

Technical Appendix 6.4: Bat Survey Report



Technical Report 6.4 Bat Survey Report

Ravengill Energy Park

Ravengill Energy Park Limited

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1.0 Introduction

MacArthur Green (now SLR¹) was commissioned by the Applicant to carry out bat surveys at the Site, located north of Leadhills village, South Lanarkshire.

Bat surveys included:

- desk study;
- a Daytime Bat Walkover (DBW) and Ground Level Tree Assessment (GLTA) (2025); and
- automated activity surveys (2025).

The aim of the surveys was to quantify Site usage by bats and variation in bat activity levels within the Site and survey area, and to inform the ecological impact assessment for the Proposed Development's Environmental Impact Assessment Report (EIAR).

2.0 The Site and Survey Area

The Site, covering an area of approximately 2,554.5 hectares (ha), is located 1 km north of Leadhills village, 1.5 km south of Abington village and west of the A74(M) motorway. The Site is predominantly comprised of open moorland, mostly comprising of a mixture of wet and dry heath, acid grassland and blanket bog habitats; areas of woodland are rare and scattered (see detailed habitats information in **Technical Appendix 6.2: National Vegetation Classification & Habitats Survey Report (EIAR Volume 4)**).

The Site terrain is undulating with multiple hills such as Ravengill Dod (499 m AOD), Coom Dod (553 m AOD), Hunt Law (523 m AOD) and Brown Dod (489 m AOD). This landscape is typical of the wider location within the Southern Uplands. There are multiple watercourses within the Site, including tributaries of the River Clyde such as Glengonnar Water through the centre of the Site and Snar Water in the west. The River Clyde lies 1 km east of the application boundary at its closest point, and Elvan Water runs along the southern extent of the application boundary.

The Site does not overlap with any statutory or local designated sites containing bat related qualifying features.

The 'survey area' in which bat surveys were undertaken for the Proposed Development is shown on **Figure 6.9 (EIAR Volume 3a)** and covered the Site as well as significantly beyond the application boundary in some areas, particularly to the southeast, reflecting earlier areas of development interest. The temporal (Anabat) survey locations consisted of 17 Anabat deployment locations, as also shown in **Figure 6.9 (EIAR Volume 3a)**.

The DBW and GLTA surveys were undertaken during June and July 2025 and covered the entire survey area shown in **Figure 6.9 (EIAR Volume 3a)**.

The Proposed Development and Site are fully described within **Chapter 2: Proposed Development (EIAR Volume 2)** and **Chapter 3: Design Evolution (EIAR Volume 2)** of the EIAR.

¹ Following acquisition, MacArthur Green became part of SLR Consulting Limited on 1 September 2025.



3.0 Bats and Wind Farms

3.1 Policy and Guidance

All bat species are protected under the following legislation:

- The Habitats Directive 92/43/EEC (as amended);
- The Wildlife and Countryside Act 1981 (as amended); and
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

Details pertaining to the legal status of bats are included within **Annex A** and in **Table 6.4.12**.

In the UK and Europe, guidelines have been produced with regards to assessing the ecological impact upon bats from wind farm developments. These guidelines help to inform survey and mitigation strategies.

The following guidance documents have been used in the preparation of this report:

- Andrews, H. (2018). *Bat Roosts in Trees: a guide for identification and assessment for tree-care and ecology professionals*. Pelagic Publishing, Exeter;
- Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th Edition. The Bat Conservation Trust, London;
- Reason, P.F. and Wray, S. (2025). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Version 1.2. Chartered Institute of Ecology and Environmental Management, Ampfield;
- Russ, J. (2012). *British Bat Calls, A Guide to Species Identification*. Pelagic Publishing, Exeter; and
- NatureScot, Natural England, Natural Resources Wales, Renewable UK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter & Bat Conservation Trust (BCT). (2021). *Bats and Onshore Wind Turbines: Survey Assessment and Mitigation*.

4.0 Methods

4.1 Desk-Based Assessment

A desk-based study was undertaken with regards to the presence of bat species within the Site and its environs.

A National Biodiversity Network (NBN)² Atlas Scotland search was completed to obtain bat records from 2010 to 2025 within 10 km of the Site.

4.2 Field Survey Methods

4.2.1 Daytime Bat Walkover

The DBW followed the assessment methodology as set out in Collins (2023)³ to observe, assess and record any habitats suitable for bats to roost, commute or forage, in trees, buildings and structures for Potential Roost Features (PRFs), which could support roosting

² NBN Atlas occurrence available at <https://nbnatlas.org> [Accessed January 2026]

³ Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th Edition. The Bat Conservation Trust, London.



bats. Where PRFs in structures were identified, they were assigned a value of low, moderate or high suitability which indicates the likelihood of bats being present and informs the requirement for further survey work, such as internal inspections and/or dusk and dawn bat activity surveys. Collins (2023)³, state the following descriptions for assessing PRFs in structures:

- Low – A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions⁴ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity or hibernation⁵).
- Moderate – A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions⁴ and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the assessments are made irrespective of species conservation status, which is established after presence is confirmed).
- High – A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions⁴ and surrounding habitat. These structures have the potential to support high conservation status roosts.

4.2.2 Ground Level Tree Assessment

A GLTA was conducted for trees within the survey area and followed the methodology as set out in Collins (2023)³. Any trees with PRFs were categorised as one of the following:

- PRF-I – PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
- PRF-M – PRF is suitable for multiple bats and may therefore be used by a maternity colony.

The DBW and GLTA was carried out within the survey area in 2025, as shown in **Figure 6.9 (EIAR Volume 3a)**.

4.2.3 Automated Activity Surveys

NatureScot *et al.* (2021)⁶ recommends that, “Where developments have more than ten turbines, detectors should be placed within the developable area at ten potential turbine locations plus a third of additional potential turbine sites up to a maximum of 40 detectors for the largest developments”.

The Proposed Development layout at the time of survey in 2025 included 32 proposed wind turbines. A 32-turbine site requires 17 locations to be sampled. The 17 detectors were placed at, or in proximity to, potential wind turbine locations across the Site, deployed seasonally (three deployment periods) from May to September. NatureScot *et al.* (2021)⁶

⁴ For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

⁵ Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

⁶ NatureScot, Natural England, Natural Resources Wales, Renewable UK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter & Bat Conservation Trust (BCT). (2021). Bats and Onshore Wind Turbines: Survey Assessment and Mitigation.



also recommends a minimum of 10 consecutive nights of sampling per seasonal deployment. Detector locations are shown in **Figure 6.9 (EIAR Volume 3a)**.

Anabat Swift detectors recording full spectrum files were deployed for a minimum period of 14 consecutive nights across the Site (i.e. exceeding minimum survey requirements of 10 days per season; spring April - May, summer June - mid-August; autumn mid-August - October) and were positioned at a height of 2 m. Each detector recorded bats from dusk to dawn with detectors starting 30 minutes before dusk and finishing 30 minutes after dawn. Detector operating times and a description of the habitat type at each location shown in **Table 6.4.13 of Annex B**.

The Swift detector was deployed with the following settings:

- sensitivity value of 14;
- minimum frequency of 15 kHz;
- maximum frequency of 250 kHz;
- maximum file length of 15 s;
- minimum event of -2 ms; and
- sampling rate of 320 kHz.

Data was analysed using Kaleidoscope Pro Auto ID classifier which assigns a species label to a sound file⁷. To ensure that all bat calls (with the exception of common and soprano pipistrelle which were excluded) were identified correctly by the software, they were manually reviewed by an appropriately trained ecologist using Kaleidoscope Viewer. This method of analysis is in line with current guidelines for data analysis which recommends the manual checking of all non-Pipistrellus (excluding Nathusius' pipistrelle) calls when using automated methods³. Sound files labelled as noise were reviewed. Guidance on call parameters was taken from Russ (2012)⁸.

For the purpose of this report and for Ecobat analysis, a single bat registration was classed as a single labelled Kaleidoscope file containing a sequence of bat pulses.

In line with NatureScot *et al.* (2021)⁶, further analysis of bat data was carried out using the secure online tool Ecobat⁹, to gain a measure of relative bat activity at the Site. Ecobat data was then evaluated in accordance with NatureScot *et al.* (2021)⁶ guidance to determine the overall Site risk level. The Ecobat analysis automatically analyses data per month and not per season. The results are presented based on this analysis per month.

4.3 Methods for Analysing Bat Activity

NatureScot *et al.* (2021)⁶ details the methodology for analysing bat activity levels. This method is summarised below and involves the following steps:

- 1 Estimating bat activity levels;
- 2 Categorising collision risk of the relevant species;
- 3 Identifying population relevant abundance (size of the populations);

⁷ Reason, P.F. and Wray, S. (2025). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.2. Chartered Institute of Ecology and Environmental Management, Ampfield.

⁸ Russ, J. (2012). British Bat Calls, A Guide to Species Identification. Pelagic Publishing, Exeter.

⁹ Mammal Society (2024). Bat survey tools - Ecobat. Available at: <https://mammal.org.uk/current-research/bat-survey-tools>. [Accessed January 2026]



- 4 Categorising the potential vulnerability of bat populations by combining collision risk with population abundance;
- 5 Categorising the Site risk level;
- 6 Completing the overall risk assessment; and
- 7 An assessment of significance and mitigation.

The following sections outline the methods used in each step.

4.3.1 Step 1: Bat Activity Levels

A measure of relative bat activity was obtained using the secure online tool Ecobat⁹ for automated data. NatureScot *et al.* (2021)⁶ explains that, "The tool compares data entered by the user with bat survey information collected from similar areas at the same time of year and in comparable weather conditions.... Ecobat generates a percentile rank for each night of activity and provides a numerical way of interpreting the levels of bat activity recorded at a site across regions in Britain". Table 6.4.1 below, taken from NatureScot *et al.* (2021)⁶, shows the five percentile categories for ease of reference.

The reference range data set were stratified to include:

- only records from within +/- 1 month of the survey date; and
- only records from within the Region of the survey location.

Table 6.4.1: Percentile Score and Categorised Level of Bat Activity

Percentile Score	Bat Activity
81 to 100	High (5)
61 to 80	Moderate to High (4)
41 to 60	Moderate (3)
21 to 40	Low to Moderate (2)
0 to 20	Low (1)

4.3.2 Step 2: Vulnerability to Collision

Appendix 3 of NatureScot *et al.* (2021)⁶ presents a generic assessment of vulnerability to collision for UK species, based on species behaviour, flight characteristics and casualties in the UK and Europe. Table 6.4.2 provides a summary of the vulnerability of each bat species to collision.

Table 6.4.2: Vulnerability of Bat Species to Turbine Impact (Collision) in the UK

Low Risk	Medium Risk	High Risk
<i>Myotis</i> spp.	Serotine	Common pipistrelle
Long-eared bats	Barbastelle	Soprano pipistrelle
Horseshoe bats		Noctule
		Leisler's bat
		Nathusius' pipistrelle

Habitat characteristics at the location of wind turbines can have an important influence on the vulnerability of bat species to collision. For example, proximity to key feeding sites and

commuting routes such as water features and woodland edge habitats is known to increase the likelihood of bat collision (NatureScot *et al.*, 2021)⁶.

4.3.3 Step 3: Population Relative Abundance

NatureScot *et al.* (2021)⁶ details the sensitivity of a bat species to impact based on their population's relative abundance in Scotland as detailed in Table 6.4.3. Species with the rarest relative abundance are more susceptible to significant effects.

Table 6.4.3: Population Relative Abundance of Bats in Scotland

Relative Abundance	Species
Common	Common pipistrelle (<i>Pipistrellus pipistrellus</i>) Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)
Rarer	Brown long-eared bat (<i>Plecotus auritus</i>) Daubenton's bat (<i>Myotis daubentonii</i>) Natterer's bat (<i>Myotis nattereri</i>)
Rarest	Whiskered bat (<i>Myotis mystacinus</i>) Brandt's bat (<i>Myotis brandtii</i>) Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>) Noctule bat (<i>Nyctalus noctule</i>) Leisler's bat (<i>Nyctalus leisleri</i>)

4.3.4 Step 4: Potential Vulnerability of Bat Populations

Table 6.4.4, sourced from NatureScot *et al.* (2021)⁶, uses the measure of collision risk, in combination with population relative abundance, to indicate the potential vulnerability of populations of British bat species. The overall potential vulnerability of bat populations is identified as: low (yellow), medium (orange), high (red).

Table 6.4.4: Level of Potential Vulnerability of Populations of British Bat Species

Relative Abundance of Bats in Scotland	Collision Risk		
	Low collision risk	Medium collision risk	High collision risk
Common species			Common pipistrelle Soprano pipistrelle
Rarer species	Brown long-eared bat Daubenton's bat Natterer's bat		
Rarest species	Whiskered bat Brandt's bat		Nathusius' pipistrelle Noctule bat Leisler's bat

4.3.5 Step 5: Categorise the Site Risk Level

The Site risk level is categorised through a combination of habitat risk and project size which is then entered into the table matrix as shown below in Table 6.4.5 to calculate the overall Site risk level. The full matrix table, as provided within NatureScot *et al.* (2021)⁶, is shown in



Annex C of this report and includes descriptions on how to determine the habitat risk and project size for the Proposed Development.

Table 6.4.5: Initial Site Risk Assessment

Habitat Risk	Project Size		
	Small	Medium	Large
Low	1	2	3
Moderate	2	3	4
High	3	4	5

Key: Green (1-2) – low/lowest site risk; Amber (3) – medium site risk; Red (4-5) – high/highest site risk*

* Some sites could conceivably be assessed as being of no (0) risk to bats. This assessment is only likely to be valid in more extreme environments, such as above the known altitudinal range of bats, or outside the known geographical distribution of any resident British species.

4.3.6 Step 6: Risk Assessment

The overall risk assessment is undertaken for high collision risk species identified on-Site and involves combining Site risk level (**Table 6.4.5**) with the Ecobat activity level (**Table 6.4.1**). The overall risk assessment matrix is shown in **Table 6.4.6** below where 'Low' Site risk level (green) is 0-4, 'Medium' Site risk level (amber) is 5-12, and 'High' Site risk level (red) is 15-25.

Table 6.4.6: Overall Risk Assessment

Site Risk Level	Ecobat Activity Category (or equivalent justified categorisation)					
	Nil (0)	Low (1)	Low-Moderate (2)	Moderate (3)	Moderate-High (4)	High (5)
Lowest (1)	0	1	2	3	4	5
Low (2)	0	2	4	6	8	10
Medium (3)	0	3	6	9	12	15
High (4)	0	4	8	12	15	18
Highest (5)	0	5	10	15	20	25

4.3.7 Step 7: Assessment of Significance and Mitigation

The outputs of the risk assessment detailed in Step 6 above are then used to assess the significance of effect within the EIAR. At this stage, other Site-specific factors should be considered such as habitat characteristics (and how they may change), behaviour of species at the Site, and location of the Site regarding the natural range of the species and how this could affect favourable conservation status.

Mitigation measures as detailed within NatureScot *et al.* (2021)⁶ are then considered where appropriate.

5.0 Bat Survey Limitations

The guidance⁶ recommends the minimum level of pre-application survey required for ground level static detectors to be 10 nights of recordings in each of spring (April - May), summer (June to mid-August) and autumn (Mid-August to October). Ground-level automated activity surveys commenced in May and were completed in September.



Automated activity surveys should capture a sufficient number of nights (minimum of 10 nights) with appropriate weather conditions for bat activity (i.e., temperatures of on or above 8 °C in Scotland at dusk, maximum ground level wind speed of 5 m/s and no, or only very light, rainfall)⁸. To account for the potential limitations of weather on the number of suitable nights recorded, surveys were carried out over longer deployment periods, with a minimum of 14 nights recorded.

The Ecobat analysis automatically analyses data per month and not per season. The results are presented based on analysis per month.

Due to unforeseen errors with the detectors, microphones or batteries, it was not always possible to achieve 14 consecutive nights of recordings. Five detectors failed to record data for minimum 10 nights during a deployment period. Location 11 in July and Location 7 in August/September¹⁰, failed to record any data. In May, Locations 1, 5 and 6 recorded between eight to nine nights. As the majority of locations recorded for more than 10 nights, with a total of 657 complete nights recorded which is significantly greater than the minimum number of nights required for the Proposed Development which comprises 21 wind turbines (i.e., 14¹¹ Anabats * 10 nights * 3 seasonable deployments = 420 nights of data required), the small loss of data is not considered to have materially altered the overall assessment of risk. The survey timings can be seen in **Annex B, Table 6.4.13**.

For some *Myotis* spp. calls it was only possible to identify the call to genus level. It is possible that for *Myotis* spp. these recordings could represent species not identified in the analysis of the recorded data. *Myotis* spp. bats are categorised as low collision risk species and are therefore not included in the final risk assessment in accordance with the guidance⁶.

Anabat detectors are a commonly used bat detector for acoustic monitoring at wind farm sites, however all bat detectors have limitations and will only monitor bat activity within a limited area, which for Anabats is usually around 30 m, depending on a variety of environmental factors. Furthermore, due to passive monitoring methodologies depending on sound reaching the microphone, the detection rate of bat calls varies with a bias towards loud bat calls with quieter calls, namely brown long-eared bats (low collision risk species), potentially being under-recorded.

6.0 Survey Results and Analysis

6.1 Desk-Based Assessment

The NBN Atlas data search² returned records of the following bat species within 10 km of the Site between 2010 - 2025 inclusive:

- Brown long-eared;
- Common pipistrelle;
- Daubenton's bat;
- Leisler's bat;
- Natterer's bat; and
- Soprano pipistrelle.

Details regarding licences and data providers for these records are included in **Table 6.4.7**.

¹⁰ Visit 3 in autumn was deployed over August and September.

¹¹ In line with NatureScot *et al.* (2021) guidance, a 21 wind turbine development would require the deployment of 14 static detectors.



Table 6.4.7: Data Providers for NBN Atlas Scotland Records Used

Species	Data Provider	Licence
Brown long-eared	Bat Conservation Trust (BCT) (David Dodds)	OGL ¹²
Common pipistrelle	Scottish Natural Heritage (SNH)/British Trust for Ornithology (BTO) (Southern Scotland Bat Survey)	OGL
Daubenton's	SNH/BTO (Southern Scotland Bat Survey), Bat Conservation Trust (BCT) (David Dodds)	OGL
Leisler's	SNH/BTO (Southern Scotland Bat Survey), NatureScot	OGL
Natterer's	SNH/BTO (Southern Scotland Bat Survey), Bat Conservation Trust (BCT) (David Dodds)	OGL
Soprano pipistrelle	SNH/BTO (Southern Scotland Bat Survey), NatureScot (Freda Seddon)	OGL

6.2 Daytime Bat Walkover and Ground Level Tree Assessment

The DBW and GLTA survey was undertaken in June and July 2025. Associated PRF records are shown in **Figure 6.9 (EIAR Volume 3a)** with the detailed results (target notes) listed in **Table 6.4.15, Annex D**.

In summary, there was one feature (i.e., structure) recorded which contained potential suitability for roosting bats within the respective survey area. Potential roosting suitability was classified as Low (see **Figure 6.9 (EIAR Volume 3a)**). This PRF structure was recorded within the Site and consists of a ruined stone structure; this feature is located over 787 m from the nearest proposed turbine (Turbine 3) and is around 136 m from the nearest proposed track. No moderate or high PRFs were recorded within 200 m plus rotor radius of a proposed wind turbine location and as such did not require further surveys.

No trees were recorded with suitability for roosting bats within the survey area.

6.3 Automated Activity Surveys

MacArthur Green (now SLR¹) deployed detectors at 17 locations within the survey area from May to September in 2025 over a total period of 42 days and collecting 657 complete recording nights of data, see **Table 6.4.13 of Annex B** and **Figure 6.9 (EIAR Volume 3a)**.

Between May to September, bats were detected on 35 of the 42 nights. A total of five bat species and two genus classification were recorded for these locations. The total number of passes (registrations) recorded for each species across all the detectors within the Site is shown below in **Table 6.4.8**.

Table 6.4.8: Total number of Bat Passes for Each Species Across all Locations

Species/Species Group	No of Registrations	Percentage of total (%)
Soprano pipistrelle	116	19.7
Common pipistrelle	338	57.5
<i>Nyctalus</i> spp.	110	18.7

¹² Open Government Licence (OGL) <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>.



Species/Species Group	No of Registrations	Percentage of total (%)
Daubenton's	4	0.7
<i>Myotis</i> spp.	8	1.4
Natterer's	4	0.7
Brown long-eared	8	1.4
Total	588	100.1¹³

The survey results were processed using the Ecobat tool¹³ to gain a measure of relative bat activity at the Site, the full Ecobat Report is appended in **Annex F**. The summarised results and analysis are presented in Steps 1 – 6 below.

6.3.1 Step 1: Bat Activity Levels

6.3.1.1 Average Annual Site Activity

Table 6.4.9 and **Chart 6.4.1** detail the average annual Site activity levels calculated using the Ecobat tool¹³.

The median percentile represents the most frequent activity category and the 'typical' bat activity levels at the Site; the maximum percentile can be used to help interpret if there are unusually high levels or important peaks of bat activity. The reference range is the number of nights for each species that the data was compared to (a reference range of 200+ is recommended to be confident in the relative activity level).

Table 6.4.9: Average Annual Site Activity Levels (taken from Ecobat Analysis¹⁴)

Species/Group	Median Percentile	Activity Level	95% CIs*	Maximum Percentile	Activity Level	Reference Range	Nights Recorded
<i>Myotis</i> spp.	2	Low	9 - 9	16	Low	1743	6
Daubenton's	1	Low	1 - 1	1	Low	690	4
Natterer's	16	Low	16 - 16	16	Low	198	4
<i>Nyctalus</i> spp.	2	Low	5 - 5	28	Low – Moderate	3811	45
Common pipistrelle	0	Low	1.5 - 1.5	12	Low	37908	97
Soprano pipistrelle	0	Low	0 - 0	4	Low	40575	53
Brown long-eared	54	Moderate	0	54	Moderate	123	8

*CIs: confidence intervals.

¹³ The 'Total' percentage may not be exactly 100% due to rounding of the percentages per species.

¹⁴ Taken from Ecobat analysis report created on the 19/12/2025 from static activity data of the Site in 2025 – see **Annex F**.



