rhinolophus hipposideros*	Aug	43	0	43	1
BV2	*Myotis daubentonii*	Aug	4	3 - 8	9	13
BV2	*Myotis daubentonii*	Sep	9	3 - 8	9	1
BV2	*Myotis mystacinus*	Aug	29	27 - 79	100	8
BV2	*Myotis mystacinus*	Sep	79	27 - 79	79	1
BV2	*Myotis nattereri*	Aug	35	14 - 61	61	9
BV2	*Nyctalus leisleri*	Aug	2	2.5 - 15.5	29	17
BV2	*Nyctalus leisleri*	Sep	3	2.5 - 15.5	11	3
BV2	*Pipistrellus nathusii*	Aug	10	6 - 22.5	39	4
BV2	*Pipistrellus nathusii*	Sep	6	6 - 22.5	6	1
BV2	*Pipistrellus pipistrellus*	Aug	3	2.5 - 4	5	15
BV2	*Pipistrellus pipistrellus*	Sep	3	2.5 - 4	5	3
BV2	*Pipistrellus pygmaeus*	Aug	1	1.5 - 4.5	8	17
BV2	*Pipistrellus pygmaeus*	Sep	1	1.5 - 4.5	2	2
BV3	*Myotis daubentonii*	Aug	2	1.5 - 1.5	2	2
BV3	*Nyctalus leisleri*	Aug	1	1 - 80	80	7
BV3	*Pipistrellus pipistrellus*	Aug	0	0 - 0	0	12
BV3	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	2
BV3	*Pipistrellus pygmaeus*	Aug	0	0 - 0	0	6
BV4	*Myotis daubentonii*	Aug	3	2 - 5	8	12
BV4	*Myotis mystacinus*	Aug	27	27 - 27	27	3
BV4	*Myotis mystacinus*	Sep	17	27 - 27	17	1
BV4	*Myotis nattereri*	Aug	35	24.5 - 48	61	12
BV4	*Myotis nattereri*	Sep	38	24.5 - 48	61	2
BV4	*Nyctalus leisleri*	Aug	4	3.5 - 9	26	17
BV4	*Nyctalus leisleri*	Sep	1	3.5 - 9	7	4
BV4	*Pipistrellus nathusii*	Aug	6	0	6	1
BV4	*Pipistrellus pipistrellus*	Aug	0	0 - 0	2	13
BV4	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	3
BV4	*Pipistrellus pygmaeus*	Aug	0	8 - 8	8	13
BV4	*Pipistrellus pygmaeus*	Sep	0	8 - 8	0	2
BV5	*Myotis daubentonii*	Aug	2	2 - 4	8	11
BV5	*Myotis daubentonii*	Sep	3	2 - 4	6	16
BV5	*Myotis mystacinus*	Aug	27	17 - 47	63	7
BV5	*Myotis nattereri*	Aug	35	24.5 - 48	69	5
BV5	*Myotis nattereri*	Sep	14	24.5 - 48	61	9
BV5	*Nyctalus leisleri*	Aug	6	6 - 12.5	15	14
BV5	*Nyctalus leisleri*	Sep	3	6 - 12.5	41	21
BV5	*Pipistrellus nathusii*	Aug	14	10 - 14	14	1
BV5	*Pipistrellus nathusii*	Sep	10	10 - 14	14	4

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
BV5	*Pipistrellus pipistrellus*	Aug	0	2.5 - 4	5	14
BV5	*Pipistrellus pipistrellus*	Sep	0	2.5 - 4	3	18
BV5	*Pipistrellus pygmaeus*	Aug	5	3 - 15	29	14
BV5	*Pipistrellus pygmaeus*	Sep	0	3 - 15	4	17
BV6	*Myotis daubentonii*	Aug	1	2.5 - 5	2	6
BV6	*Myotis daubentonii*	Sep	4	2.5 - 5	8	15
BV6	*Myotis mystacinus*	Aug	17	17 - 17	17	2
BV6	*Myotis mystacinus*	Sep	32	17 - 17	47	2
BV6	*Myotis nattereri*	Aug	35	48 - 67.5	69	10
BV6	*Myotis nattereri*	Sep	74	48 - 67.5	100	17
BV6	*Nyctalus leisleri*	Aug	3	9 - 25	28	16
BV6	*Nyctalus leisleri*	Sep	7	9 - 25	52	18
BV6	*Pipistrellus nathusii*	Sep	20	6 - 33	33	4
BV6	*Pipistrellus pipistrellus*	Aug	0	1.5 - 3	5	16
BV6	*Pipistrellus pipistrellus*	Sep	1	1.5 - 3	4	19
BV6	*Pipistrellus pygmaeus*	Aug	1	3.5 - 6.5	8	15
BV6	*Pipistrellus pygmaeus*	Sep	5	3.5 - 6.5	16	19

PER SITE

In this 'Per Site' section of the analysis, all values are taken from across all of the detectors to provide site-wide averages/medians.

Table 7. Summary table showing the number of nights recorded bat activity fell into each activity band for each species.

Species/Species Group	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
Myotis daubentonii	0	0	0	0	0	88
Myotis mystacinus	2	0	2	4	8	10
Myotis nattereri	2	3	28	0	26	17
Nyctalus leisleri	0	1	0	5	16	115
Pipistrellus nathusii	0	0	0	0	3	13
Pipistrellus pipistrellus	0	0	0	0	0	135
Pipistrellus pygmaeus	0	0	0	0	2	119
Rhinolophus hipposideros	0	0	0	1	0	0

Table 8. Summary table showing key metrics for each species recorded.

Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded
Myotis daubentonii	3	3 - 8	9	88
Myotis mystacinus	27	27 - 79	100	26
Myotis nattereri	35	48 - 67.5	100	76
Nyctalus leisleri	4	9 - 25	80	137
Pipistrellus nathusii	10	6 - 33	39	16
Pipistrellus pipistrellus	0	2.5 - 4	5	135
Pipistrellus pygmaeus	0	8 - 8	29	121
Rhinolophus hipposideros	43	0	43	1

Figures

Figure 4. Texhe activity level (percentile) of bats recorded across each night of the bat survey for the **entire site**.

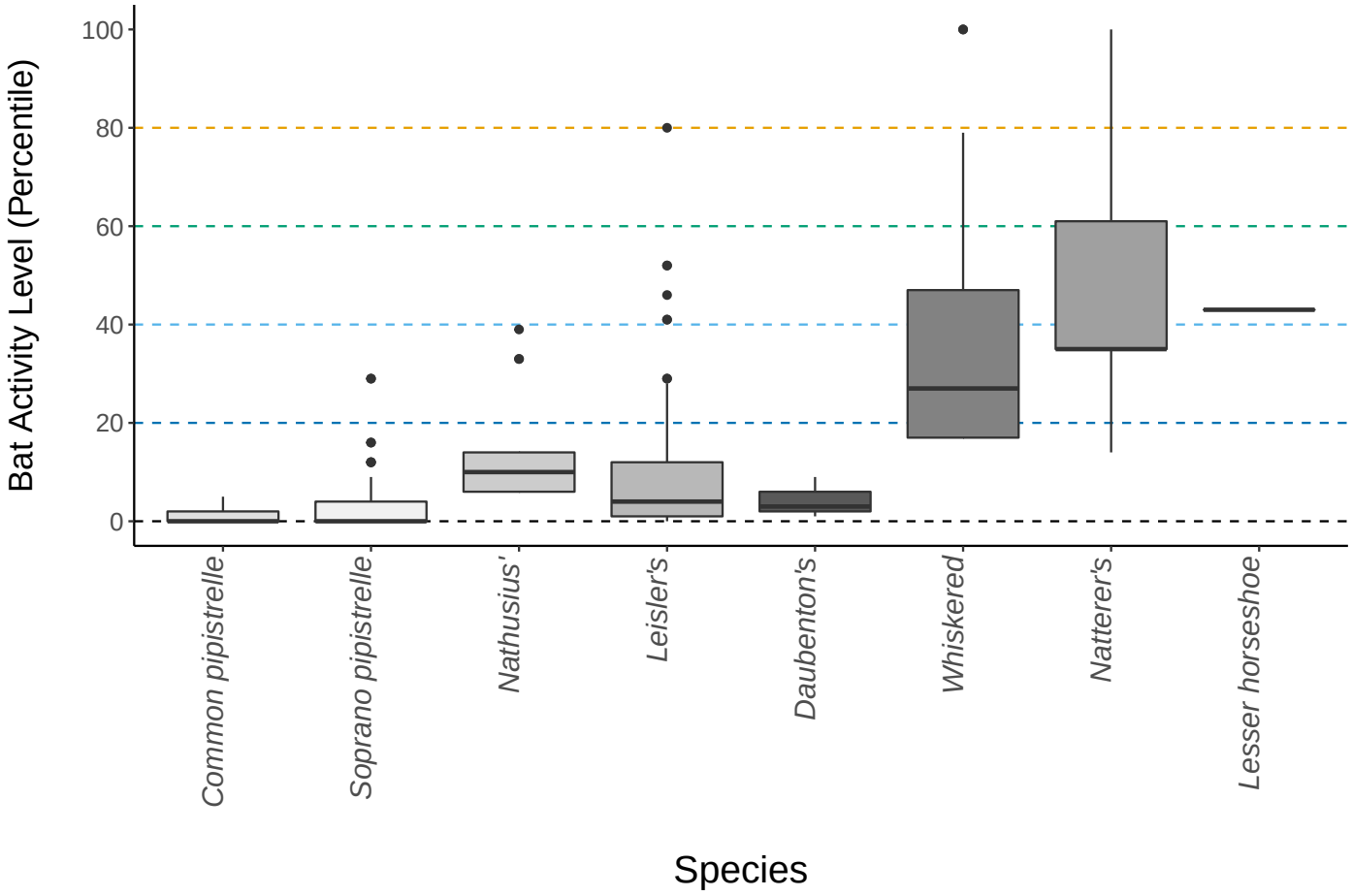
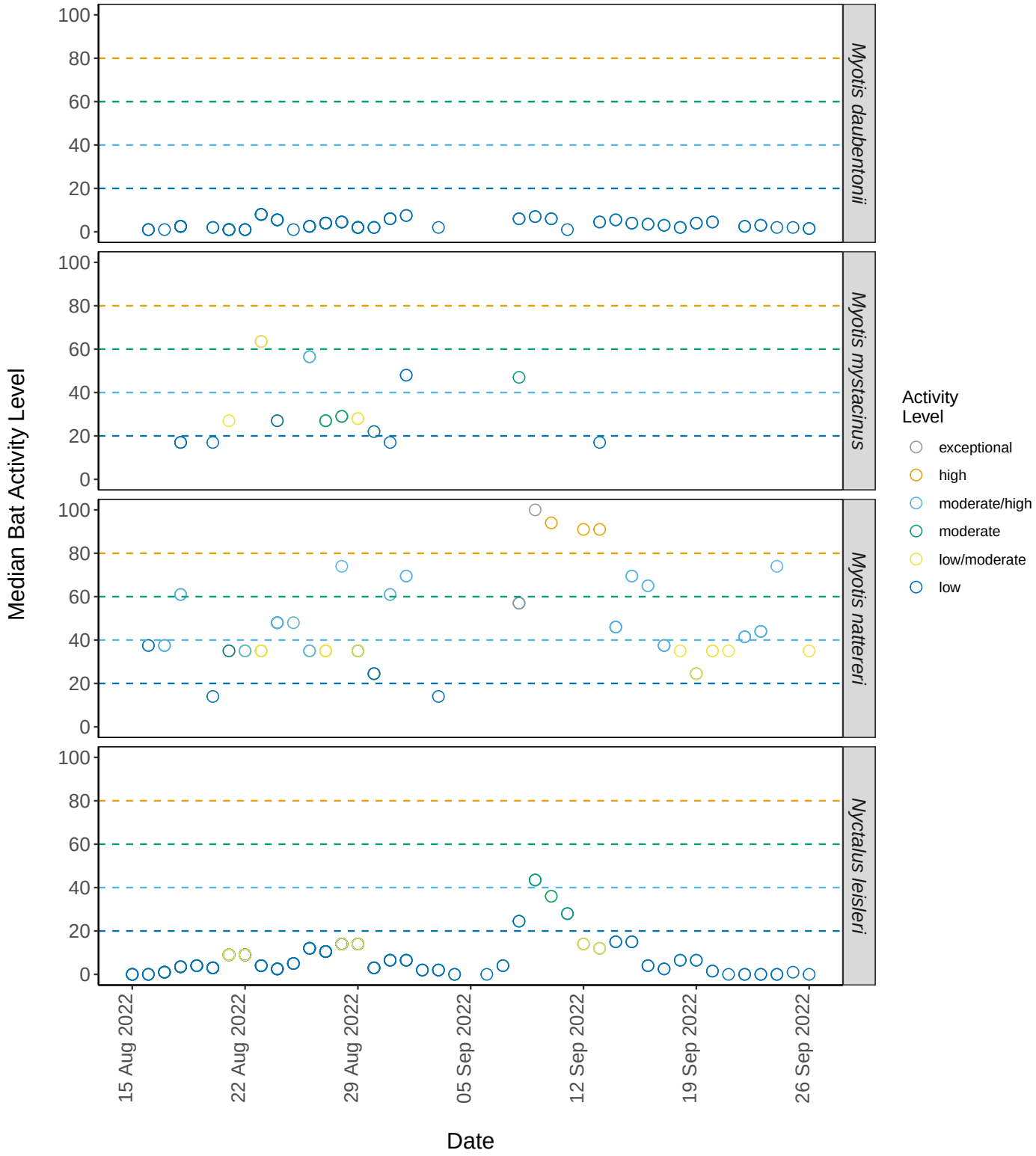
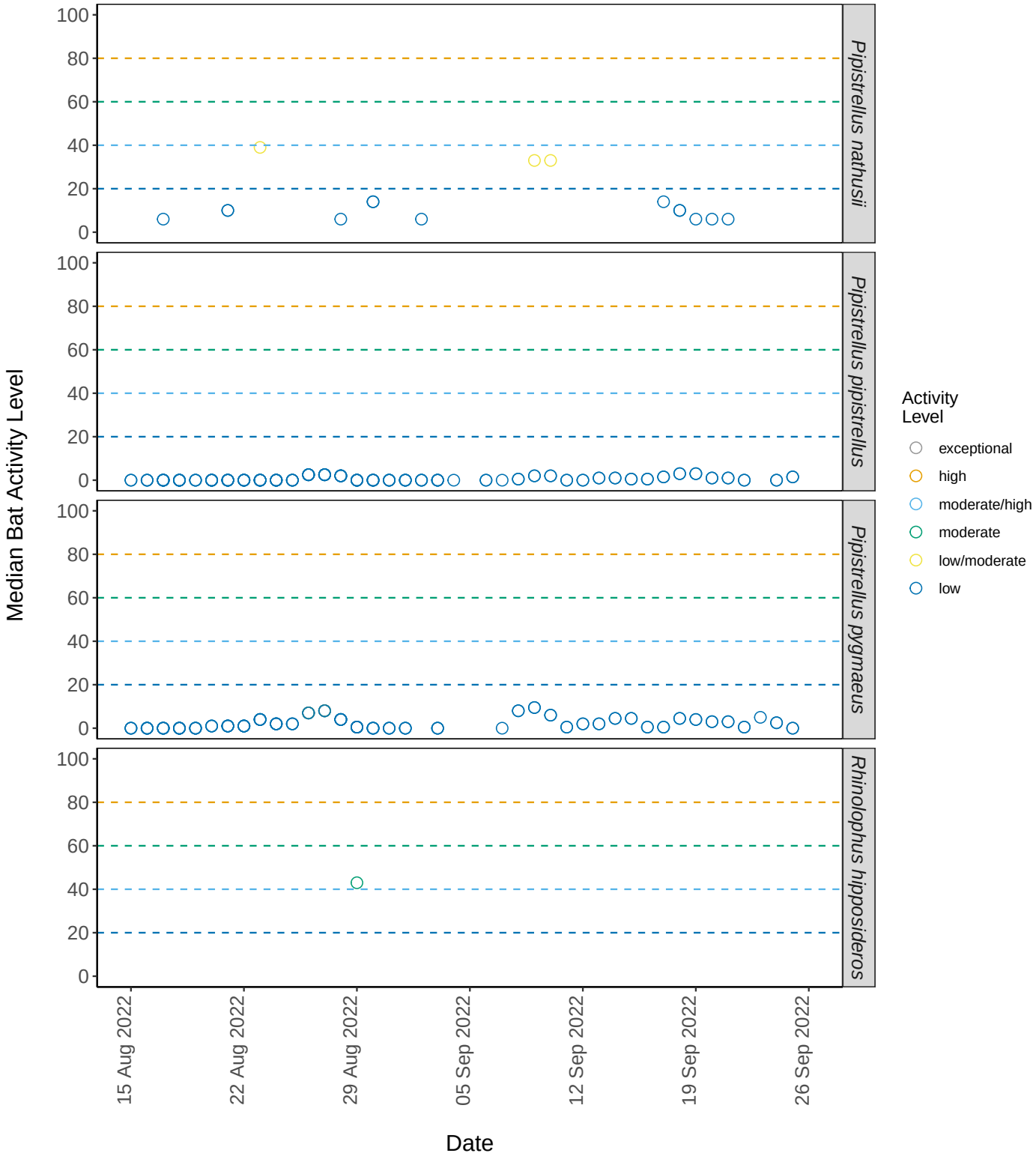


Figure 5. The median activity levels of bats recorded across all detectors each night.




Median Bat Activity Level
100
80
60
40
20
0
Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Rhinolophus hipposideros
15 Aug 2022
22 Aug 2022
29 Aug 2022
05 Sep 2022
12 Sep 2022
19 Sep 2022
26 Sep 2022
Date
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

PER SITE, PER MONTH

Table 9. Summary table showing the number of nights recorded bat activity fell into each activity band for each species during each month.

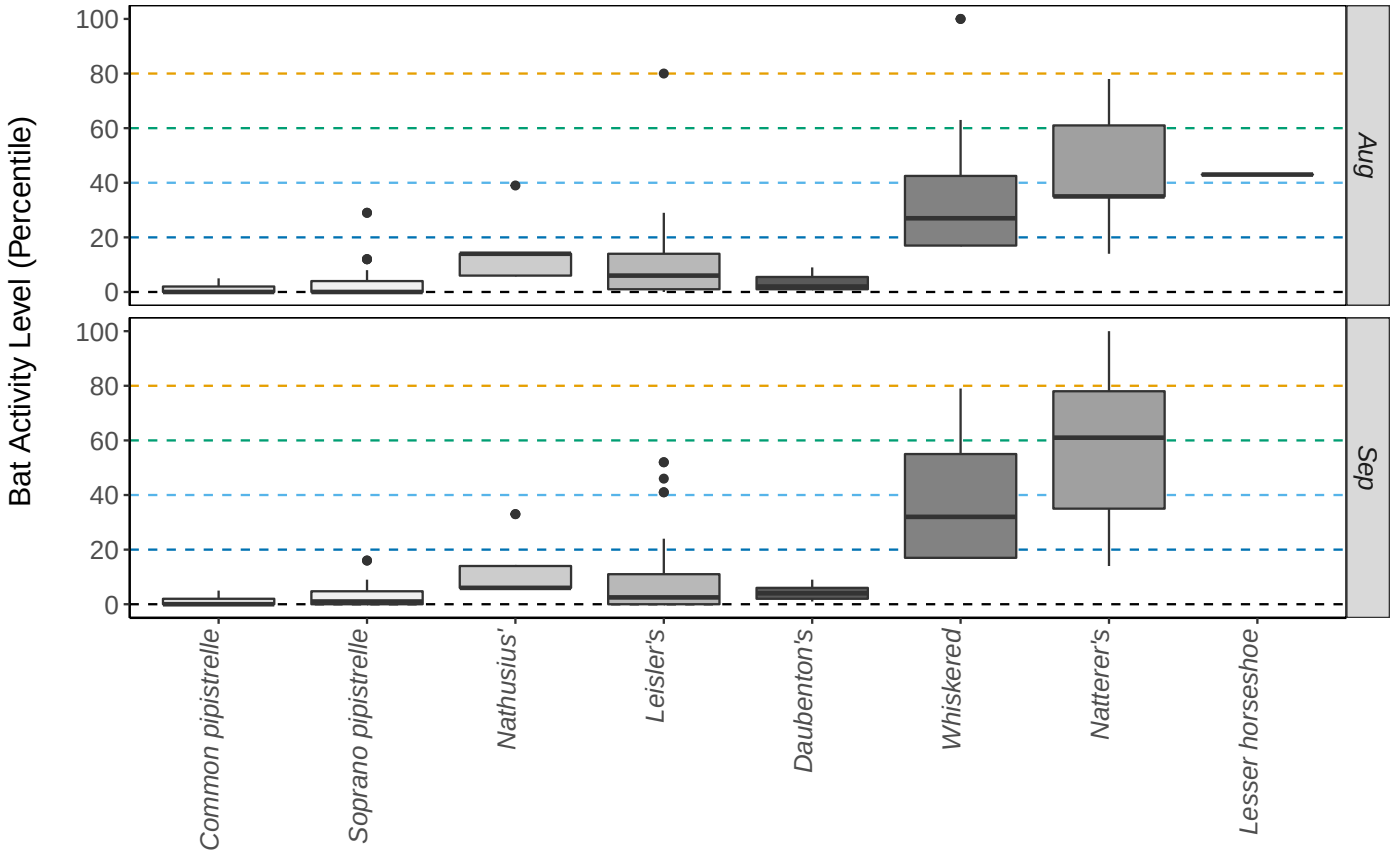
Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
Myotis daubentonii	Aug	0	0	0	0	0	54
Myotis daubentonii	Sep	0	0	0	0	0	34
Myotis mystacinus	Aug	2	0	1	3	8	8
Myotis mystacinus	Sep	0	0	1	1	0	2
Myotis nattereri	Aug	0	0	17	0	20	10
Myotis nattereri	Sep	2	3	11	0	6	7
Nyctalus leisleri	Aug	0	1	0	0	13	73
Nyctalus leisleri	Sep	0	0	0	5	3	42
Pipistrellus nathusii	Aug	0	0	0	0	1	6
Pipistrellus nathusii	Sep	0	0	0	0	2	7
Pipistrellus pipistrellus	Aug	0	0	0	0	0	86
Pipistrellus pipistrellus	Sep	0	0	0	0	0	49
Pipistrellus pygmaeus	Aug	0	0	0	0	2	77
Pipistrellus pygmaeus	Sep	0	0	0	0	0	42
Rhinolophus hipposideros	Aug	0	0	0	1	0	0

Table 10. Summary table showing key metrics for each species recorded per month.

Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
Myotis daubentonii	Aug	2	3 - 8	9	54
Myotis daubentonii	Sep	4	3 - 8	9	34
Myotis mystacinus	Aug	27	27 - 79	100	22
Myotis mystacinus	Sep	32	27 - 79	79	4
Myotis nattereri	Aug	35	48 - 67.5	78	47
Myotis nattereri	Sep	61	48 - 67.5	100	29
Nyctalus leisleri	Aug	6	9 - 25	80	87
Nyctalus leisleri	Sep	3	9 - 25	52	50
Pipistrellus nathusii	Aug	14	6 - 22.5	39	7
Pipistrellus nathusii	Sep	6	6 - 33	33	9
Pipistrellus pipistrellus	Aug	0	2.5 - 4	5	86
Pipistrellus pipistrellus	Sep	0	2.5 - 4	5	49
Pipistrellus pygmaeus	Aug	0	8 - 8	29	79
Pipistrellus pygmaeus	Sep	1	8 - 8	16	42
Rhinolophus hipposideros	Aug	43	0	43	1

Figures

Figure 6. The activity level (percentile) of bats recorded across each night of the bat survey for the entire site, split between months.



PART 2: Nightly Analysis

ENTIRE SURVEY PERIOD

Sunrise and Sunset Times

Table 11. The times of sunset and sunrise the following morning for surveys beginning on the date shown.

Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8217_-8.9572	15/08/2022	2022-08-15	21:02	06:23	9.4
51.8166_-8.9607	15/08/2022	2022-08-15	21:02	06:23	9.4
51.8135_-8.9626	15/08/2022	2022-08-15	21:02	06:23	9.4
51.8101_-8.9618	15/08/2022	2022-08-15	21:02	06:23	9.4
51.8217_-8.9572	16/08/2022	2022-08-15	21:02	06:23	9.4
51.8101_-8.9618	16/08/2022	2022-08-15	21:02	06:23	9.4
51.8223_-8.9506	16/08/2022	2022-08-15	21:02	06:23	9.4
51.8217_-8.9572	17/08/2022	2022-08-16	21:00	06:24	9.4
51.8166_-8.9607	17/08/2022	2022-08-16	21:00	06:24	9.4
51.8135_-8.9626	17/08/2022	2022-08-16	21:00	06:24	9.4
51.8166_-8.9607	16/08/2022	2022-08-16	21:00	06:24	9.4
51.8101_-8.9618	16/08/2022	2022-08-16	21:00	06:24	9.4
51.8223_-8.9506	16/08/2022	2022-08-16	21:00	06:24	9.4
51.8217_-8.9572	16/08/2022	2022-08-16	21:00	06:24	9.4
51.8223_-8.9506	17/08/2022	2022-08-16	21:00	06:24	9.4
51.8135_-8.9626	16/08/2022	2022-08-16	21:00	06:24	9.4
51.8101_-8.9618	17/08/2022	2022-08-16	21:00	06:24	9.4
51.8186_-8.955	17/08/2022	2022-08-17	20:58	06:26	9.5
51.8223_-8.9506	18/08/2022	2022-08-17	20:58	06:26	9.5
51.8166_-8.9607	17/08/2022	2022-08-17	20:58	06:26	9.5
51.8223_-8.9506	17/08/2022	2022-08-17	20:58	06:26	9.5
51.8217_-8.9572	17/08/2022	2022-08-17	20:58	06:26	9.5
51.8135_-8.9626	17/08/2022	2022-08-17	20:58	06:26	9.5
51.8101_-8.9618	17/08/2022	2022-08-17	20:58	06:26	9.5
51.8135_-8.9626	18/08/2022	2022-08-17	20:58	06:26	9.5
51.8223_-8.9506	18/08/2022	2022-08-18	20:56	06:28	9.5
51.8217_-8.9572	18/08/2022	2022-08-18	20:56	06:28	9.5
51.8217_-8.9572	19/08/2022	2022-08-18	20:56	06:28	9.5
51.8186_-8.955	18/08/2022	2022-08-18	20:56	06:28	9.5
51.8166_-8.9607	19/08/2022	2022-08-18	20:56	06:28	9.5
51.8166_-8.9607	18/08/2022	2022-08-18	20:56	06:28	9.5
51.8135_-8.9626	18/08/2022	2022-08-18	20:56	06:28	9.5
51.8135_-8.9626	19/08/2022	2022-08-18	20:56	06:28	9.5
51.8101_-8.9618	19/08/2022	2022-08-18	20:56	06:28	9.5
51.8101_-8.9618	18/08/2022	2022-08-18	20:56	06:28	9.5
51.8223_-8.9506	19/08/2022	2022-08-18	20:56	06:28	9.5
51.8186_-8.955	19/08/2022	2022-08-18	20:56	06:28	9.5
51.8223_-8.9506	19/08/2022	2022-08-19	20:53	06:29	9.6
51.8223_-8.9506	20/08/2022	2022-08-19	20:53	06:29	9.6
51.8217_-8.9572	20/08/2022	2022-08-19	20:53	06:29	9.6
51.8217_-8.9572	19/08/2022	2022-08-19	20:53	06:29	9.6
51.8166_-8.9607	20/08/2022	2022-08-19	20:53	06:29	9.6
51.8135_-8.9626	19/08/2022	2022-08-19	20:53	06:29	9.6
51.8135_-8.9626	20/08/2022	2022-08-19	20:53	06:29	9.6
51.8101_-8.9618	19/08/2022	2022-08-19	20:53	06:29	9.6
51.8101_-8.9618	20/08/2022	2022-08-19	20:53	06:29	9.6
51.8217_-8.9572	20/08/2022	2022-08-20	20:51	06:31	9.7

Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8135_-8.9626	20/08/2022	2022-08-20	20:51	06:31	9.7
51.8223_-8.9506	20/08/2022	2022-08-20	20:51	06:31	9.7
51.8223_-8.9506	21/08/2022	2022-08-20	20:51	06:31	9.7
51.8217_-8.9572	21/08/2022	2022-08-20	20:51	06:31	9.7
51.8186_-8.955	20/08/2022	2022-08-20	20:51	06:31	9.7
51.8166_-8.9607	20/08/2022	2022-08-20	20:51	06:31	9.7
51.8135_-8.9626	21/08/2022	2022-08-20	20:51	06:31	9.7
51.8101_-8.9618	21/08/2022	2022-08-20	20:51	06:31	9.7
51.8166_-8.9607	21/08/2022	2022-08-20	20:51	06:31	9.7
51.8101_-8.9618	20/08/2022	2022-08-20	20:51	06:31	9.7
51.8223_-8.9506	21/08/2022	2022-08-21	20:49	06:32	9.7
51.8217_-8.9572	22/08/2022	2022-08-21	20:49	06:32	9.7
51.8217_-8.9572	21/08/2022	2022-08-21	20:49	06:32	9.7
51.8166_-8.9607	21/08/2022	2022-08-21	20:49	06:32	9.7
51.8135_-8.9626	21/08/2022	2022-08-21	20:49	06:32	9.7
51.8101_-8.9618	21/08/2022	2022-08-21	20:49	06:32	9.7
51.8223_-8.9506	22/08/2022	2022-08-21	20:49	06:32	9.7
51.8166_-8.9607	22/08/2022	2022-08-21	20:49	06:32	9.7
51.8135_-8.9626	22/08/2022	2022-08-21	20:49	06:32	9.7
51.8101_-8.9618	22/08/2022	2022-08-21	20:49	06:32	9.7
51.8186_-8.955	21/08/2022	2022-08-21	20:49	06:32	9.7
51.8217_-8.9572	23/08/2022	2022-08-22	20:47	06:34	9.8
51.8166_-8.9607	22/08/2022	2022-08-22	20:47	06:34	9.8
51.8135_-8.9626	22/08/2022	2022-08-22	20:47	06:34	9.8
51.8135_-8.9626	23/08/2022	2022-08-22	20:47	06:34	9.8
51.8101_-8.9618	22/08/2022	2022-08-22	20:47	06:34	9.8
51.8223_-8.9506	22/08/2022	2022-08-22	20:47	06:34	9.8
51.8217_-8.9572	22/08/2022	2022-08-22	20:47	06:34	9.8
51.8101_-8.9618	23/08/2022	2022-08-22	20:47	06:34	9.8
51.8223_-8.9506	23/08/2022	2022-08-22	20:47	06:34	9.8
51.8166_-8.9607	23/08/2022	2022-08-22	20:47	06:34	9.8
51.8186_-8.955	22/08/2022	2022-08-22	20:47	06:34	9.8
51.8223_-8.9506	23/08/2022	2022-08-23	20:45	06:36	9.8
51.8217_-8.9572	24/08/2022	2022-08-23	20:45	06:36	9.8
51.8166_-8.9607	24/08/2022	2022-08-23	20:45	06:36	9.8
51.8166_-8.9607	23/08/2022	2022-08-23	20:45	06:36	9.8
51.8135_-8.9626	23/08/2022	2022-08-23	20:45	06:36	9.8
51.8135_-8.9626	24/08/2022	2022-08-23	20:45	06:36	9.8
51.8217_-8.9572	23/08/2022	2022-08-23	20:45	06:36	9.8
51.8101_-8.9618	24/08/2022	2022-08-23	20:45	06:36	9.8
51.8223_-8.9506	24/08/2022	2022-08-23	20:45	06:36	9.8
51.8101_-8.9618	23/08/2022	2022-08-23	20:45	06:36	9.8
51.8186_-8.955	23/08/2022	2022-08-23	20:45	06:36	9.8
51.8223_-8.9506	24/08/2022	2022-08-24	20:43	06:37	9.9
51.8223_-8.9506	25/08/2022	2022-08-24	20:43	06:37	9.9
51.8217_-8.9572	24/08/2022	2022-08-24	20:43	06:37	9.9
51.8217_-8.9572	25/08/2022	2022-08-24	20:43	06:37	9.9
51.8166_-8.9607	25/08/2022	2022-08-24	20:43	06:37	9.9
51.8166_-8.9607	24/08/2022	2022-08-24	20:43	06:37	9.9
51.8101_-8.9618	24/08/2022	2022-08-24	20:43	06:37	9.9
51.8135_-8.9626	25/08/2022	2022-08-24	20:43	06:37	9.9
51.8101_-8.9618	25/08/2022	2022-08-24	20:43	06:37	9.9
51.8186_-8.955	24/08/2022	2022-08-24	20:43	06:37	9.9
51.8135_-8.9626	24/08/2022	2022-08-24	20:43	06:37	9.9
51.8135_-8.9626	25/08/2022	2022-08-25	20:41	06:39	10.0
51.8223_-8.9506	26/08/2022	2022-08-25	20:41	06:39	10.0

Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8101_-8.9618	25/08/2022	2022-08-25	20:41	06:39	10.0
51.8223_-8.9506	25/08/2022	2022-08-25	20:41	06:39	10.0
51.8217_-8.9572	25/08/2022	2022-08-25	20:41	06:39	10.0
51.8217_-8.9572	26/08/2022	2022-08-25	20:41	06:39	10.0
51.8166_-8.9607	25/08/2022	2022-08-25	20:41	06:39	10.0
51.8166_-8.9607	26/08/2022	2022-08-25	20:41	06:39	10.0
51.8135_-8.9626	26/08/2022	2022-08-25	20:41	06:39	10.0
51.8101_-8.9618	26/08/2022	2022-08-25	20:41	06:39	10.0
51.8223_-8.9506	26/08/2022	2022-08-26	20:39	06:40	10.0
51.8217_-8.9572	26/08/2022	2022-08-26	20:39	06:40	10.0
51.8217_-8.9572	27/08/2022	2022-08-26	20:39	06:40	10.0
51.8166_-8.9607	27/08/2022	2022-08-26	20:39	06:40	10.0
51.8135_-8.9626	27/08/2022	2022-08-26	20:39	06:40	10.0
51.8135_-8.9626	26/08/2022	2022-08-26	20:39	06:40	10.0
51.8223_-8.9506	27/08/2022	2022-08-26	20:39	06:40	10.0
51.8186_-8.955	26/08/2022	2022-08-26	20:39	06:40	10.0
51.8166_-8.9607	26/08/2022	2022-08-26	20:39	06:40	10.0
51.8101_-8.9618	26/08/2022	2022-08-26	20:39	06:40	10.0
51.8101_-8.9618	27/08/2022	2022-08-26	20:39	06:40	10.0
51.8186_-8.955	27/08/2022	2022-08-26	20:39	06:40	10.0
51.8223_-8.9506	28/08/2022	2022-08-27	20:36	06:42	10.1
51.8223_-8.9506	27/08/2022	2022-08-27	20:36	06:42	10.1
51.8217_-8.9572	27/08/2022	2022-08-27	20:36	06:42	10.1
51.8217_-8.9572	28/08/2022	2022-08-27	20:36	06:42	10.1
51.8166_-8.9607	28/08/2022	2022-08-27	20:36	06:42	10.1
51.8166_-8.9607	27/08/2022	2022-08-27	20:36	06:42	10.1
51.8135_-8.9626	28/08/2022	2022-08-27	20:36	06:42	10.1
51.8101_-8.9618	28/08/2022	2022-08-27	20:36	06:42	10.1
51.8186_-8.955	28/08/2022	2022-08-27	20:36	06:42	10.1
51.8135_-8.9626	27/08/2022	2022-08-27	20:36	06:42	10.1
51.8101_-8.9618	27/08/2022	2022-08-27	20:36	06:42	10.1
51.8186_-8.955	27/08/2022	2022-08-27	20:36	06:42	10.1
51.8223_-8.9506	28/08/2022	2022-08-28	20:34	06:44	10.2
51.8223_-8.9506	29/08/2022	2022-08-28	20:34	06:44	10.2
51.8217_-8.9572	29/08/2022	2022-08-28	20:34	06:44	10.2
51.8217_-8.9572	28/08/2022	2022-08-28	20:34	06:44	10.2
51.8166_-8.9607	28/08/2022	2022-08-28	20:34	06:44	10.2
51.8166_-8.9607	29/08/2022	2022-08-28	20:34	06:44	10.2
51.8135_-8.9626	29/08/2022	2022-08-28	20:34	06:44	10.2
51.8135_-8.9626	28/08/2022	2022-08-28	20:34	06:44	10.2
51.8101_-8.9618	28/08/2022	2022-08-28	20:34	06:44	10.2
51.8101_-8.9618	29/08/2022	2022-08-28	20:34	06:44	10.2
51.8223_-8.9506	29/08/2022	2022-08-29	20:32	06:45	10.2
51.8217_-8.9572	29/08/2022	2022-08-29	20:32	06:45	10.2
51.8166_-8.9607	29/08/2022	2022-08-29	20:32	06:45	10.2
51.8166_-8.9607	30/08/2022	2022-08-29	20:32	06:45	10.2
51.8135_-8.9626	29/08/2022	2022-08-29	20:32	06:45	10.2
51.8101_-8.9618	30/08/2022	2022-08-29	20:32	06:45	10.2
51.8217_-8.9572	30/08/2022	2022-08-29	20:32	06:45	10.2
51.8135_-8.9626	30/08/2022	2022-08-29	20:32	06:45	10.2
51.8223_-8.9506	30/08/2022	2022-08-29	20:32	06:45	10.2
51.8101_-8.9618	29/08/2022	2022-08-29	20:32	06:45	10.2
51.8186_-8.955	30/08/2022	2022-08-29	20:32	06:45	10.2
51.8186_-8.955	29/08/2022	2022-08-29	20:32	06:45	10.2
51.8223_-8.9506	31/08/2022	2022-08-30	20:30	06:47	10.3
51.8217_-8.9572	31/08/2022	2022-08-30	20:30	06:47	10.3

Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8166_-8.9607	31/08/2022	2022-08-30	20:30	06:47	10.3
51.8217_-8.9572	30/08/2022	2022-08-30	20:30	06:47	10.3
51.8101_-8.9618	31/08/2022	2022-08-30	20:30	06:47	10.3
51.8223_-8.9506	30/08/2022	2022-08-30	20:30	06:47	10.3
51.8166_-8.9607	30/08/2022	2022-08-30	20:30	06:47	10.3
51.8186_-8.955	30/08/2022	2022-08-30	20:30	06:47	10.3
51.8101_-8.9618	30/08/2022	2022-08-30	20:30	06:47	10.3
51.8186_-8.955	31/08/2022	2022-08-30	20:30	06:47	10.3
51.8223_-8.9506	01/09/2022	2022-08-31	20:28	06:49	10.3
51.8217_-8.9572	01/09/2022	2022-08-31	20:28	06:49	10.3
51.8217_-8.9572	31/08/2022	2022-08-31	20:28	06:49	10.3
51.8166_-8.9607	31/08/2022	2022-08-31	20:28	06:49	10.3
51.8223_-8.9506	31/08/2022	2022-08-31	20:28	06:49	10.3
51.8166_-8.9607	01/09/2022	2022-08-31	20:28	06:49	10.3
51.8101_-8.9618	31/08/2022	2022-08-31	20:28	06:49	10.3
51.8186_-8.955	31/08/2022	2022-08-31	20:28	06:49	10.3
51.8223_-8.9506	02/09/2022	2022-09-01	20:25	06:50	10.4
51.8223_-8.9506	01/09/2022	2022-09-01	20:25	06:50	10.4
51.8217_-8.9572	02/09/2022	2022-09-01	20:25	06:50	10.4
51.8217_-8.9572	01/09/2022	2022-09-01	20:25	06:50	10.4
51.8166_-8.9607	02/09/2022	2022-09-01	20:25	06:50	10.4
51.8166_-8.9607	01/09/2022	2022-09-01	20:25	06:50	10.4
51.8101_-8.9618	02/09/2022	2022-09-01	20:25	06:50	10.4
51.8186_-8.955	01/09/2022	2022-09-01	20:25	06:50	10.4
51.8223_-8.9506	03/09/2022	2022-09-02	20:23	06:52	10.5
51.8223_-8.9506	02/09/2022	2022-09-02	20:23	06:52	10.5
51.8217_-8.9572	02/09/2022	2022-09-02	20:23	06:52	10.5
51.8217_-8.9572	03/09/2022	2022-09-02	20:23	06:52	10.5
51.8166_-8.9607	03/09/2022	2022-09-02	20:23	06:52	10.5
51.8166_-8.9607	02/09/2022	2022-09-02	20:23	06:52	10.5
51.8223_-8.9506	03/09/2022	2022-09-03	20:21	06:53	10.5
51.8223_-8.9506	04/09/2022	2022-09-03	20:21	06:53	10.5
51.8166_-8.9607	03/09/2022	2022-09-03	20:21	06:53	10.5
51.8217_-8.9572	03/09/2022	2022-09-03	20:21	06:53	10.5
51.8217_-8.9572	04/09/2022	2022-09-03	20:21	06:53	10.5
51.8166_-8.9607	04/09/2022	2022-09-03	20:21	06:53	10.5
51.8186_-8.955	03/09/2022	2022-09-03	20:21	06:53	10.5
51.8223_-8.9506	05/09/2022	2022-09-04	20:19	06:55	10.6
51.8223_-8.9506	04/09/2022	2022-09-04	20:19	06:55	10.6
51.8166_-8.9607	05/09/2022	2022-09-04	20:19	06:55	10.6
51.8135_-8.9626	06/09/2022	2022-09-06	20:14	06:58	10.7
51.8101_-8.9618	07/09/2022	2022-09-06	20:14	06:58	10.7
51.8101_-8.9618	06/09/2022	2022-09-06	20:14	06:58	10.7
51.8135_-8.9626	07/09/2022	2022-09-07	20:12	07:00	10.8
51.8101_-8.9618	07/09/2022	2022-09-07	20:12	07:00	10.8
51.8101_-8.9618	08/09/2022	2022-09-07	20:12	07:00	10.8
51.8135_-8.9626	09/09/2022	2022-09-08	20:09	07:01	10.9
51.8135_-8.9626	08/09/2022	2022-09-08	20:09	07:01	10.9
51.8101_-8.9618	08/09/2022	2022-09-08	20:09	07:01	10.9
51.8101_-8.9618	09/09/2022	2022-09-08	20:09	07:01	10.9
51.8135_-8.9626	10/09/2022	2022-09-09	20:07	07:03	10.9
51.8101_-8.9618	09/09/2022	2022-09-09	20:07	07:03	10.9
51.8101_-8.9618	10/09/2022	2022-09-09	20:07	07:03	10.9
51.8135_-8.9626	09/09/2022	2022-09-09	20:07	07:03	10.9
51.8135_-8.9626	10/09/2022	2022-09-10	20:05	07:05	11.0
51.8135_-8.9626	11/09/2022	2022-09-10	20:05	07:05	11.0

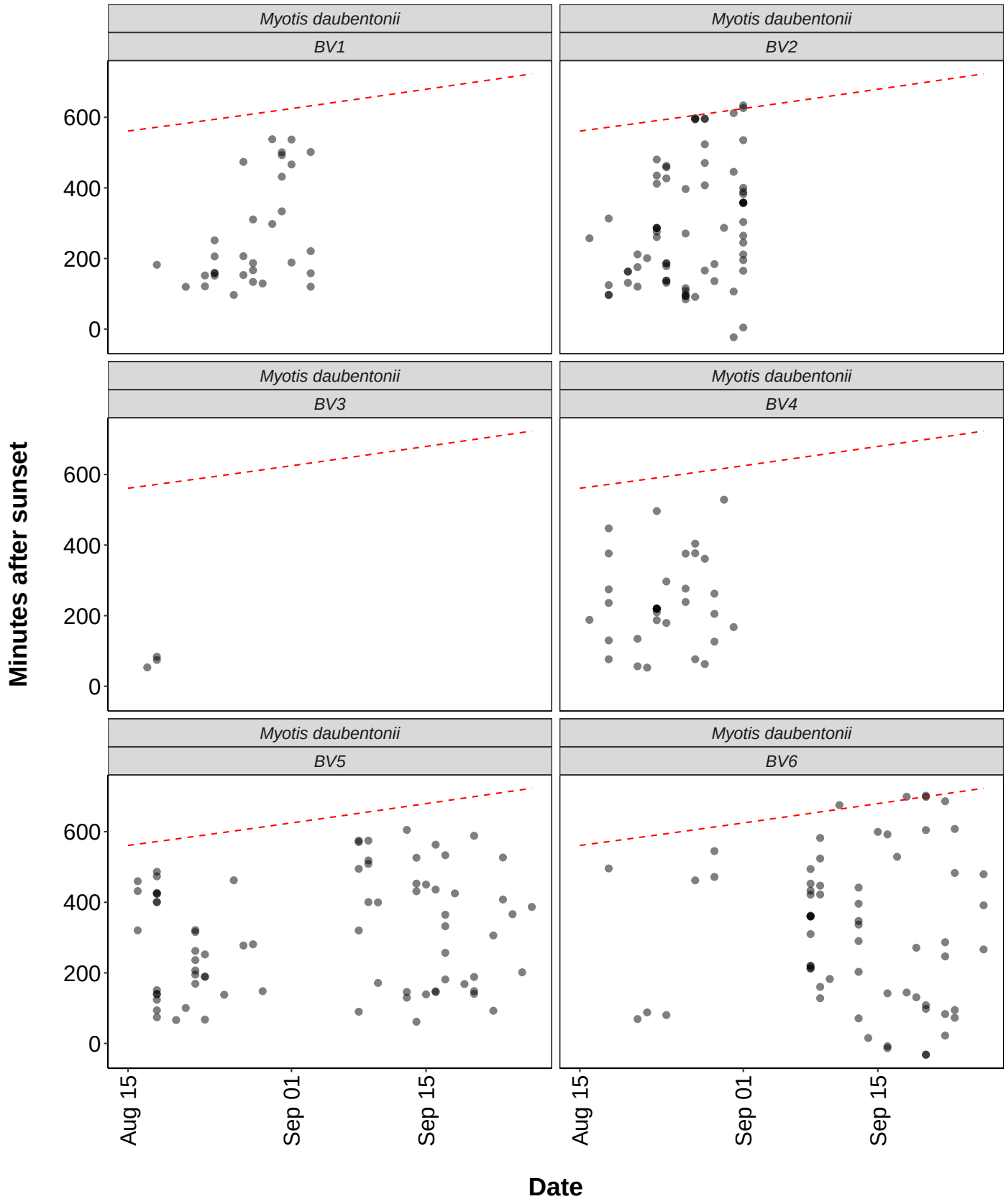
Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8101_-8.9618	10/09/2022	2022-09-10	20:05	07:05	11.0
51.8101_-8.9618	11/09/2022	2022-09-10	20:05	07:05	11.0
51.8101_-8.9618	12/09/2022	2022-09-11	20:02	07:06	11.1
51.8135_-8.9626	11/09/2022	2022-09-11	20:02	07:06	11.1
51.8135_-8.9626	12/09/2022	2022-09-11	20:02	07:06	11.1
51.8101_-8.9618	11/09/2022	2022-09-11	20:02	07:06	11.1
51.8101_-8.9618	13/09/2022	2022-09-12	20:00	07:08	11.1
51.8101_-8.9618	12/09/2022	2022-09-12	20:00	07:08	11.1
51.8135_-8.9626	12/09/2022	2022-09-12	20:00	07:08	11.1
51.8135_-8.9626	14/09/2022	2022-09-13	19:58	07:09	11.2
51.8135_-8.9626	13/09/2022	2022-09-13	19:58	07:09	11.2
51.8101_-8.9618	13/09/2022	2022-09-13	19:58	07:09	11.2
51.8101_-8.9618	14/09/2022	2022-09-13	19:58	07:09	11.2
51.8135_-8.9626	14/09/2022	2022-09-14	19:55	07:11	11.3
51.8135_-8.9626	15/09/2022	2022-09-14	19:55	07:11	11.3
51.8101_-8.9618	14/09/2022	2022-09-14	19:55	07:11	11.3
51.8101_-8.9618	15/09/2022	2022-09-14	19:55	07:11	11.3
51.8135_-8.9626	16/09/2022	2022-09-15	19:53	07:13	11.3
51.8135_-8.9626	15/09/2022	2022-09-15	19:53	07:13	11.3
51.8101_-8.9618	16/09/2022	2022-09-15	19:53	07:13	11.3
51.8101_-8.9618	15/09/2022	2022-09-15	19:53	07:13	11.3
51.8135_-8.9626	16/09/2022	2022-09-16	19:51	07:14	11.4
51.8135_-8.9626	17/09/2022	2022-09-16	19:51	07:14	11.4
51.8101_-8.9618	16/09/2022	2022-09-16	19:51	07:14	11.4
51.8101_-8.9618	17/09/2022	2022-09-16	19:51	07:14	11.4
51.8135_-8.9626	18/09/2022	2022-09-17	19:48	07:16	11.5
51.8135_-8.9626	17/09/2022	2022-09-17	19:48	07:16	11.5
51.8101_-8.9618	18/09/2022	2022-09-17	19:48	07:16	11.5
51.8101_-8.9618	17/09/2022	2022-09-17	19:48	07:16	11.5
51.8135_-8.9626	19/09/2022	2022-09-18	19:46	07:17	11.5
51.8101_-8.9618	18/09/2022	2022-09-18	19:46	07:17	11.5
51.8101_-8.9618	19/09/2022	2022-09-18	19:46	07:17	11.5
51.8135_-8.9626	18/09/2022	2022-09-18	19:46	07:17	11.5
51.8135_-8.9626	19/09/2022	2022-09-19	19:44	07:19	11.6
51.8101_-8.9618	19/09/2022	2022-09-19	19:44	07:19	11.6
51.8101_-8.9618	20/09/2022	2022-09-19	19:44	07:19	11.6
51.8135_-8.9626	20/09/2022	2022-09-19	19:44	07:19	11.6
51.8135_-8.9626	21/09/2022	2022-09-20	19:41	07:21	11.7
51.8135_-8.9626	20/09/2022	2022-09-20	19:41	07:21	11.7
51.8101_-8.9618	20/09/2022	2022-09-20	19:41	07:21	11.7
51.8101_-8.9618	21/09/2022	2022-09-20	19:41	07:21	11.7
51.8101_-8.9618	21/09/2022	2022-09-21	19:39	07:22	11.7
51.8135_-8.9626	21/09/2022	2022-09-21	19:39	07:22	11.7
51.8101_-8.9618	22/09/2022	2022-09-21	19:39	07:22	11.7
51.8135_-8.9626	22/09/2022	2022-09-22	19:37	07:24	11.8
51.8135_-8.9626	23/09/2022	2022-09-22	19:37	07:24	11.8
51.8101_-8.9618	22/09/2022	2022-09-22	19:37	07:24	11.8
51.8101_-8.9618	23/09/2022	2022-09-22	19:37	07:24	11.8
51.8135_-8.9626	24/09/2022	2022-09-23	19:34	07:26	11.9
51.8101_-8.9618	23/09/2022	2022-09-23	19:34	07:26	11.9
51.8101_-8.9618	24/09/2022	2022-09-23	19:34	07:26	11.9
51.8135_-8.9626	23/09/2022	2022-09-23	19:34	07:26	11.9
51.8135_-8.9626	25/09/2022	2022-09-24	19:32	07:27	11.9
51.8101_-8.9618	24/09/2022	2022-09-24	19:32	07:27	11.9
51.8135_-8.9626	24/09/2022	2022-09-24	19:32	07:27	11.9
51.8101_-8.9618	25/09/2022	2022-09-24	19:32	07:27	11.9

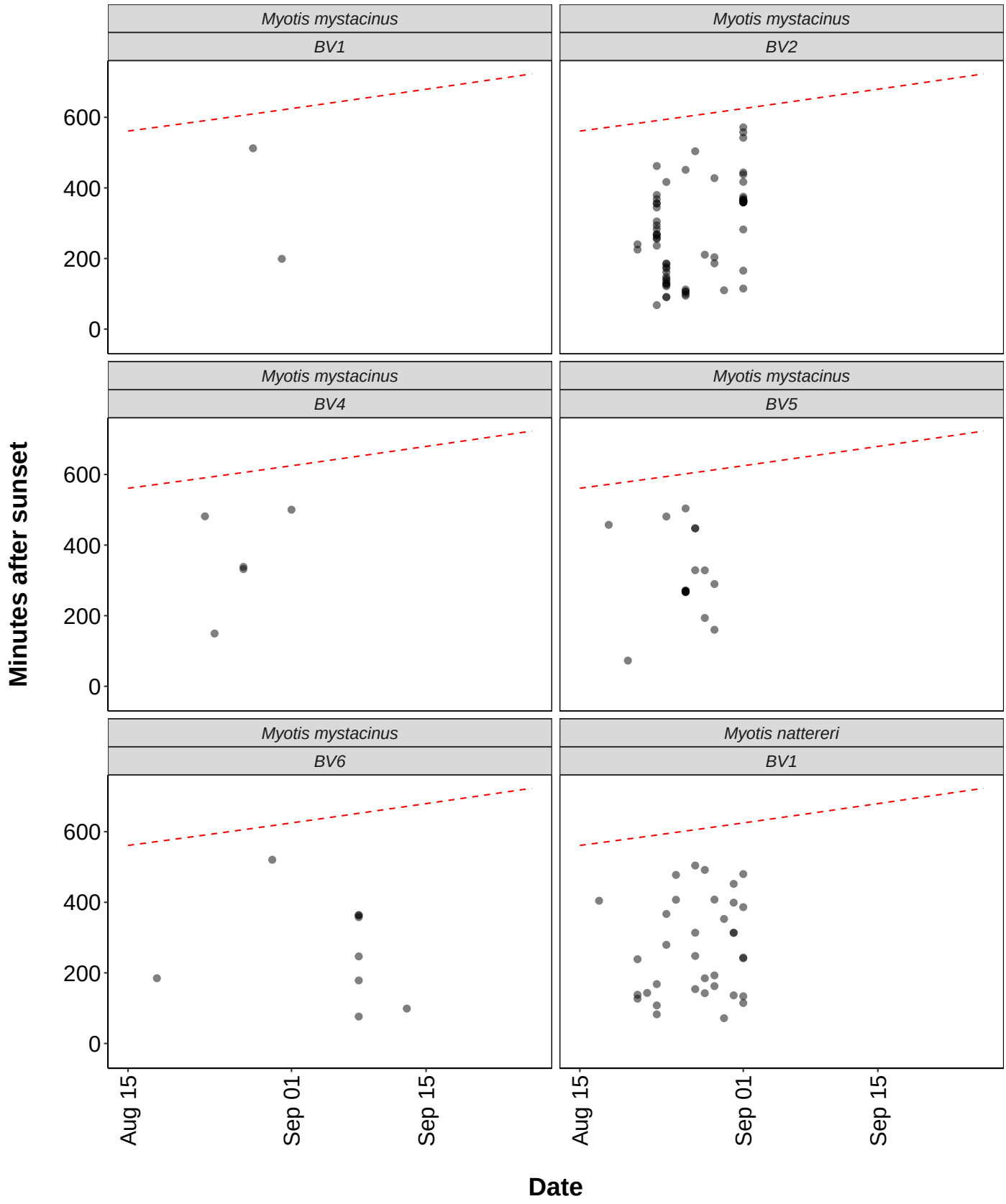
Latitude and Longitude	Date	Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)
51.8135_-8.9626	25/09/2022	2022-09-25	19:30	07:29	12.0
51.8135_-8.9626	26/09/2022	2022-09-25	19:30	07:29	12.0
51.8101_-8.9618	25/09/2022	2022-09-25	19:30	07:29	12.0
51.8135_-8.9626	27/09/2022	2022-09-26	19:27	07:30	12.1
51.8101_-8.9618	27/09/2022	2022-09-26	19:27	07:30	12.1
51.8101_-8.9618	26/09/2022	2022-09-26	19:27	07:30	12.1
51.8135_-8.9626	26/09/2022	2022-09-26	19:27	07:30	12.1