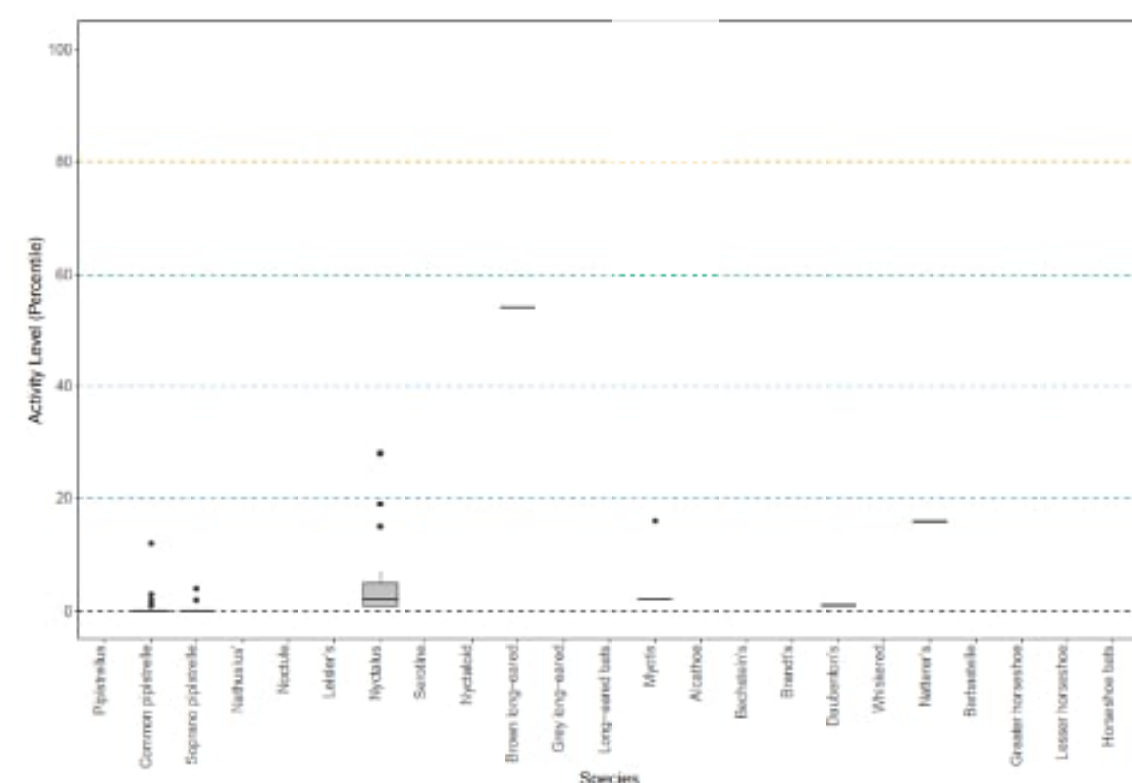


Chart 6.4.1: Average Annual Site Activity Levels

6.3.1.2 Monthly Location Specific Activity Levels

Data on the monthly activity levels per location is provided in Table 6.4.16 of Annex E.

6.3.2 Step 2, 3 and 4: Collision Risk, Population Relative Abundance and Potential Vulnerability

Table 6.4.10 details the collision risk, population relative abundance and potential vulnerability of the bat species recorded within the survey area.

Table 6.4.10: Collision Risk, Population Relative Abundance and Potential Vulnerability

Bat Species	Collision Risk	Population Relative Abundance	Potential Vulnerability
Common pipistrelle	High	Common	Medium
Soprano pipistrelle	High	Common	Medium
Nyctalus spp.	High	Rarest	High
Natterer's	Low	Rarer	Low
Daubenton's	Low	Rarer	Low
Brown long-eared	Low	Rarer	Low

6.3.3 Step 5: Categorising Site Risk Level

The Site risk level is determined by project size and habitat risk (see Table 6.4.5). The Site consists of 21 wind turbines that are over 50 m in height, and so falls within the 'Medium' project size, as shown in Table 6.4.5 and Table 6.4.14 of Annex C.

In terms of habitat risk for bats, there are no buildings, structures, or trees with moderate and/or high bat roosting potential within 200 m plus the rotor radius (85 m) of wind turbines. Foraging habitat quality and connectivity within this buffer area is low due to the Site being a large high altitude open upland moorland with connectivity to the Site and the wider landscape being relatively isolated, resulting in a habitat risk classification of 'Low' as shown in Table 6.4.5 and Table 6.4.14 of Annex C.

According to Table 6.4.6 above, the 'Medium' project size combined with a 'Low' habitat risk level results in an overall Site risk assessment of 'Low/Lowest' (2).

6.3.4 Step 6: Risk Assessment – High Collision Risk Species Only

The overall risk assessment is undertaken for high collision risk species which were identified within the Site. No medium risk species were recorded within the Site. Low-risk species have a low risk of collision with a wind turbine blade, so the impact of the Site on the local bat population would likely be negligible.

The overall risk assessment involves multiplying the Site's risk level (Table 6.4.5) with the median and the maximum Ecobat activity levels (Table 6.4.1) to calculate both the typical (median) Site risk level, and the maximum Site risk level.

Table 6.4.11 combines the seasonal data and summarises the overall risk assessment score for high-risk species based on the median and maximum percentiles for the Site. The overall Site risk scores for all high collision risk species based on the median and maximum percentiles were 'Low' (2 - 4). No 'Medium' or 'High' Site risk scores were recorded for high collision risk bat species.

Table 6.4.11: Risk Assessment Scores Based on Median and Maximum Percentiles for High Collision Risk Species

Species	Risk Assessment Score based on Median Percentile	Risk Assessment Score based on Max. Percentile
Common pipistrelle	Low (2)	Low (2)
Soprano pipistrelle	Low (2)	Low (2)
Nyctalus spp.	Low (2)	Low (4)

Figures 6.10 - 6.12 (EIAR Volume 3a) illustrate the results of the median monthly risk assessment scores for high collision risk bat species recorded at the Site at each survey location, illustrating how bat activity and risk levels vary within the survey area across the year and by species. This data is also presented in Table 6.4.16 of Annex E which includes both the median and maximum monthly risk assessment scores. Further Site-specific discussion regarding each high-risk species is provided below.

6.3.4.1 Common Pipistrelle

As shown in Figure 6.10 (EIAR Volume 3a), analysis of the risk assessment scores for common pipistrelle, when based on the median percentile, indicate consistent levels of no/low activity across the survey locations throughout the year, with all locations having a risk assessment score of 2 (i.e., Low overall risk) or 0 (no activity) in each survey visit. Location 11 in July and Location 7 in August/September¹⁰ recorded no data.



6.3.4.2 Soprano Pipistrelle

As shown in **Figure 6.11 (EIAR Volume 3a)**, analysis of the risk assessment scores for soprano pipistrelle, when based on the median percentile, follow similar results as common pipistrelle, with consistent levels of no/low activity across the majority of survey locations throughout the year, with all locations having a risk assessment score of 2 (Low overall risk) or 0 (no activity) in each survey visit.

6.3.4.3 *Nyctalus* spp.

As shown in **Figure 6.12 (EIAR Volume 3a)**, analysis of the risk assessment scores for *Nyctalus* spp., when based on the median percentile, indicate consistent levels of no/low activity across the majority of survey locations throughout the year, with all locations having a risk assessment score of 2 (Low overall risk) or 0 (no activity) in each survey visit.

6.3.4.4 Summary

In summary, the Site risk level for the high collision risk species recorded is generally Low, with many instances of no activity (as per **Figures 6.10 - 6.12 (EIAR Volume 3a)**). There were no Medium or High risk assessment scores being attributed to high collision species and there were no peaks in bat activity across the Site. Overall, the general low levels of bat activity reflect the prevailing Site conditions and habitats present, i.e., a very exposed and high-altitude upland moorland location with a distinct lack of trees, suitable foraging habitats, commuting features, or potential roost sites.

7.0 Proximity of Roost Sites Based on Activity Data

The Ecobat output includes an analysis of bat activity data at sample locations, referenced against the known roost emergence times for each high collision risk bat species (Russ, 2012). This indicates whether a roost site may be present in close proximity to a sample location. This data is presented on pages 62 to 96 of the Ecobat report in **Annex F**.

Bat activity at Location 16 (which is located over 1.6 km from the application boundary (**Figure 6.9 (EIAR Volume 3a)**)) indicated the potential for nearby roost sites which recorded *Myotis* spp. (a low-risk species) during their known emergence time ranges, as detailed in **Annex F**. The number of bat call registrations was three and was recorded in August which is out with the maternity roost season (15th June to 30th July)¹⁵. No calls against the known roost emergence times for each high collision risk bat species, during the maternity roost season were recorded (see page 81 of the Ecobat report in **Annex F**).

Despite the above and, as per the DBW and GLTA in **Section 6.2**, it is unlikely that there are roosts within the Site.

¹⁵ Ecobat report defines the maternity period between 15th June – 30th July.



8.0 Annex A. Bats Legal Status

Information contained in this Annex is a summarised version of the legislation and should be read in conjunction with the appropriate legislation.

All bat species receive protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)¹⁶.

For any wild bat species, it is an offence to deliberately or recklessly:

- capture, injure or kill a bat;
- harass a bat or group of bats;
- disturb a bat in a roost (any structure or place it uses for shelter or protection);
- disturb a bat while it is rearing or otherwise caring for its young;
- obstruct access to a bat roost or otherwise deny an animal use of a roost;
- disturb a bat in a manner or in circumstances likely to significantly affect the local distribution or abundance of the species;
- disturb a bat in a manner or in circumstances likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young; and
- disturb a bat while it is migrating or hibernating.

It's also an offence to:

- damage or destroy a breeding site or resting place of such an animal (whether or not deliberately or recklessly); and
- keep, transport, sell or exchange, or offer for sale or exchange any wild bat (or any part or derivative of one) obtained after 10 June 1994¹⁷.

¹⁶ Sections 39(1) – (3)

¹⁷ Available online: <https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species/protected-species-z-guide/protected-species-bats>.



Table 6.4.12: Legal and Conservation Status of all UK Bats¹⁸

Species	Legislation / Convention													
	Bern Convention Appendix II	Bern Convention Appendix III	WCA	Habitats Directive Annex IV	Habitats Directive Annex II	Habitats Regs 1994 (as amended) Scotland	Conservation of Habitats & Species Regs 2010	Conservation Regs (NI Ireland) 1995	CROW Act 2000	NERC Act 2006	Wild Mammals Protection Act	UK BAP Priority species	IUCN Red List*	EUROBATS Agreement
Greater horseshoe bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Lesser horseshoe bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Daubenton's bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Natterer's bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Whiskered bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Brandt's bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Bechstein's bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NT	✓
Alcathoe bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	DD	✓
Noctule	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Leisler's bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Serotine	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Common pipistrelle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Soprano pipistrelle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Nathusius' pipistrelle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Brown long-eared bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Grey long-eared bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓
Barbastelle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NT	✓
Greater mouse-eared bat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	LC	✓

*IUCN categories: LC is Least Concern, NT is Near Threatened, DD is Data deficient; see www.iucnredlist.org for more details.

¹⁸ Source: Bat Conservation Trust. Available online: http://www.bats.org.uk/pages/bats_and_the_law.html.



9.0 Annex B. Survey Timings and Anabat Locations

Table 6.4.13: Description of Anabat Locations and Summary of Temporal Survey Effort

Location	Easting	Northing	Bearing	Habitat	Total Number of Complete Recording Nights		
					Visit 1 15-16/05/2025 – 29-30/05/2025	Visit 2 02/07/2025 – 16/07/2025	Visit 3 21/08/2025 – 04/09/2025
1	286364	617049	180	Open moorland	8	14	14
2	288349	618133	190	Open moorland	14	14	14
3	287073	616142	120	Open moorland	14	14	14
4	287709	617214	100	Open moorland	14	14	10
5	290157	618004	140	Open moorland	8	14	14
6	290494	617403	60	Open moorland	9	14	14
7	290781	618106	220	Open moorland	14	14	0 ¹⁵
8	291257	618660	140	Open moorland	14	14	14 ^{2c}
9	291906	619614	100	Open moorland	14	9	14
10	291648	617338	190	Within 149 m of tributary of Elvan Water	14	14	14
11	292208	617823	90	Open moorland	14	0 ¹⁵	14
12	292418	618728	300	Within 162 m of tributary of Glenceaple Burn	11	14	14
13	292761	619274	120	Within 155 m of tributary of Hershaw Burn	14	14	14
14	291904	615736	320	Outwith application boundary, open moorland	14	14	14 ^{2c}
15	291300	615191	30	Outwith application boundary, open moorland	14	14	14
16	290928	614577	290	Outwith application boundary, open moorland	14	14	14

¹⁵ Detector failed to record during deployment.



Location	Easting	Northing	Bearing	Habitat	Total Number of Complete Recording Nights		
					Visit 1 15-16/05/2025 – 29-30/05/2025	Visit 2 02/07/2025 – 16/07/2025	Visit 3 21/08/2025 – 04/09/2025
17	291699	613988	120	Outwith application boundary, open moorland	14	14 ^x	14
Total					657		

^x: Detector had fallen at some point during deployment.



10.0 Annex C. Initial Site Risk Assessment

Table 6.4.14: Initial Site Risk Assessment²¹

Habitat Risk	Project Size		
	Small	Medium	Large
Low	1	2	3
Moderate	2	3	4
High	3	4	5

Key: Green (1-2) – low/lowest site risk; Amber (3) – medium site risk; Red (4-5) – high/highest site risk*

* Some sites could conceivably be assessed as being of no (0) risk to bats. This assessment is only likely to be valid in more extreme environments, such as above the known altitudinal range of bats, or outside the known geographical distribution of any resident British species.

Habitat Risk	Description
Low	Small number of potential roost features, of low quality. Low-quality foraging habitats that could be used by small numbers of foraging bats. Isolated site not connected to the wider landscape by prominent linear features.
Moderate	Buildings, trees or other structures with moderate-high potential as roost sites on or near the site. Habitat could be used extensively by foraging bats. Site is connected to the wider landscape by linear features such as scrub, tree lines and streams.
High	Numerous suitable buildings, trees (particularly mature ancient woodland) or other structures with moderate-high potential as roost sites on or near the site, and/or confirmed roosts present close to or on the site. Extensive and diverse habitat mosaic of high quality for foraging bats. Site is connected to the wider landscape by a network of strong linear features such as rivers, blocks of woodland and mature hedgerows. At/near edge of range and or an important flyway. Close to key roost and /or swarming.
Project Size	Description
Small	Small scale development (<10 turbines). No other wind energy developments within 10 km. Comprising turbines <50 m in height.
Medium	Larger developments (between 10 and 40). May have some other wind development within 5 km. Comprising turbines 50 – 100 m in height.
Large	Largest developments (>40 turbines) with other wind energy developments within 5 km. Comprising turbines >100 m in height.

²¹ Sourced from: NatureScot, Natural England, Natural Resources Wales, Renewable UK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter & Bat Conservation Trust (BCT). (2021). Bats and Onshore Wind Turbines: Survey Assessment and Mitigation.



11.0 Annex D. Daytime Bat Walkover and Ground Level Tree Assessment

Table 6.4.15: DBW and GLTA Target Notes

PRF_ID	Feature	Notes	Roosting Suitability	Grid Reference
PS034	Structure	Ruined remains of stone structure, Gaps and crevices in rocks around 2-2.5 m from ground.	Low	NS 87091 18881

12.0 Annex E. Monthly Location Specific Data

Table 6.4.16: Monthly Location Specific Data for High Collision Risk Species

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Site Risk Score	Overall Median Category Score	Overall Maximum Site Risk Score	Overall Maximum Category Score
loc1	Nyctalus spp.	Aug	2	Low	2	Low	2	2	Low	2	Low
loc1	Common pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc1	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc1	Common pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc1	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc1	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc10	Nyctalus spp.	Jul	5	Low	5	Low	2	2	Low	2	Low
loc10	Nyctalus spp.	Aug	3	Low	4	Low	2	2	Low	2	Low
loc10	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc10	Common pipistrelle	Aug	1	Low	1	Low	2	2	Low	2	Low
loc10	Common pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
loc10	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc10	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc11	Nyctalus spp.	Aug	5	Low	5	Low	2	2	Low	2	Low
loc11	Common pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc11	Common pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc11	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc11	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
loc12	Nyctalus spp.	Jul	1	Low	1	Low	2	2	Low	2	Low
loc12	Common pipistrelle	Jul	1	Low	1	Low	2	2	Low	2	Low
loc12	Common pipistrelle	Aug	1	Low	1	Low	2	2	Low	2	Low
loc12	Common pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
loc12	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low

Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Site Risk Score	Overall Median Category Score	Overall Maximum Site Risk Score	Overall Maximum Category Score
loc12	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc12	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
loc13	Nyctalus spp.	Aug	1	Low	4	Low	2	2	Low	2	Low
loc13	Common pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc13	Common pipistrelle	Jul	0	Low	3	Low	2	2	Low	2	Low
loc13	Common pipistrelle	Aug	0	Low	1	Low	2	2	Low	2	Low
loc13	Common pipistrelle	Sep	1	Low	1	Low	2	2	Low	2	Low
loc13	Soprano pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc13	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc13	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc13	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
loc14	Nyctalus spp.	Jul	1	Low	7	Low	2	2	Low	2	Low
loc14	Nyctalus spp.	Aug	16	Low	28	Low-Moderate	2	2	Low	4	Low
loc14	Common pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc14	Common pipistrelle	Jul	1	Low	1	Low	2	2	Low	2	Low
loc14	Common pipistrelle	Aug	0	Low	2	Low	2	2	Low	2	Low
loc14	Soprano pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc14	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc14	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc15	Nyctalus spp.	Jul	4	Low	4	Low	2	2	Low	2	Low
loc15	Nyctalus spp.	Aug	4	Low	6	Low	2	2	Low	2	Low
loc15	Common pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc15	Common pipistrelle	Jul	0	Low	1	Low	2	2	Low	2	Low
loc15	Common pipistrelle	Aug	1	Low	2	Low	2	2	Low	2	Low
loc15	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc15	Soprano pipistrelle	Aug	1	Low	2	Low	2	2	Low	2	Low



Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Site Risk Score	Overall Median Category Score	Overall Maximum Site Risk Score	Overall Maximum Category Score
loc16	Nyctalus spp.	Jul	6	Low	6	Low	2	2	Low	2	Low
loc16	Nyctalus spp.	Aug	4	Low	15	Low	2	2	Low	2	Low
loc16	Common pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc16	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc16	Common pipistrelle	Aug	1	Low	1	Low	2	2	Low	2	Low
loc16	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc16	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc16	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc17	Nyctalus spp.	Jul	1	Low	1	Low	2	2	Low	2	Low
loc17	Nyctalus spp.	Aug	1	Low	2	Low	2	2	Low	2	Low
loc17	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc2	Nyctalus spp.	Aug	1	Low	1	Low	2	2	Low	2	Low
loc2	Nyctalus spp.	Sep	1	Low	1	Low	2	2	Low	2	Low
loc2	Common pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc2	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc2	Common pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc2	Common pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
loc2	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc2	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc2	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc3	Nyctalus spp.	Aug	1	Low	1	Low	2	2	Low	2	Low
loc3	Common pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc3	Common pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc3	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc3	Soprano pipistrelle	Jul	1	Low	1	Low	2	2	Low	2	Low
loc4	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc4	Common pipistrelle	Aug	1	Low	1	Low	2	2	Low	2	Low
loc4	Soprano pipistrelle	Aug	0	Low	4	Low	2	2	Low	2	Low



Location ID	Species	Month	Median Percentile	Median Activity Category	Maximum Percentile	Maximum Activity Category	Site Risk	Overall Median Site Risk Score	Overall Median Category Score	Overall Maximum Site Risk Score	Overall Maximum Category Score
loc5	Nyctalus spp.	Aug	1	Low	1	Low	2	2	Low	2	Low
loc5	Common pipistrelle	Jul	1	Low	1	Low	2	2	Low	2	Low
loc5	Common pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc5	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc5	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
loc6	Nyctalus spp.	Aug	5	Low	5	Low	2	2	Low	2	Low
loc6	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc6	Common pipistrelle	Aug	1	Low	12	Low	2	2	Low	2	Low
loc6	Common pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
loc6	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc6	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
loc7	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc8	Nyctalus spp.	Jul	1	Low	1	Low	2	2	Low	2	Low
loc8	Nyctalus spp.	Aug	19	Low	19	Low	2	2	Low	2	Low
loc8	Common pipistrelle	May	0	Low	0	Low	2	2	Low	2	Low
loc8	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc8	Common pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc8	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
loc8	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc9	Nyctalus spp.	Aug	4	Low	4	Low	2	2	Low	2	Low
loc9	Common pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low
loc8	Soprano pipistrelle	Aug	0	Low	0	Low	2	2	Low	2	Low



13.0 Annex F. Ecobat Report





Making Sustainability Happen



Ecobat Report

2025-12-19

Geo filter: region, Time filter: +- 1 month

Summary

Bats were detected on **26** nights between **17/05/2025** and **03/09/2025**, using **17** static bat detectors. Throughout this period, **7** species were recorded. **Table 1.**
Detectors were placed at the following locations:

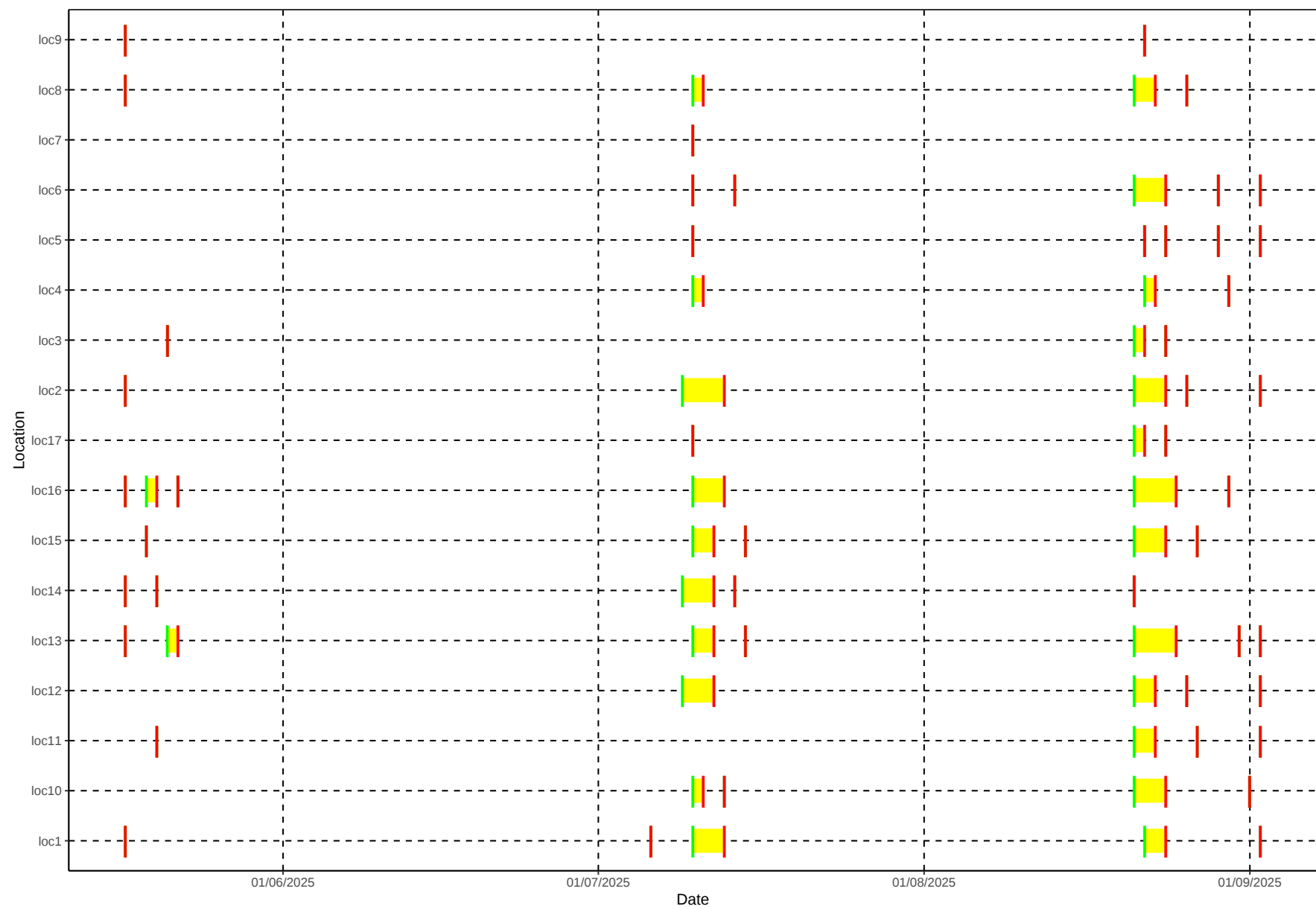
Detector ID	Latitude	Longitude
loc1	55.43410	-3.797481
loc11	55.44238	-3.705468
loc13	55.45553	-3.697290
loc14	55.42357	-3.709461
loc15	55.41854	-3.718786
loc16	55.41294	-3.724420
loc2	55.44395	-3.790261
loc3	55.42612	-3.785914
loc8	55.44968	-3.720821
loc10	55.40695	-4.321359
loc12	55.45055	-3.702500
loc17	55.40782	-3.712019
loc4	55.43590	-3.776302
loc5	55.44355	-3.737944
loc6	55.43822	-3.732383
loc7	55.44460	-3.728125
loc9	55.45840	-3.710936

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
loc1	10
loc10	9
loc11	6
loc12	10
loc13	15
loc14	11
loc15	10
loc16	14
loc17	4
loc2	13
loc3	4
loc4	5
loc5	5
loc6	8
loc7	1
loc8	7
loc9	2

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



Part 1: Percentile 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.

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	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
loc1	Myotis nattereri	0	0	0	0	0	2
loc1	Nyctalus	0	0	0	0	0	2
loc1	Pipistrellus	0	0	0	0	0	7
loc1	pipistrellus						
loc1	Pipistrellus pygmaeus	0	0	0	0	0	4
loc10	Myotis	0	0	0	0	0	1
loc10	Nyctalus	0	0	0	0	0	3
loc10	Pipistrellus	0	0	0	0	0	7
loc10	pipistrellus						
loc10	Pipistrellus pygmaeus	0	0	0	0	0	2
loc10	Plecotus auritus	0	0	0	1	0	0
loc11	Myotis	0	0	0	0	0	1
loc11	Nyctalus	0	0	0	0	0	1
loc11	Pipistrellus	0	0	0	0	0	5
loc11	pipistrellus						
loc11	Pipistrellus pygmaeus	0	0	0	0	0	2
loc12	Nyctalus	0	0	0	0	0	1
loc12	Pipistrellus	0	0	0	0	0	6
loc12	pipistrellus						
loc12	Pipistrellus pygmaeus	0	0	0	0	0	4
loc12	Plecotus auritus	0	0	0	1	0	0
loc13	Myotis	0	0	0	0	0	1
loc13	Myotis nattereri	0	0	0	0	0	1
loc13	Nyctalus	0	0	0	0	0	3
loc13	Pipistrellus	0	0	0	0	0	11
loc13	pipistrellus						

Detector ID	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
loc13	Pipistrellus pygmaeus	0	0	0	0	0	6
loc14	Myotis daubentonii	0	0	0	0	0	1
loc14	Nyctalus	0	0	0	0	2	5
loc14	Pipistrellus pipistrellus	0	0	0	0	0	6
loc14	Pipistrellus pygmaeus	0	0	0	0	0	6
loc14	Plecotus auritus	0	0	0	1	0	0
loc15	Myotis daubentonii	0	0	0	0	0	2
loc15	Myotis nattereri	0	0	0	0	0	1
loc15	Nyctalus	0	0	0	0	0	6
loc15	Pipistrellus pipistrellus	0	0	0	0	0	9
loc15	Pipistrellus pygmaeus	0	0	0	0	0	6
loc15	Plecotus auritus	0	0	0	1	0	0
loc16	Myotis	0	0	0	0	0	2
loc16	Nyctalus	0	0	0	0	0	6
loc16	Pipistrellus pipistrellus	0	0	0	0	0	9
loc16	Pipistrellus pygmaeus	0	0	0	0	0	6
loc16	Plecotus auritus	0	0	0	1	0	0
loc17	Nyctalus	0	0	0	0	0	4
loc17	Pipistrellus pipistrellus	0	0	0	0	0	1
loc2	Nyctalus	0	0	0	0	0	2
loc2	Pipistrellus pipistrellus	0	0	0	0	0	11
loc2	Pipistrellus pygmaeus	0	0	0	0	0	4

Detector ID	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
loc2	Plecotus auritus	0	0	0	1	0	0
loc3	Nyctalus	0	0	0	0	0	1
loc3	Pipistrellus	0	0	0	0	0	4
	pipistrellus						
loc3	Pipistrellus	0	0	0	0	0	1
	pygmaeus						
loc3	Plecotus auritus	0	0	0	1	0	0
loc4	Nyctalus	0	0	0	0	0	1
loc4	Pipistrellus	0	0	0	0	0	3
	pipistrellus						
loc4	Pipistrellus	0	0	0	0	0	3
	pygmaeus						
loc4	Plecotus auritus	0	0	0	1	0	0
loc5	Nyctalus	0	0	0	0	0	1
loc5	Pipistrellus	0	0	0	0	0	3
	pipistrellus						
loc5	Pipistrellus	0	0	0	0	0	2
	pygmaeus						
loc6	Nyctalus	0	0	0	0	0	3
loc6	Pipistrellus	0	0	0	0	0	7
	pipistrellus						
loc6	Pipistrellus	0	0	0	0	0	2
	pygmaeus						
loc7	Pipistrellus	0	0	0	0	0	1
	pipistrellus						
loc8	Myotis	0	0	0	0	0	1
loc8	Nyctalus	0	0	0	0	0	3
loc8	Pipistrellus	0	0	0	0	0	6
	pipistrellus						
loc8	Pipistrellus	0	0	0	0	0	4
	pygmaeus						
loc9	Myotis	0	0	0	0	0	1
	daubentonii						
loc9	Nyctalus	0	0	0	0	0	1

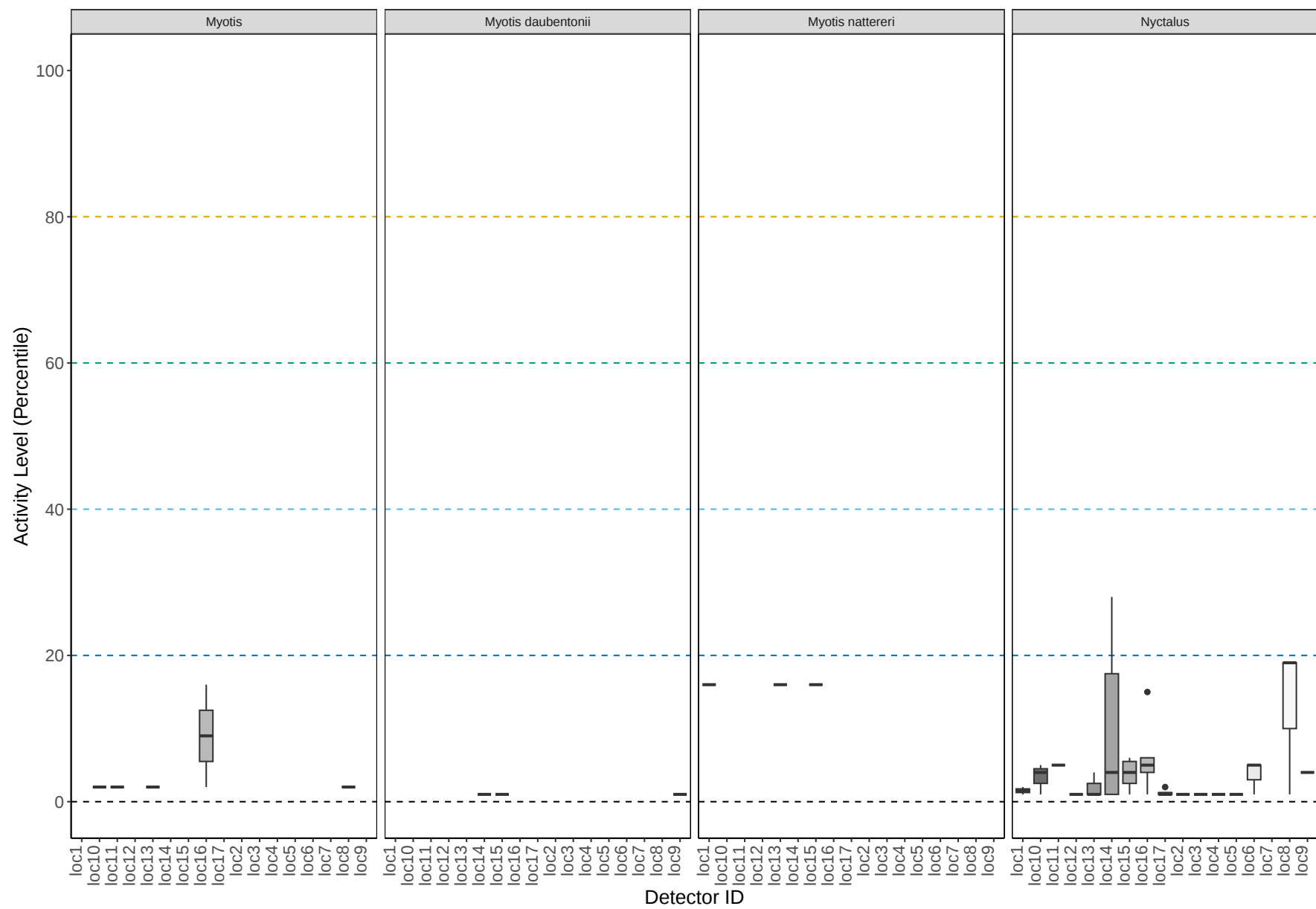
Detector ID	Species/Species Group	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/High Activity	Nights of Moderate Activity	Nights of Low/Moderate Activity	Nights of Low Activity
loc9	Pipistrellus	0	0	0	0	0	1
	pipistrellus						
loc9	Pipistrellus	0	0	0	0	0	1
	pygmaeus						

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
loc1	Myotis nattereri	16	16 - 16	16	2	198
loc1	Nyctalus	2	1.5 - 1.5	2	2	3811
loc1	Pipistrellus pipistrellus	0	0 - 0	0	7	37908
loc1	Pipistrellus pygmaeus	0	0 - 0	0	4	40575
loc10	Myotis	2	0	2	1	1743
loc10	Nyctalus	4	1 - 5	5	3	3811
loc10	Pipistrellus pipistrellus	0	0 - 0	1	7	37908
loc10	Pipistrellus pygmaeus	0	0 - 0	0	2	40575
loc10	Plecotus auritus	54	0	54	1	123
loc11	Myotis	2	0	2	1	1743
loc11	Nyctalus	5	0	5	1	3811
loc11	Pipistrellus pipistrellus	0	0 - 0	0	5	37908
loc11	Pipistrellus pygmaeus	0	0 - 0	0	2	40575
loc12	Nyctalus	1	0	1	1	3811
loc12	Pipistrellus pipistrellus	1	0.5 - 0.5	1	6	37908
loc12	Pipistrellus pygmaeus	0	0 - 0	0	4	40575
loc12	Plecotus auritus	54	0	54	1	123
loc13	Myotis	2	0	2	1	1743
loc13	Myotis nattereri	16	0	16	1	198
loc13	Nyctalus	1	1 - 1	4	3	3811
loc13	Pipistrellus pipistrellus	0	1 - 1	3	11	37908
loc13	Pipistrellus pygmaeus	0	0 - 0	0	6	40575
loc14	Myotis daubentonii	1	0	1	1	690
loc14	Nyctalus	4	1 - 17.5	28	7	3811
loc14	Pipistrellus pipistrellus	0	1.5 - 1.5	2	6	37908
loc14	Pipistrellus pygmaeus	0	0 - 0	0	6	40575
loc14	Plecotus auritus	54	0	54	1	123
loc15	Myotis daubentonii	1	1 - 1	1	2	690
loc15	Myotis nattereri	16	0	16	1	198
loc15	Nyctalus	4	2 - 6	6	6	3811
loc15	Pipistrellus pipistrellus	0	1 - 1	2	9	37908
loc15	Pipistrellus pygmaeus	0	0 - 0	2	6	40575
loc15	Plecotus auritus	54	0	54	1	123

Detector ID	Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded	Reference Range
loc16	Myotis	9	9 - 9	16	2	1743
loc16	Nyctalus	5	2.5 - 10.5	15	6	3811
loc16	Pipistrellus pipistrellus	0	0 - 0	1	9	37908
loc16	Pipistrellus pygmaeus	0	0 - 0	0	6	40575
loc16	Plecotus auritus	54	0	54	1	123
loc17	Nyctalus	1	1 - 1	2	4	3811
loc17	Pipistrellus pipistrellus	0	0	0	1	37908
loc2	Nyctalus	1	1 - 1	1	2	3811
loc2	Pipistrellus pipistrellus	0	0 - 0	0	11	37908
loc2	Pipistrellus pygmaeus	0	0 - 0	0	4	40575
loc2	Plecotus auritus	54	0	54	1	123
loc3	Nyctalus	1	0	1	1	3811
loc3	Pipistrellus pipistrellus	0	0 - 0	0	4	37908
loc3	Pipistrellus pygmaeus	0	0	0	1	40575
loc3	Plecotus auritus	54	0	54	1	123
loc4	Nyctalus	1	0	1	1	3811
loc4	Pipistrellus pipistrellus	1	1 - 1	1	3	37908
loc4	Pipistrellus pygmaeus	0	0 - 0	4	3	40575
loc4	Plecotus auritus	54	0	54	1	123
loc5	Nyctalus	1	0	1	1	3811
loc5	Pipistrellus pipistrellus	0	0 - 0	1	3	37908
loc5	Pipistrellus pygmaeus	0	0 - 0	0	2	40575
loc6	Nyctalus	5	5 - 5	5	3	3811
loc6	Pipistrellus pipistrellus	0	1 - 1	12	7	37908
loc6	Pipistrellus pygmaeus	0	0 - 0	0	2	40575
loc7	Pipistrellus pipistrellus	0	0	0	1	37908
loc8	Myotis	2	0	2	1	1743
loc8	Nyctalus	19	19 - 19	19	3	3811
loc8	Pipistrellus pipistrellus	0	0 - 0	0	6	37908
loc8	Pipistrellus pygmaeus	0	0 - 0	0	4	40575
loc9	Myotis daubentonii	1	0	1	1	690
loc9	Nyctalus	4	0	4	1	3811
loc9	Pipistrellus pipistrellus	0	0	0	1	37908
loc9	Pipistrellus pygmaeus	0	0	0	1	40575

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).



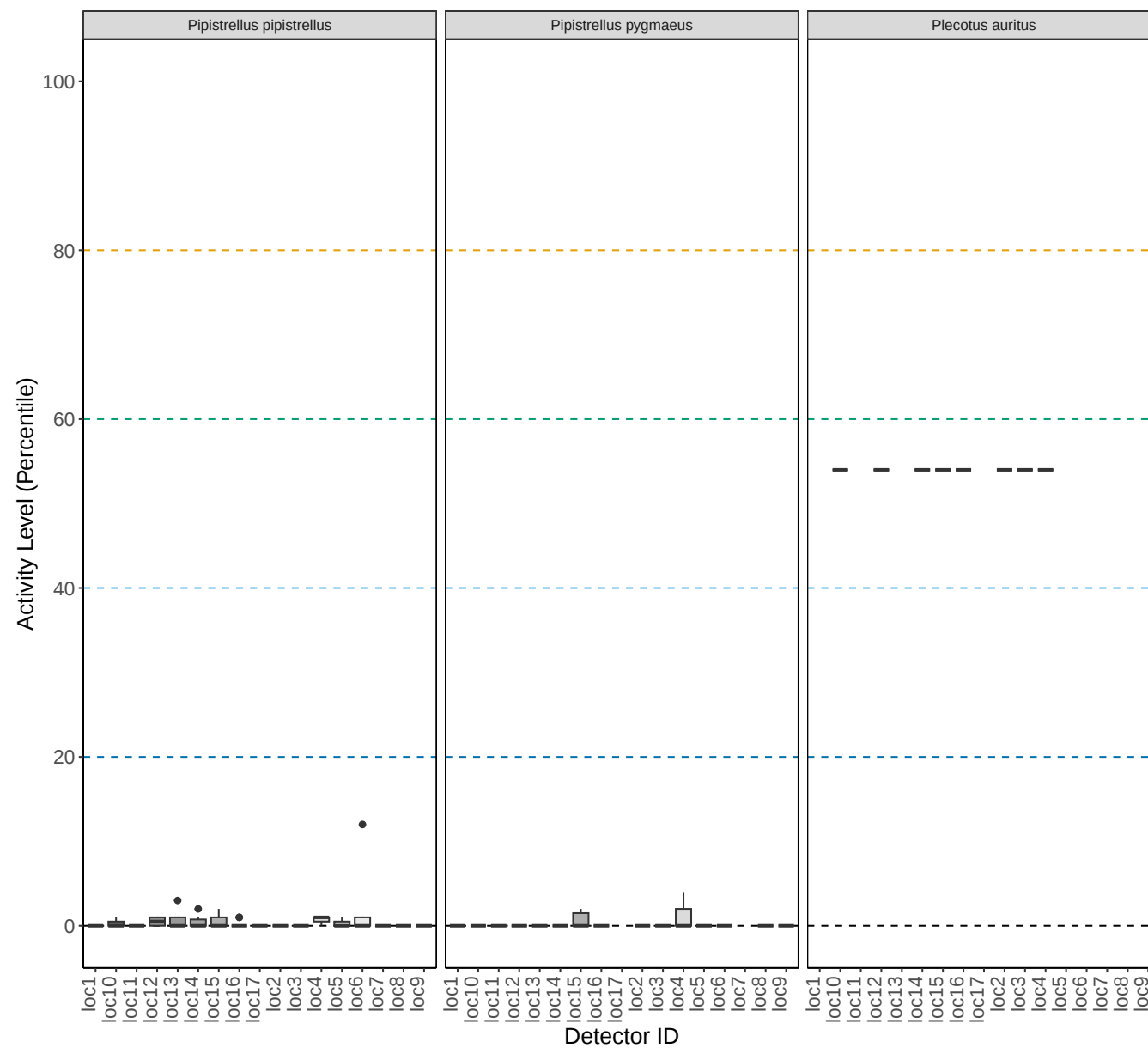
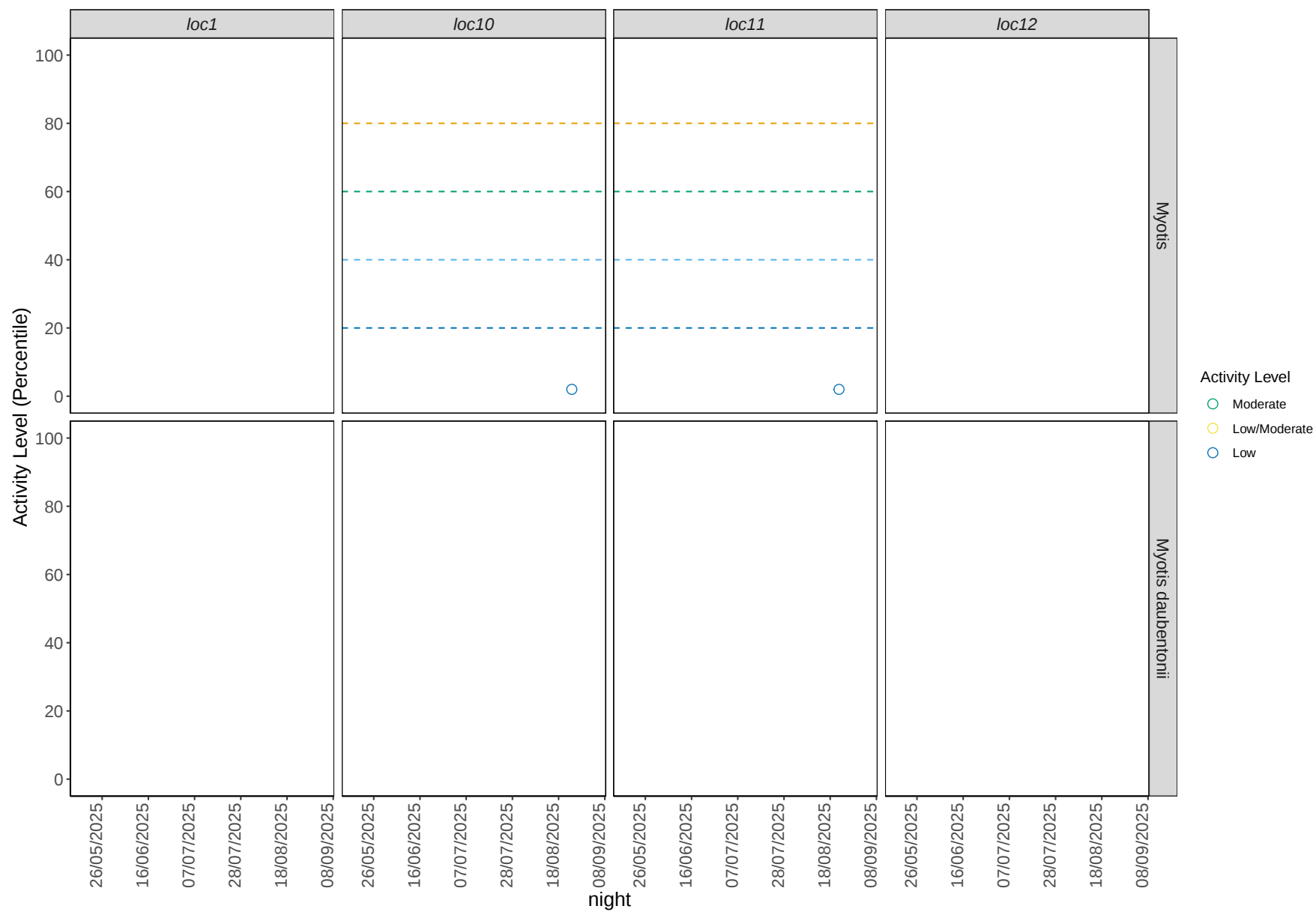
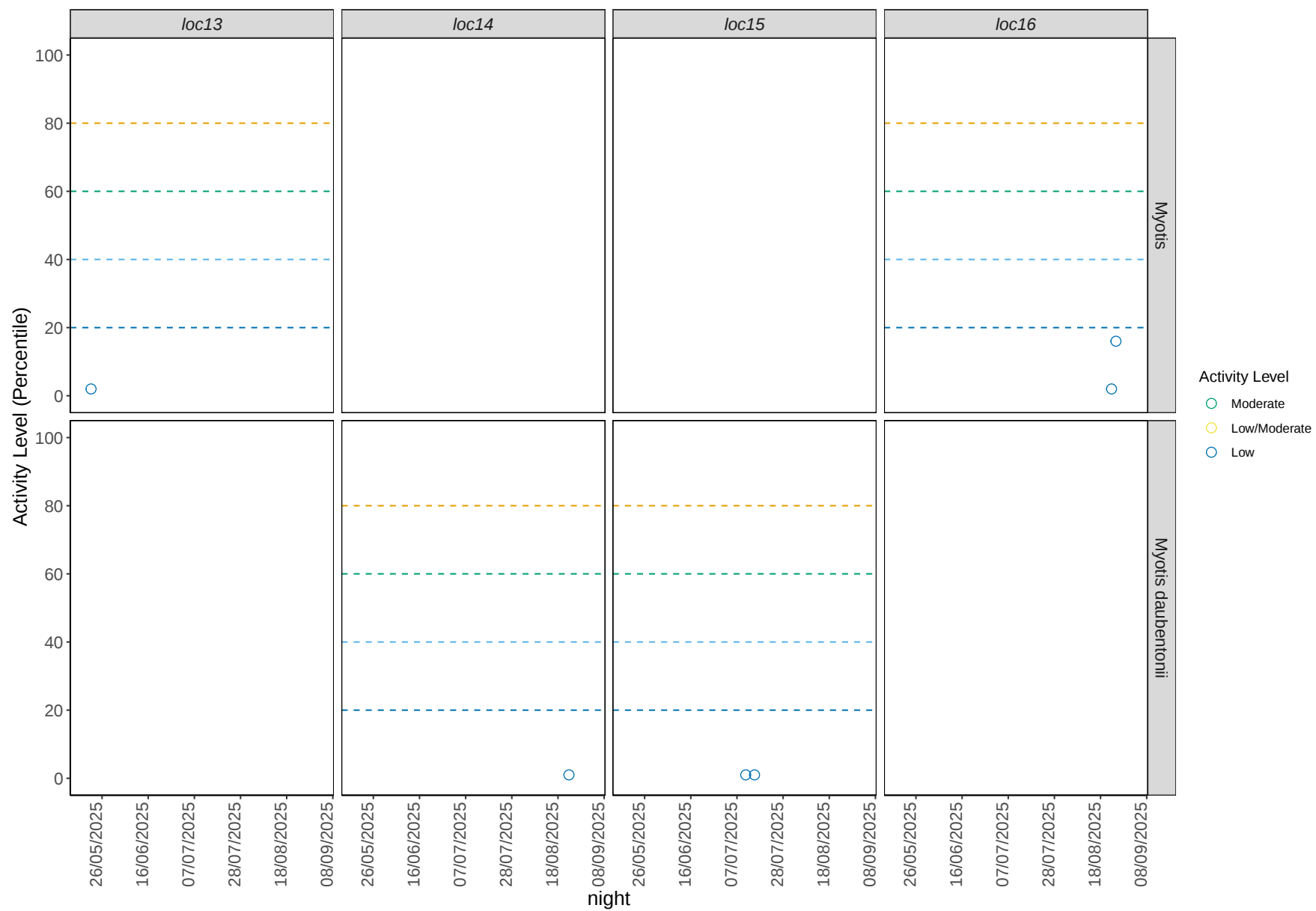
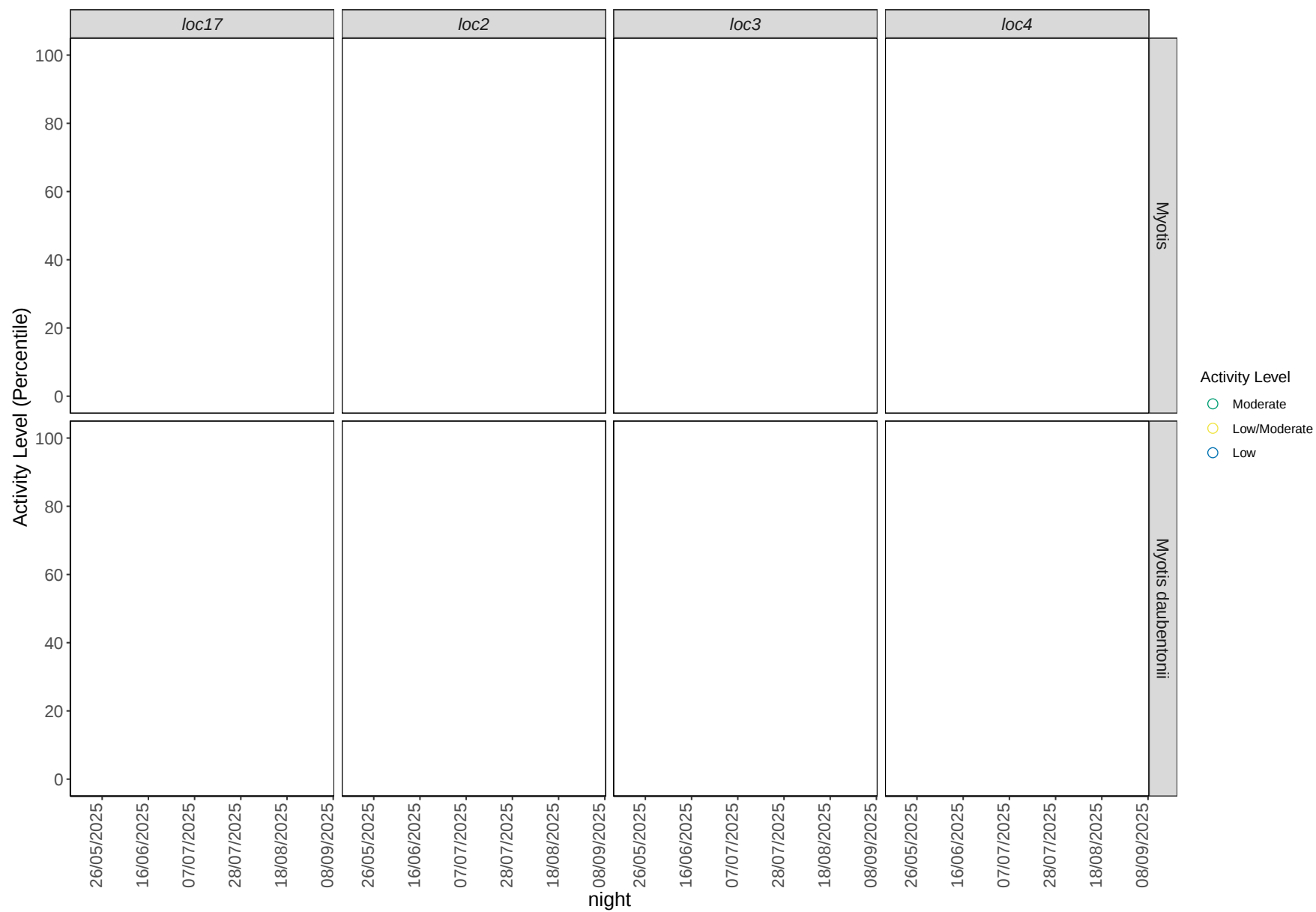
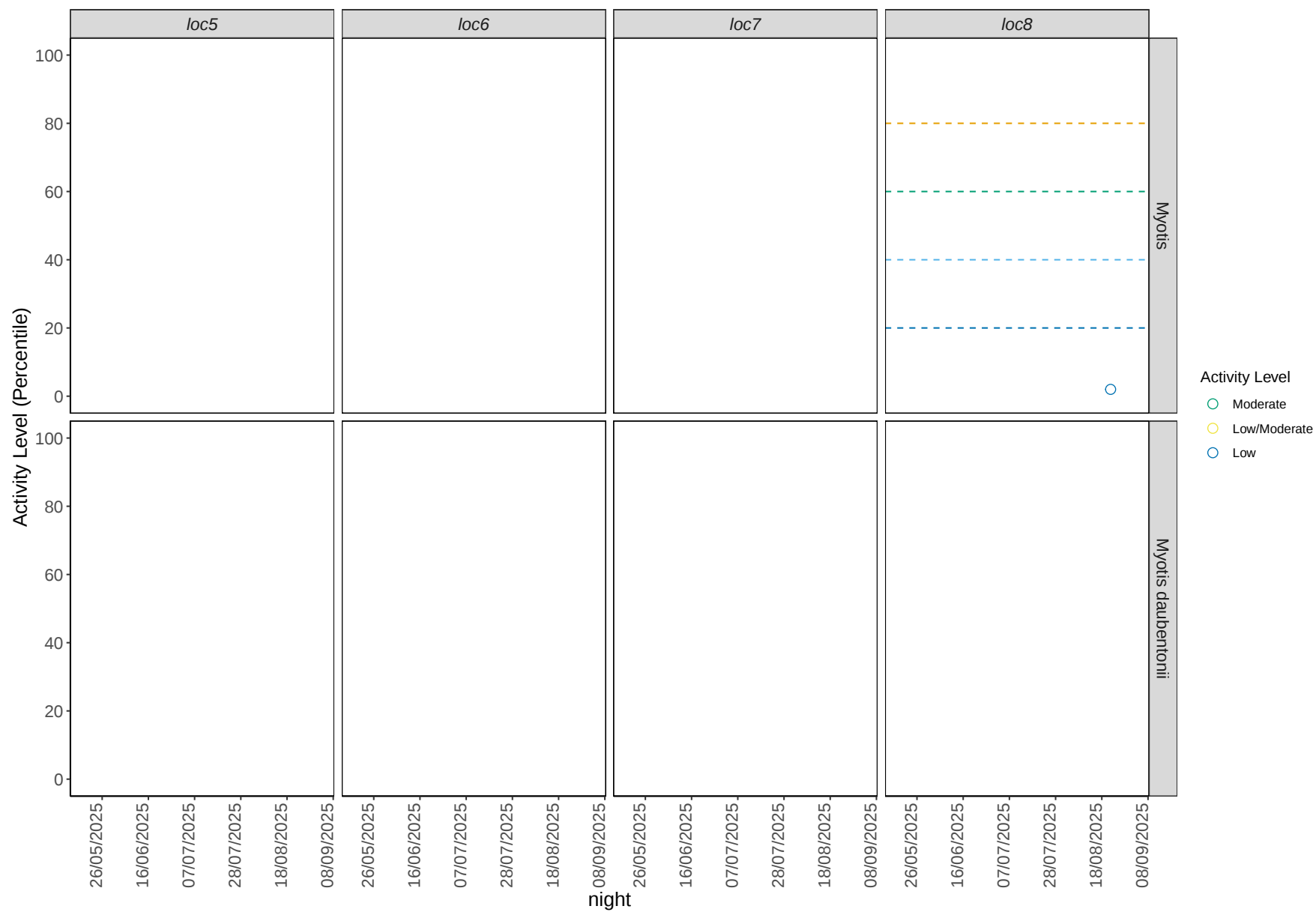