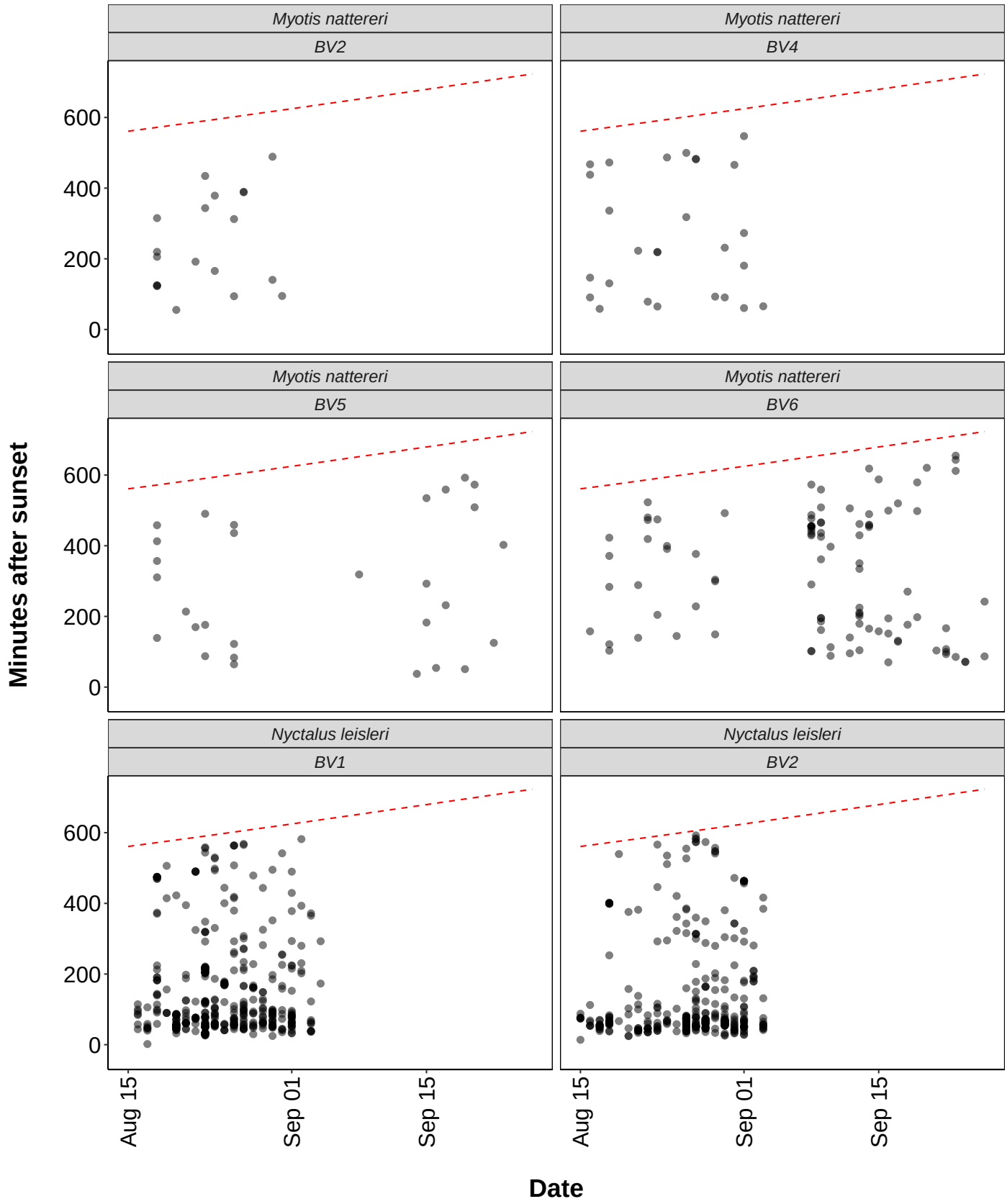
Distribution of Bat Activity Across the Night through Time

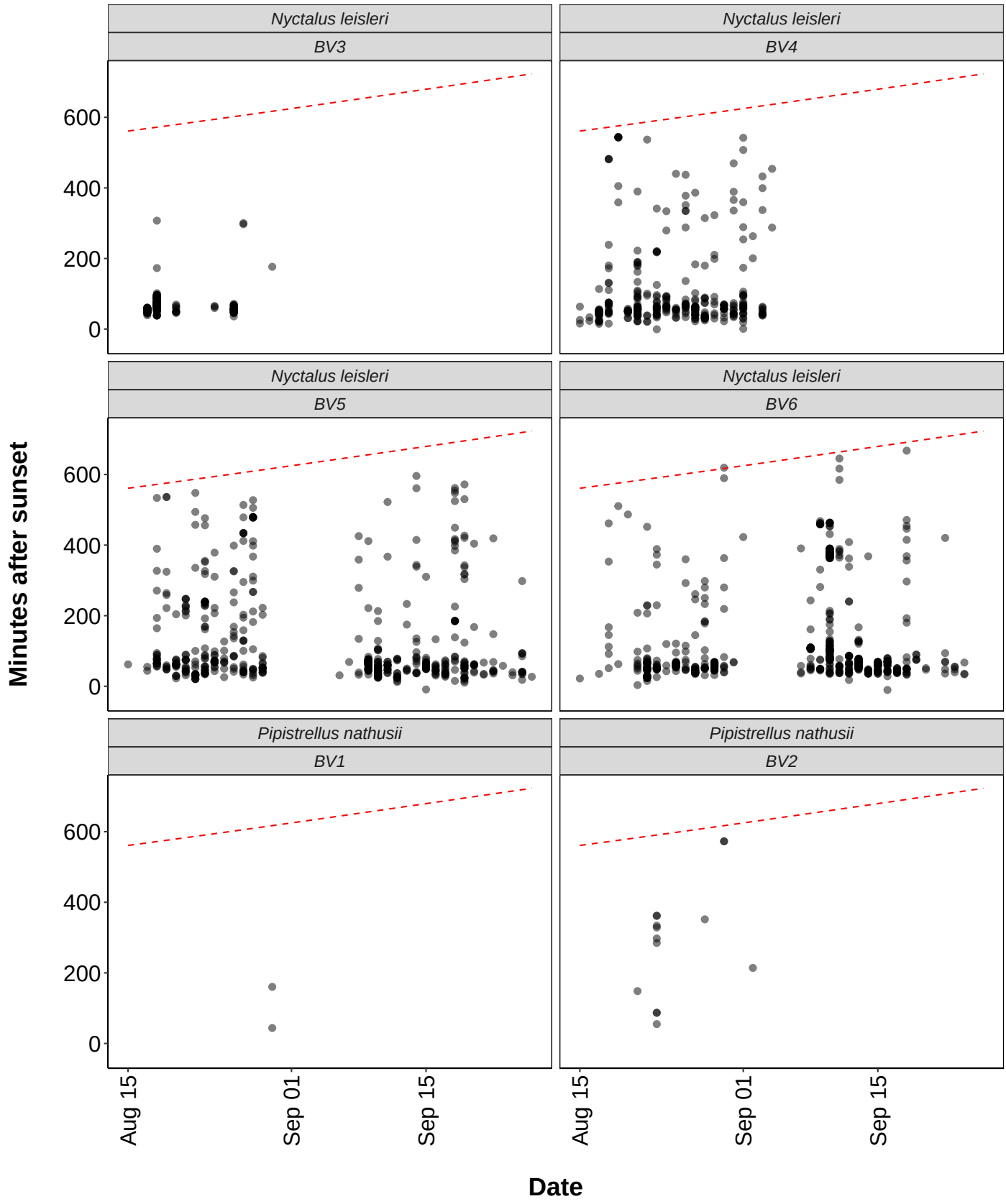
Per Detector

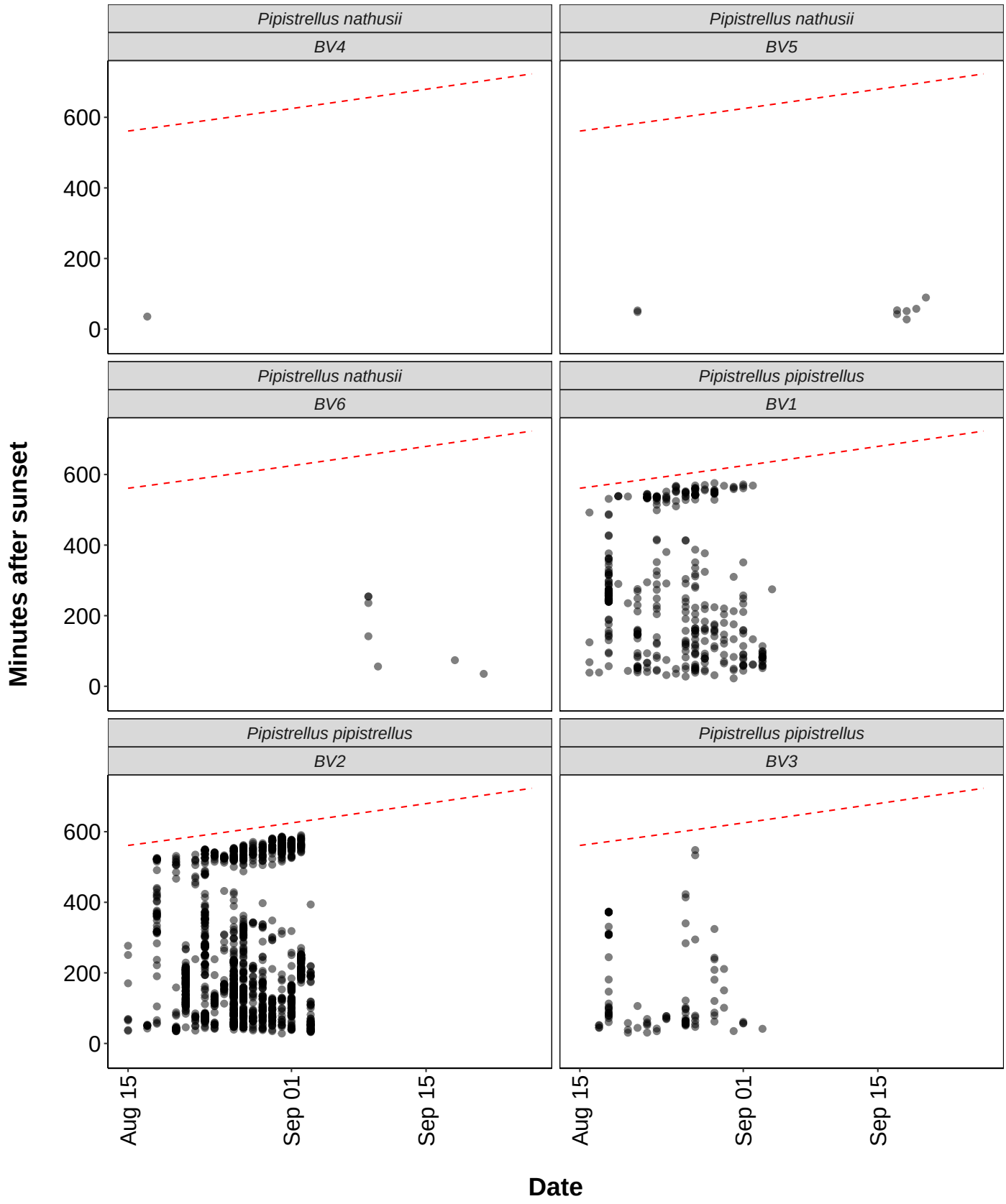
Figure 7. Timing of bat calls plotted as minutes before/after sunset, whereby 0 on the y axis represents sunset. Sunrise throughout the survey period is depicted as the red dashed line. Colours indicate kernel densities, with darkest colours showing peaks of activity. These colours are comparative only within each plot, and do not account for overall activity.

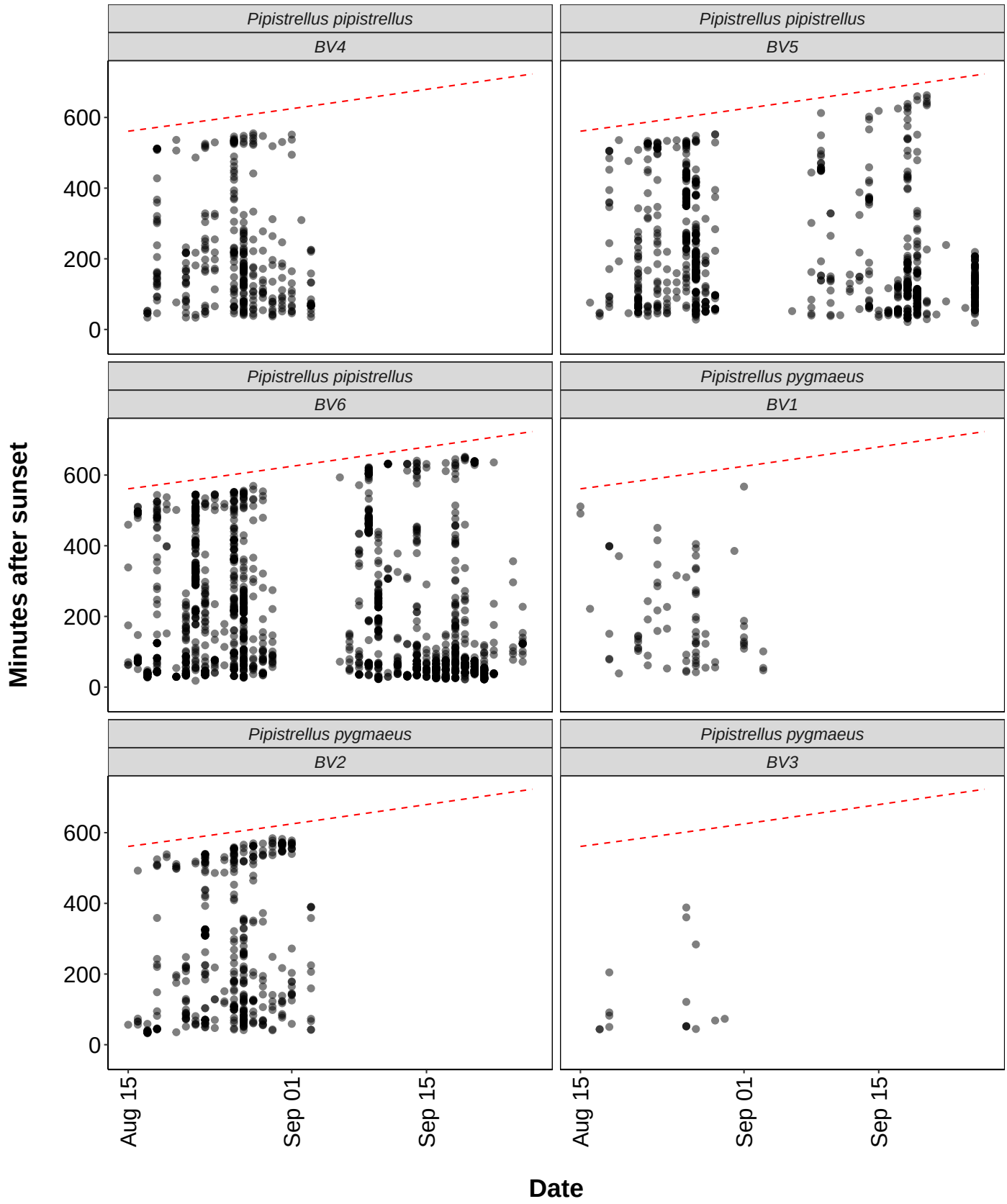

Myotis daubentonii
BV1
Myotis daubentonii
BV2
Myotis daubentonii
BV3
Myotis daubentonii
BV4
Myotis daubentonii
BV5
Myotis daubentonii
BV6
Minutes after sunset
0
200
400
600
Aug 15
Sep 01
Sep 15
Date

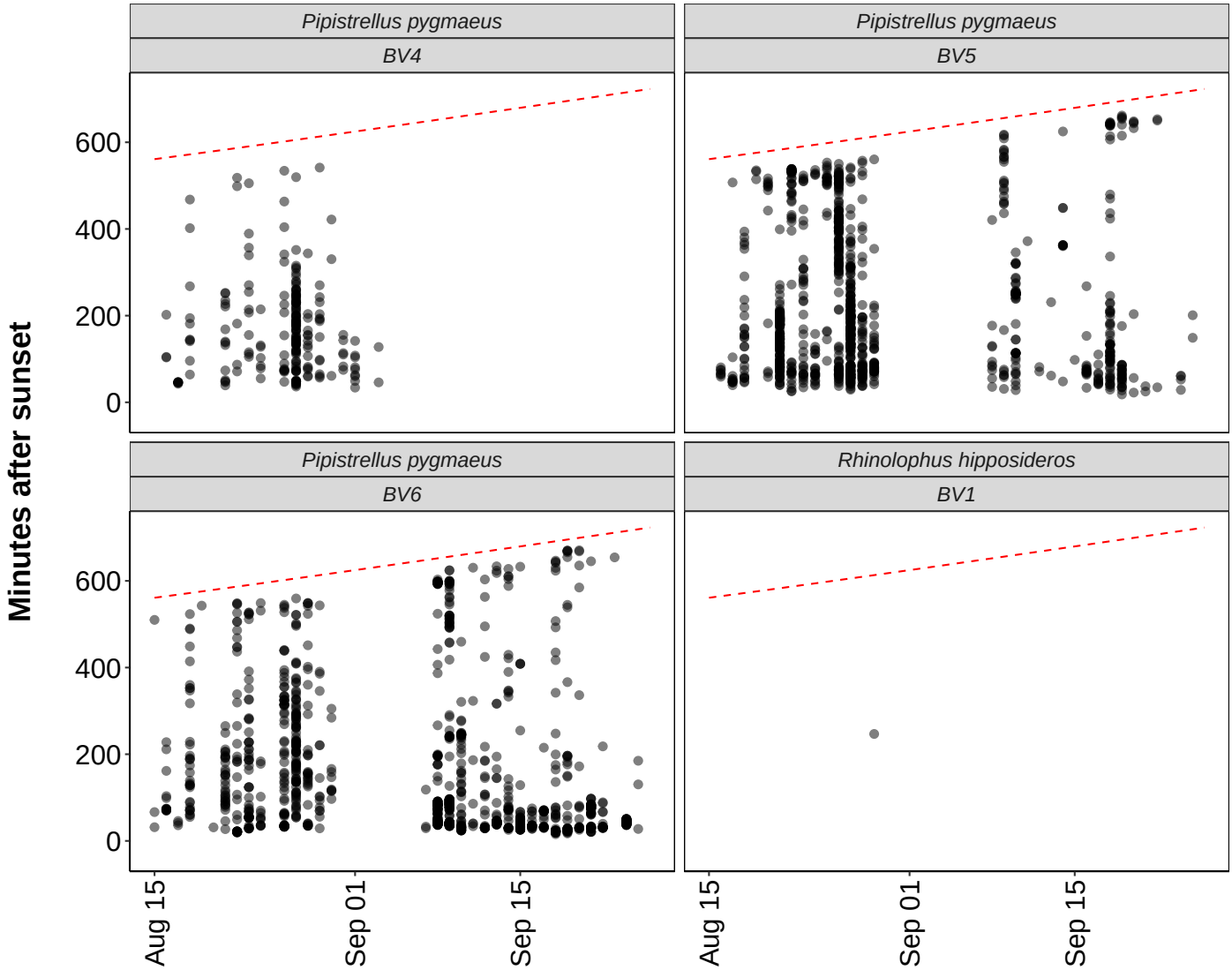

Myotis mystacinus
BV1
Myotis mystacinus
BV2
Myotis mystacinus
BV4
Myotis mystacinus
BV5
Myotis mystacinus
BV6
Myotis nattereri
BV1
Minutes after sunset
0
200
400
600
Aug 15
Sep 01
Sep 15
Date


Myotis nattereri
BV2
Myotis nattereri
BV4
Myotis nattereri
BV5
Myotis nattereri
BV6
Nyctalus leisleri
BV1
Nyctalus leisleri
BV2
Minutes after sunset
0
200
400
600
Aug 15
Sep 01
Sep 15
Date


Nyctalus leisleri
BV3
Nyctalus leisleri
BV4
Nyctalus leisleri
BV5
Nyctalus leisleri
BV6
Pipistrellus nathusii
BV1
Pipistrellus nathusii
BV2
Minutes after sunset
0
200
400
600
Aug 15
Sep 01
Sep 15
Date


Pipistrellus nathusii
BV4
Pipistrellus nathusii
BV5
Pipistrellus nathusii
BV6
Pipistrellus pipistrellus
BV1
Pipistrellus pipistrellus
BV2
Pipistrellus pipistrellus
BV3
Minutes after sunset
0
200
400
600
Aug 15
Sep 01
Sep 15
Date


Pipistrellus pipistrellus
BV4
Pipistrellus pipistrellus
BV5
Pipistrellus pipistrellus
BV6
Pipistrellus pygmaeus
BV1
Pipistrellus pygmaeus
BV2
Pipistrellus pygmaeus
BV3
Minutes after sunset
0
200
400
600
Aug 15
Sep 01
Sep 15
Date


Pipistrellus pygmaeus
BV4
Pipistrellus pygmaeus
BV5
Pipistrellus pygmaeus
BV6
Rhinolophus hipposideros
BV1
Minutes after sunset
0
200
400
600
Aug 15
Sep 01
Sep 15
Date

Roost Emergence Time and Bat Observation

Based on: *Russ, Jon. 2012. British Bat Calls a Guide to species Identification. Pelagic Publishing.*

For more information see https://rbats-blog.updog.co/2018/05/29/bat-emergence/

Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012) - Table

Table 12. Number of bat calls recorded before the upper time of the species-specific emergence time range, and which therefore may potentially indicate the presence of a nearby roost.

Table 12: Table continues below

Species	Detector ID	2022-08-15	2022-08-17	2022-08-18	2022-08-20	2022-08-21
Common pipistrelle	BV1	0	0	0	0	0
Common pipistrelle	BV2	0	0	0	0	0
Common pipistrelle	BV3	0	0	0	1	0
Common pipistrelle	BV5	0	0	0	0	0
Common pipistrelle	BV6	0	10	0	7	1
Soprano pipistrelle	BV5	0	0	0	0	0
Soprano pipistrelle	BV6	0	0	0	0	1
Nathusius'	BV5	0	0	0	0	0
Leisler's	BV1	0	1	0	0	0
Leisler's	BV2	1	0	0	0	0
Leisler's	BV4	1	1	1	0	0
Leisler's	BV5	0	0	0	0	0
Leisler's	BV6	0	0	0	0	1
Daubenton's	BV2	0	0	0	0	0
Daubenton's	BV3	0	1	0	0	0
Daubenton's	BV4	0	0	0	0	1
Daubenton's	BV5	0	0	0	1	0
Daubenton's	BV6	0	0	0	0	1
Natterer's	BV5	0	0	0	0	0

Table 13: Table continues below

2022-08-22	2022-08-23	2022-08-24	2022-08-26	2022-08-27	2022-08-28	2022-08-29
0	0	1	1	0	0	1
0	0	0	0	0	0	0
1	0	0	0	0	0	0
0	0	0	0	1	0	0
1	0	0	4	13	0	0
2	0	0	0	0	0	0
13	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	1	0	0	0	0	0
0	0	0	0	0	0	0
1	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
1	0	0	0	0	1	0
0	1	0	0	0	0	0
0	0	0	0	0	0	0

2022-08-22	2022-08-23	2022-08-24	2022-08-26	2022-08-27	2022-08-28	2022-08-29
0	0	0	0	0	0	0

Table 14: Table continues below

2022-08-31	2022-09-01	2022-09-10	2022-09-11	2022-09-12	2022-09-13	2022-09-14
1	0	0	0	0	0	0
1	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	13	2	0	10	0
0	0	0	0	0	0	0
0	0	7	0	0	0	1
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	1	0	0	0	0	0
0	0	0	0	2	0	0
0	0	0	0	1	0	0
1	1	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	1
0	0	0	0	0	0	1
0	0	0	0	0	0	1

Table 15: Table continues below

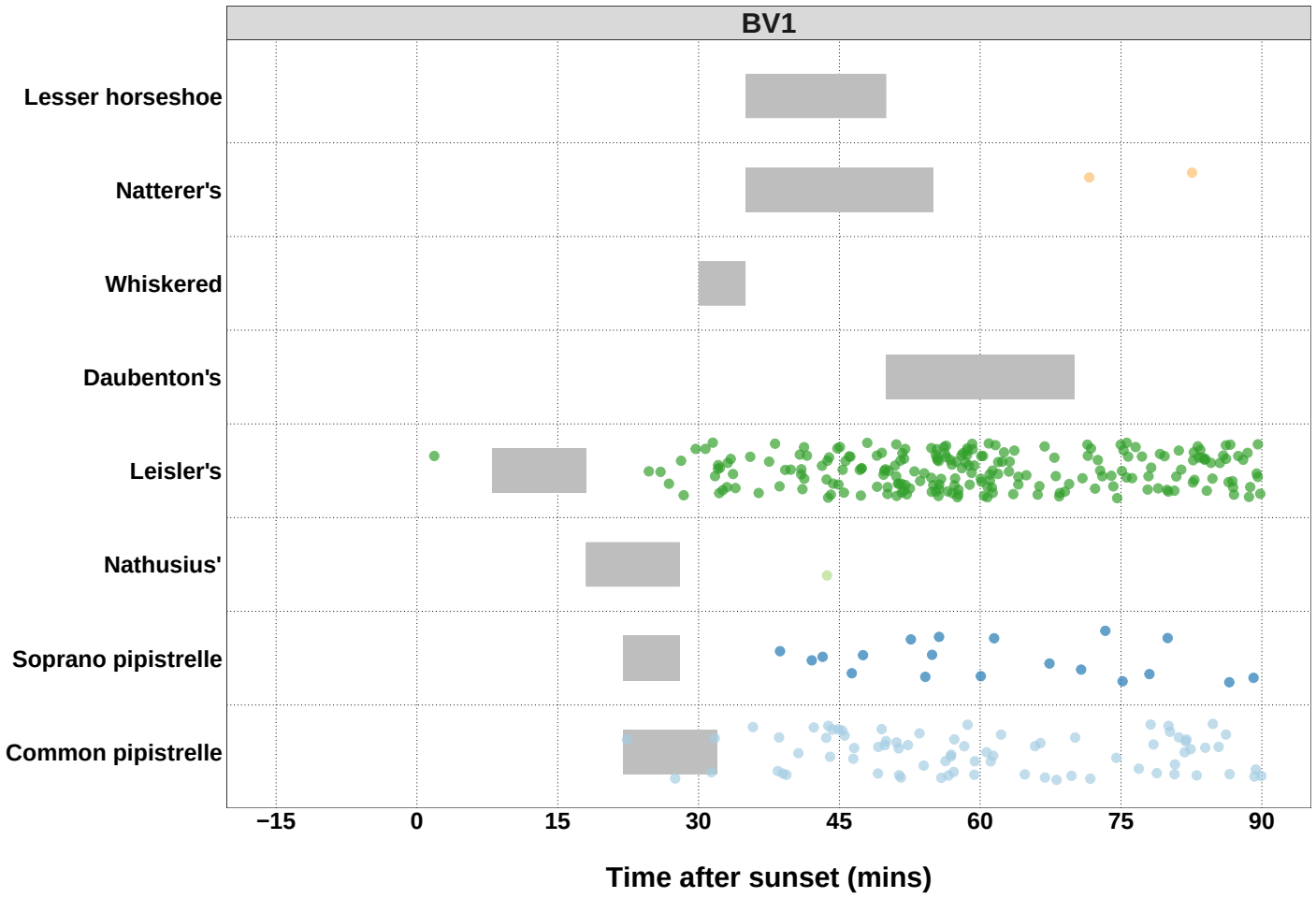
2022-09-15	2022-09-16	2022-09-17	2022-09-18	2022-09-19	2022-09-20	2022-09-21
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	3	0	1	0
5	16	18	8	3	0	32
0	0	0	0	2	1	1
11	1	0	24	27	1	4
0	0	0	1	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
1	0	0	1	2	0	0
0	1	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	2	0	0	0	2	0
0	1	0	0	1	0	0