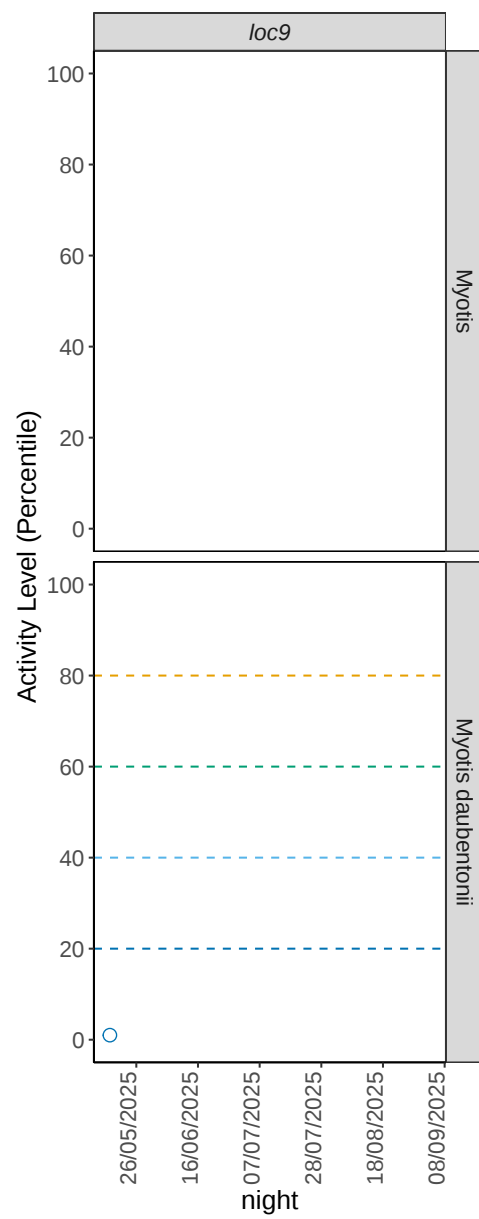
Figure 3. The activity level (percentile) of bats recorded across each night of the bat survey.