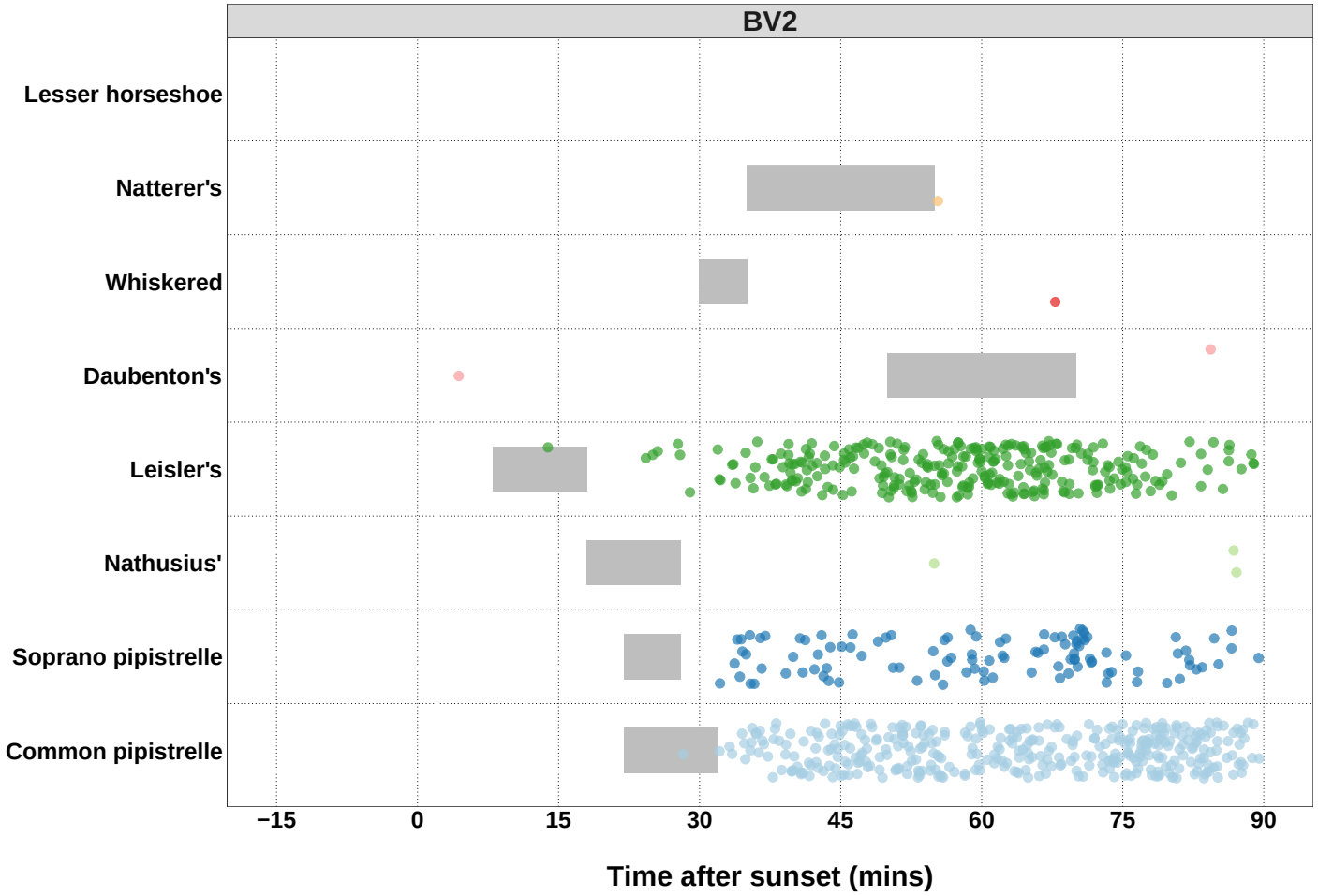
2022-09-22	2022-09-25
0	0
0	0
0	0

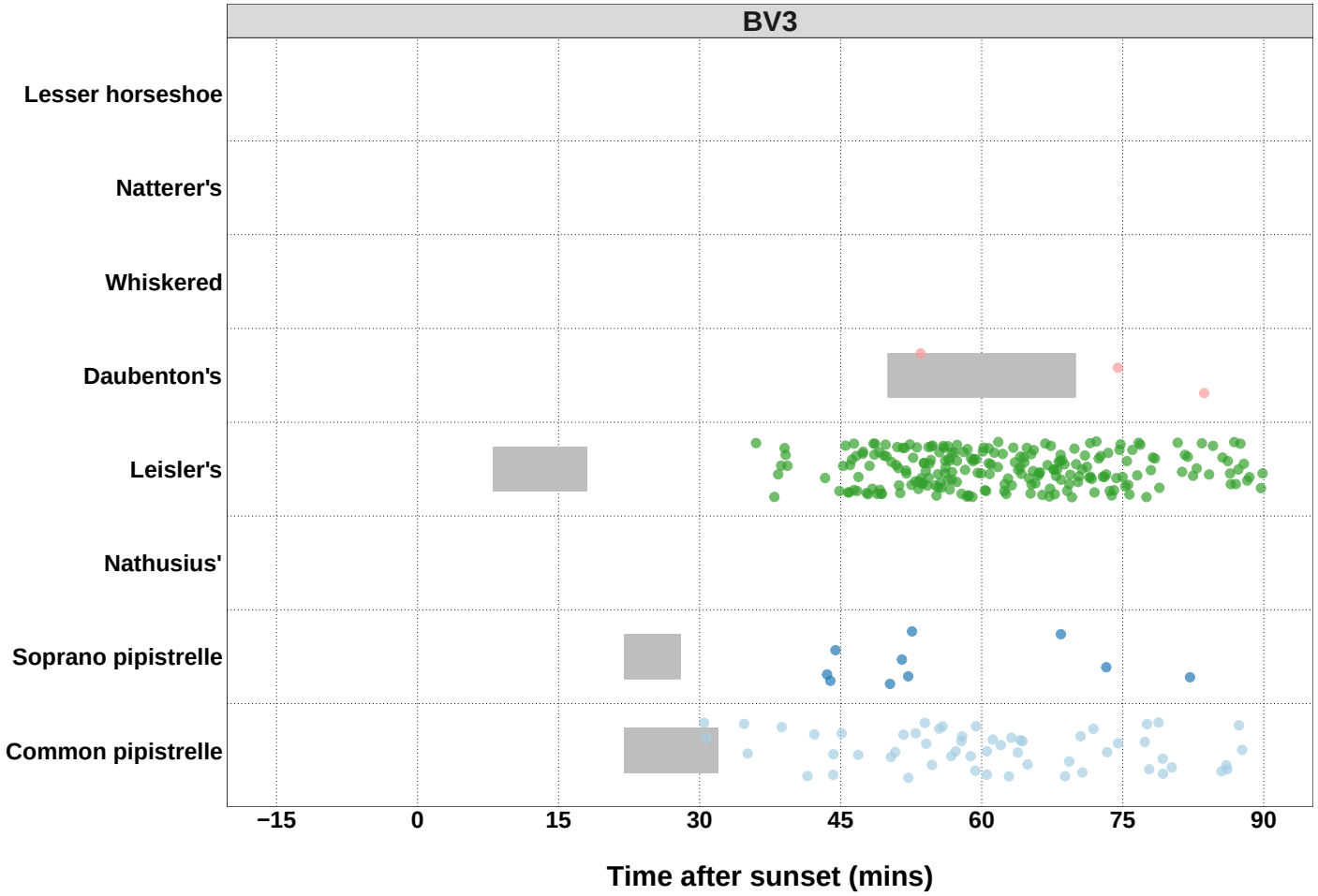
2022-09-22	2022-09-25
0	1
0	0
0	0
0	1
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
1	0
0	0

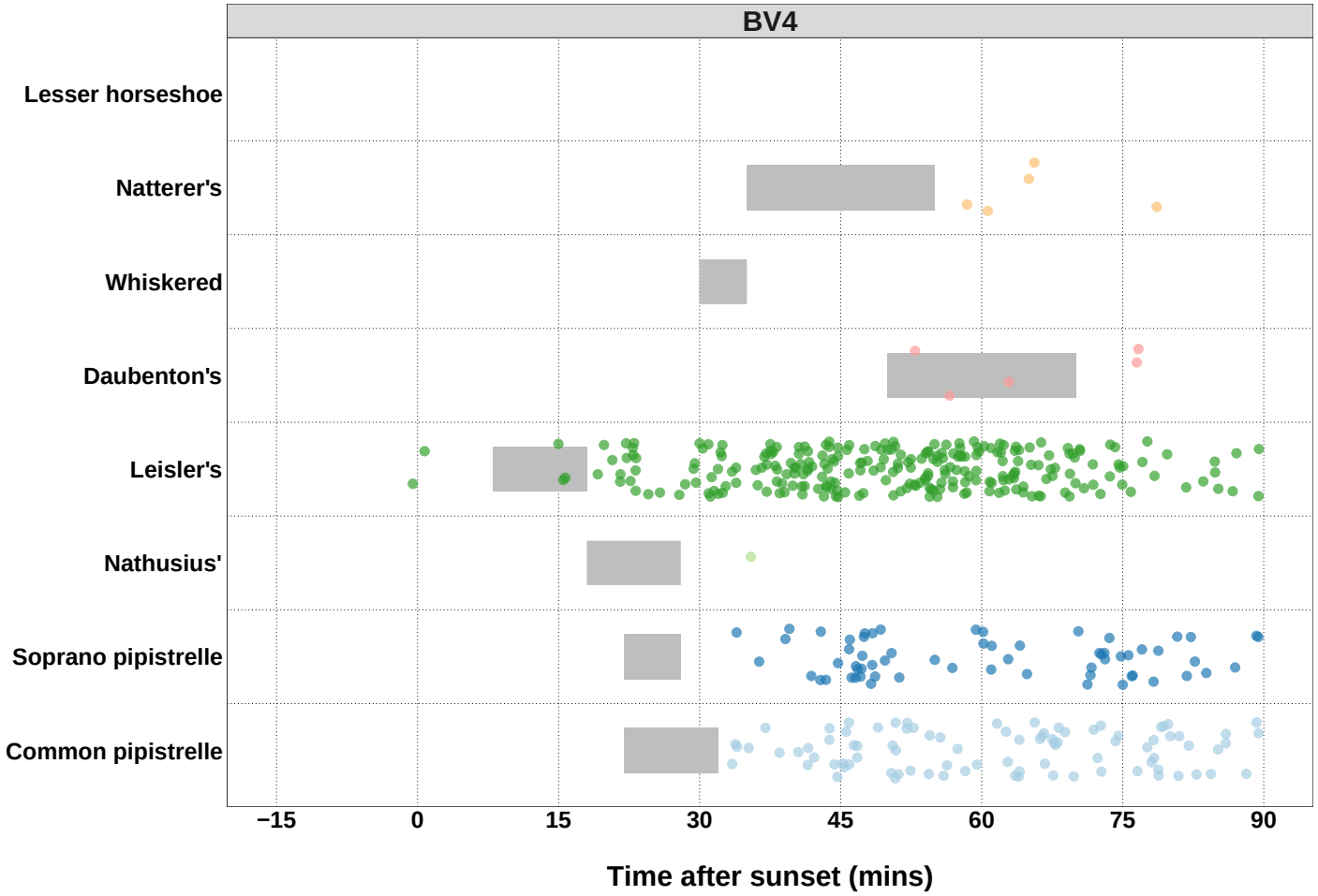
Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012) - Figures

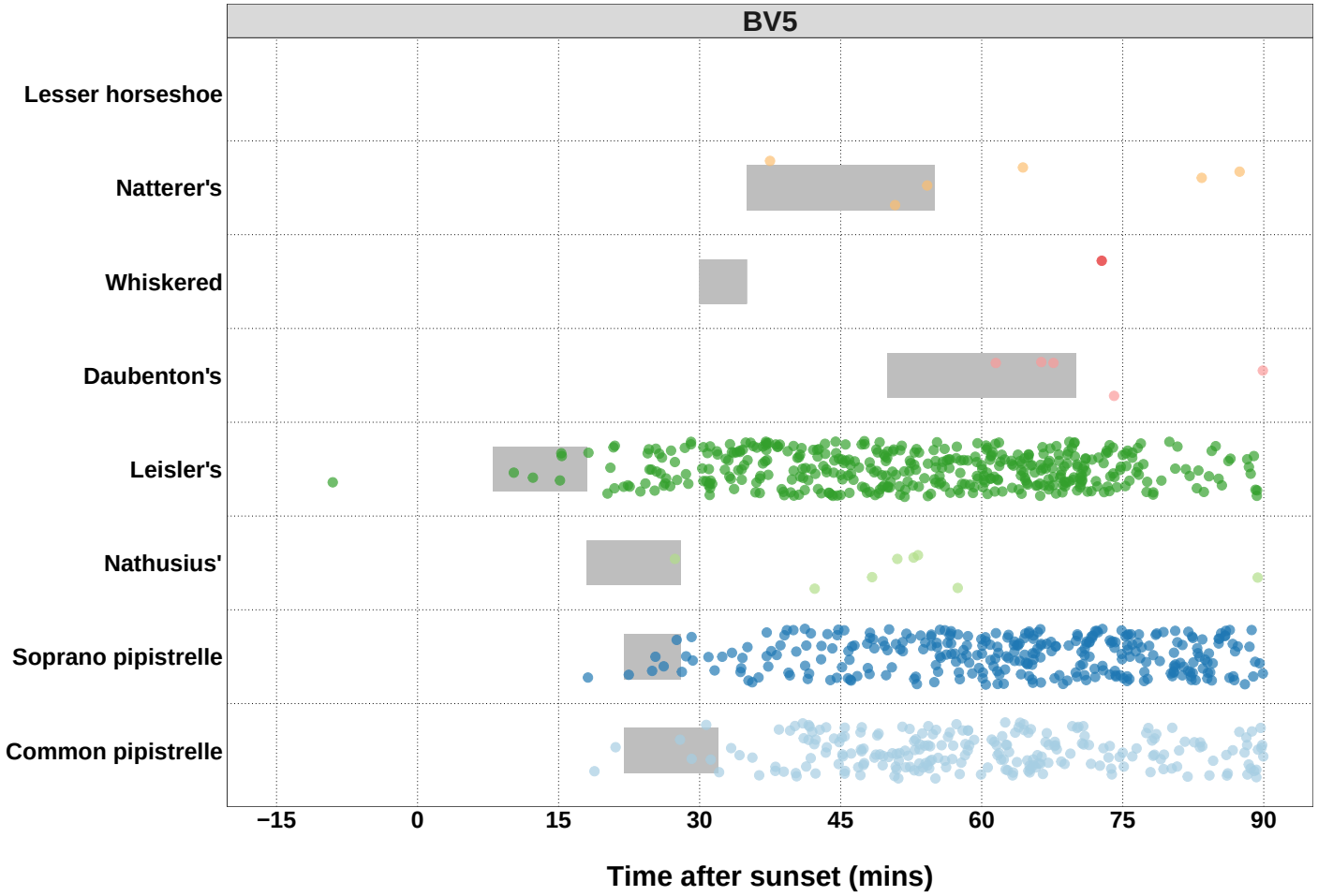
Figure 8. Time from 15 minutes before to 90 minutes after sunset. Species-specific emergence time ranges are shown as grey bars. Bat passes overlapping species-specific grey bars, or occuring earlier than this time range, may potentially indicate the presence of a nearby roost.

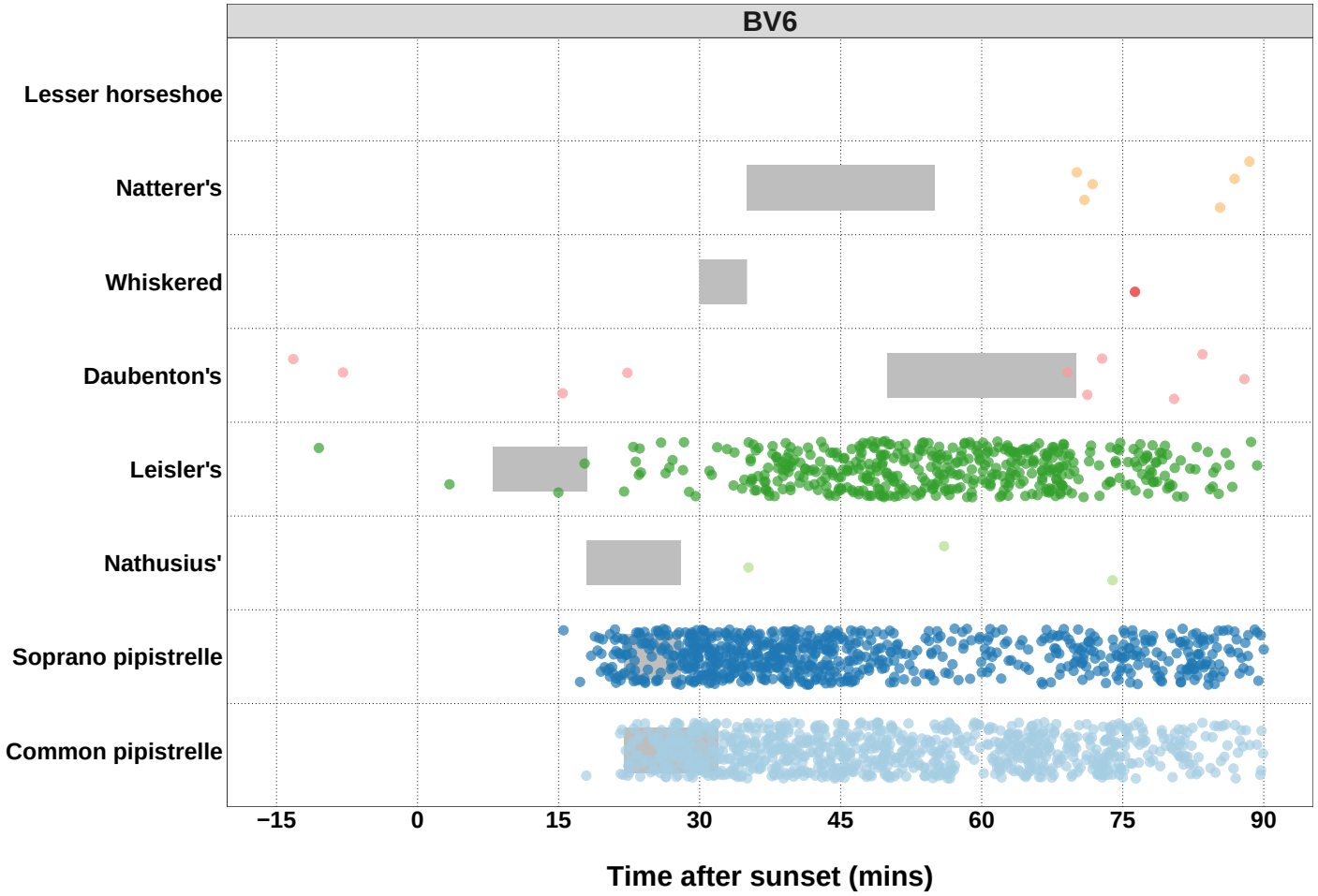



BV2
Lesser horseshoe
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV3
Lesser horseshoe
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV4
Lesser horseshoe
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV5
Lesser horseshoe
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


BV6
Lesser horseshoe
Natterer's
Whiskered
Daubenton's
Leisler's
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

Counts of Bat Passes

All detectors

Table 14. The total number of passes recorded for each species across all of the detectors. The 'Total' percentage may not be exactly 100% due to rounding of the percentages per species.

Species	Passes (No.)	Percentage of total (%)
Common pipistrelle	6725	45.8
Soprano pipistrelle	3852	26.2
Nathusius'	32	0.2
Leisler's	3390	23.1
Daubenton's	325	2.2
Whiskered	135	0.9
Natterer's	232	1.6
Lesser horseshoe	1	0.0
Total	14692	100.0

Page Break

Counts of Bat Passes

Per Detector

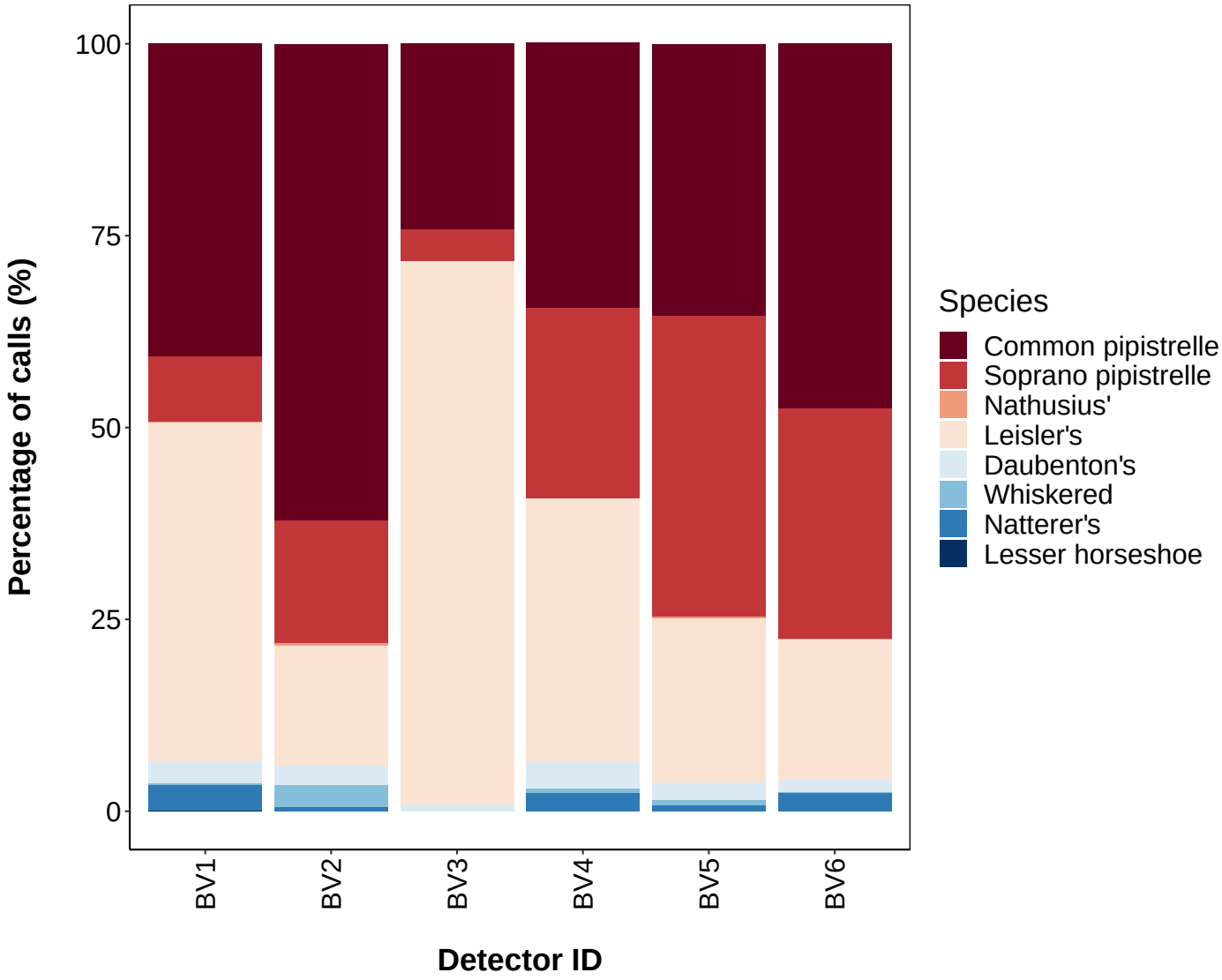
Table 15. The number of passes recorded for each species at each detector.

Species	Detector ID	Count (No)	Percentage by Detector (%)
Common pipistrelle	BV1	487	40.8
Common pipistrelle	BV2	2082	62.1
Common pipistrelle	BV3	83	24.2
Common pipistrelle	BV4	418	34.5
Common pipistrelle	BV5	1256	35.5
Common pipistrelle	BV6	2399	47.5
Soprano pipistrelle	BV1	102	8.5
Soprano pipistrelle	BV2	532	15.9
Soprano pipistrelle	BV3	14	4.1
Soprano pipistrelle	BV4	300	24.8
Soprano pipistrelle	BV5	1385	39.2
Soprano pipistrelle	BV6	1519	30.0
Nathusius'	BV1	2	0.2
Nathusius'	BV2	11	0.3
Nathusius'	BV4	1	0.1
Nathusius'	BV5	8	0.2
Nathusius'	BV6	10	0.2
Leisler's	BV1	528	44.2
Leisler's	BV2	527	15.7
Leisler's	BV3	243	70.8
Leisler's	BV4	415	34.3
Leisler's	BV5	756	21.4
Leisler's	BV6	921	18.2
Daubenton's	BV1	34	2.8
Daubenton's	BV2	84	2.5
Daubenton's	BV3	3	0.9

Species	Detector ID	Count (No)	Percentage by Detector (%)
Daubenton's	BV4	42	3.5
Daubenton's	BV5	83	2.3
Daubenton's	BV6	79	1.6
Whiskered	BV1	2	0.2
Whiskered	BV2	98	2.9
Whiskered	BV4	7	0.6
Whiskered	BV5	21	0.6
Whiskered	BV6	7	0.1
Natterer's	BV1	39	3.3
Natterer's	BV2	18	0.5
Natterer's	BV4	28	2.3
Natterer's	BV5	27	0.8
Natterer's	BV6	120	2.4
Lesser horseshoe	BV1	1	0.1

Species Composition

Figure 10. Percentage species composition of passes at each detector.



PART 2a: Presence Only

THE NEXT SECTION OF THE REPORT FEATURES THE RAW DATA SUPPLIED TO ECOBAT AND ONLY TAKES INTO ACCOUNT THE PRESENCE, AND NOT THE ABSENCE, OF EACH BAT SPECIES. FOR EACH NIGHT, THERE IS NO 'ZERO DATA' FOR WHEN SPECIES WERE NOT DETECTED.

Nightly Bat Pass Rate (Bat passes per hour)

Median Per Detector

Table 16. The median Nightly Pass Rate (bat passes per hour, per night) of each species. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Median Pass Rate
Common pipistrelle	BV1	2.1
Common pipistrelle	BV2	12.1
Common pipistrelle	BV3	0.5
Common pipistrelle	BV4	1.7
Common pipistrelle	BV5	1.5
Common pipistrelle	BV6	5.6
Soprano pipistrelle	BV1	0.6
Soprano pipistrelle	BV2	2.3
Soprano pipistrelle	BV3	0.3
Soprano pipistrelle	BV4	0.9
Soprano pipistrelle	BV5	2.0
Soprano pipistrelle	BV6	4.1
Nathusius'	BV1	0.2
Nathusius'	BV2	0.1
Nathusius'	BV4	0.1
Nathusius'	BV5	0.2
Nathusius'	BV6	0.2
Leisler's	BV1	2.4
Leisler's	BV2	1.4
Leisler's	BV3	0.9
Leisler's	BV4	2.0
Leisler's	BV5	1.8
Leisler's	BV6	2.0
Daubenton's	BV1	0.2
Daubenton's	BV2	0.5
Daubenton's	BV3	0.2
Daubenton's	BV4	0.3
Daubenton's	BV5	0.2
Daubenton's	BV6	0.3
Whiskered	BV1	0.1
Whiskered	BV2	0.3
Whiskered	BV4	0.2
Whiskered	BV5	0.2
Whiskered	BV6	0.1
Natterer's	BV1	0.2
Natterer's	BV2	0.2
Natterer's	BV4	0.2
Natterer's	BV5	0.2
Natterer's	BV6	0.3
Lesser horseshoe	BV1	0.1

Nightly Bat Pass Rate (Bat passes per hour)

Mean per Detector

Table 17. The mean Nightly Pass Rate (bat passes per hour, per night) of each species at each detector. Values are given to 1 decimal place.

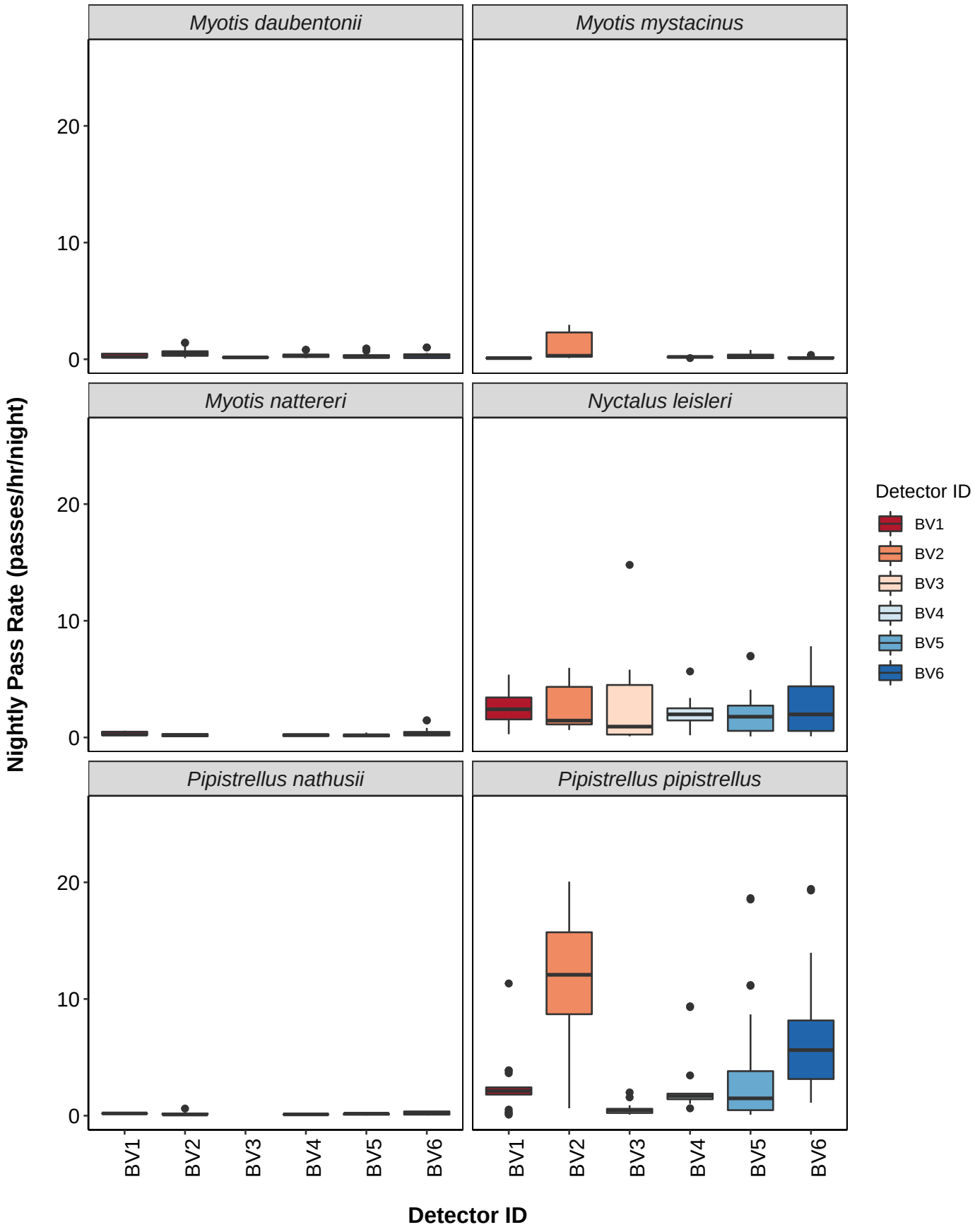
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

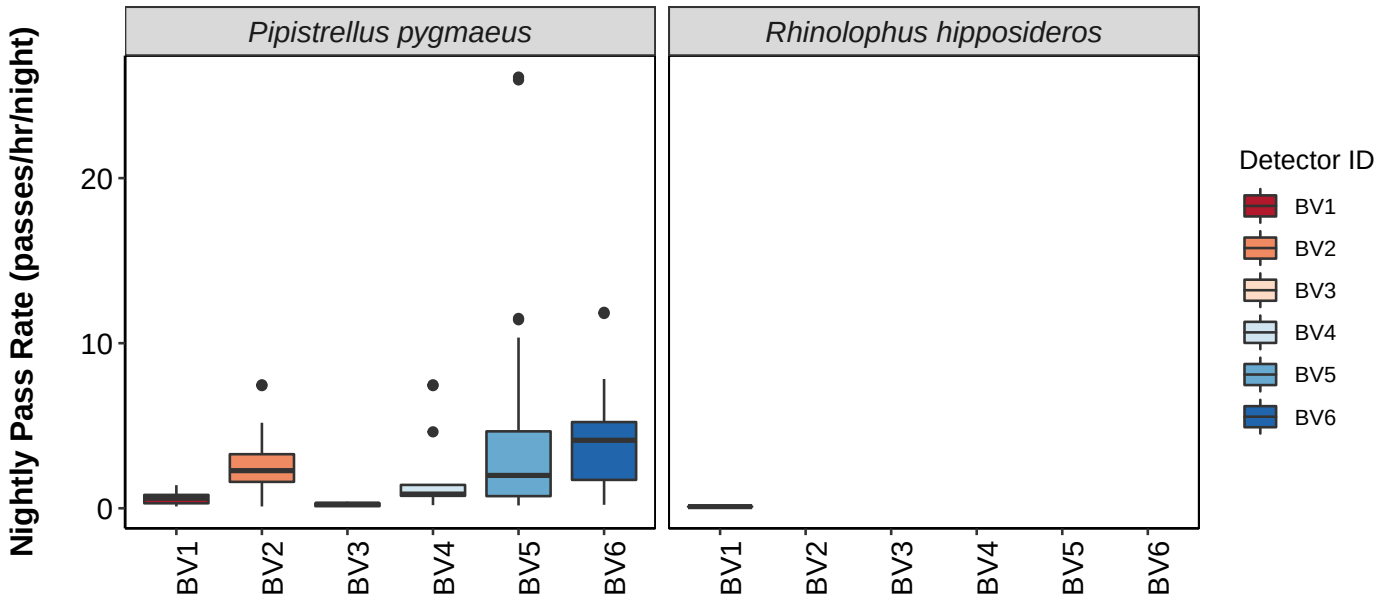
Species	Detector ID	Mean Pass Rate
Common pipistrelle	BV1	2.4
Common pipistrelle	BV2	11.5
Common pipistrelle	BV3	0.6
Common pipistrelle	BV4	2.6
Common pipistrelle	BV5	3.7
Common pipistrelle	BV6	6.5
Soprano pipistrelle	BV1	0.6
Soprano pipistrelle	BV2	2.8
Soprano pipistrelle	BV3	0.2
Soprano pipistrelle	BV4	2.0
Soprano pipistrelle	BV5	4.4
Soprano pipistrelle	BV6	4.1
Nathusius'	BV1	0.2
Nathusius'	BV2	0.2
Nathusius'	BV4	0.1
Nathusius'	BV5	0.1
Nathusius'	BV6	0.2
Leisler's	BV1	2.7
Leisler's	BV2	2.6
Leisler's	BV3	3.6
Leisler's	BV4	2.0
Leisler's	BV5	2.0
Leisler's	BV6	2.5
Daubenton's	BV1	0.3
Daubenton's	BV2	0.6
Daubenton's	BV3	0.2
Daubenton's	BV4	0.4
Daubenton's	BV5	0.3
Daubenton's	BV6	0.3
Whiskered	BV1	0.1
Whiskered	BV2	1.1
Whiskered	BV4	0.2
Whiskered	BV5	0.3
Whiskered	BV6	0.2
Natterer's	BV1	0.3
Natterer's	BV2	0.2
Natterer's	BV4	0.2
Natterer's	BV5	0.2
Natterer's	BV6	0.4
Lesser horseshoe	BV1	0.1

Nightly Bat Passes (Bat passes per hour)

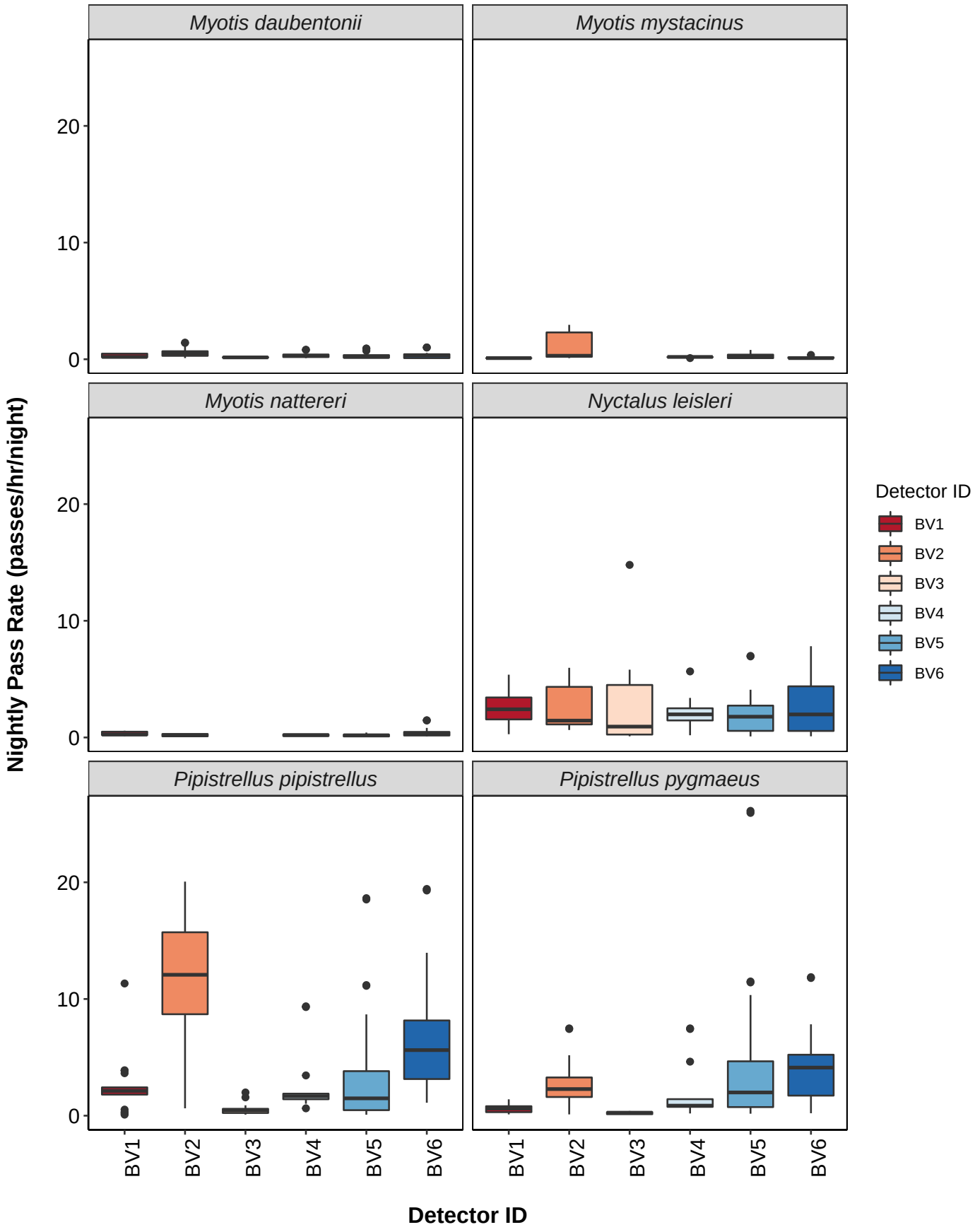
Per Detector - Figures

Figure 11. Boxplots for the number of bat passes per hour each night, for each detector. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.


Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus leisleri
Pipistrellus nathusii
Pipistrellus pipistrellus
Nightly Pass Rate (passes/hr/night)
0
10
20
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID
Detector ID

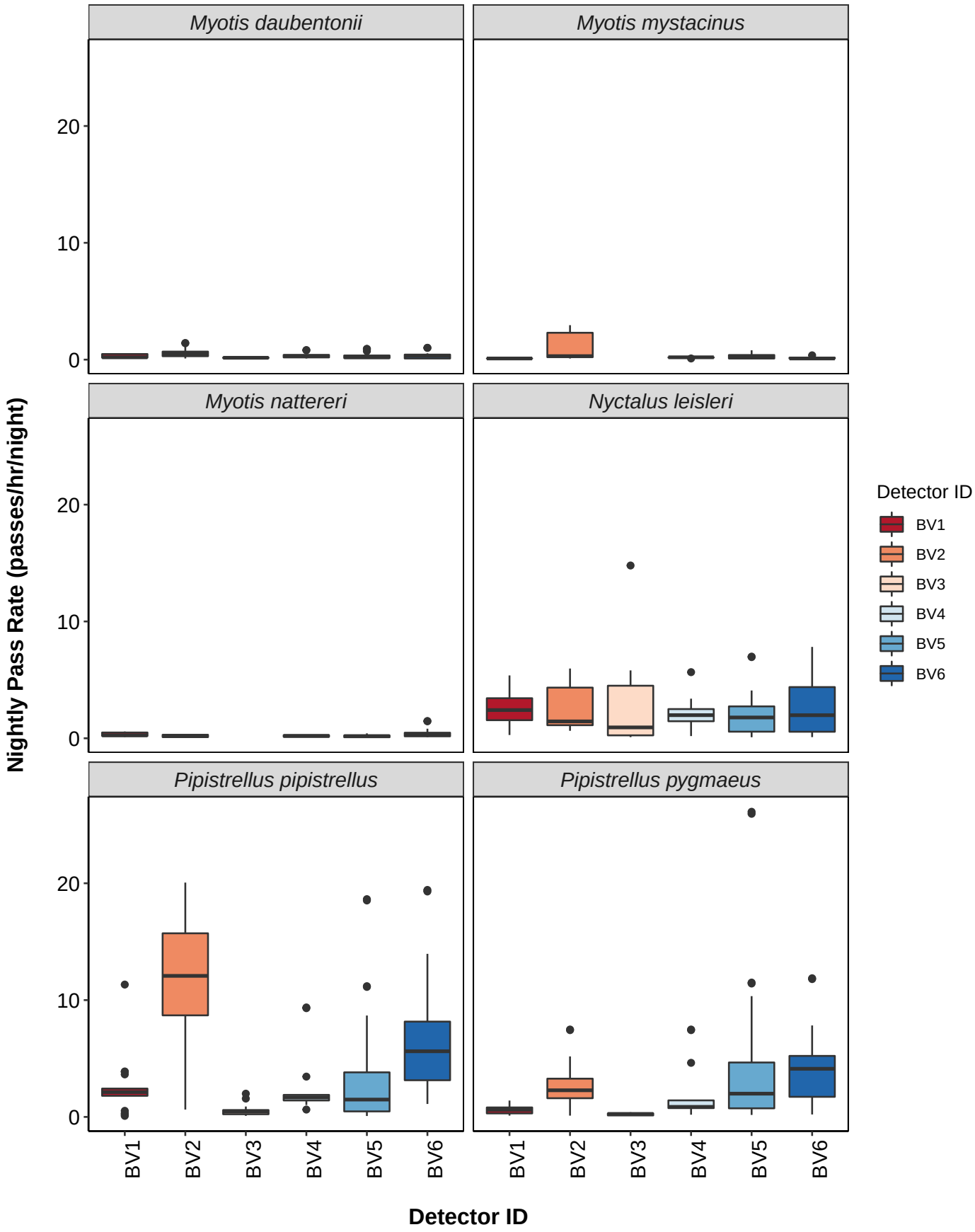

Pipistrellus pygmaeus
Rhinolophus hipposideros
Nightly Pass Rate (passes/hr/night)
0
10
20
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID
BV1
BV2
BV3
BV4
BV5
BV6

Detector ID


Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus leisleri
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Nightly Pass Rate (passes/hr/night)
0
10
20
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID

```
[[1]]
NULL
```

[[2]]


Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus leisleri
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Nightly Pass Rate (passes/hr/night)
0
10
20
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID

SPLIT BY MONTH

Total Bat Passes per Detector, each Month

Per Detector

Table 18. The total number of bat passes of each species in each month at each detector. This table simply tells you how many bats of each species were recorded passing each detector during each month. These numbers are not standardised by the night length, or how many nights each detector was active for during each month.

Species	Detector ID	Aug	Sep
Common pipistrelle	BV1	429	58
Common pipistrelle	BV2	1653	429
Common pipistrelle	BV3	79	4
Common pipistrelle	BV4	372	46
Common pipistrelle	BV5	669	587
Common pipistrelle	BV6	1171	1228
Soprano pipistrelle	BV1	91	11
Soprano pipistrelle	BV2	498	34
Soprano pipistrelle	BV3	14	0
Soprano pipistrelle	BV4	289	11
Soprano pipistrelle	BV5	1141	244
Soprano pipistrelle	BV6	474	1045
Nathusius'	BV1	2	0
Nathusius'	BV2	10	1
Nathusius'	BV4	1	0
Nathusius'	BV5	2	6
Nathusius'	BV6	0	10
Leisler's	BV1	474	54
Leisler's	BV2	471	56
Leisler's	BV3	243	0
Leisler's	BV4	365	50
Leisler's	BV5	320	436
Leisler's	BV6	342	579
Daubenton's	BV1	27	7
Daubenton's	BV2	71	13
Daubenton's	BV3	3	0
Daubenton's	BV4	42	0
Daubenton's	BV5	37	46
Daubenton's	BV6	7	72
Whiskered	BV1	2	0
Whiskered	BV2	74	24
Whiskered	BV4	6	1
Whiskered	BV5	21	0
Whiskered	BV6	2	5
Natterer's	BV1	33	6
Natterer's	BV2	18	0
Natterer's	BV4	24	4
Natterer's	BV5	13	14
Natterer's	BV6	22	98
Lesser horseshoe	BV1	1	0

Survey Effort

Table 19. The number of survey nights per month per detector.

Month	Detector ID	No. of Survey Nights
Aug	BV1	17
Aug	BV2	17
Aug	BV3	12
Aug	BV4	17
Aug	BV5	15
Aug	BV6	17
Sep	BV1	4
Sep	BV2	3
Sep	BV3	2
Sep	BV4	4
Sep	BV5	21
Sep	BV6	22

Nightly Bat Pass Rate for each Month

Median Per Detector

Table 20. The median Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Aug	Sep
Common pipistrelle	BV1	2.3	1.8
Common pipistrelle	BV2	11.1	12.3
Common pipistrelle	BV3	0.5	0.2
Common pipistrelle	BV4	1.7	1.6
Common pipistrelle	BV5	3.3	1.4
Common pipistrelle	BV6	4.4	5.7
Soprano pipistrelle	BV1	0.6	0.5
Soprano pipistrelle	BV2	2.3	1.6
Soprano pipistrelle	BV3	0.3	NA
Soprano pipistrelle	BV4	0.9	0.5
Soprano pipistrelle	BV5	5.0	0.8
Soprano pipistrelle	BV6	2.0	4.5
Nathusius'	BV1	0.2	NA
Nathusius'	BV2	0.1	0.1
Nathusius'	BV4	0.1	NA
Nathusius'	BV5	0.2	0.1
Nathusius'	BV6	NA	0.2
Leisler's	BV1	2.6	1.2
Leisler's	BV2	1.4	1.4
Leisler's	BV3	0.9	NA
Leisler's	BV4	2.0	1.0
Leisler's	BV5	2.5	1.3
Leisler's	BV6	1.4	2.2
Daubenton's	BV1	0.2	0.3
Daubenton's	BV2	0.4	1.2
Daubenton's	BV3	0.2	NA
Daubenton's	BV4	0.3	NA
Daubenton's	BV5	0.2	0.2
Daubenton's	BV6	0.1	0.3
Whiskered	BV1	0.1	NA
Whiskered	BV2	0.3	2.3
Whiskered	BV4	0.2	0.1
Whiskered	BV5	0.2	NA
Whiskered	BV6	0.1	0.2
Natterer's	BV1	0.2	0.6
Natterer's	BV2	0.2	NA
Natterer's	BV4	0.2	0.2
Natterer's	BV5	0.2	0.1
Natterer's	BV6	0.2	0.4
Lesser horseshoe	BV1	0.1	NA

Nightly Bat Pass Rate for each Month

Mean per Detector

Table 21: The mean Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. Values are given to 1 decimal place.

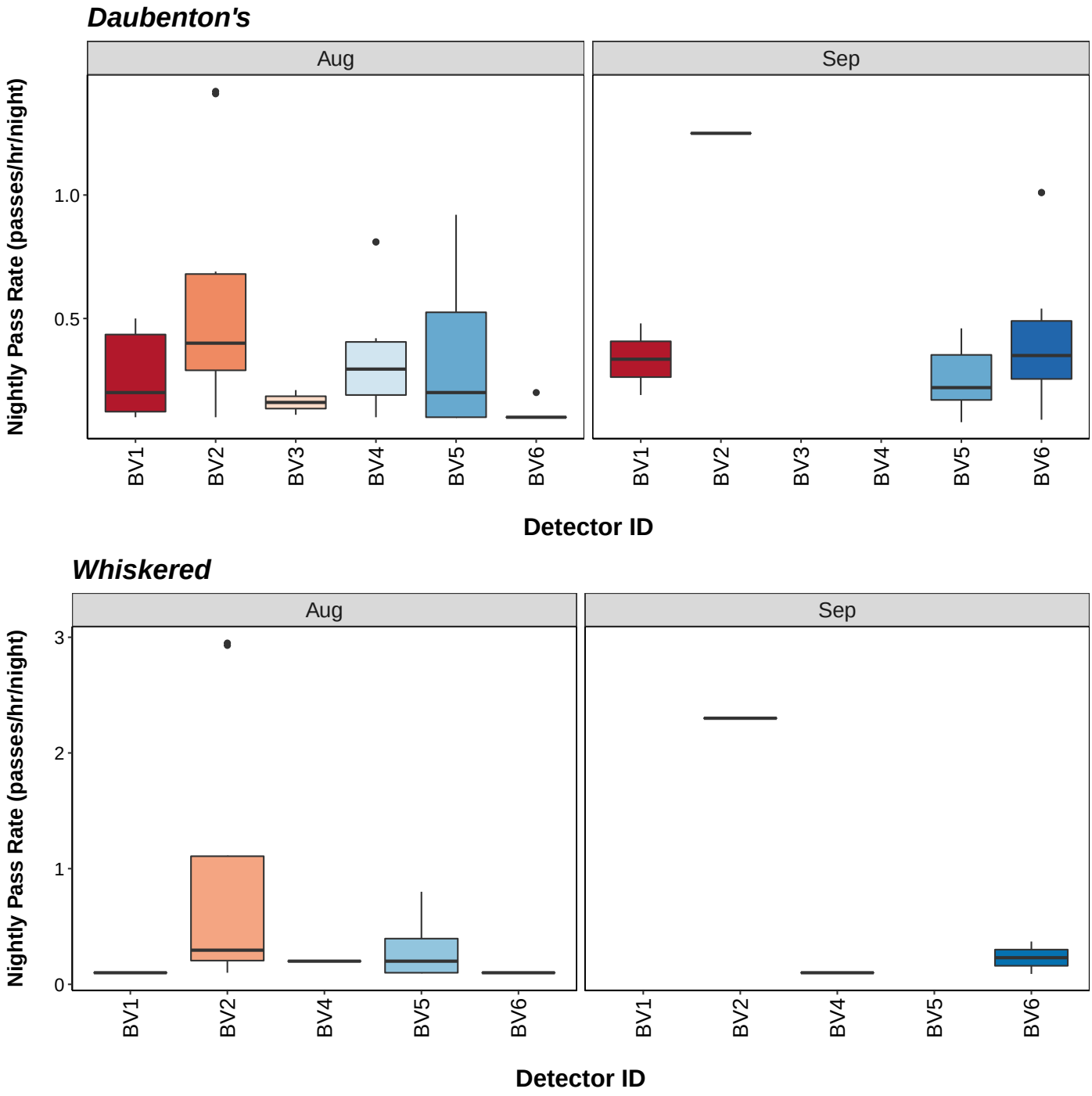
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

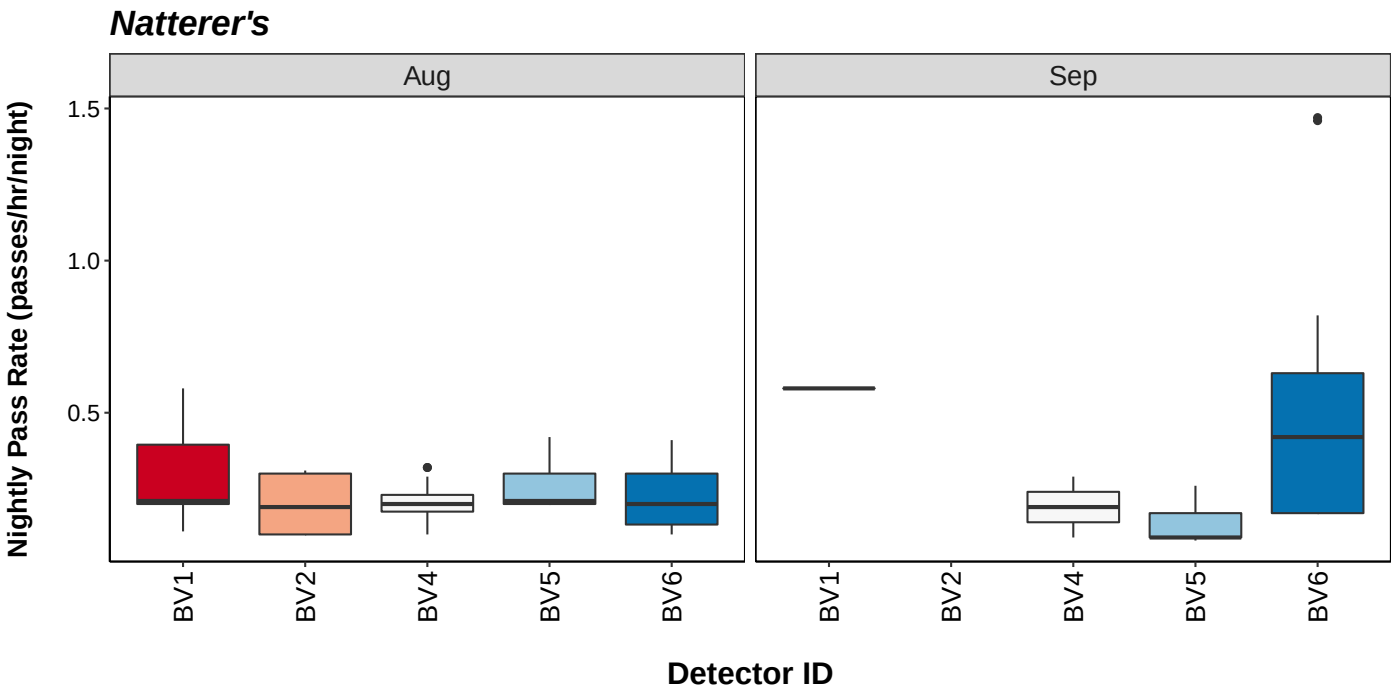
Species	Detector ID	Aug	Sep
Common pipistrelle	BV1	2.7	1.4
Common pipistrelle	BV2	11.0	13.7
Common pipistrelle	BV3	0.7	0.2
Common pipistrelle	BV4	2.9	1.5
Common pipistrelle	BV5	4.8	2.8
Common pipistrelle	BV6	7.4	5.7
Soprano pipistrelle	BV1	0.7	0.5
Soprano pipistrelle	BV2	2.9	1.6
Soprano pipistrelle	BV3	0.2	NA
Soprano pipistrelle	BV4	2.2	0.5
Soprano pipistrelle	BV5	8.2	1.3
Soprano pipistrelle	BV6	3.2	4.9
Nathusius'	BV1	0.2	NA
Nathusius'	BV2	0.2	0.1
Nathusius'	BV4	0.1	NA
Nathusius'	BV5	0.2	0.1
Nathusius'	BV6	NA	0.2
Leisler's	BV1	3.0	1.3
Leisler's	BV2	2.8	1.8
Leisler's	BV3	3.6	NA
Leisler's	BV4	2.2	1.2
Leisler's	BV5	2.3	1.9
Leisler's	BV6	2.1	2.9
Daubenton's	BV1	0.3	0.3
Daubenton's	BV2	0.5	1.2
Daubenton's	BV3	0.2	NA
Daubenton's	BV4	0.4	NA
Daubenton's	BV5	0.3	0.3
Daubenton's	BV6	0.1	0.4
Whiskered	BV1	0.1	NA
Whiskered	BV2	0.9	2.3
Whiskered	BV4	0.2	0.1
Whiskered	BV5	0.3	NA
Whiskered	BV6	0.1	0.2
Natterer's	BV1	0.3	0.6
Natterer's	BV2	0.2	NA
Natterer's	BV4	0.2	0.2
Natterer's	BV5	0.3	0.1
Natterer's	BV6	0.2	0.5
Lesser horseshoe	BV1	0.1	NA

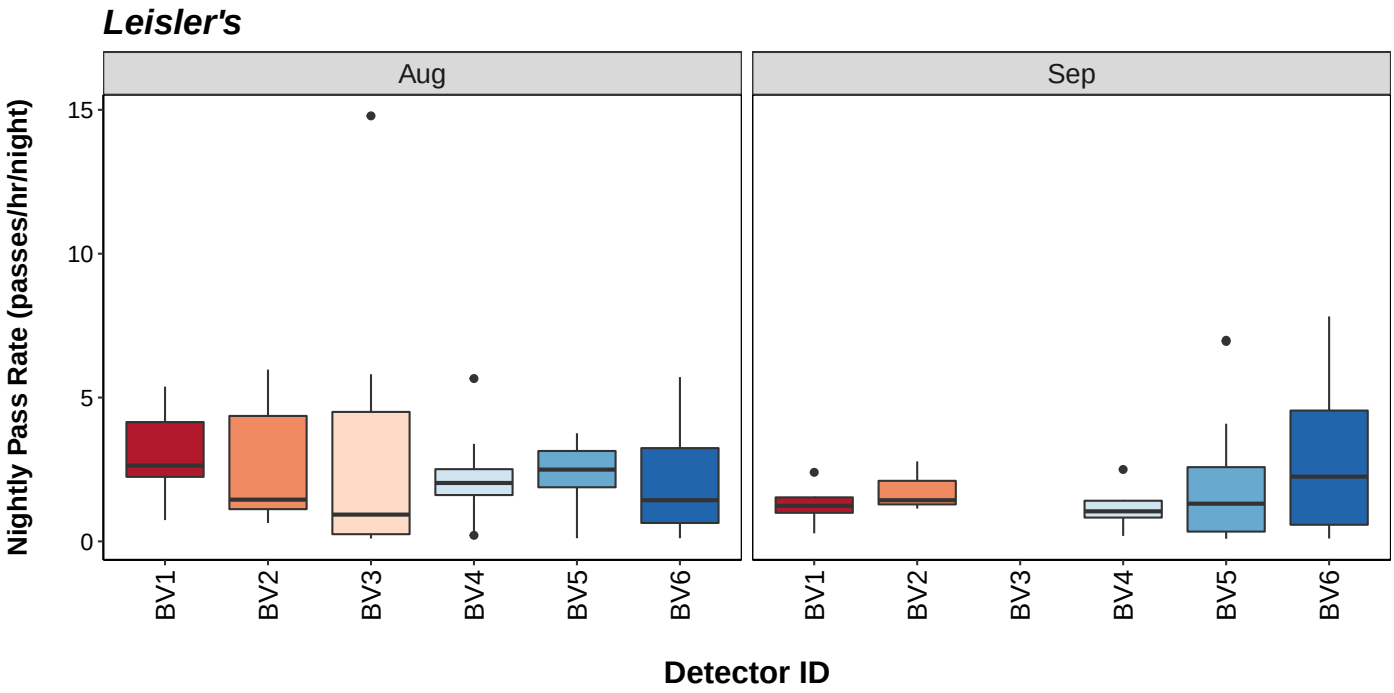
Nightly Bat Pass Rate for each Month

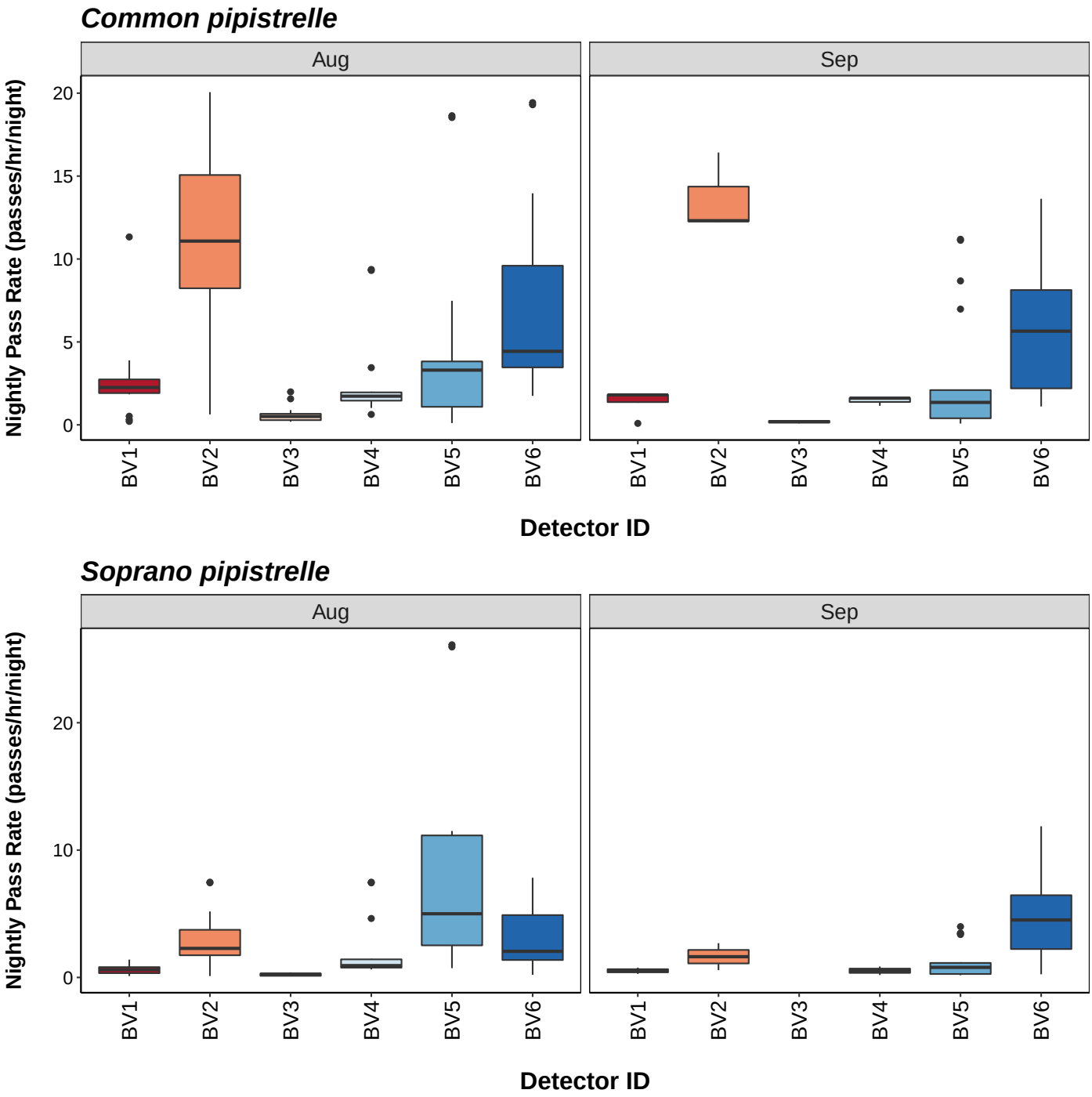
Per Detector - Figures

Figure 12. Figures show boxplots for the number of bat passes per hour by detector, for each month. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.