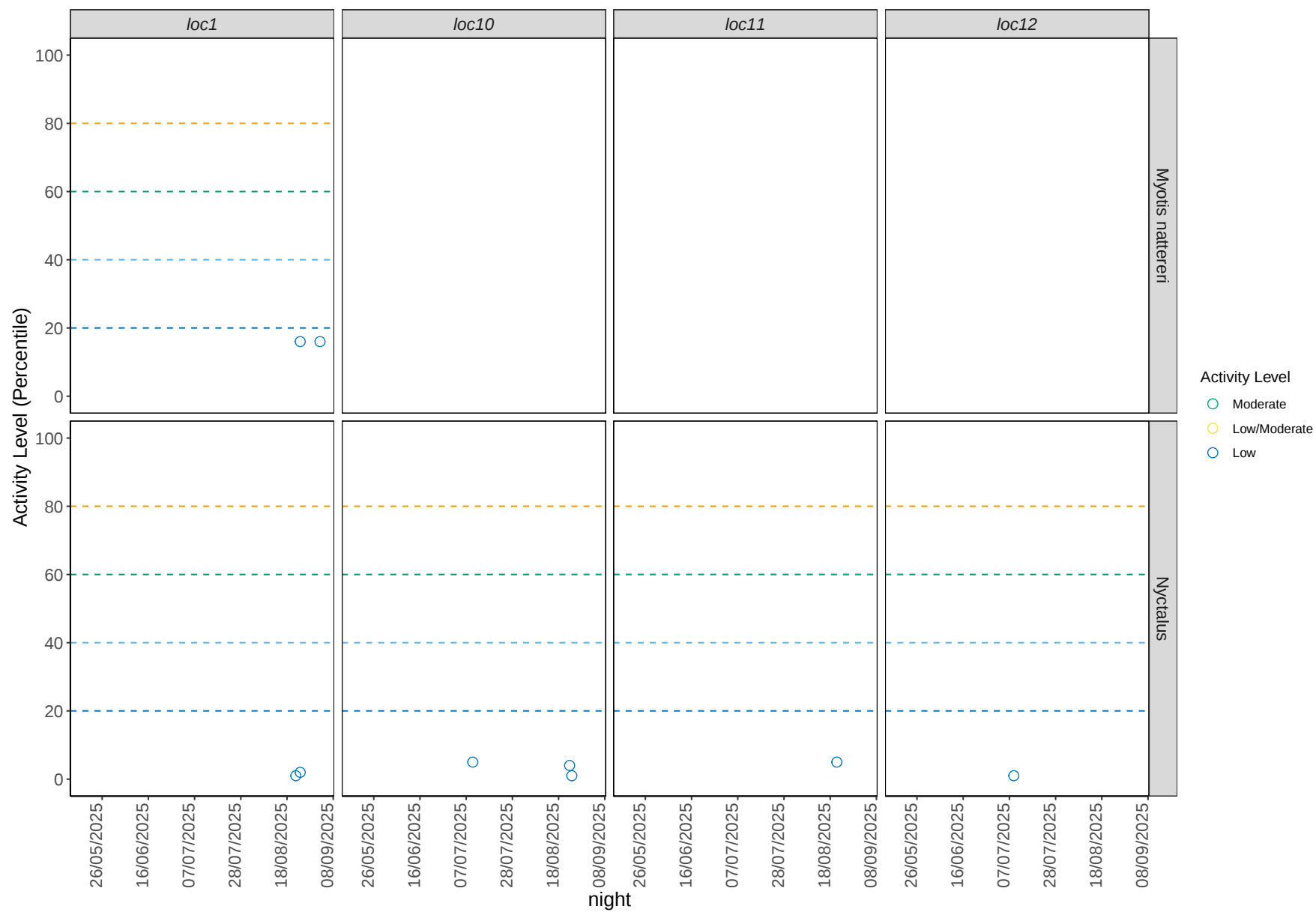


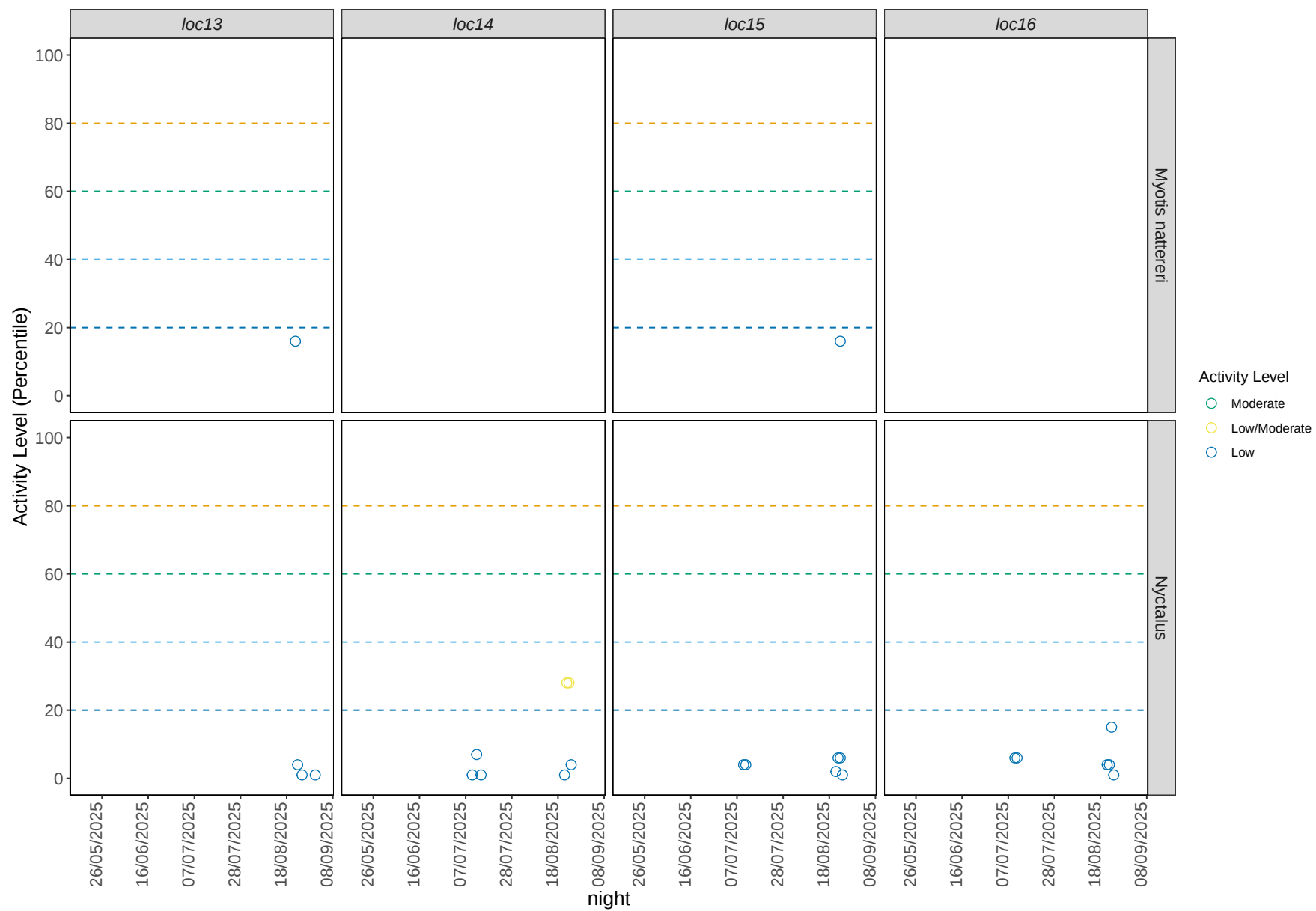


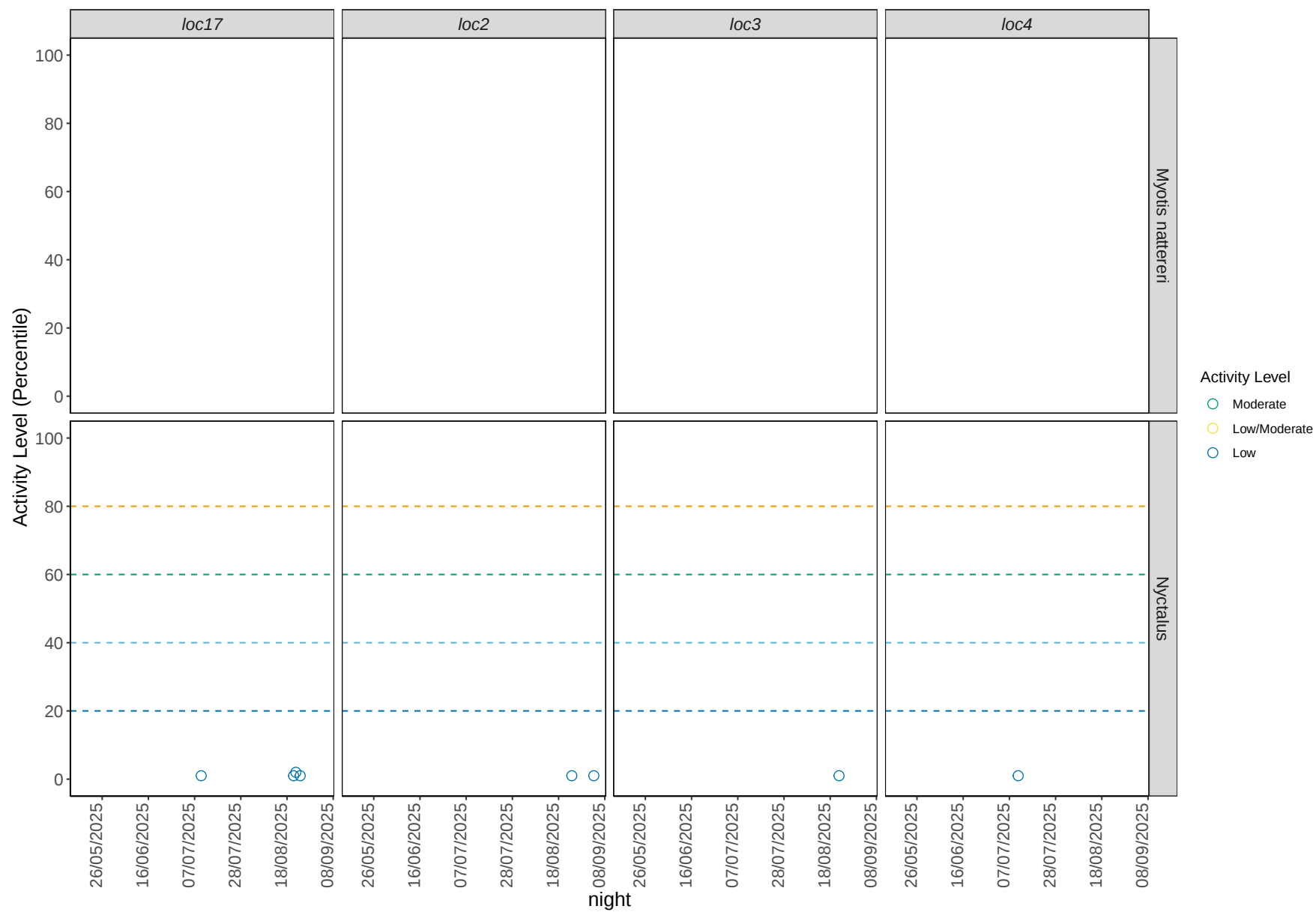


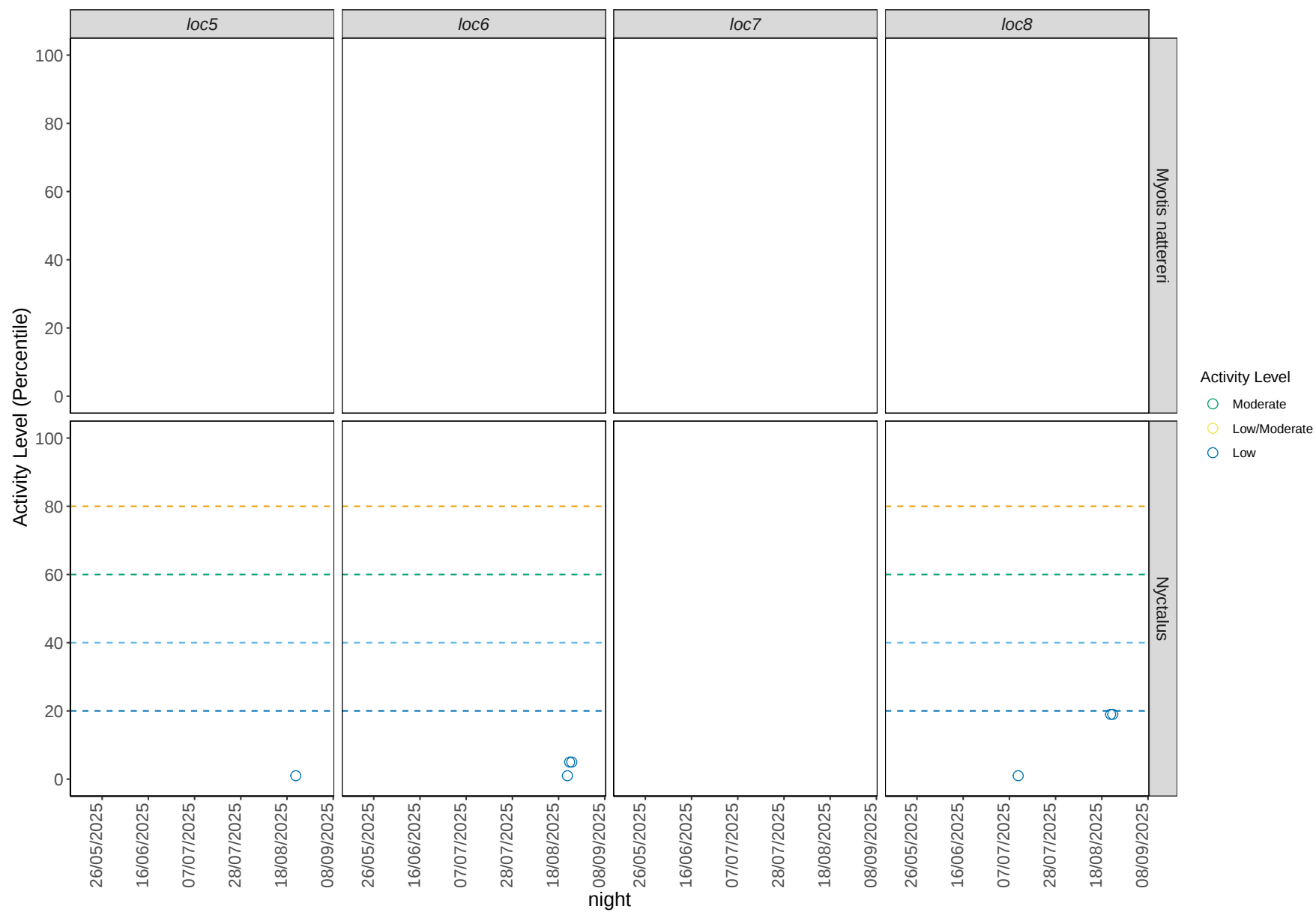
Activity Level

- 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
loc1	Myotis nattereri	Aug	0	0	0	0	0	1
loc1	Myotis nattereri	Sep	0	0	0	0	0	1
loc1	Nyctalus	Aug	0	0	0	0	0	2
loc1	Pipistrellus	May	0	0	0	0	0	1
loc1	pipistrellus	Jul	0	0	0	0	0	4
loc1	Pipistrellus	Aug	0	0	0	0	0	2
loc1	pipistrellus	Jul	0	0	0	0	0	2
loc1	Pipistrellus pygmaeus	Aug	0	0	0	0	0	2
loc10	Myotis	Aug	0	0	0	0	0	1
loc10	Nyctalus	Jul	0	0	0	0	0	1
loc10	Nyctalus	Aug	0	0	0	0	0	2
loc10	Pipistrellus	Jul	0	0	0	0	0	2
loc10	pipistrellus	Aug	0	0	0	0	0	3
loc10	Pipistrellus	Sep	0	0	0	0	0	2
loc10	pipistrellus	Jul	0	0	0	0	0	1
loc10	Pipistrellus pygmaeus	Aug	0	0	0	0	0	1
loc10	pygmaeus	Aug	0	0	0	1	0	0
loc11	Myotis	Aug	0	0	0	0	0	1
loc11	Nyctalus	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
loc11	Pipistrellus	May	0	0	0	0	0	1
	pipistrellus							
loc11	Pipistrellus	Aug	0	0	0	0	0	4
	pipistrellus							
loc11	Pipistrellus	Aug	0	0	0	0	0	1
	pygmaeus							
loc11	Pipistrellus	Sep	0	0	0	0	0	1
	pygmaeus							
loc12	Nyctalus	Jul	0	0	0	0	0	1
loc12	Pipistrellus	Jul	0	0	0	0	0	3
	pipistrellus							
loc12	Pipistrellus	Aug	0	0	0	0	0	2
	pipistrellus							
loc12	Pipistrellus	Sep	0	0	0	0	0	1
	pipistrellus							
loc12	Pipistrellus	Jul	0	0	0	0	0	1
	pygmaeus							
loc12	Pipistrellus	Aug	0	0	0	0	0	2
	pygmaeus							
loc12	Pipistrellus	Sep	0	0	0	0	0	1
	pygmaeus							
loc12	Plecotus auritus	Sep	0	0	0	1	0	0
loc13	Myotis	May	0	0	0	0	0	1
loc13	Myotis nattereri	Aug	0	0	0	0	0	1
loc13	Nyctalus	Aug	0	0	0	0	0	3
loc13	Pipistrellus	May	0	0	0	0	0	2
	pipistrellus							
loc13	Pipistrellus	Jul	0	0	0	0	0	3
	pipistrellus							
loc13	Pipistrellus	Aug	0	0	0	0	0	5
	pipistrellus							
loc13	Pipistrellus	Sep	0	0	0	0	0	1
	pipistrellus							

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
loc13	Pipistrellus pygmaeus	May	0	0	0	0	0	1
loc13	Pipistrellus pygmaeus	Jul	0	0	0	0	0	2
loc13	Pipistrellus pygmaeus	Aug	0	0	0	0	0	2
loc13	Pipistrellus pygmaeus	Sep	0	0	0	0	0	1
loc14	Myotis daubentonii	Aug	0	0	0	0	0	1
loc14	Nyctalus	Jul	0	0	0	0	0	3
loc14	Nyctalus	Aug	0	0	0	0	2	2
loc14	Pipistrellus pipistrellus	May	0	0	0	0	0	1
loc14	Pipistrellus pipistrellus	Jul	0	0	0	0	0	2
loc14	Pipistrellus pipistrellus	Aug	0	0	0	0	0	3
loc14	Pipistrellus pygmaeus	May	0	0	0	0	0	1
loc14	Pipistrellus pygmaeus	Jul	0	0	0	0	0	2
loc14	Pipistrellus pygmaeus	Aug	0	0	0	0	0	3
loc14	Plecotus auritus	Aug	0	0	0	1	0	0
loc15	Myotis daubentonii	Jul	0	0	0	0	0	2
loc15	Myotis nattereri	Aug	0	0	0	0	0	1
loc15	Nyctalus	Jul	0	0	0	0	0	2
loc15	Nyctalus	Aug	0	0	0	0	0	4
loc15	Pipistrellus pipistrellus	May	0	0	0	0	0	1
loc15	Pipistrellus pipistrellus	Jul	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
loc15	Pipistrellus pipistrellus	Aug	0	0	0	0	0	5
loc15	Pipistrellus pygmaeus	Jul	0	0	0	0	0	2
loc15	Pipistrellus pygmaeus	Aug	0	0	0	0	0	4
loc15	Plecotus auritus	Jul	0	0	0	1	0	0
loc16	Myotis	Aug	0	0	0	0	0	2
loc16	Nyctalus	Jul	0	0	0	0	0	2
loc16	Nyctalus	Aug	0	0	0	0	0	4
loc16	Pipistrellus pipistrellus	May	0	0	0	0	0	4
loc16	Pipistrellus pipistrellus	Jul	0	0	0	0	0	2
loc16	Pipistrellus pipistrellus	Aug	0	0	0	0	0	3
loc16	Pipistrellus pygmaeus	Jul	0	0	0	0	0	3
loc16	Pipistrellus pygmaeus	Aug	0	0	0	0	0	3
loc16	Plecotus auritus	Jul	0	0	0	1	0	0
loc17	Nyctalus	Jul	0	0	0	0	0	1
loc17	Nyctalus	Aug	0	0	0	0	0	3
loc17	Pipistrellus pipistrellus	Jul	0	0	0	0	0	1
loc2	Nyctalus	Aug	0	0	0	0	0	1
loc2	Nyctalus	Sep	0	0	0	0	0	1
loc2	Pipistrellus pipistrellus	May	0	0	0	0	0	1
loc2	Pipistrellus pipistrellus	Jul	0	0	0	0	0	4
loc2	Pipistrellus pipistrellus	Aug	0	0	0	0	0	5

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
loc2	Pipistrellus	Sep	0	0	0	0	0	1
	pipistrellus							
loc2	Pipistrellus	Jul	0	0	0	0	0	2
	pygmaeus							
loc2	Pipistrellus	Aug	0	0	0	0	0	2
	pygmaeus							
loc2	Plecotus auritus	Aug	0	0	0	1	0	0
loc3	Nyctalus	Aug	0	0	0	0	0	1
loc3	Pipistrellus	May	0	0	0	0	0	1
	pipistrellus							
loc3	Pipistrellus	Aug	0	0	0	0	0	3
	pipistrellus							
loc3	Pipistrellus	Aug	0	0	0	0	0	1
	pygmaeus							
loc3	Plecotus auritus	Aug	0	0	0	1	0	0
loc4	Nyctalus	Jul	0	0	0	0	0	1
loc4	Pipistrellus	Jul	0	0	0	0	0	1
	pipistrellus							
loc4	Pipistrellus	Aug	0	0	0	0	0	2
	pipistrellus							
loc4	Pipistrellus	Aug	0	0	0	0	0	3
	pygmaeus							
loc4	Plecotus auritus	Jul	0	0	0	1	0	0
loc5	Nyctalus	Aug	0	0	0	0	0	1
loc5	Pipistrellus	Jul	0	0	0	0	0	1
	pipistrellus							
loc5	Pipistrellus	Aug	0	0	0	0	0	2
	pipistrellus							
loc5	Pipistrellus	Aug	0	0	0	0	0	1
	pygmaeus							
loc5	Pipistrellus	Sep	0	0	0	0	0	1
	pygmaeus							
loc6	Nyctalus	Aug	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
loc6	Pipistrellus	Jul	0	0	0	0	0	2
	pipistrellus							
loc6	Pipistrellus	Aug	0	0	0	0	0	4
	pipistrellus							
loc6	Pipistrellus	Sep	0	0	0	0	0	1
	pipistrellus							
loc6	Pipistrellus	Aug	0	0	0	0	0	1
	pygmaeus							
loc6	Pipistrellus	Sep	0	0	0	0	0	1
	pygmaeus							
loc7	Pipistrellus	Jul	0	0	0	0	0	1
	pipistrellus							
loc8	Myotis	Aug	0	0	0	0	0	1
loc8	Nyctalus	Jul	0	0	0	0	0	1
loc8	Nyctalus	Aug	0	0	0	0	0	2
loc8	Pipistrellus	May	0	0	0	0	0	1
	pipistrellus							
loc8	Pipistrellus	Jul	0	0	0	0	0	1
	pipistrellus							
loc8	Pipistrellus	Aug	0	0	0	0	0	4
	pipistrellus							
loc8	Pipistrellus	Jul	0	0	0	0	0	1
	pygmaeus							
loc8	Pipistrellus	Aug	0	0	0	0	0	3
	pygmaeus							
loc9	Myotis	May	0	0	0	0	0	1
	daubentonii							
loc9	Nyctalus	Aug	0	0	0	0	0	1
loc9	Pipistrellus	Aug	0	0	0	0	0	1
	pipistrellus							
loc9	Pipistrellus	Aug	0	0	0	0	0	1
	pygmaeus							

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
loc1	Myotis nattereri	Aug	16	16 - 16	16	1
loc1	Myotis nattereri	Sep	16	16 - 16	16	1
loc1	Nyctalus	Aug	2	1.5 - 1.5	2	2
loc1	Pipistrellus pipistrellus	May	0	0 - 0	0	1
loc1	Pipistrellus pipistrellus	Jul	0	0 - 0	0	4
loc1	Pipistrellus pipistrellus	Aug	0	0 - 0	0	2
loc1	Pipistrellus pygmaeus	Jul	0	0 - 0	0	2
loc1	Pipistrellus pygmaeus	Aug	0	0 - 0	0	2
loc10	Myotis	Aug	2	0	2	1
loc10	Nyctalus	Jul	5	1 - 5	5	1
loc10	Nyctalus	Aug	3	1 - 5	4	2
loc10	Pipistrellus pipistrellus	Jul	0	0 - 0	0	2
loc10	Pipistrellus pipistrellus	Aug	1	0 - 0	1	3
loc10	Pipistrellus pipistrellus	Sep	0	0 - 0	0	2
loc10	Pipistrellus pygmaeus	Jul	0	0 - 0	0	1
loc10	Pipistrellus pygmaeus	Aug	0	0 - 0	0	1
loc10	Plecotus auritus	Aug	54	0	54	1
loc11	Myotis	Aug	2	0	2	1
loc11	Nyctalus	Aug	5	0	5	1
loc11	Pipistrellus pipistrellus	May	0	0 - 0	0	1
loc11	Pipistrellus pipistrellus	Aug	0	0 - 0	0	4
loc11	Pipistrellus pygmaeus	Aug	0	0 - 0	0	1
loc11	Pipistrellus pygmaeus	Sep	0	0 - 0	0	1
loc12	Nyctalus	Jul	1	0	1	1
loc12	Pipistrellus pipistrellus	Jul	1	0.5 - 0.5	1	3
loc12	Pipistrellus pipistrellus	Aug	1	0.5 - 0.5	1	2
loc12	Pipistrellus pipistrellus	Sep	0	0.5 - 0.5	0	1
loc12	Pipistrellus pygmaeus	Jul	0	0 - 0	0	1
loc12	Pipistrellus pygmaeus	Aug	0	0 - 0	0	2
loc12	Pipistrellus pygmaeus	Sep	0	0 - 0	0	1
loc12	Plecotus auritus	Sep	54	0	54	1
loc13	Myotis	May	2	0	2	1
loc13	Myotis nattereri	Aug	16	0	16	1

Detector ID	Species/Species Group	month	Median Percentile	95% CIs	Max. Percentile	Nights Recorded
loc13	Nyctalus	Aug	1	1 - 1	4	3
loc13	Pipistrellus pipistrellus	May	0	1 - 1	0	2
loc13	Pipistrellus pipistrellus	Jul	0	1 - 1	3	3
loc13	Pipistrellus pipistrellus	Aug	0	1 - 1	1	5
loc13	Pipistrellus pipistrellus	Sep	1	1 - 1	1	1
loc13	Pipistrellus pygmaeus	May	0	0 - 0	0	1
loc13	Pipistrellus pygmaeus	Jul	0	0 - 0	0	2
loc13	Pipistrellus pygmaeus	Aug	0	0 - 0	0	2
loc13	Pipistrellus pygmaeus	Sep	0	0 - 0	0	1
loc14	Myotis daubentonii	Aug	1	0	1	1
loc14	Nyctalus	Jul	1	1 - 17.5	7	3
loc14	Nyctalus	Aug	16	1 - 17.5	28	4
loc14	Pipistrellus pipistrellus	May	0	1.5 - 1.5	0	1
loc14	Pipistrellus pipistrellus	Jul	1	1.5 - 1.5	1	2
loc14	Pipistrellus pipistrellus	Aug	0	1.5 - 1.5	2	3
loc14	Pipistrellus pygmaeus	May	0	0 - 0	0	1
loc14	Pipistrellus pygmaeus	Jul	0	0 - 0	0	2
loc14	Pipistrellus pygmaeus	Aug	0	0 - 0	0	3
loc14	Plecotus auritus	Aug	54	0	54	1
loc15	Myotis daubentonii	Jul	1	1 - 1	1	2
loc15	Myotis nattereri	Aug	16	0	16	1
loc15	Nyctalus	Jul	4	2 - 6	4	2
loc15	Nyctalus	Aug	4	2 - 6	6	4
loc15	Pipistrellus pipistrellus	May	0	1 - 1	0	1
loc15	Pipistrellus pipistrellus	Jul	0	1 - 1	1	3
loc15	Pipistrellus pipistrellus	Aug	1	1 - 1	2	5
loc15	Pipistrellus pygmaeus	Jul	0	0 - 0	0	2
loc15	Pipistrellus pygmaeus	Aug	1	0 - 0	2	4
loc15	Plecotus auritus	Jul	54	0	54	1
loc16	Myotis	Aug	9	9 - 9	16	2
loc16	Nyctalus	Jul	6	2.5 - 10.5	6	2
loc16	Nyctalus	Aug	4	2.5 - 10.5	15	4
loc16	Pipistrellus pipistrellus	May	0	0 - 0	0	4
loc16	Pipistrellus pipistrellus	Jul	0	0 - 0	0	2
loc16	Pipistrellus pipistrellus	Aug	1	0 - 0	1	3
loc16	Pipistrellus pygmaeus	Jul	0	0 - 0	0	3

Detector ID	Species/Species Group	month	Median Percentile	95% CIs	Max. Percentile	Nights Recorded
loc16	Pipistrellus pygmaeus	Aug	0	0 - 0	0	3
loc16	Plecotus auritus	Jul	54	0	54	1
loc17	Nyctalus	Jul	1	1 - 1	1	1
loc17	Nyctalus	Aug	1	1 - 1	2	3
loc17	Pipistrellus pipistrellus	Jul	0	0	0	1
loc2	Nyctalus	Aug	1	1 - 1	1	1
loc2	Nyctalus	Sep	1	1 - 1	1	1
loc2	Pipistrellus pipistrellus	May	0	0 - 0	0	1
loc2	Pipistrellus pipistrellus	Jul	0	0 - 0	0	4
loc2	Pipistrellus pipistrellus	Aug	0	0 - 0	0	5
loc2	Pipistrellus pipistrellus	Sep	0	0 - 0	0	1
loc2	Pipistrellus pygmaeus	Jul	0	0 - 0	0	2
loc2	Pipistrellus pygmaeus	Aug	0	0 - 0	0	2
loc2	Plecotus auritus	Aug	54	0	54	1
loc3	Nyctalus	Aug	1	0	1	1
loc3	Pipistrellus pipistrellus	May	0	0 - 0	0	1
loc3	Pipistrellus pipistrellus	Aug	0	0 - 0	0	3
loc3	Pipistrellus pygmaeus	Aug	0	0	0	1
loc3	Plecotus auritus	Aug	54	0	54	1
loc4	Nyctalus	Jul	1	0	1	1
loc4	Pipistrellus pipistrellus	Jul	0	1 - 1	0	1
loc4	Pipistrellus pipistrellus	Aug	1	1 - 1	1	2
loc4	Pipistrellus pygmaeus	Aug	0	0 - 0	4	3
loc4	Plecotus auritus	Jul	54	0	54	1
loc5	Nyctalus	Aug	1	0	1	1
loc5	Pipistrellus pipistrellus	Jul	1	0 - 0	1	1
loc5	Pipistrellus pipistrellus	Aug	0	0 - 0	0	2
loc5	Pipistrellus pygmaeus	Aug	0	0 - 0	0	1
loc5	Pipistrellus pygmaeus	Sep	0	0 - 0	0	1
loc6	Nyctalus	Aug	5	5 - 5	5	3
loc6	Pipistrellus pipistrellus	Jul	0	1 - 1	0	2
loc6	Pipistrellus pipistrellus	Aug	1	1 - 1	12	4
loc6	Pipistrellus pipistrellus	Sep	0	1 - 1	0	1
loc6	Pipistrellus pygmaeus	Aug	0	0 - 0	0	1
loc6	Pipistrellus pygmaeus	Sep	0	0 - 0	0	1
loc7	Pipistrellus pipistrellus	Jul	0	0	0	1

Detector ID	Species/Species Group	month	Median Percentile	95% CIs	Max. Percentile	Nights Recorded
loc8	Myotis	Aug	2	0	2	1
loc8	Nyctalus	Jul	1	19 - 19	1	1
loc8	Nyctalus	Aug	19	19 - 19	19	2
loc8	Pipistrellus pipistrellus	May	0	0 - 0	0	1
loc8	Pipistrellus pipistrellus	Jul	0	0 - 0	0	1
loc8	Pipistrellus pipistrellus	Aug	0	0 - 0	0	4
loc8	Pipistrellus pygmaeus	Jul	0	0 - 0	0	1
loc8	Pipistrellus pygmaeus	Aug	0	0 - 0	0	3
loc9	Myotis daubentonii	May	1	0	1	1
loc9	Nyctalus	Aug	4	0	4	1
loc9	Pipistrellus pipistrellus	Aug	0	0	0	1
loc9	Pipistrellus pygmaeus	Aug	0	0	0	1

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	0	0	0	0	0	6
Myotis daubentonii	0	0	0	0	0	4
Myotis nattereri	0	0	0	0	0	4
Nyctalus	0	0	0	0	2	43
Pipistrellus	0	0	0	0	0	97
pipistrellus						
Pipistrellus	0	0	0	0	0	53
pygmaeus						
Plecotus auritus	0	0	0	8	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	2	9 - 9	16	6
Myotis daubentonii	1	1 - 1	1	4
Myotis nattereri	16	16 - 16	16	4
Nyctalus	2	5 - 5	28	45
Pipistrellus pipistrellus	0	1.5 - 1.5	12	97
Pipistrellus pygmaeus	0	0 - 0	4	53
Plecotus auritus	54	0	54	8