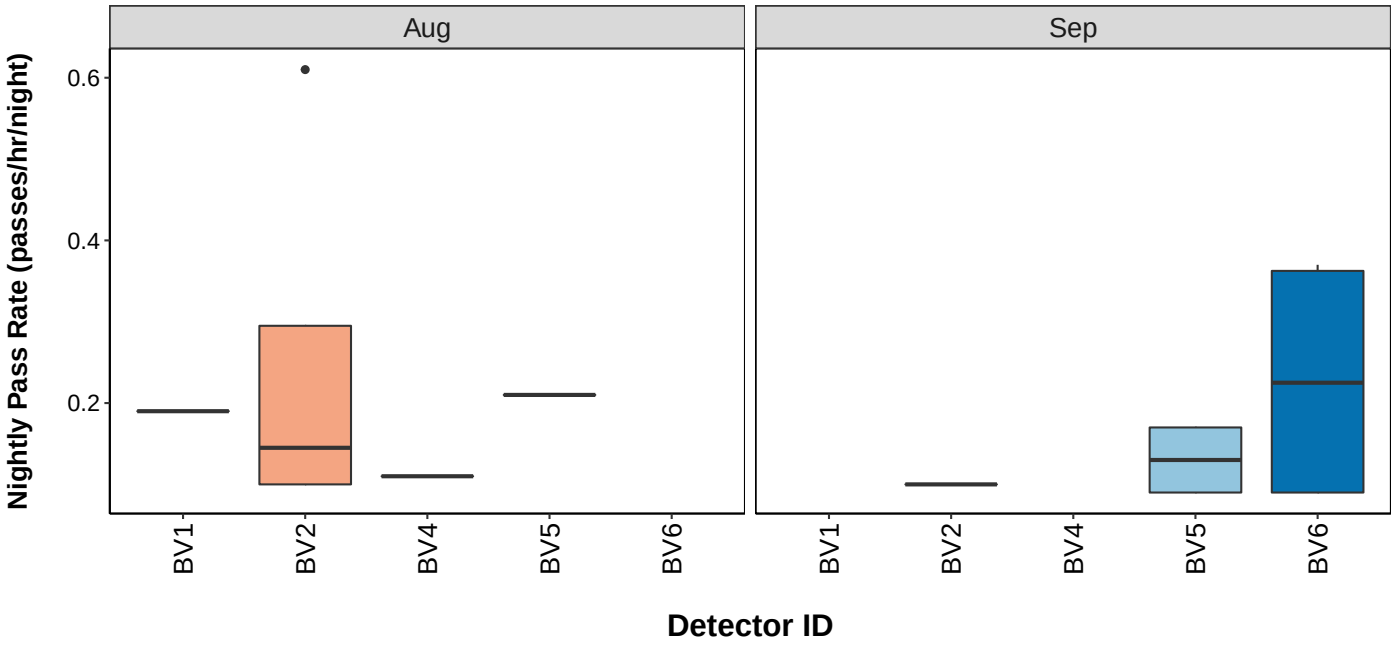



Natterer's
Aug
Sep
Nightly Pass Rate (passes/hr/night)
1.5
1.0
0.5
BV1
BV2
BV4
BV5
BV6
Detector ID

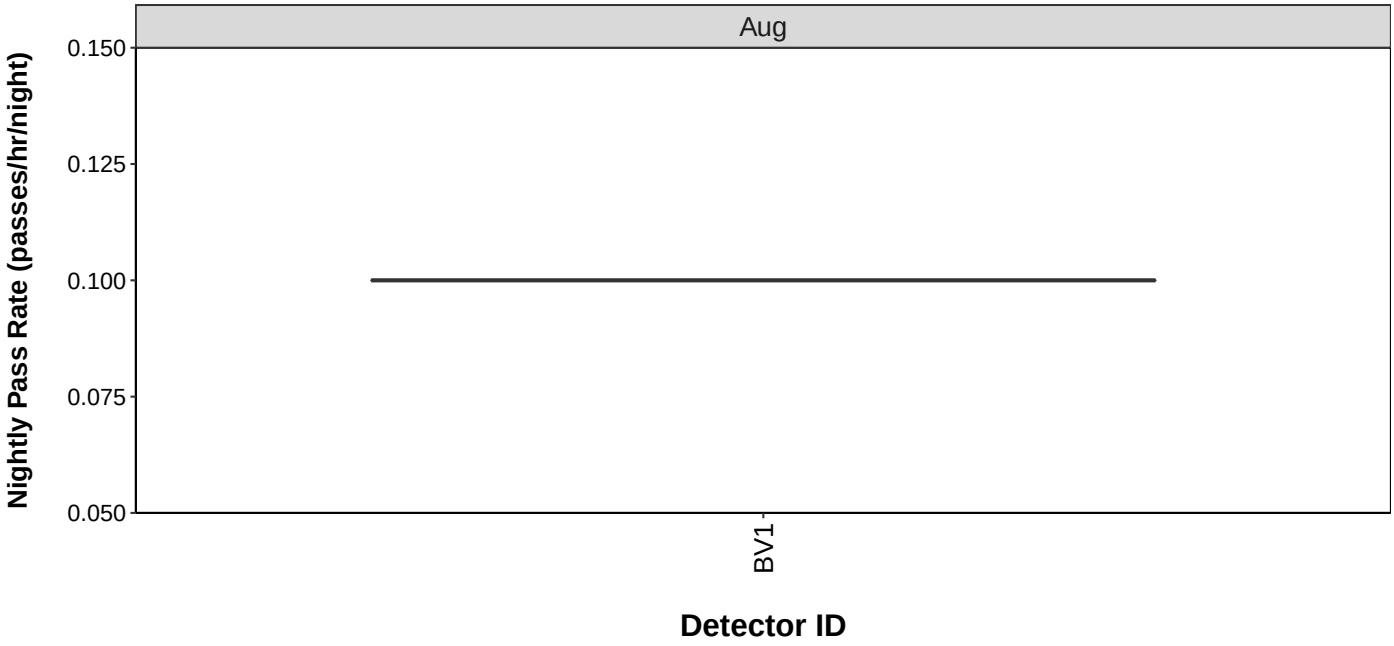

Leisler's
Aug
Sep
Nightly Pass Rate (passes/hr/night)
15
10
5
0
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID


Common pipistrelle
Aug
Sep
Nightly Pass Rate (passes/hr/night)
0
5
10
15
20
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID
Soprano pipistrelle
Aug
Sep
Nightly Pass Rate (passes/hr/night)
0
10
20
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID

Nathusius'



Lesser horseshoe



Bat Activity per Detector Location

Figure 13. Detector ID reference:

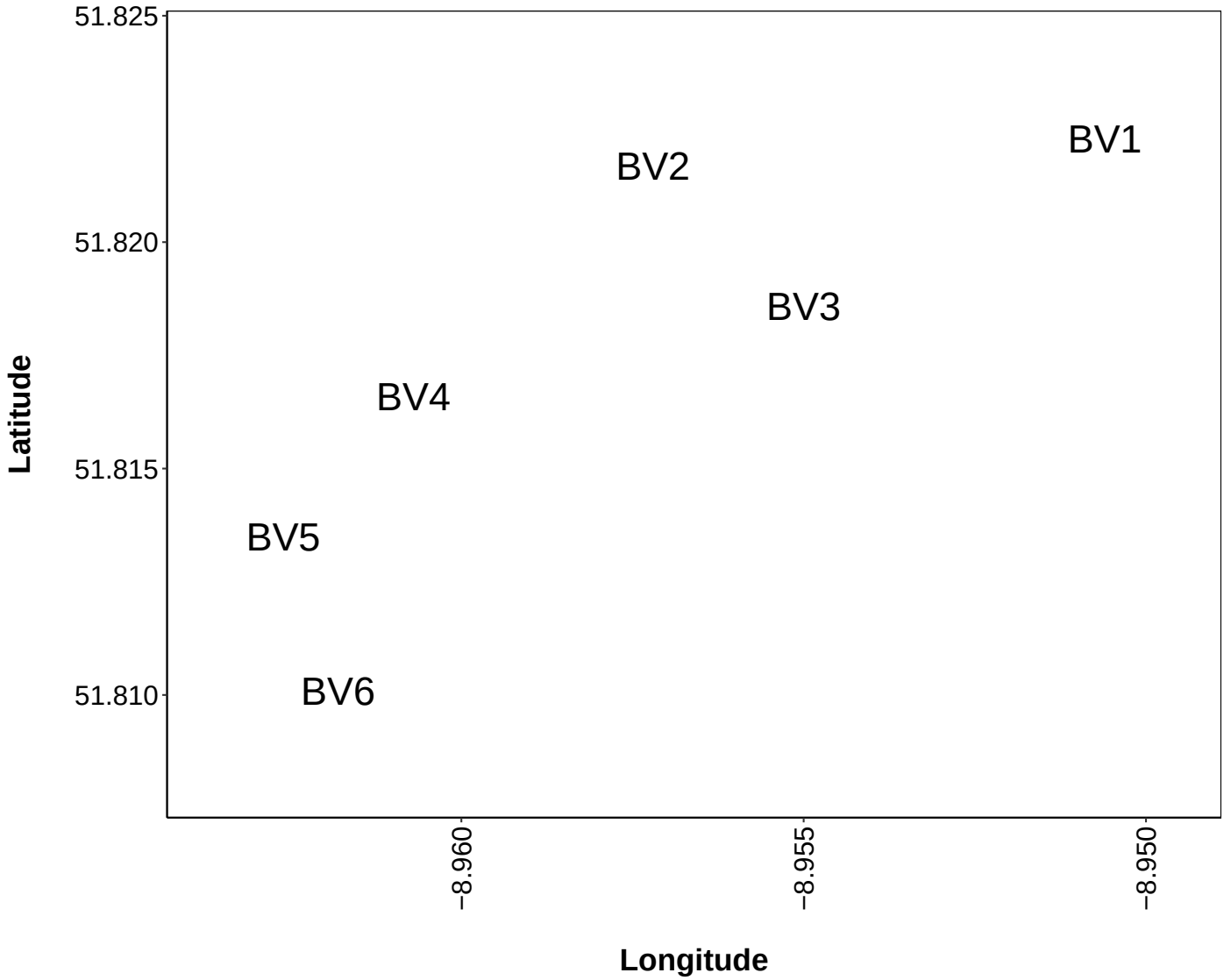
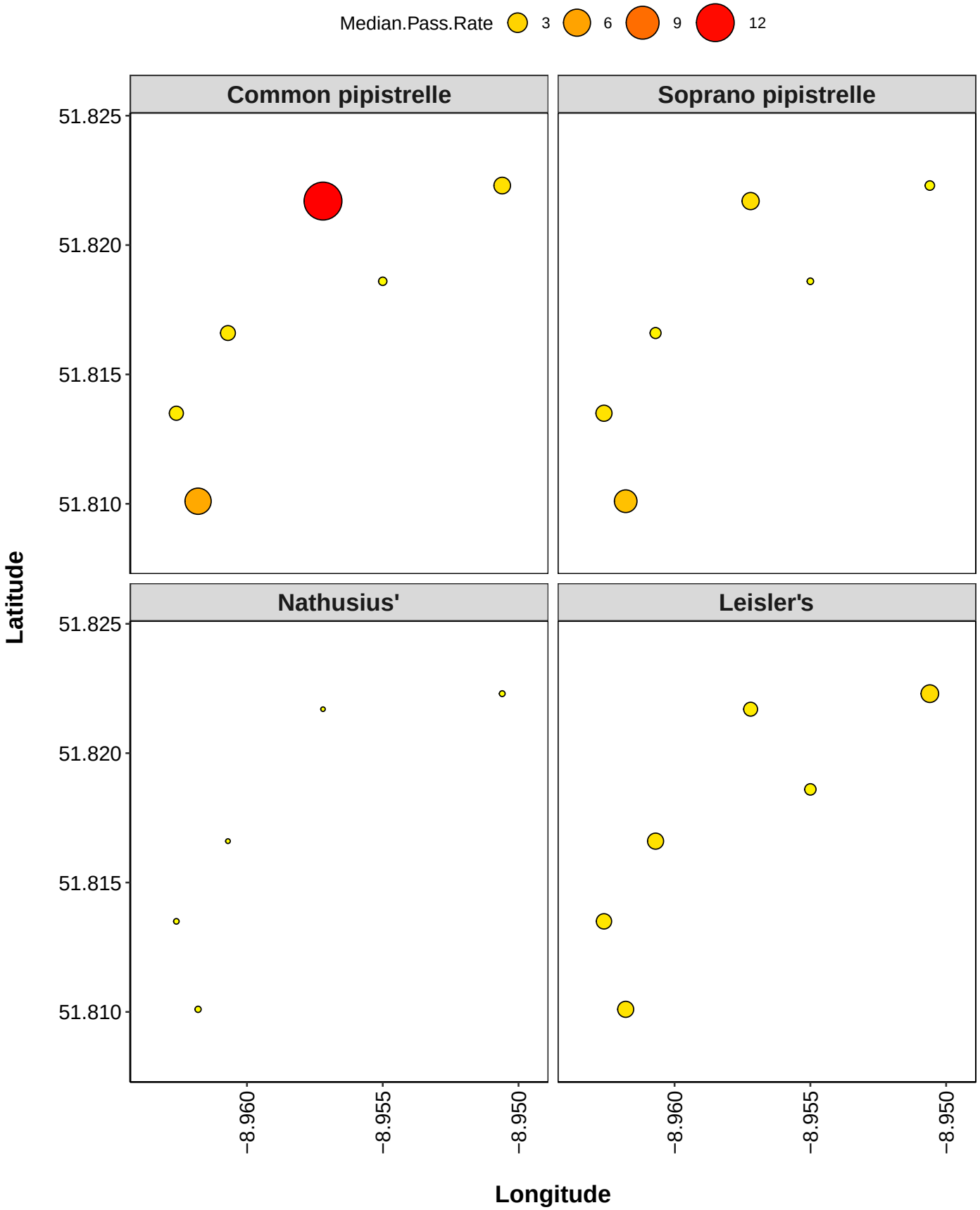


Figure 14. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.



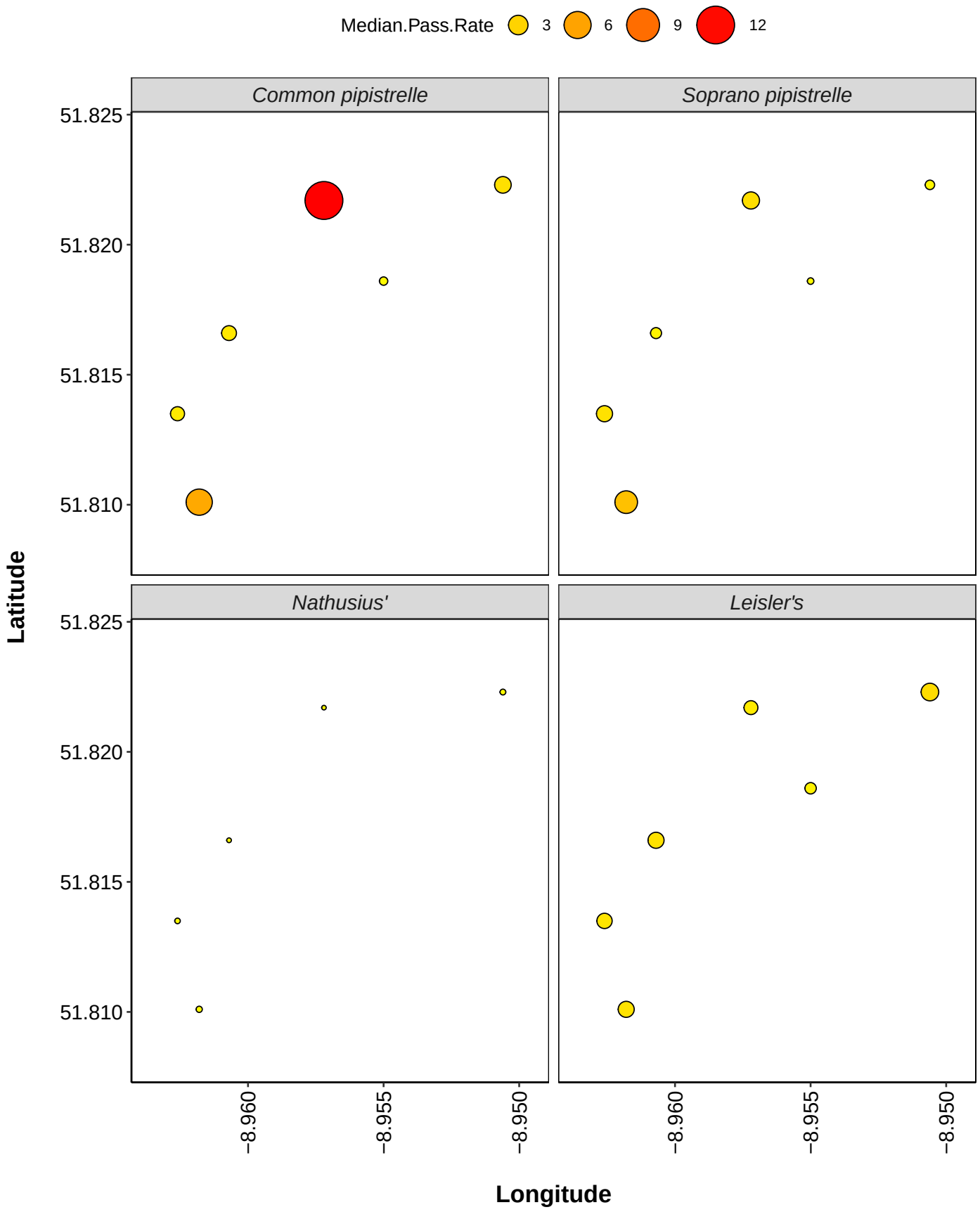
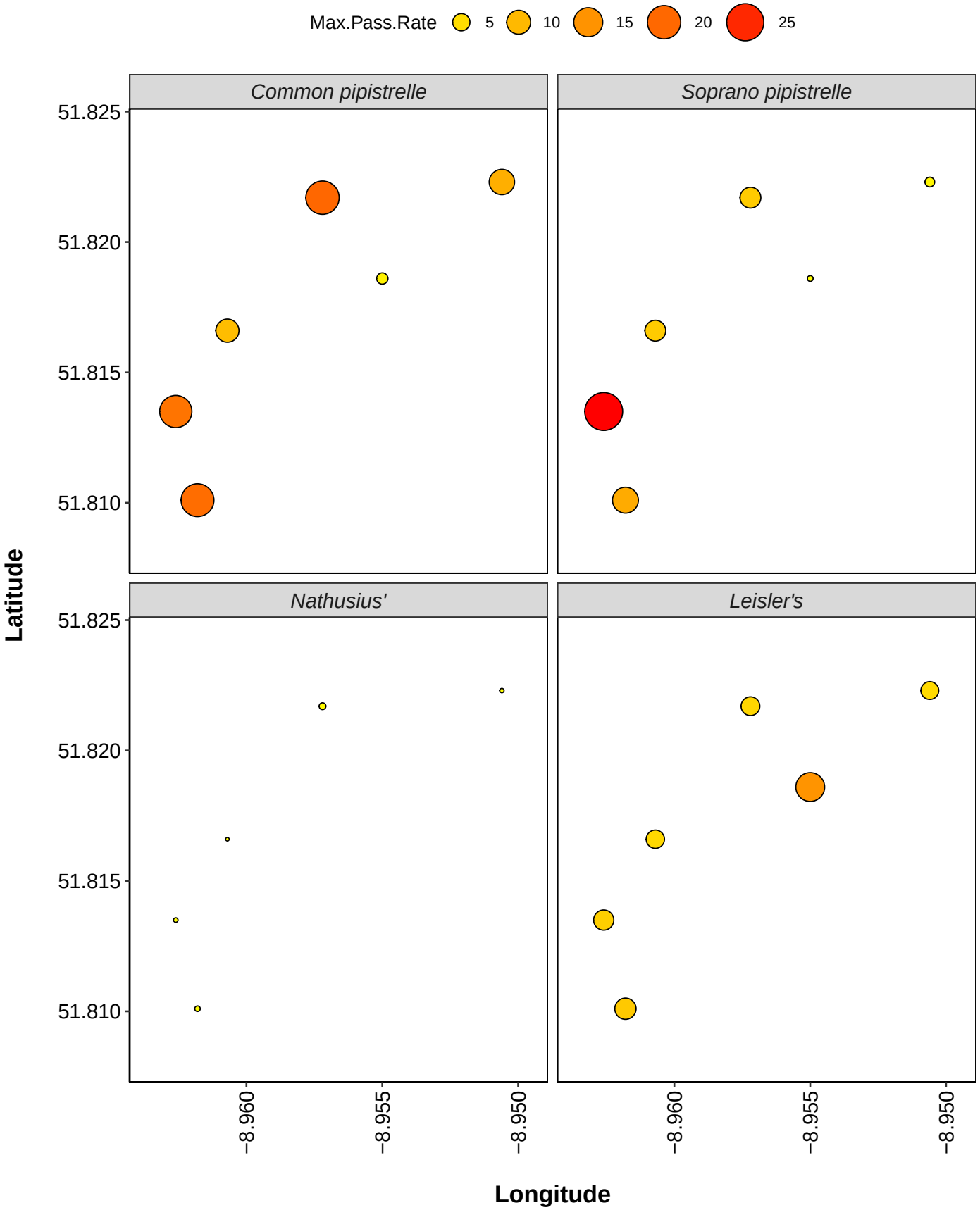
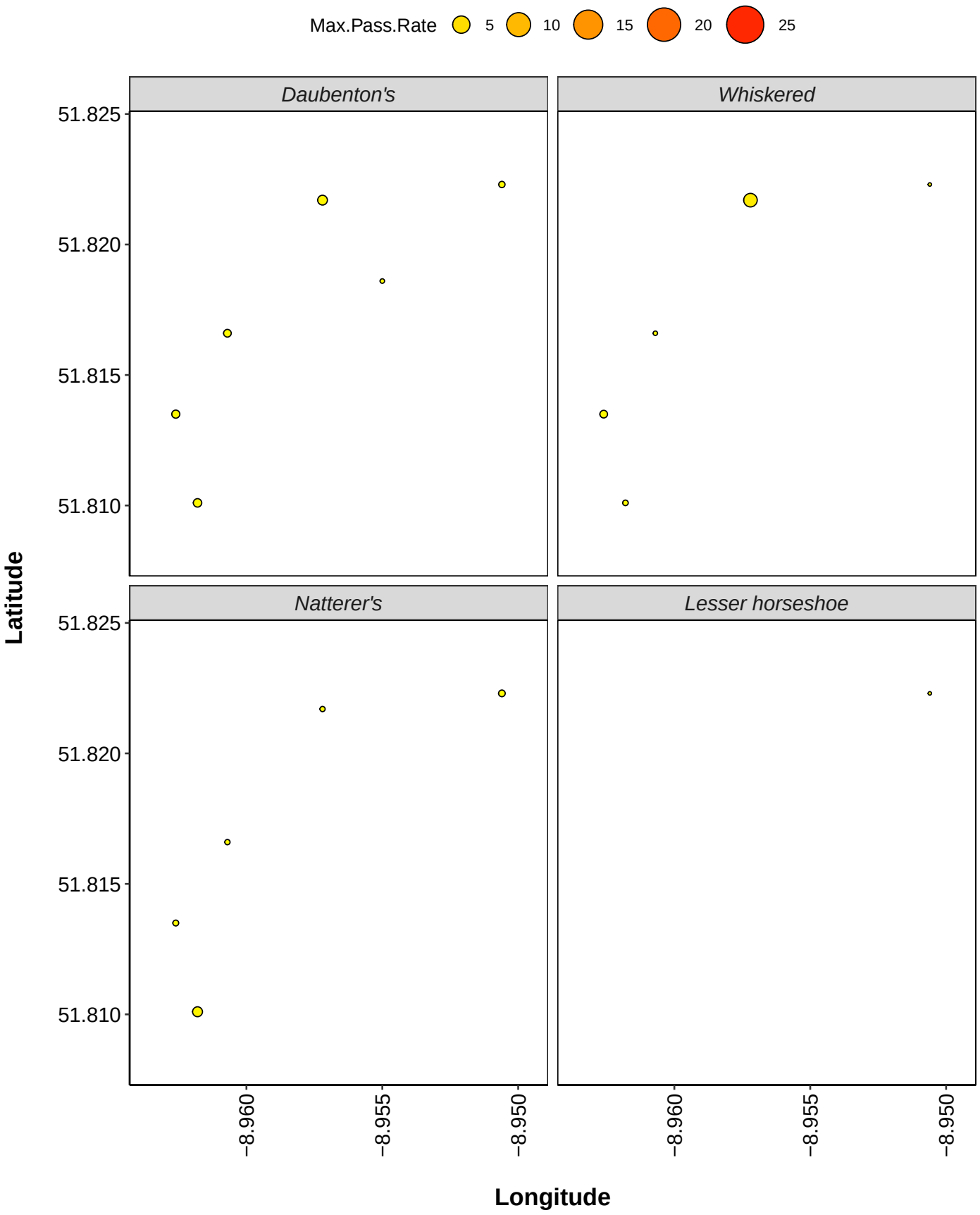

Median.Pass.Rate
3
6
9
12
Common pipistrelle
Soprano pipistrelle
Nathusius'
Leisler's
51.825
51.820
51.815
51.810
−8.960
−8.955
−8.950
Latitude
Longitude

Figure 15. Maximum Nightly Pass Rate (bat passes/hr/night) recorded in a single night throughout the survey period - represented by the size and colour of the point at each detector location.