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

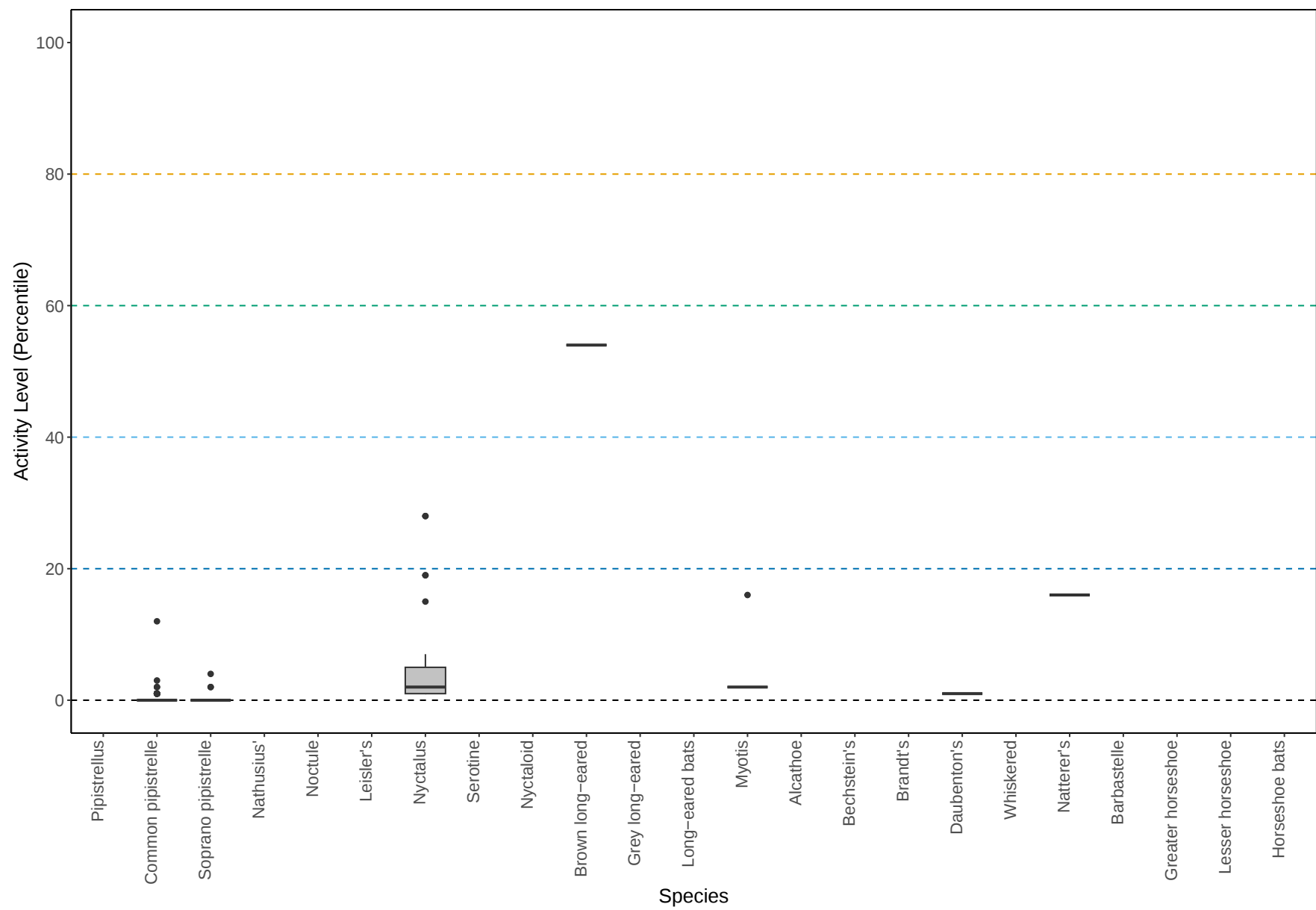
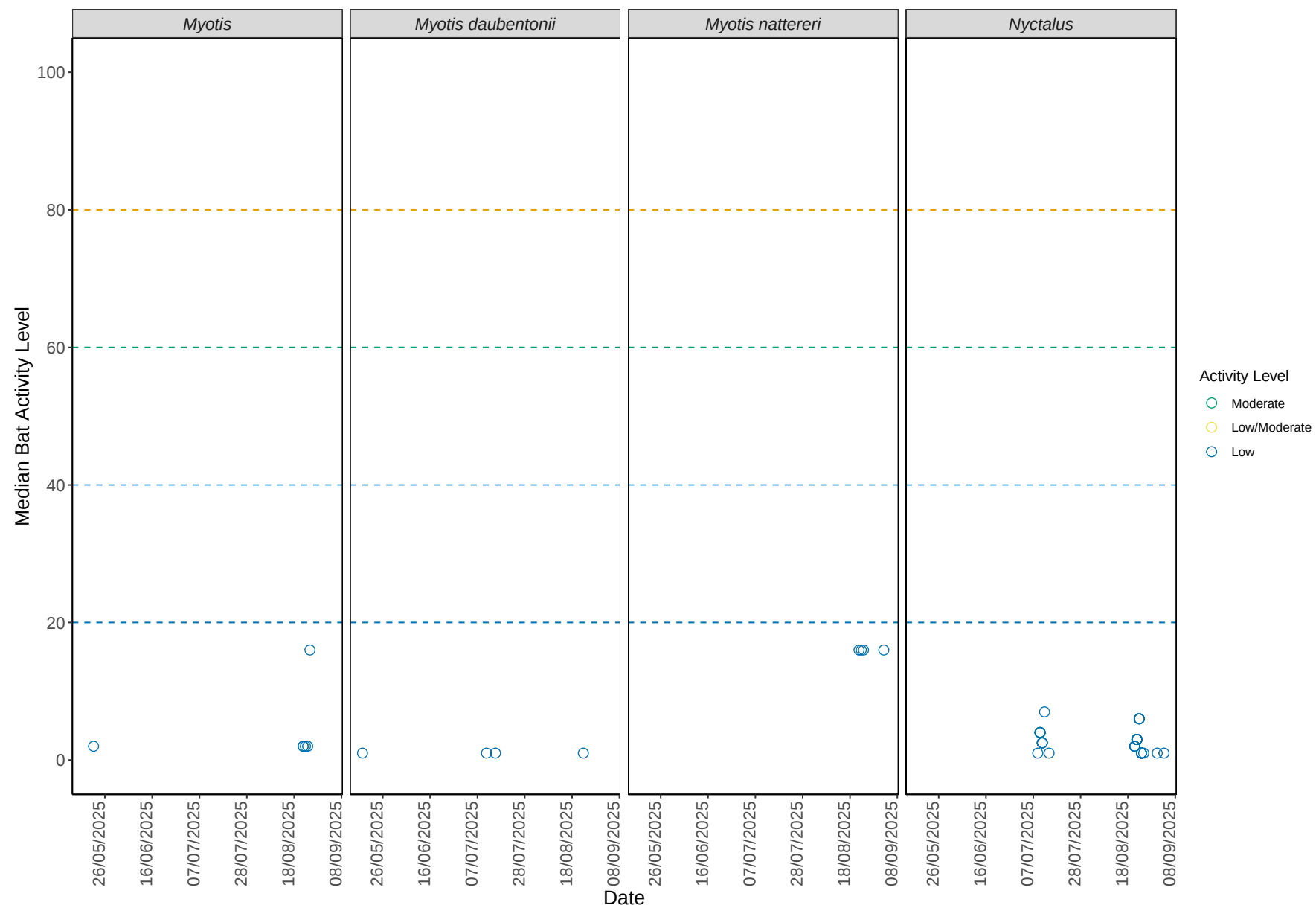
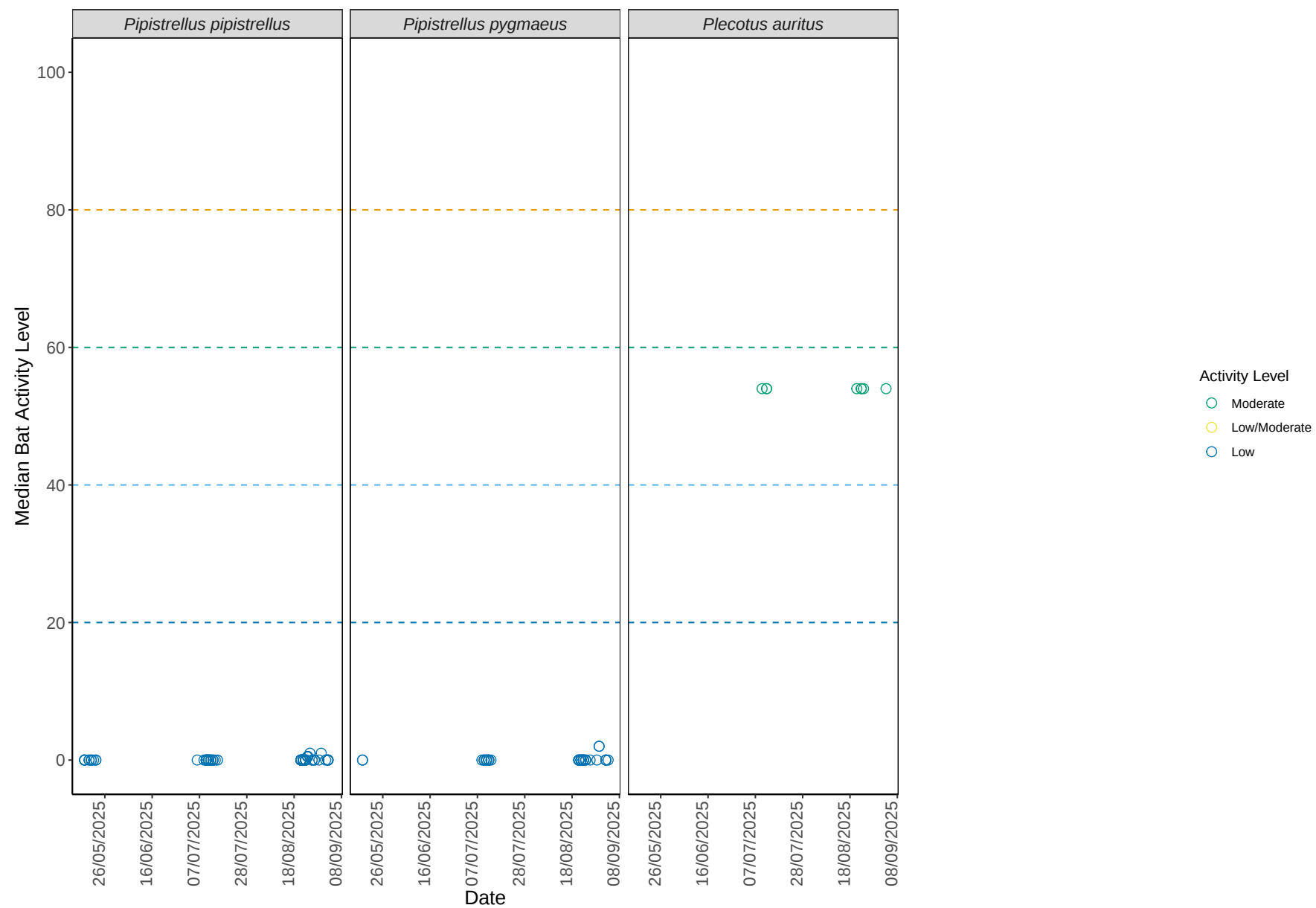


Figure 5. The median activity levels of bats recorded across all detectors each night.





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.

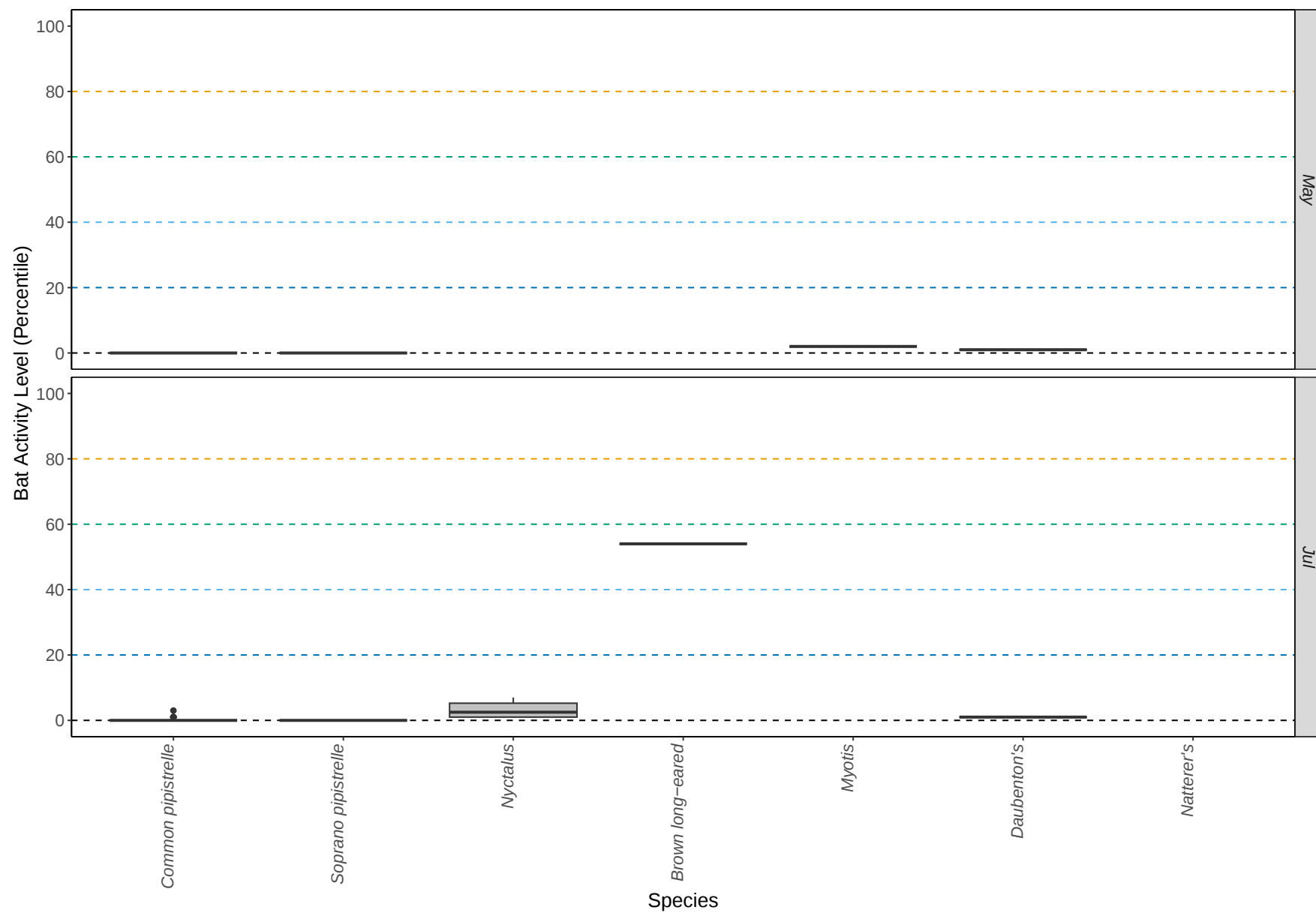
Species/Species Group	month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/High Activity	Nights of Moderate Activity	Nights of Low/Moderate Activity	Nights of Low Activity
Myotis	May	0	0	0	0	0	1
Myotis	Aug	0	0	0	0	0	5
Myotis	May	0	0	0	0	0	1
daubentonii							
Myotis	Jul	0	0	0	0	0	2
daubentonii							
Myotis	Aug	0	0	0	0	0	1
daubentonii							
Myotis nattereri	Aug	0	0	0	0	0	3
Myotis nattereri	Sep	0	0	0	0	0	1
Nyctalus	Jul	0	0	0	0	0	12
Nyctalus	Aug	0	0	0	0	2	30
Nyctalus	Sep	0	0	0	0	0	1
Pipistrellus	May	0	0	0	0	0	13
pipistrellus							
Pipistrellus	Jul	0	0	0	0	0	30
pipistrellus							
Pipistrellus	Aug	0	0	0	0	0	48
pipistrellus							
Pipistrellus	Sep	0	0	0	0	0	6
pipistrellus							
Pipistrellus	May	0	0	0	0	0	2
pygmaeus							
Pipistrellus	Jul	0	0	0	0	0	16
pygmaeus							
Pipistrellus	Aug	0	0	0	0	0	30
pygmaeus							
Pipistrellus	Sep	0	0	0	0	0	5
pygmaeus							
Plecotus auritus	Jul	0	0	0	3	0	0
Plecotus auritus	Aug	0	0	0	4	0	0

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
Plecotus auritus	Sep	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	May	2	0	2	1
Myotis	Aug	2	9 - 9	16	5
Myotis daubentonii	May	1	0	1	1
Myotis daubentonii	Jul	1	1 - 1	1	2
Myotis daubentonii	Aug	1	0	1	1
Myotis nattereri	Aug	16	16 - 16	16	3
Myotis nattereri	Sep	16	16 - 16	16	1
Nyctalus	Jul	3	2.5 - 10.5	7	12
Nyctalus	Aug	3	5 - 5	28	32
Nyctalus	Sep	1	1 - 1	1	1
Pipistrellus pipistrellus	May	0	1.5 - 1.5	0	13
Pipistrellus pipistrellus	Jul	0	1.5 - 1.5	3	30
Pipistrellus pipistrellus	Aug	0	1.5 - 1.5	12	48
Pipistrellus pipistrellus	Sep	0	1 - 1	1	6
Pipistrellus pygmaeus	May	0	0 - 0	0	2
Pipistrellus pygmaeus	Jul	0	0 - 0	0	16
Pipistrellus pygmaeus	Aug	0	0 - 0	4	30
Pipistrellus pygmaeus	Sep	0	0 - 0	0	5
Plecotus auritus	Jul	54	0	54	3
Plecotus auritus	Aug	54	0	54	4
Plecotus auritus	Sep	54	0	54	1

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

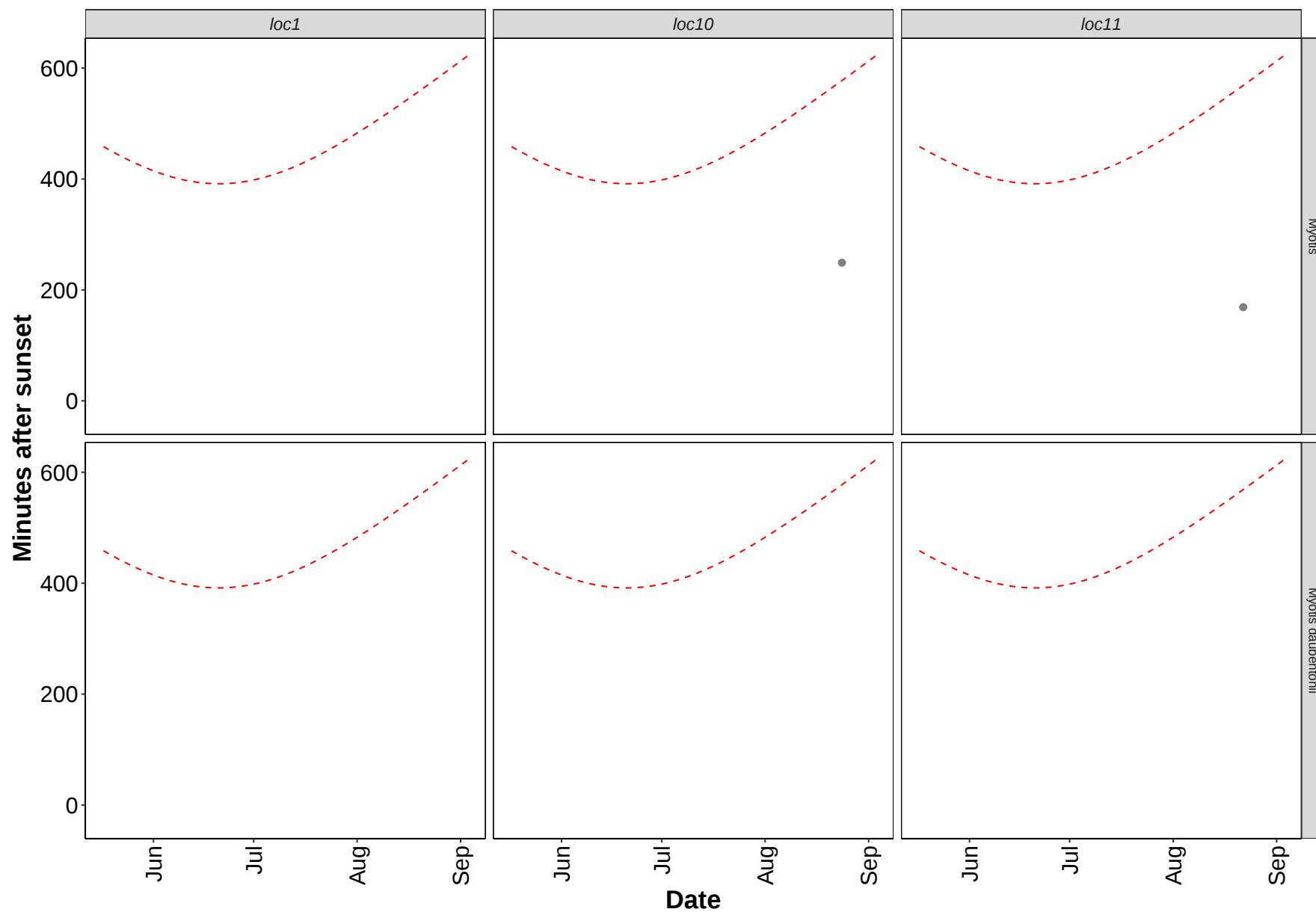
Table 11. The times of sunset and sunrise the following morning for surveys beginning on the date shown.

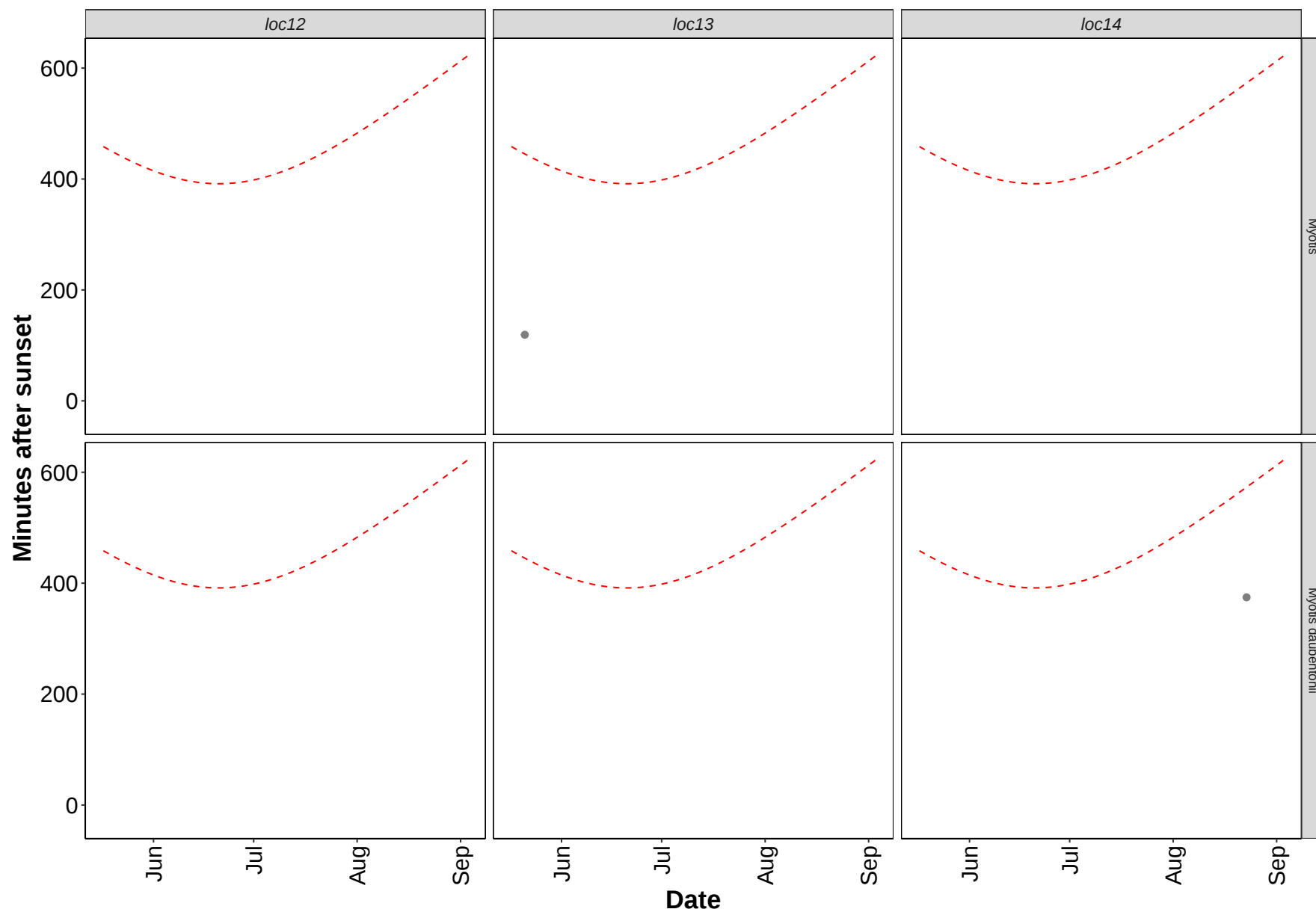
Night (y-m-d)	Sunset (h:m)	Sunrise (h:m)	Night Length (hours)
2025-05-17	21:22	05:01	7.6
2025-05-19	21:26	04:57	7.5
2025-05-20	21:27	04:56	7.5
2025-05-21	21:29	04:54	7.4
2025-05-22	21:31	04:53	7.4
2025-07-06	21:58	04:44	6.8
2025-07-09	21:55	04:47	6.9
2025-07-10	21:54	04:49	6.9
2025-07-11	21:53	04:50	6.9
2025-07-12	21:52	04:51	7.0
2025-07-13	21:51	04:53	7.0
2025-07-14	21:50	04:54	7.1
2025-07-15	21:49	04:56	7.1
2025-08-21	20:38	06:02	9.4
2025-08-22	20:35	06:04	9.5
2025-08-23	20:33	06:06	9.6
2025-08-24	20:30	06:08	9.6
2025-08-25	20:28	06:10	9.7
2025-08-26	20:26	06:12	9.8
2025-08-27	20:23	06:14	9.8
2025-08-29	20:18	06:17	10.0
2025-08-30	20:16	06:19	10.1
2025-08-31	20:13	06:21	10.1
2025-09-01	20:11	06:23	10.2
2025-09-02	20:08	06:25	10.3
2025-09-03	20:05	06:27	10.4