Max.Pass.Rate
5
10
15
20
25
Daubenton's
Whiskered
Natterer's
Lesser horseshoe
51.825
51.820
51.815
51.810
−8.960
−8.955
−8.950
Latitude
Longitude

PART 2B: Includes absences

THE NEXT SECTION OF THE REPORT FEATURES THE DATA SUPPLIED TO ECOBAT BUT TAKES INTO ACCOUNT SPECIES ABSENCES, AND THEREFORE INCLUDES 'ZERO DATA' FOR WHEN SPECIES WERE NOT DETECTED AT EACH DETECTOR ON A NIGHT. THIS DRAMATICALLY LOWERS THE MEANS AND MEDIANS OF THE DATA PRESENTED.

Nightly Bat Pass Rate (Bat passes per hour)

Median Per Detector

Table 22. The median Nightly Pass Rate (bat passes per hour, per night) of each species. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Median Pass Rate
Common pipistrelle	BV1	2.0
Common pipistrelle	BV2	11.5
Common pipistrelle	BV3	0.5
Common pipistrelle	BV4	1.6
Common pipistrelle	BV5	1.4
Common pipistrelle	BV6	4.4
Daubenton's	BV1	0.1
Daubenton's	BV2	0.3
Daubenton's	BV3	0.0
Daubenton's	BV4	0.1
Daubenton's	BV5	0.2
Daubenton's	BV6	0.1
Leisler's	BV1	2.4
Leisler's	BV2	1.4
Leisler's	BV3	0.0
Leisler's	BV4	2.0
Leisler's	BV5	1.8
Leisler's	BV6	1.1
Lesser horseshoe	BV1	0.0
Lesser horseshoe	BV2	0.0
Lesser horseshoe	BV3	0.0
Lesser horseshoe	BV4	0.0
Lesser horseshoe	BV5	0.0
Lesser horseshoe	BV6	0.0
Nathusius'	BV1	0.0
Nathusius'	BV2	0.0
Nathusius'	BV3	0.0
Nathusius'	BV4	0.0
Nathusius'	BV5	0.0
Nathusius'	BV6	0.0
Natterer's	BV1	0.2
Natterer's	BV2	0.0
Natterer's	BV3	0.0
Natterer's	BV4	0.1
Natterer's	BV5	0.0
Natterer's	BV6	0.2
Soprano pipistrelle	BV1	0.4
Soprano pipistrelle	BV2	2.3
Soprano pipistrelle	BV3	0.0
Soprano pipistrelle	BV4	0.8
Soprano pipistrelle	BV5	0.9
Soprano pipistrelle	BV6	3.1
Whiskered	BV1	0.0
Whiskered	BV2	0.0
Whiskered	BV3	0.0

Species	Detector ID	Median Pass Rate
Whiskered	BV4	0.0
Whiskered	BV5	0.0
Whiskered	BV6	0.0

Nightly Bat Pass Rate (Bat passes per hour)

Mean per Detector

Table 23. The mean Nightly Pass Rate (bat passes per hour, per night) of each species at each detector. Values are given to 1 decimal place.

We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

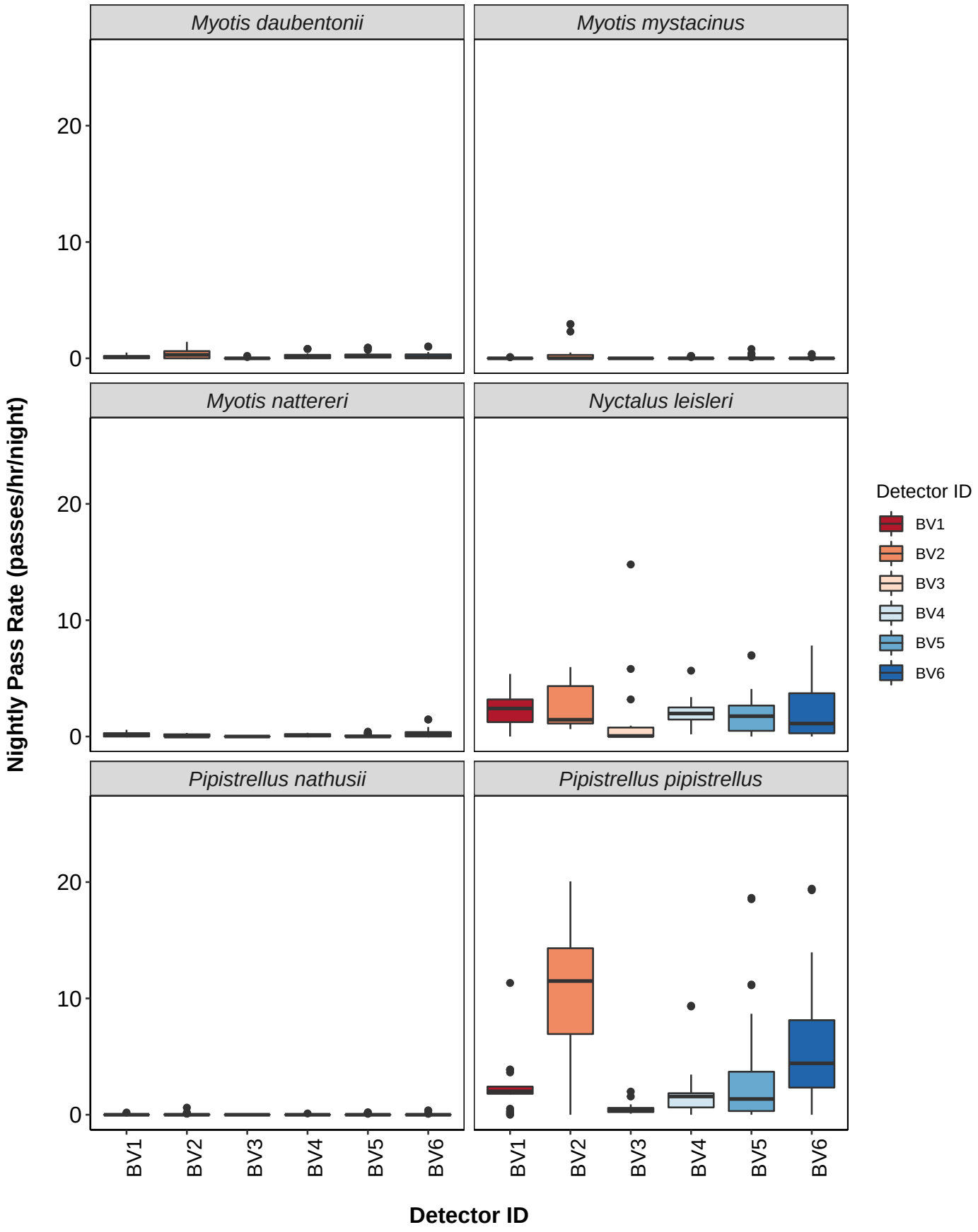
Species	Detector ID	Mean Pass Rate
Common pipistrelle	BV1	2.3
Common pipistrelle	BV2	10.3
Common pipistrelle	BV3	0.6
Common pipistrelle	BV4	2.0
Common pipistrelle	BV5	3.3
Common pipistrelle	BV6	5.8
Daubenton's	BV1	0.2
Daubenton's	BV2	0.4
Daubenton's	BV3	0.0
Daubenton's	BV4	0.2
Daubenton's	BV5	0.2
Daubenton's	BV6	0.2
Leisler's	BV1	2.5
Leisler's	BV2	2.6
Leisler's	BV3	1.8
Leisler's	BV4	2.0
Leisler's	BV5	2.0
Leisler's	BV6	2.2
Lesser horseshoe	BV1	0.0
Lesser horseshoe	BV2	0.0
Lesser horseshoe	BV3	0.0
Lesser horseshoe	BV4	0.0
Lesser horseshoe	BV5	0.0
Lesser horseshoe	BV6	0.0
Nathusius'	BV1	0.0
Nathusius'	BV2	0.1
Nathusius'	BV3	0.0
Nathusius'	BV4	0.0
Nathusius'	BV5	0.0
Nathusius'	BV6	0.0
Natterer's	BV1	0.2
Natterer's	BV2	0.1
Natterer's	BV3	0.0
Natterer's	BV4	0.1
Natterer's	BV5	0.1
Natterer's	BV6	0.3
Soprano pipistrelle	BV1	0.5
Soprano pipistrelle	BV2	2.7
Soprano pipistrelle	BV3	0.1
Soprano pipistrelle	BV4	1.4
Soprano pipistrelle	BV5	3.8
Soprano pipistrelle	BV6	3.6
Whiskered	BV1	0.0
Whiskered	BV2	0.5
Whiskered	BV3	0.0
Whiskered	BV4	0.0
Whiskered	BV5	0.1

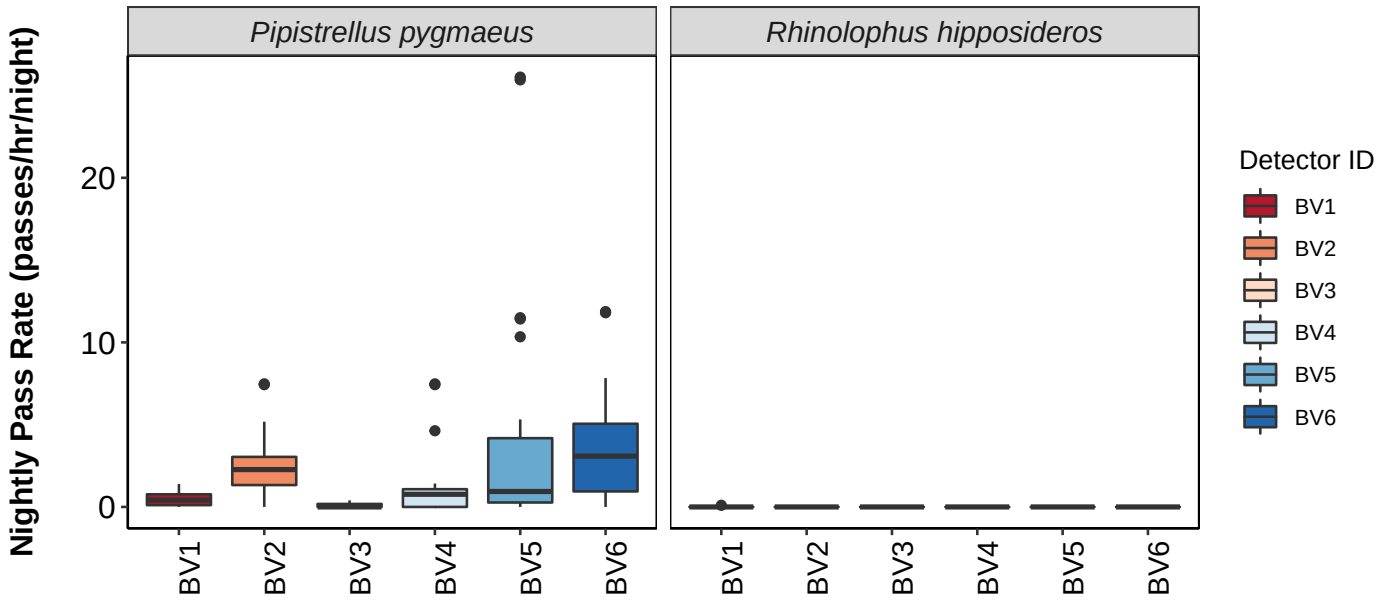
Species	Detector ID	Mean Pass Rate
Whiskered	BV6	0.0

Nightly Bat Passes (Bat passes per hour)

Per Detector - Figures

Figure 16. Figures show boxplots for the number of bat passes per hour each night, for each detector. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.


Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus leisleri
Pipistrellus nathusii
Pipistrellus pipistrellus
Nightly Pass Rate (passes/hr/night)
0
10
20
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID
Detector ID


Pipistrellus pygmaeus
Rhinolophus hipposideros
Nightly Pass Rate (passes/hr/night)
0
10
20
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID

Detector ID

Survey Effort

Table 24. The number of nights bats were detected per month per detector.

Month	Detector ID	No of Survey Nights
Aug	BV1	17
Aug	BV2	17
Aug	BV3	12
Aug	BV4	17
Aug	BV5	15
Aug	BV6	17
Sep	BV1	4
Sep	BV2	3
Sep	BV3	2
Sep	BV4	4
Sep	BV5	21
Sep	BV6	22

Nightly Bat Pass Rate for each Month

Median Per Detector

Table 25. The median Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. If NA, then no bat passes.

Bat pass rates are often highly variable between nights, with some nights having few or no passes and other nights having high activity. In these circumstances, the median is likely to be a more useful summary of the 'average' activity than is the mean. For further information see: *Lintott, P. R., & Mathews, F. (2018). Basic mathematical errors may make ecological assessments unreliable. Biodiversity and Conservation, 27(1), 265-267.* https://doi.org/10.1007/s10531-017-1418-5

Species	Detector ID	Aug	Sep
Common pipistrelle	BV1	2.2	1.8
Common pipistrelle	BV2	11.0	12.3
Common pipistrelle	BV3	0.5	0.2
Common pipistrelle	BV4	1.6	1.4
Common pipistrelle	BV5	3.0	0.8
Common pipistrelle	BV6	4.4	5.0
Daubenton's	BV1	0.1	0.1
Daubenton's	BV2	0.3	0.0
Daubenton's	BV3	0.0	0.0
Daubenton's	BV4	0.2	0.0
Daubenton's	BV5	0.1	0.2
Daubenton's	BV6	0.0	0.3
Leisler's	BV1	2.6	1.2
Leisler's	BV2	1.4	1.4
Leisler's	BV3	0.2	0.0
Leisler's	BV4	2.0	1.0
Leisler's	BV5	2.5	1.3
Leisler's	BV6	0.9	1.2
Lesser horseshoe	BV1	0.0	0.0
Lesser horseshoe	BV2	0.0	0.0
Lesser horseshoe	BV3	0.0	0.0
Lesser horseshoe	BV4	0.0	0.0
Lesser horseshoe	BV5	0.0	0.0
Lesser horseshoe	BV6	0.0	0.0
Nathusius'	BV1	0.0	0.0
Nathusius'	BV2	0.0	0.0
Nathusius'	BV3	0.0	0.0
Nathusius'	BV4	0.0	0.0
Nathusius'	BV5	0.0	0.0
Nathusius'	BV6	0.0	0.0
Natterer's	BV1	0.2	0.0
Natterer's	BV2	0.1	0.0
Natterer's	BV3	0.0	0.0
Natterer's	BV4	0.2	0.0
Natterer's	BV5	0.0	0.0
Natterer's	BV6	0.1	0.3
Soprano pipistrelle	BV1	0.4	0.1
Soprano pipistrelle	BV2	2.3	0.6
Soprano pipistrelle	BV3	0.0	0.0
Soprano pipistrelle	BV4	0.8	0.1
Soprano pipistrelle	BV5	4.7	0.5
Soprano pipistrelle	BV6	1.8	4.3
Whiskered	BV1	0.0	0.0
Whiskered	BV2	0.0	0.0
Whiskered	BV3	0.0	0.0

Species	Detector ID	Aug	Sep
Whiskered	BV4	0.0	0.0
Whiskered	BV5	0.0	0.0
Whiskered	BV6	0.0	0.0

Nightly Bat Pass Rate for each Month

Mean per Detector

Table 26. The mean Nightly Pass Rate (bat passes per hour, per night) of each species throughout each month. Values are given to 1 decimal place.

We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

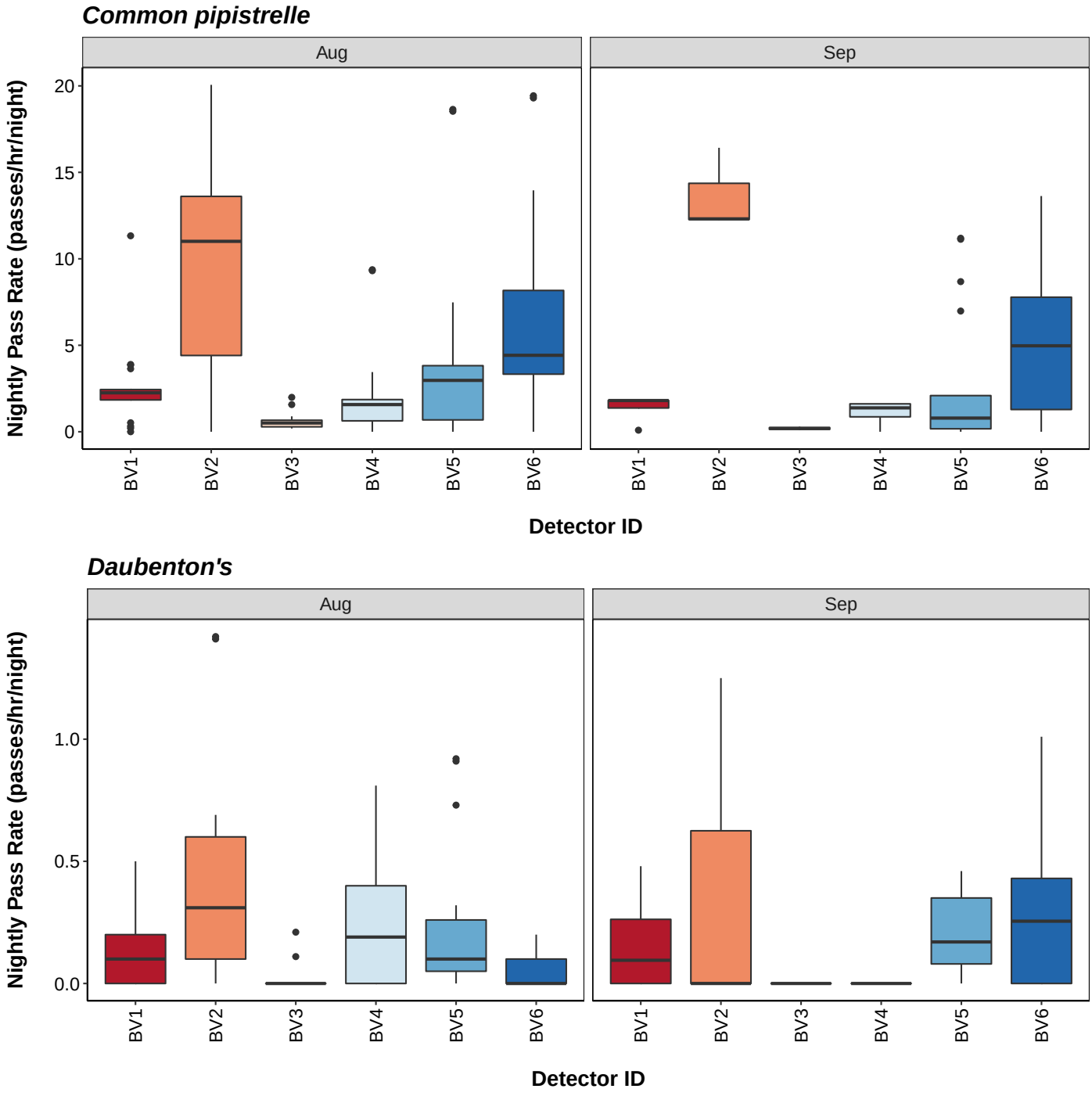
Species	Detector ID	Aug	Sep
Common pipistrelle	BV1	2.6	1.4
Common pipistrelle	BV2	9.7	13.7
Common pipistrelle	BV3	0.7	0.2
Common pipistrelle	BV4	2.2	1.1
Common pipistrelle	BV5	4.5	2.4
Common pipistrelle	BV6	7.0	4.9
Daubenton's	BV1	0.2	0.2
Daubenton's	BV2	0.4	0.4
Daubenton's	BV3	0.0	0.0
Daubenton's	BV4	0.2	0.0
Daubenton's	BV5	0.3	0.2
Daubenton's	BV6	0.0	0.3
Leisler's	BV1	2.8	1.3
Leisler's	BV2	2.8	1.8
Leisler's	BV3	2.1	0.0
Leisler's	BV4	2.2	1.2
Leisler's	BV5	2.2	1.9
Leisler's	BV6	2.0	2.4
Lesser horseshoe	BV1	0.0	0.0
Lesser horseshoe	BV2	0.0	0.0
Lesser horseshoe	BV3	0.0	0.0
Lesser horseshoe	BV4	0.0	0.0
Lesser horseshoe	BV5	0.0	0.0
Lesser horseshoe	BV6	0.0	0.0
Nathusius'	BV1	0.0	0.0
Nathusius'	BV2	0.1	0.0
Nathusius'	BV3	0.0	0.0
Nathusius'	BV4	0.0	0.0
Nathusius'	BV5	0.0	0.0
Nathusius'	BV6	0.0	0.0
Natterer's	BV1	0.2	0.1
Natterer's	BV2	0.1	0.0
Natterer's	BV3	0.0	0.0
Natterer's	BV4	0.1	0.1
Natterer's	BV5	0.1	0.1
Natterer's	BV6	0.1	0.4
Soprano pipistrelle	BV1	0.5	0.3
Soprano pipistrelle	BV2	2.9	1.1
Soprano pipistrelle	BV3	0.1	0.0
Soprano pipistrelle	BV4	1.7	0.3
Soprano pipistrelle	BV5	7.7	1.0
Soprano pipistrelle	BV6	2.8	4.2
Whiskered	BV1	0.0	0.0
Whiskered	BV2	0.4	0.8
Whiskered	BV3	0.0	0.0
Whiskered	BV4	0.0	0.0
Whiskered	BV5	0.1	0.0

Species	Detector ID	Aug	Sep
Whiskered	BV6	0.0	0.0

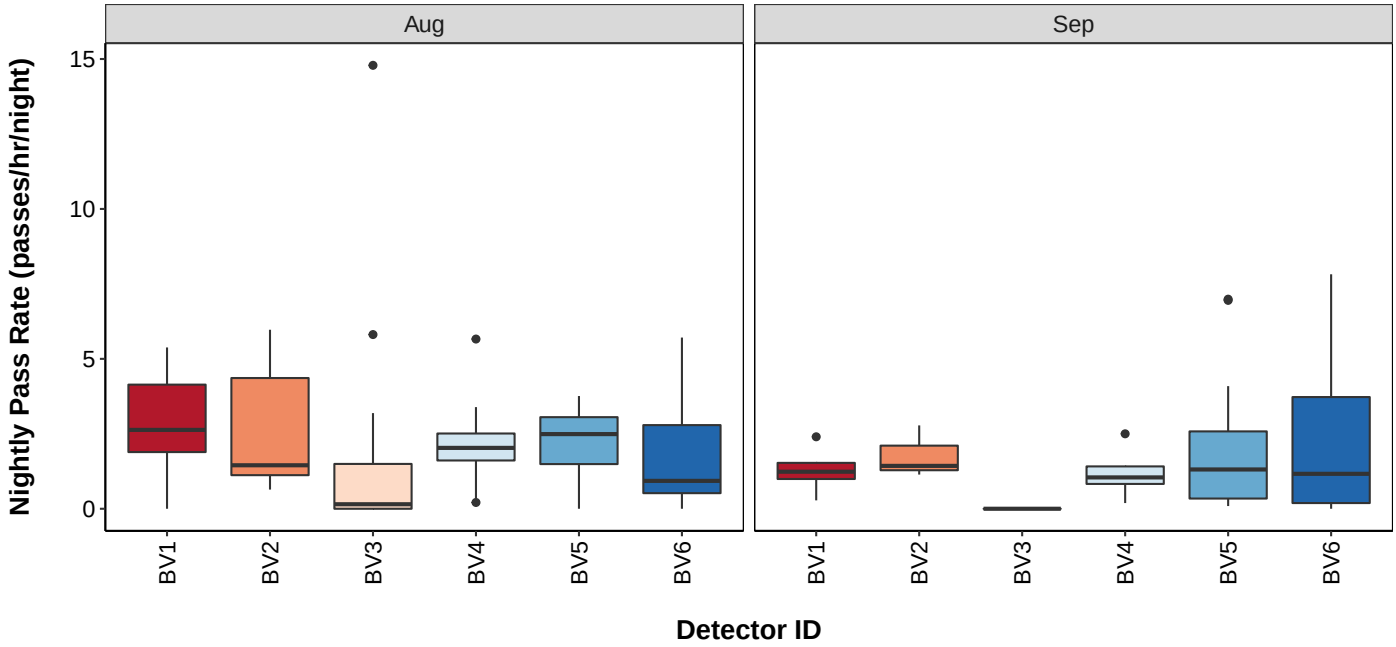
Nightly Bat Pass Rate for each Month

Per Detector - Figures

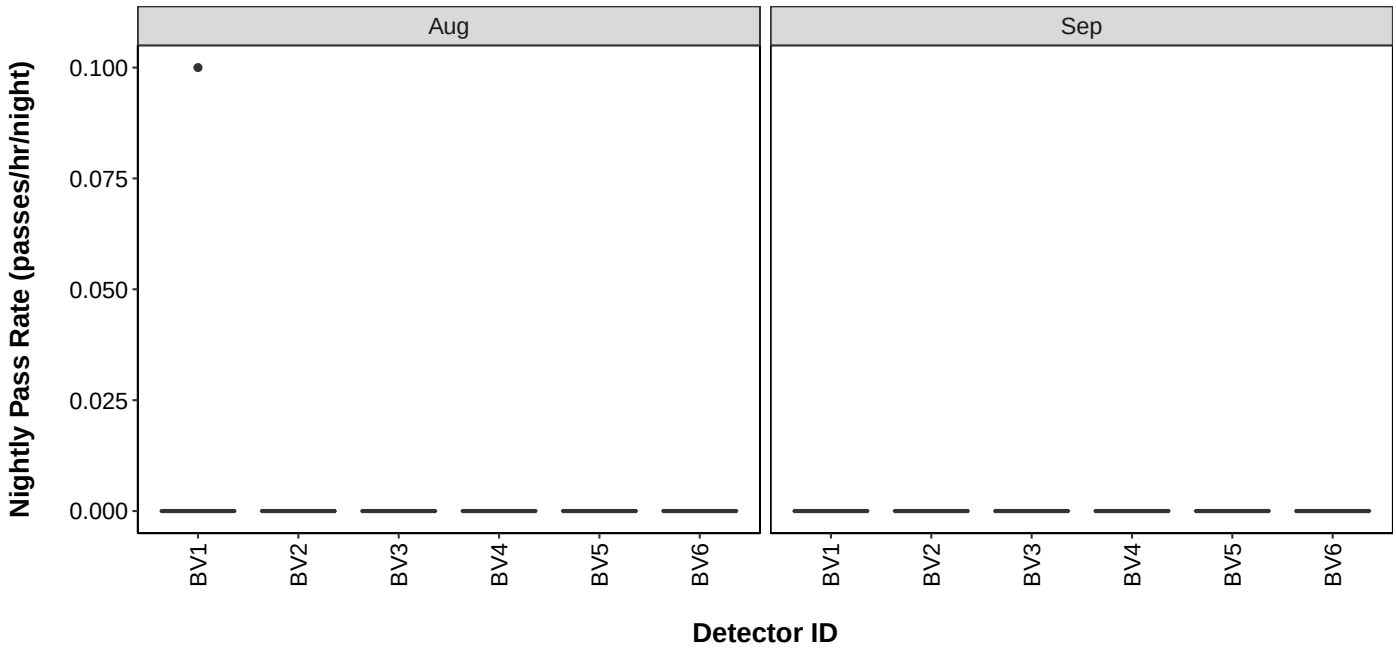
Figure 17. Figures show boxplots for the number of bat passes per hour by detector, for each month. The 'box' shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The 'whiskers' extend from the box and represent the ranges for the bottom 25% and the top 25% of the data values, excluding outliers. An outlier is any extreme value that lies further away from the box than 1.5 times the interquartile range. Outliers are shown as dots. Where very few passes are recorded it is not possible to produce the box, so the data are shown as a line.

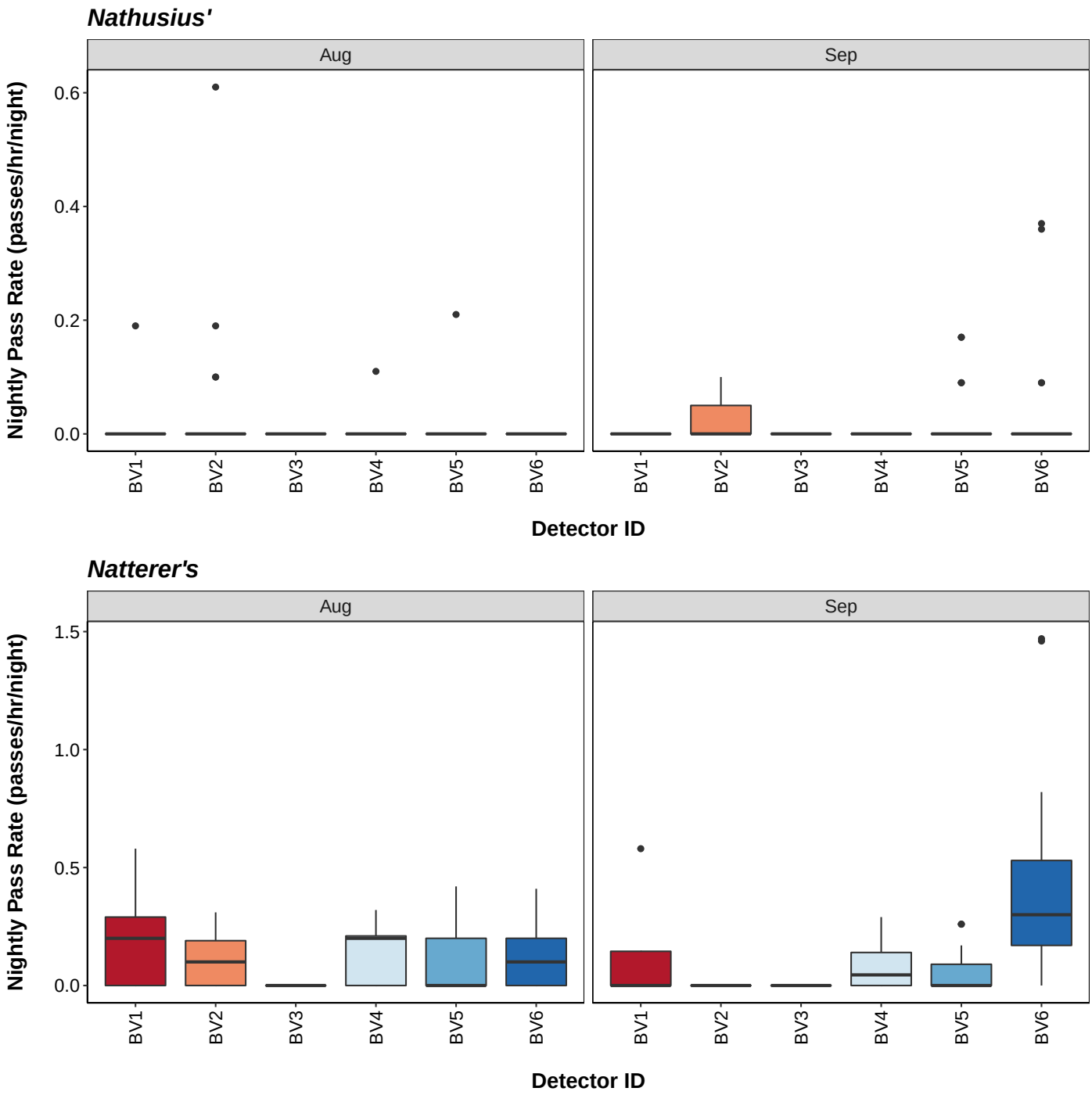


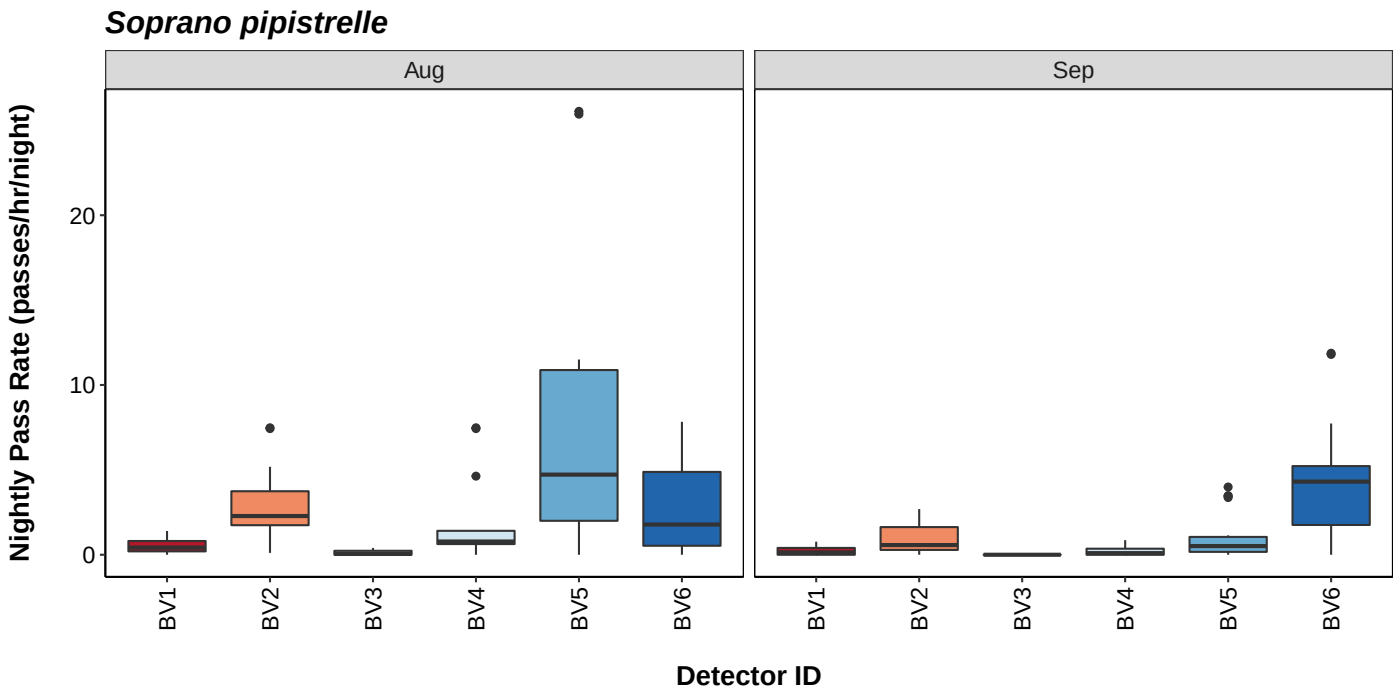
Leisler's

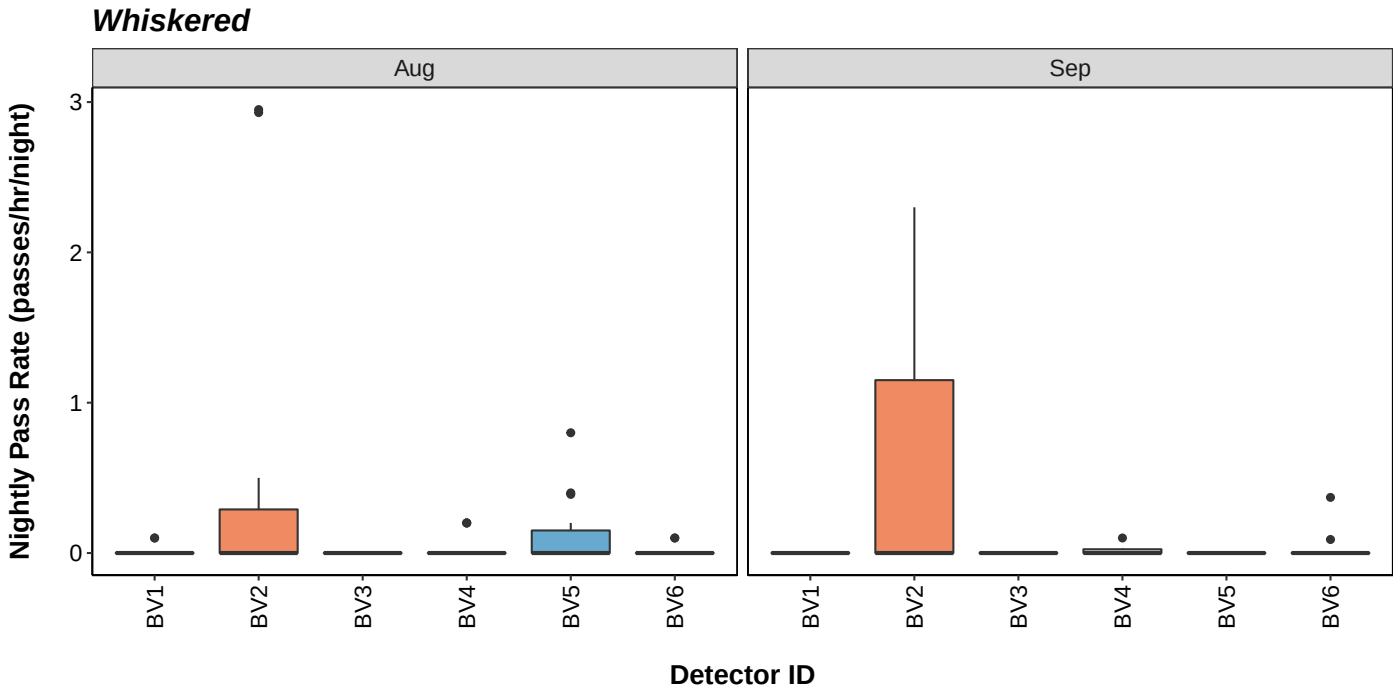


Lesser horseshoe




Nathusius'
Aug
Sep
Nightly Pass Rate (passes/hr/night)
0.0
0.2
0.4
0.6
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID
Natterer's
Aug
Sep
Nightly Pass Rate (passes/hr/night)
0.0
0.5
1.0
1.5
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID


Soprano pipistrelle
Aug
Sep
Nightly Pass Rate (passes/hr/night)
0
10
20
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID


Whiskered
Aug
Sep
Nightly Pass Rate (passes/hr/night)
0
1
2
3
BV1
BV2
BV3
BV4
BV5
BV6
Detector ID

Bat Activity per Detector Location

Figure 18. Detector ID reference:

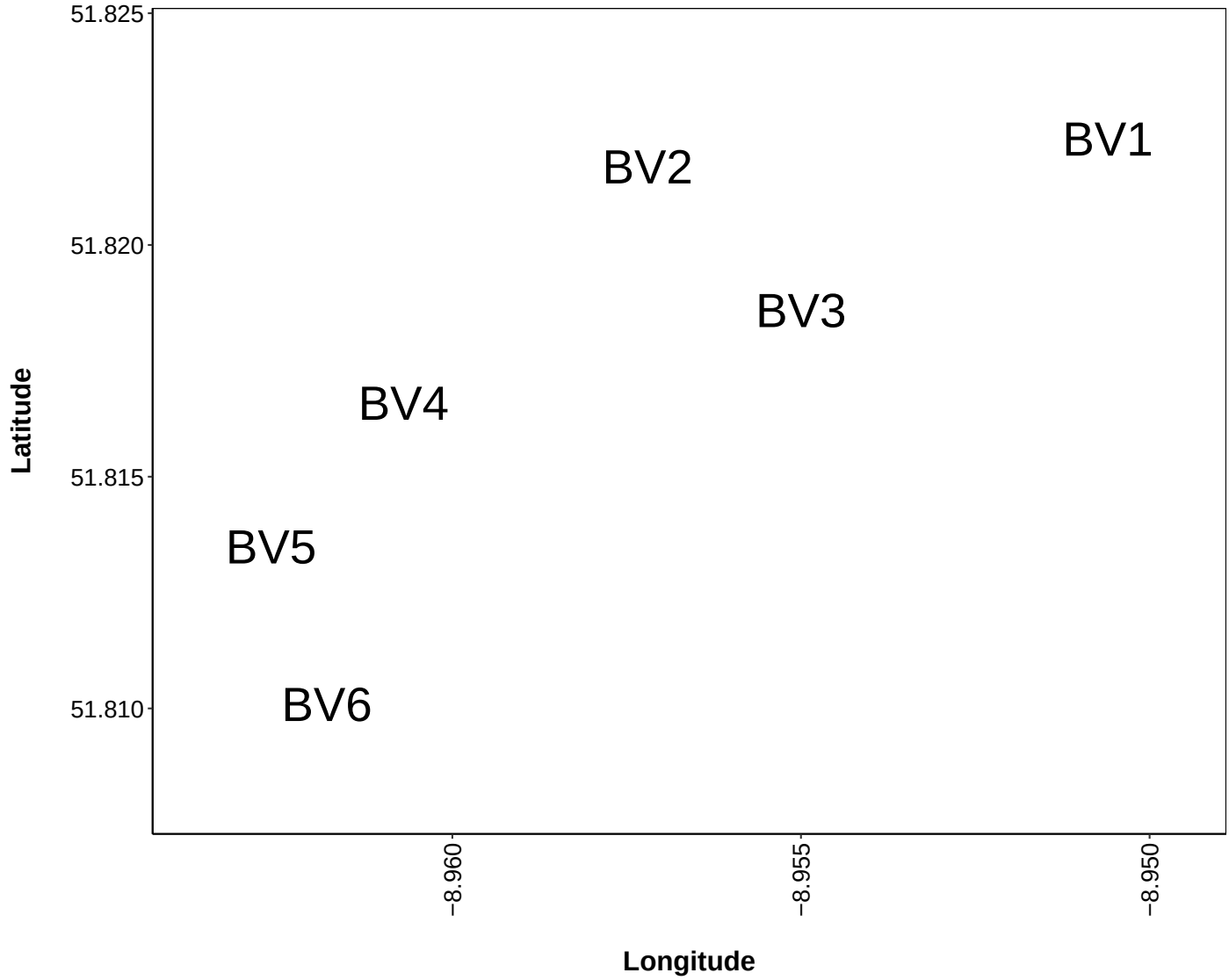
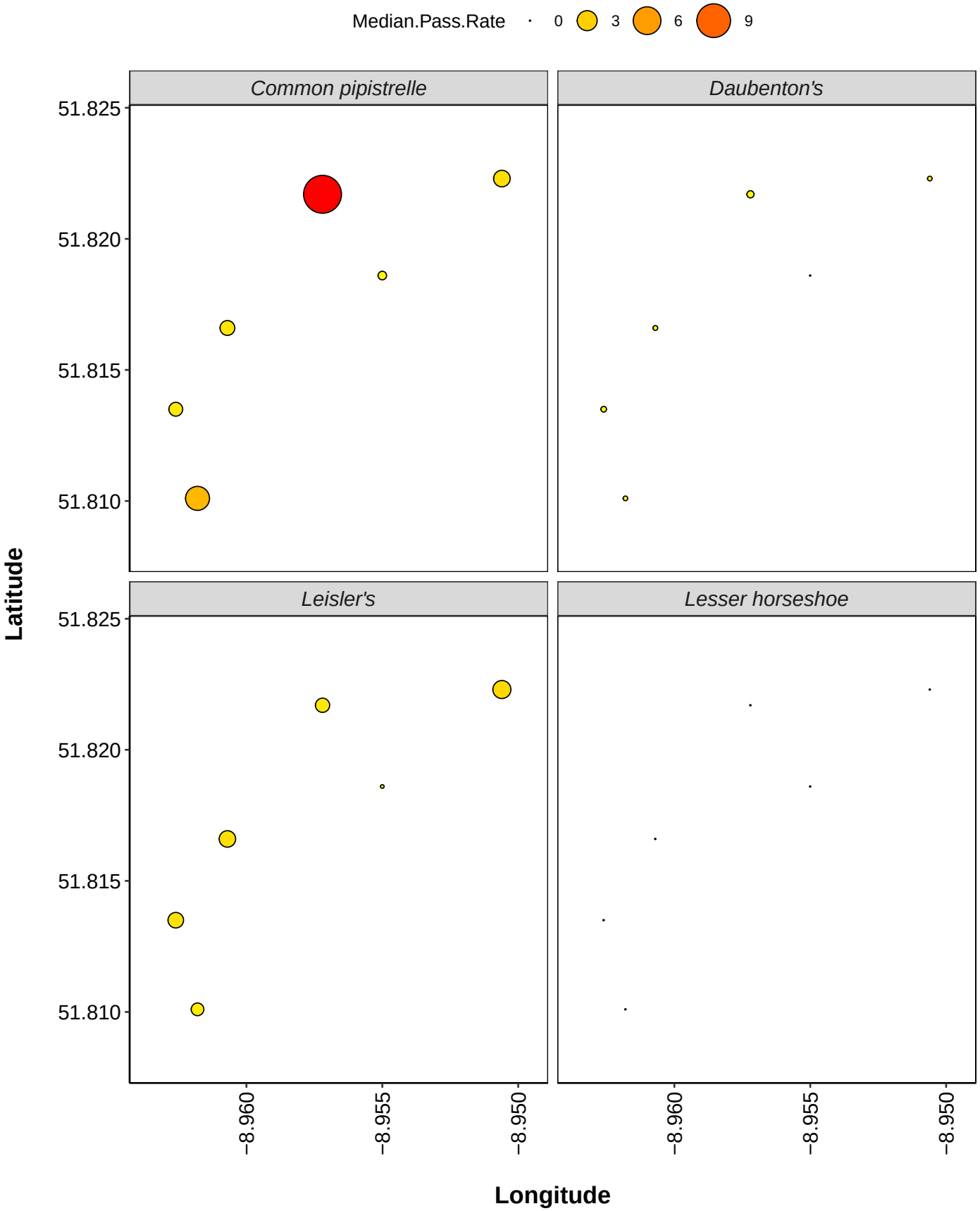


Figure 19. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.



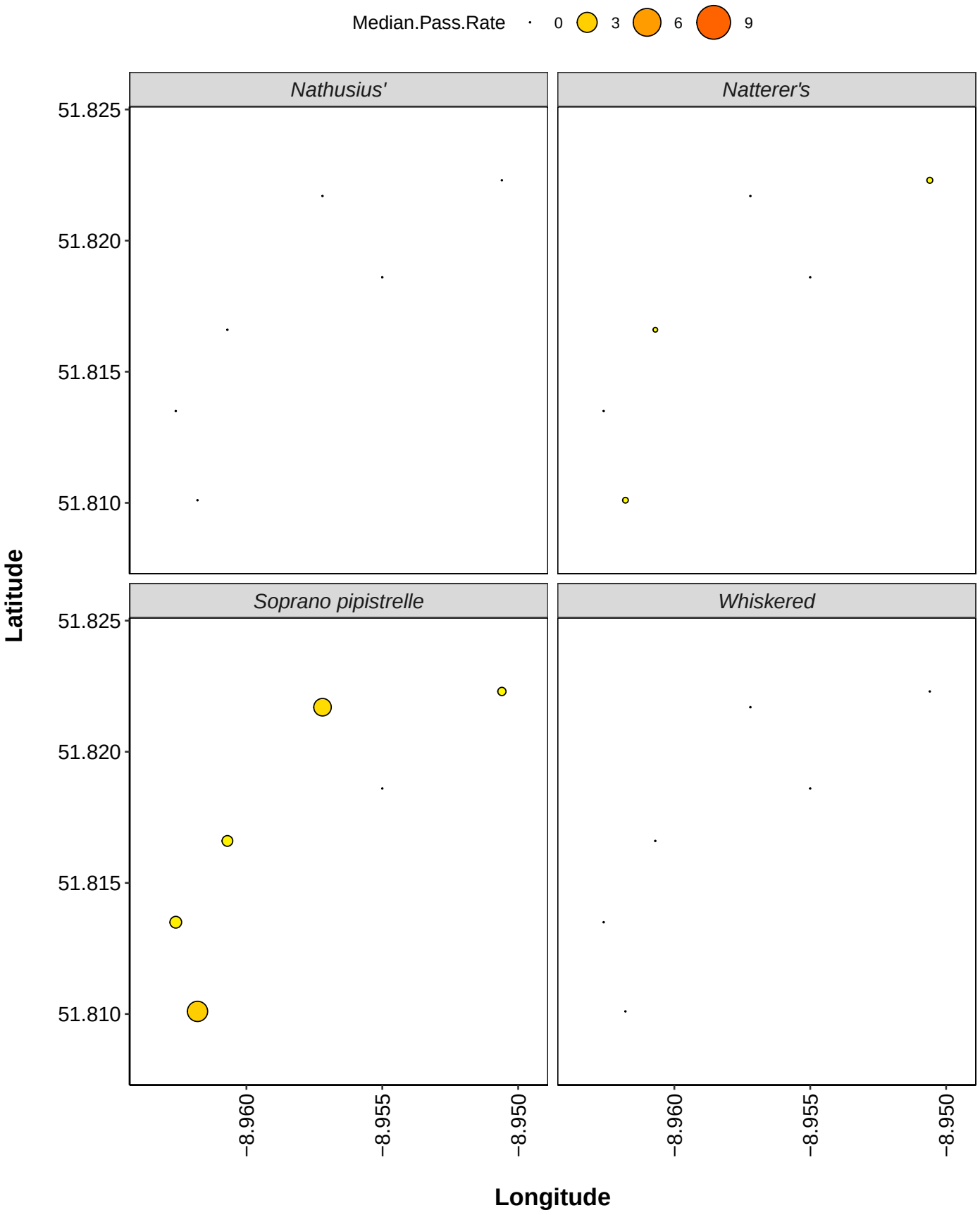
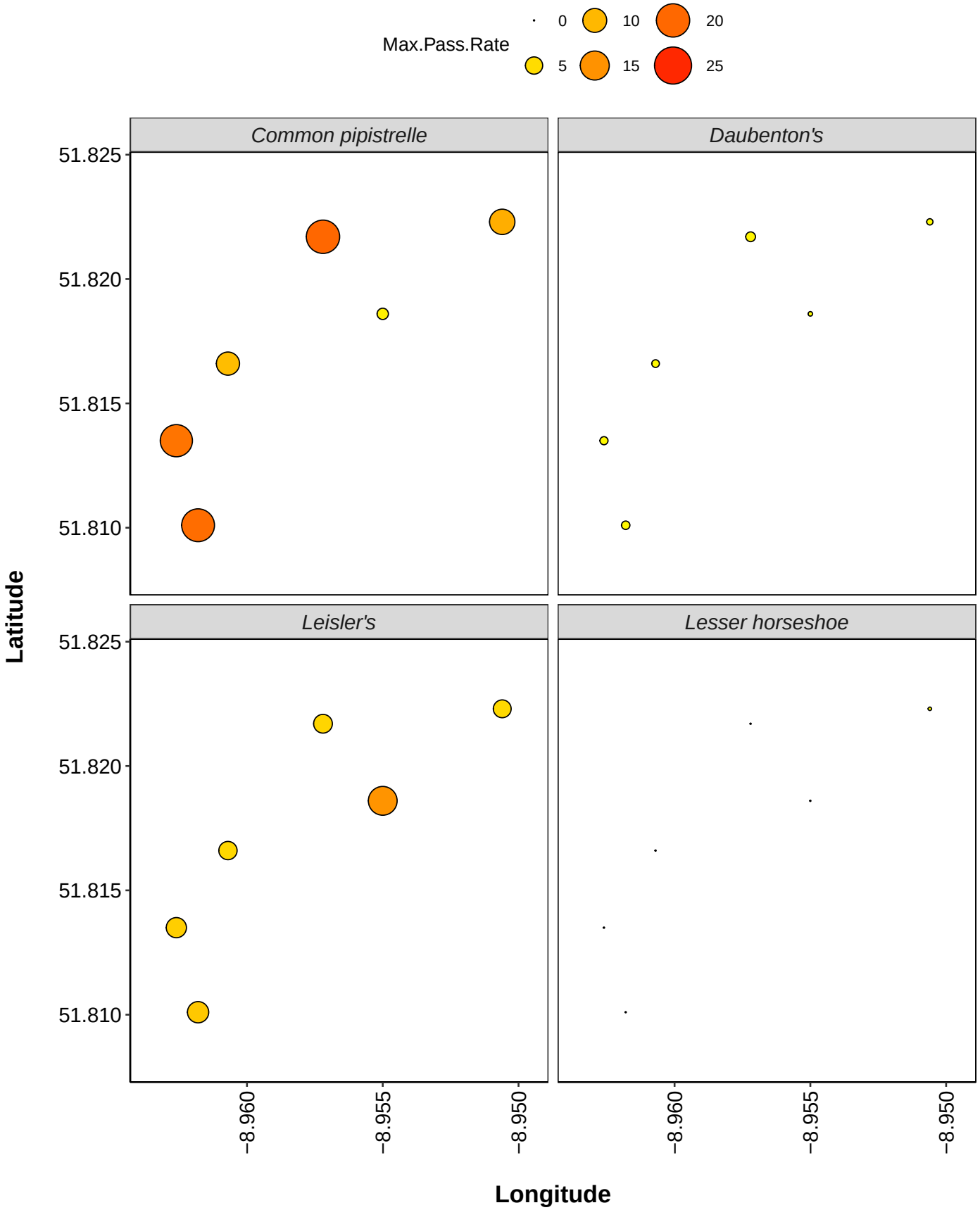
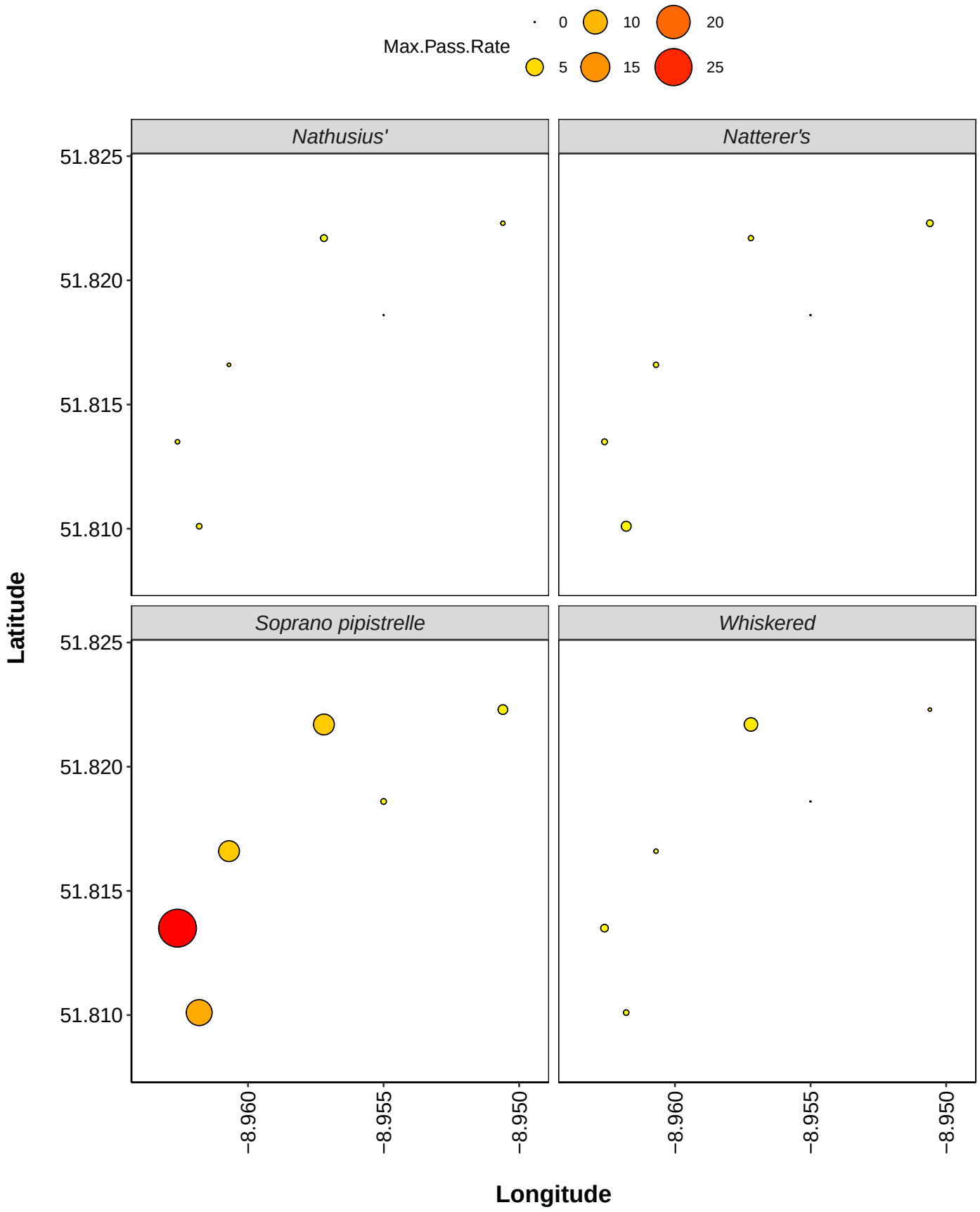

Median.Pass.Rate
0
3
6
9
Nathusius'
Natterer's
Soprano pipistrelle
Whiskered
51.825
51.820
51.815
51.810
−8.960
−8.955
−8.950
Latitude
Longitude

Figure 20. Maximum Nightly Pass Rate (bat passes/hr/night) recorded in a single night throughout the survey period - represented by the size and colour of the point at each detector location.





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