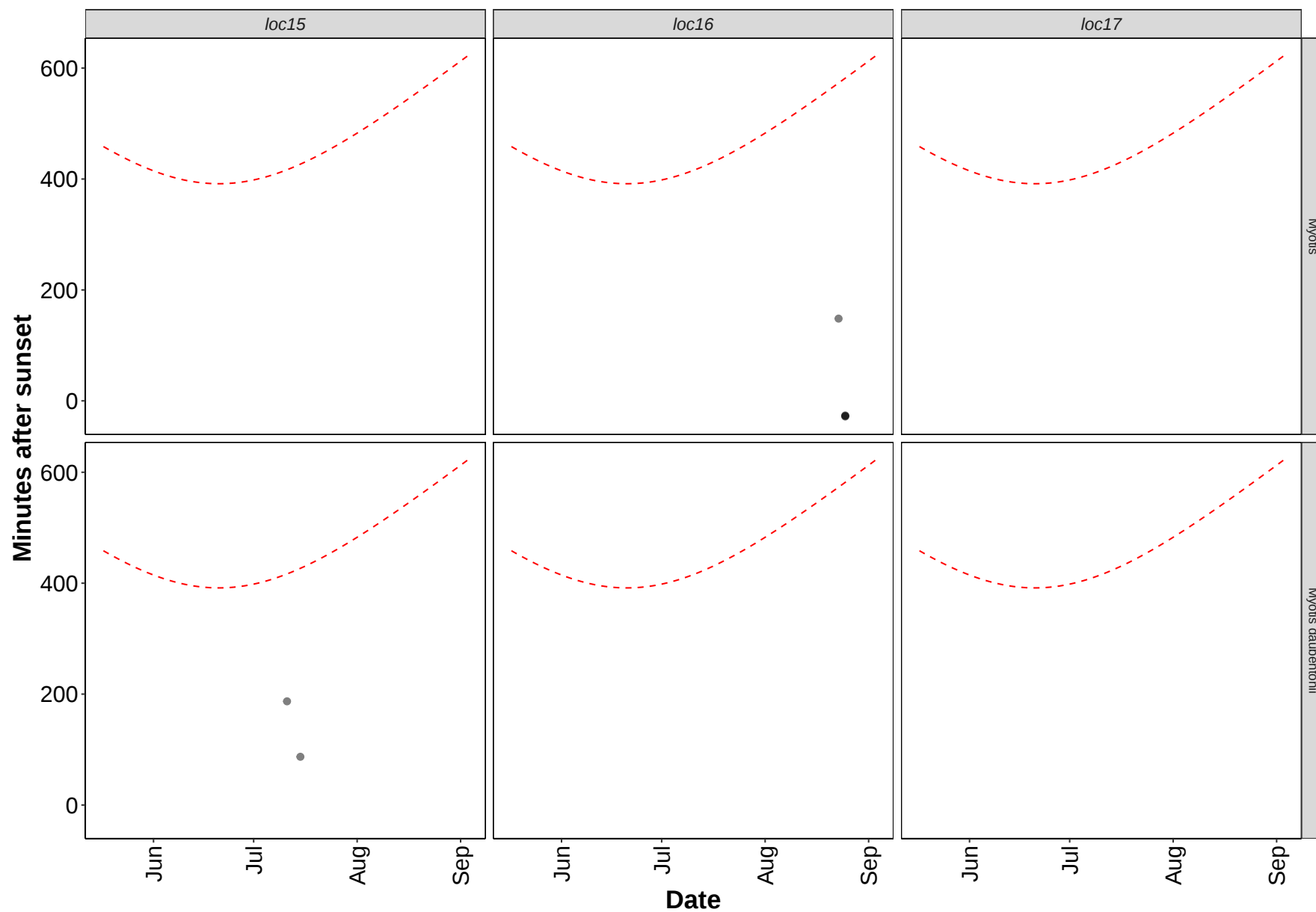
Distribution of Bat Activity Across the Night through Time

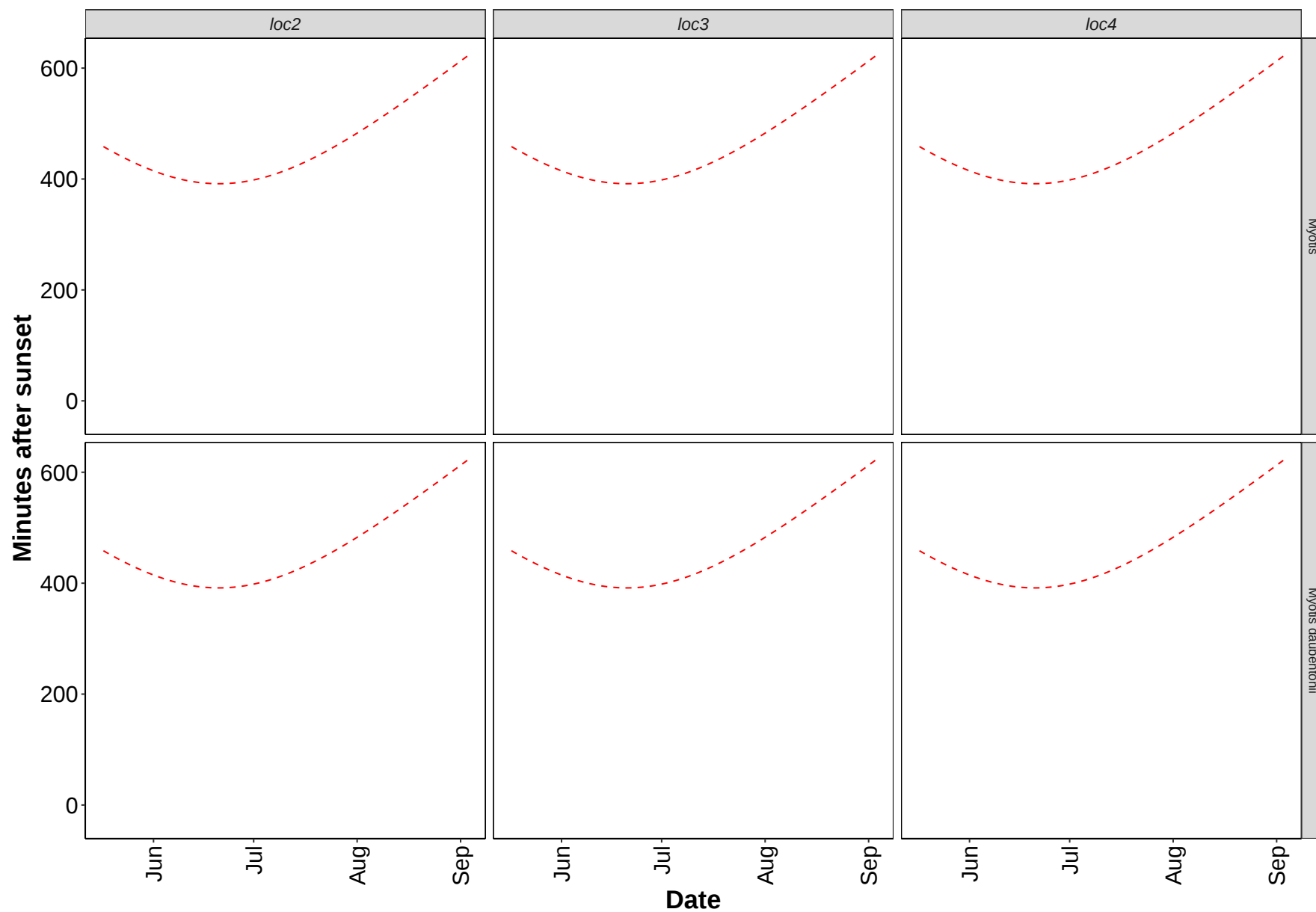
Per Detector

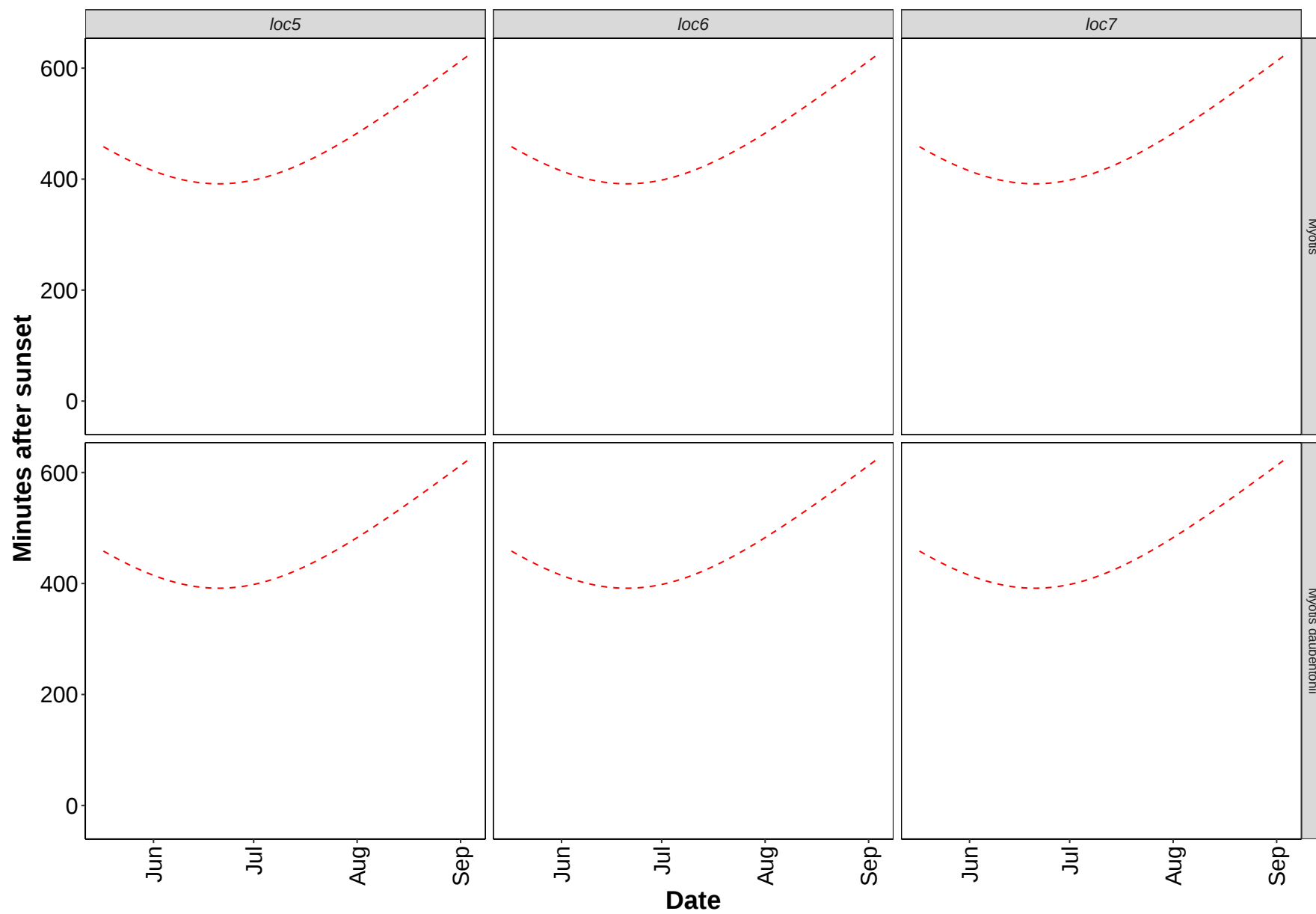
Figure 7. Timing of bat calls plotted as minutes before/after sunset, whereby 0 on the y axis represents sunset. Sunrise throughout the survey period is depicted as the red dashed line. Colours indicate kernel densities, with darkest colours showing peaks of activity. These colours are comparative only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

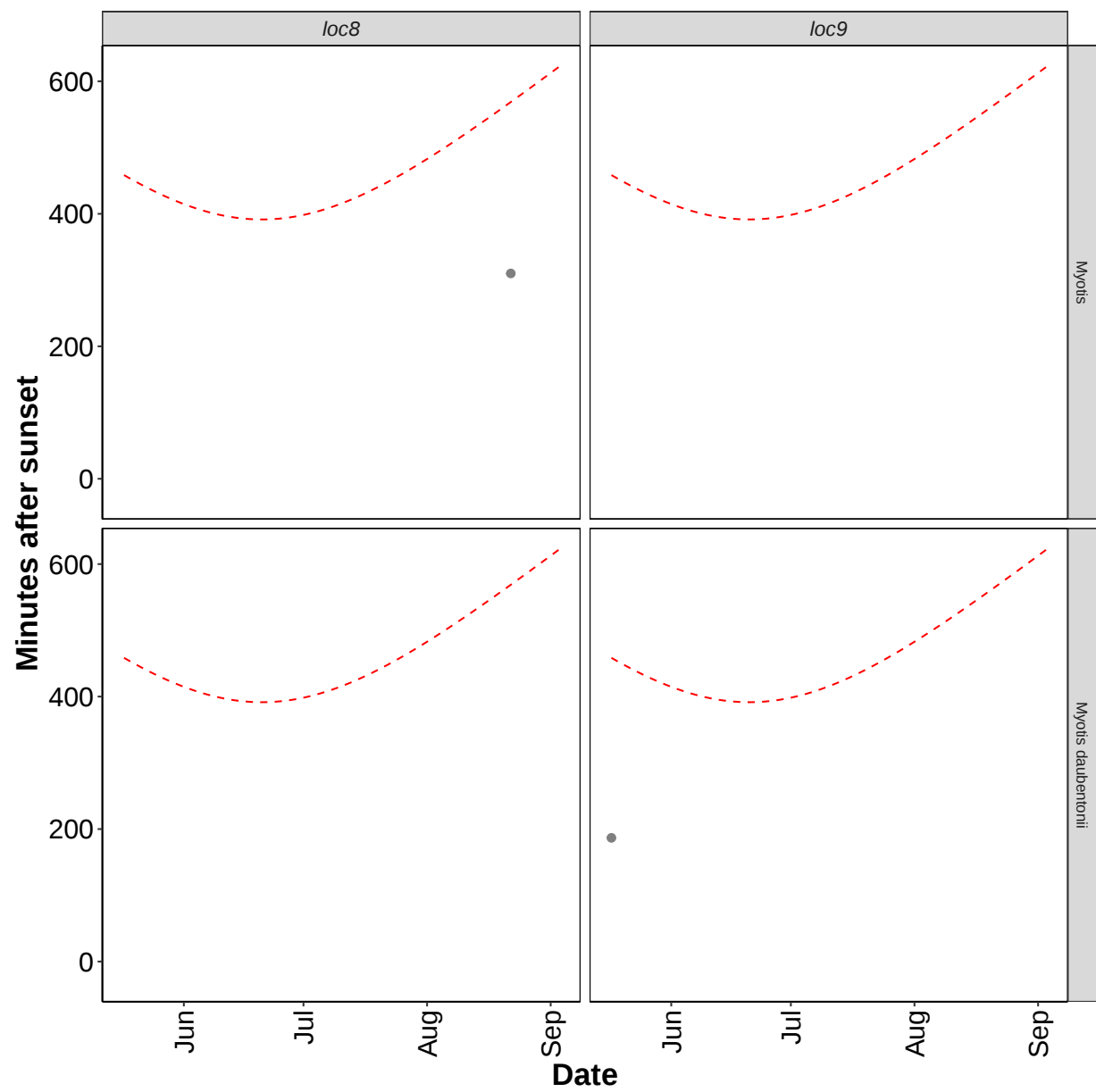


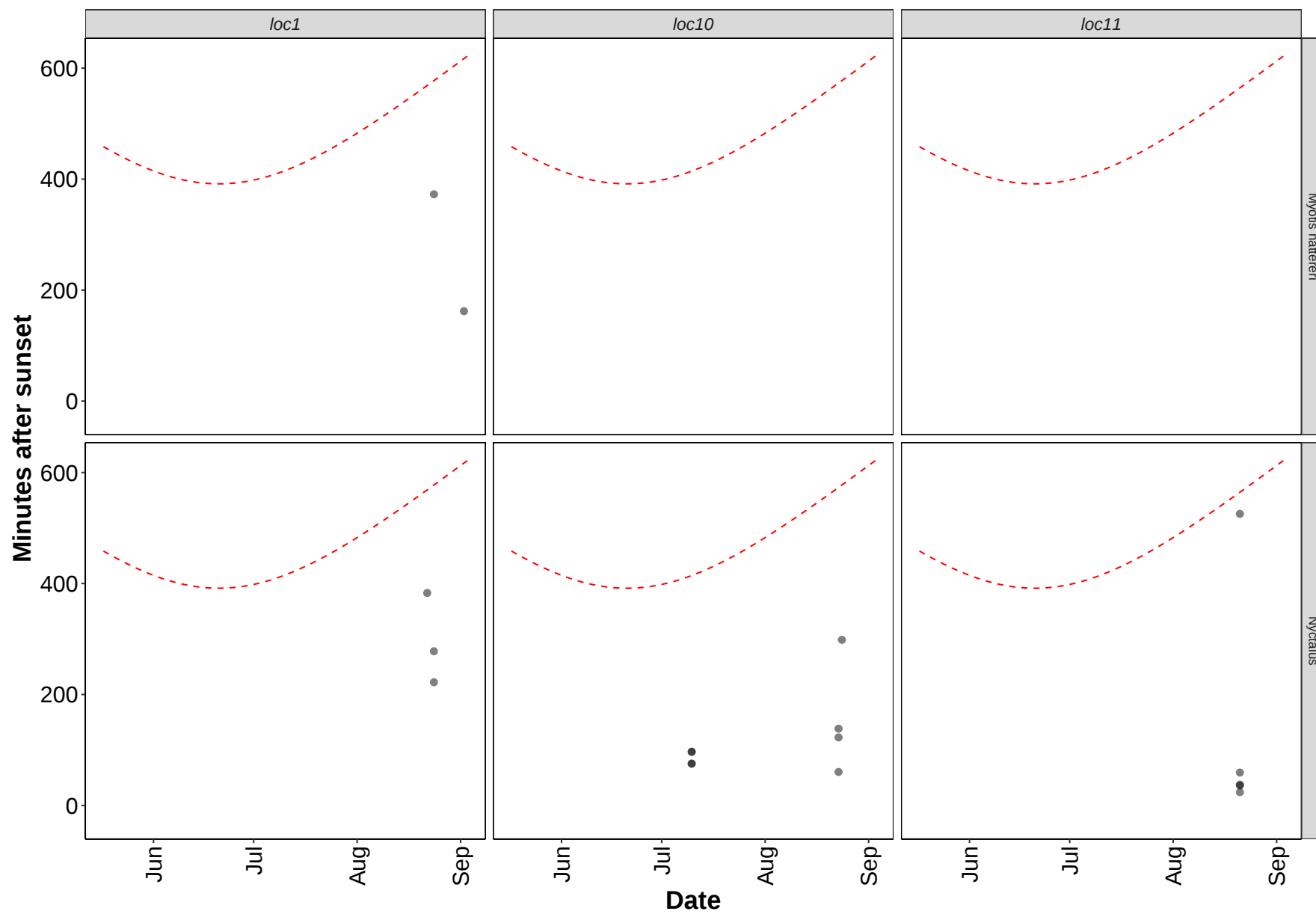


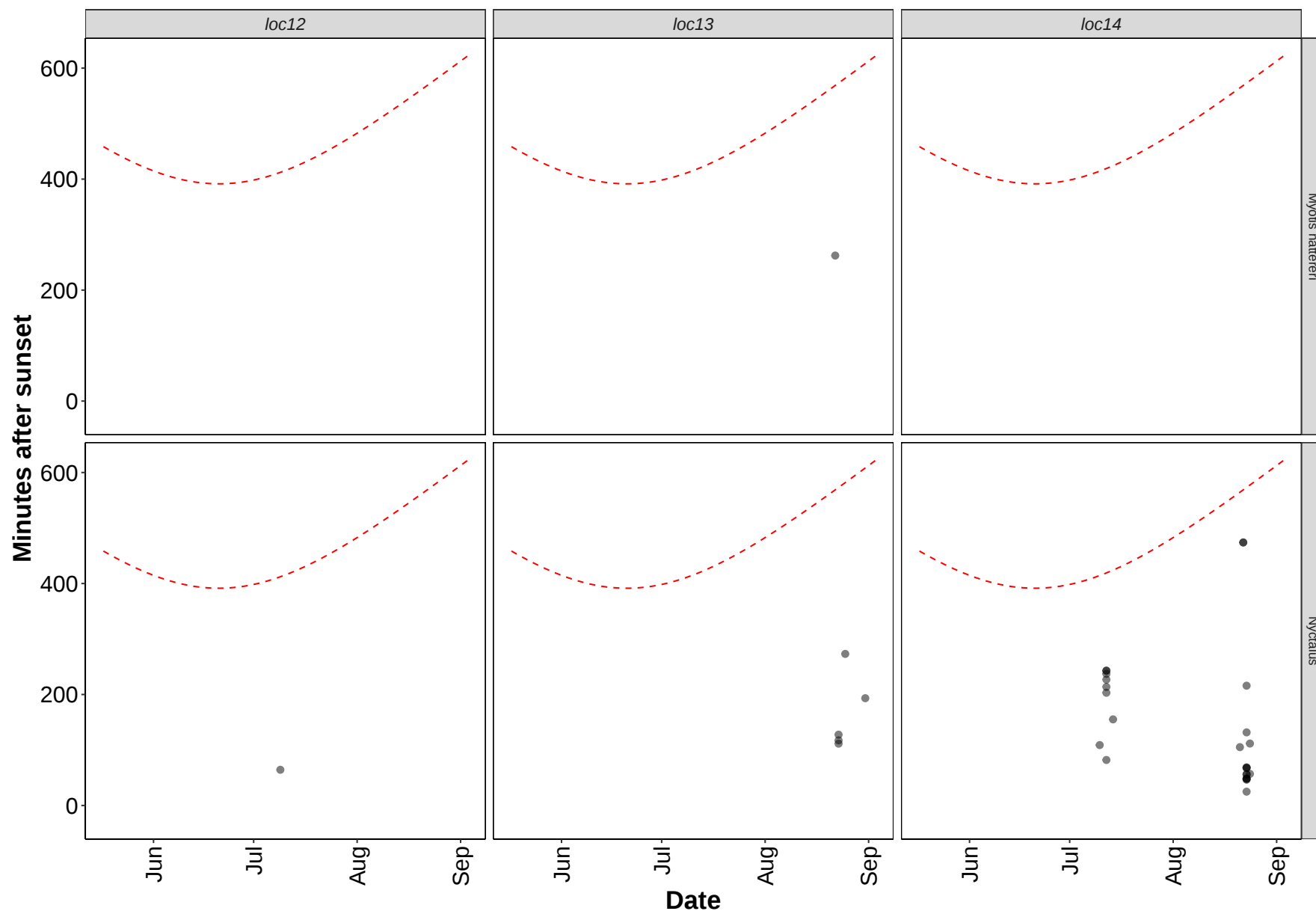


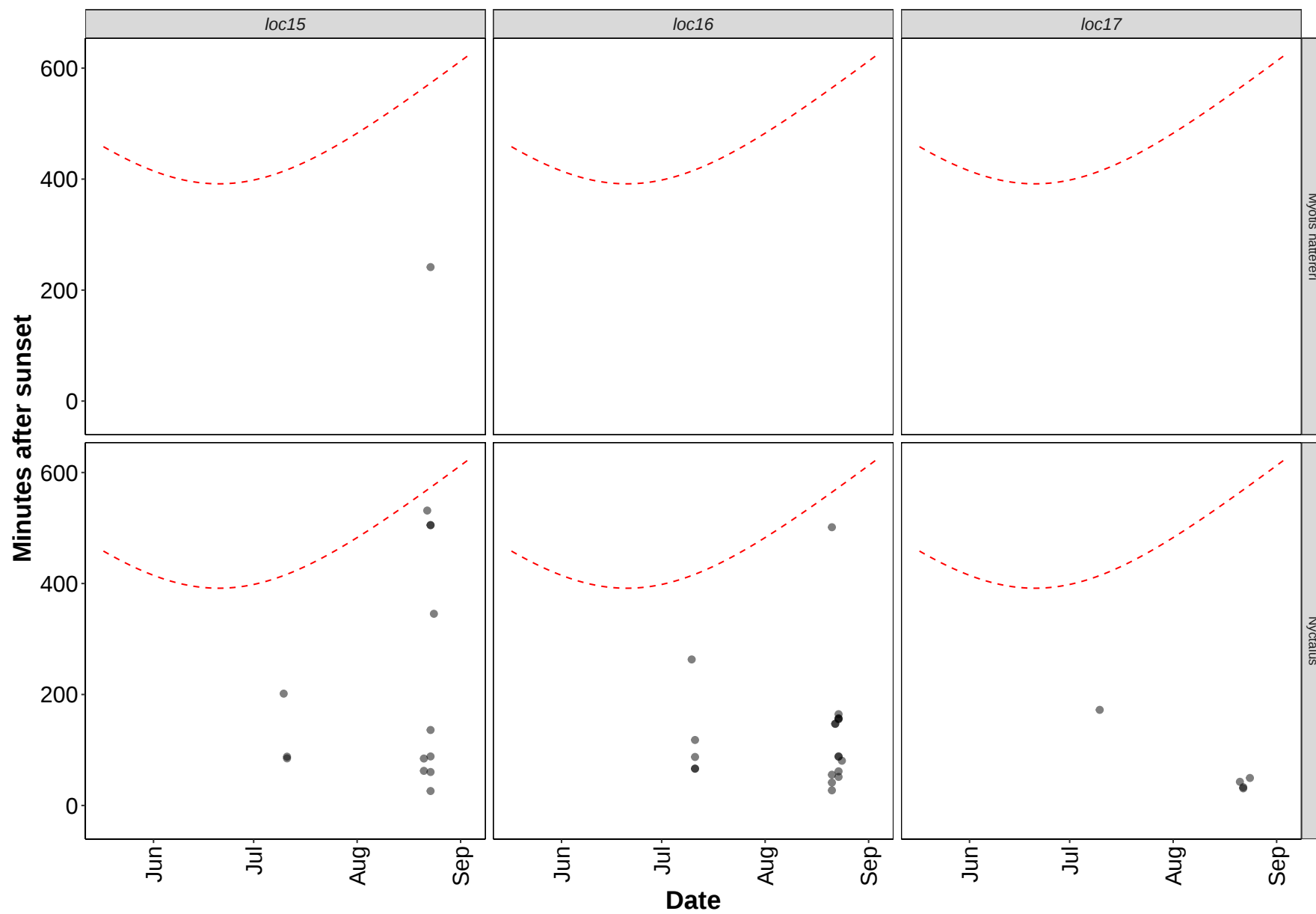


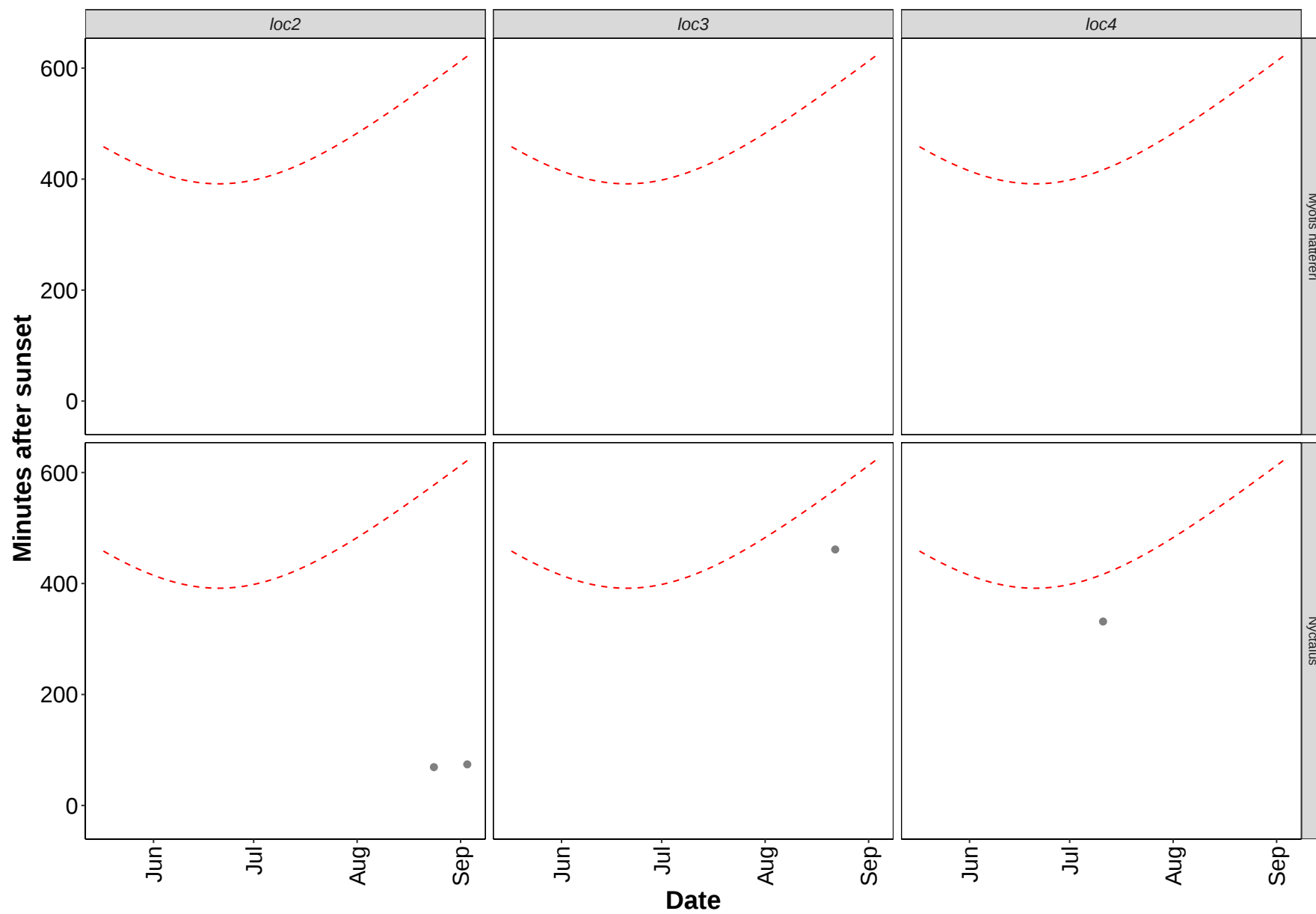


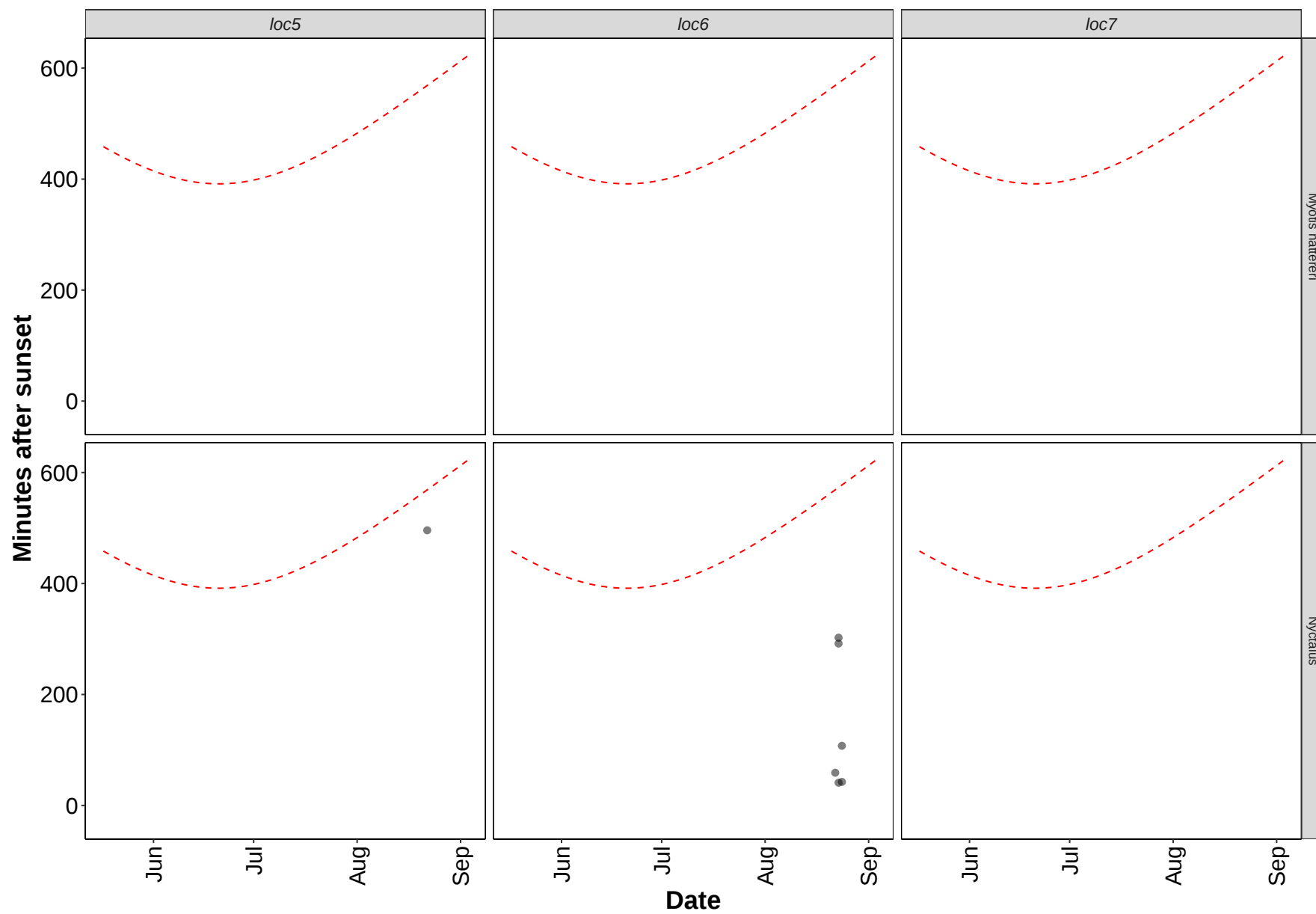


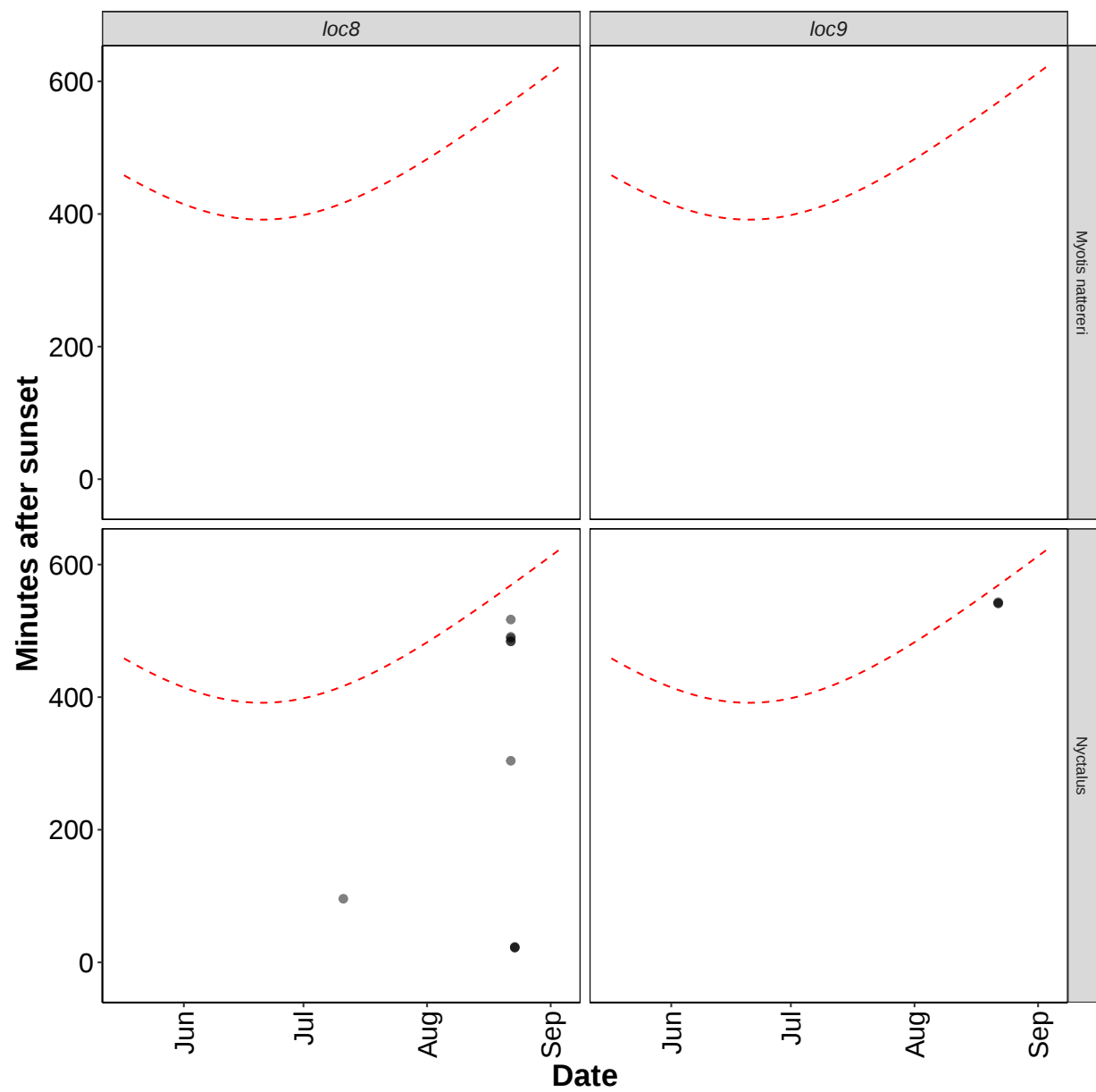












Roost Emergence Time and Bat Observation

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

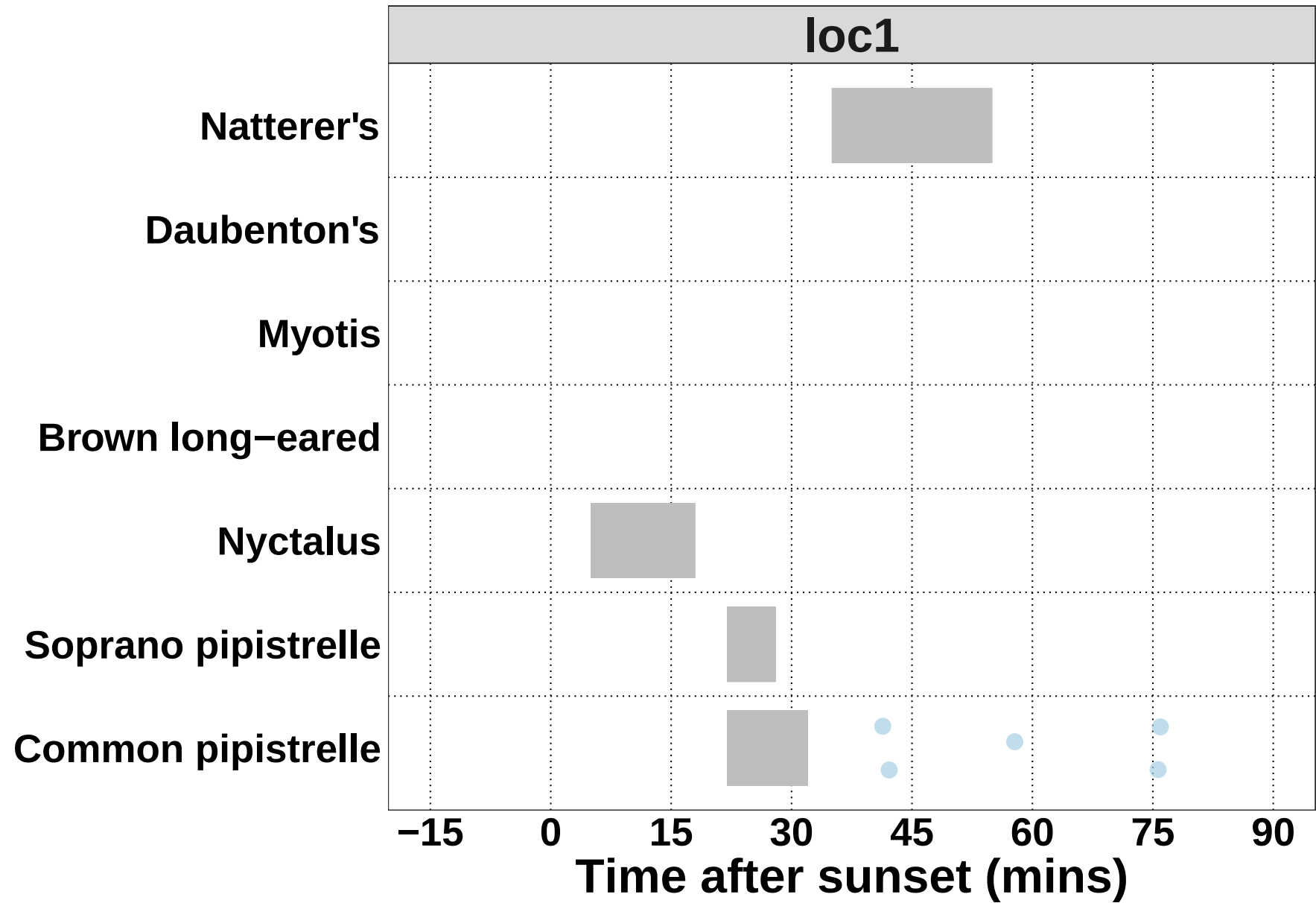
Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012)

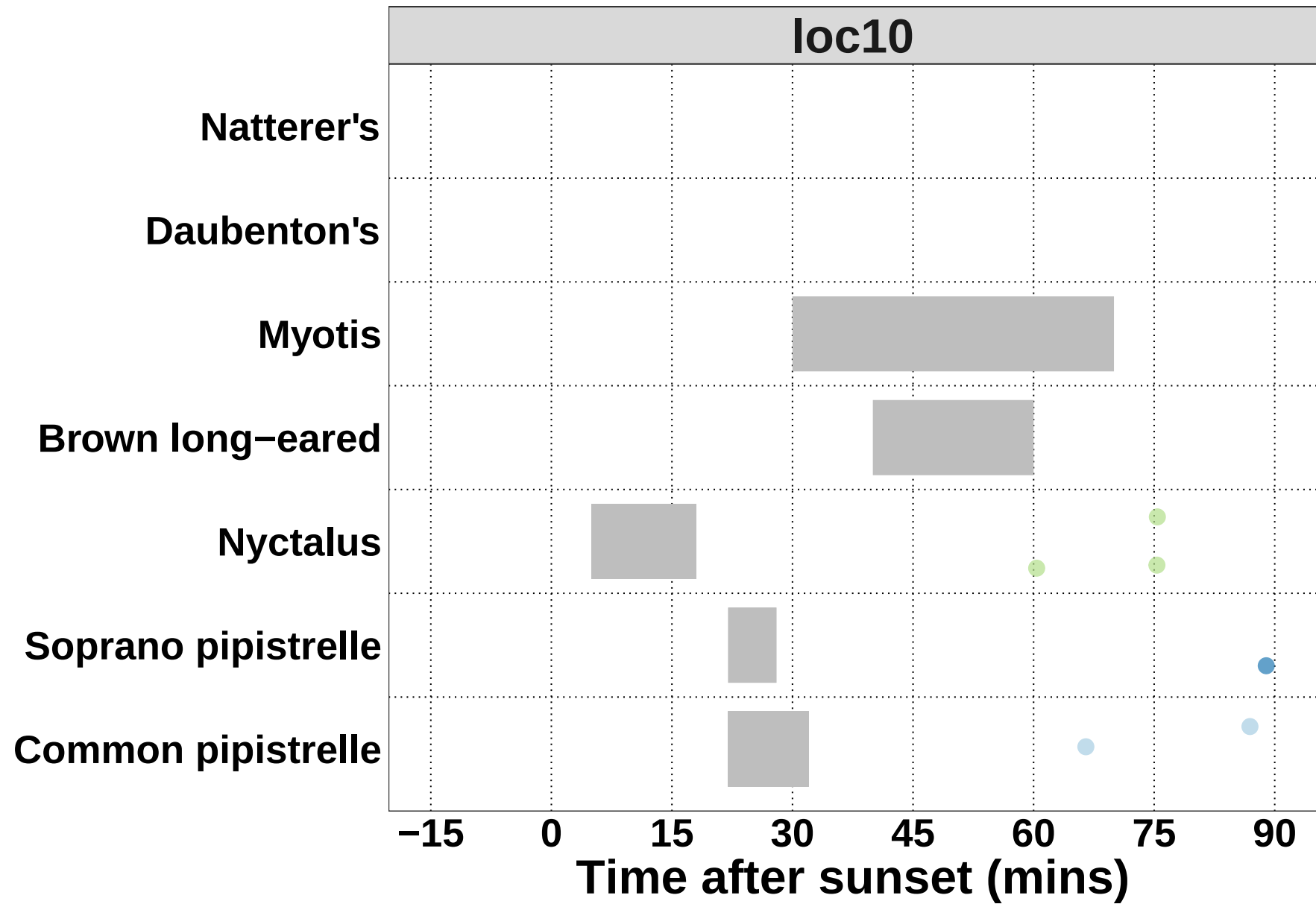
Table 12. Number of bat calls recorded before the upper time of the species-specific emergence time range, and which therefore may potentially indicate the presence of a nearby roost.

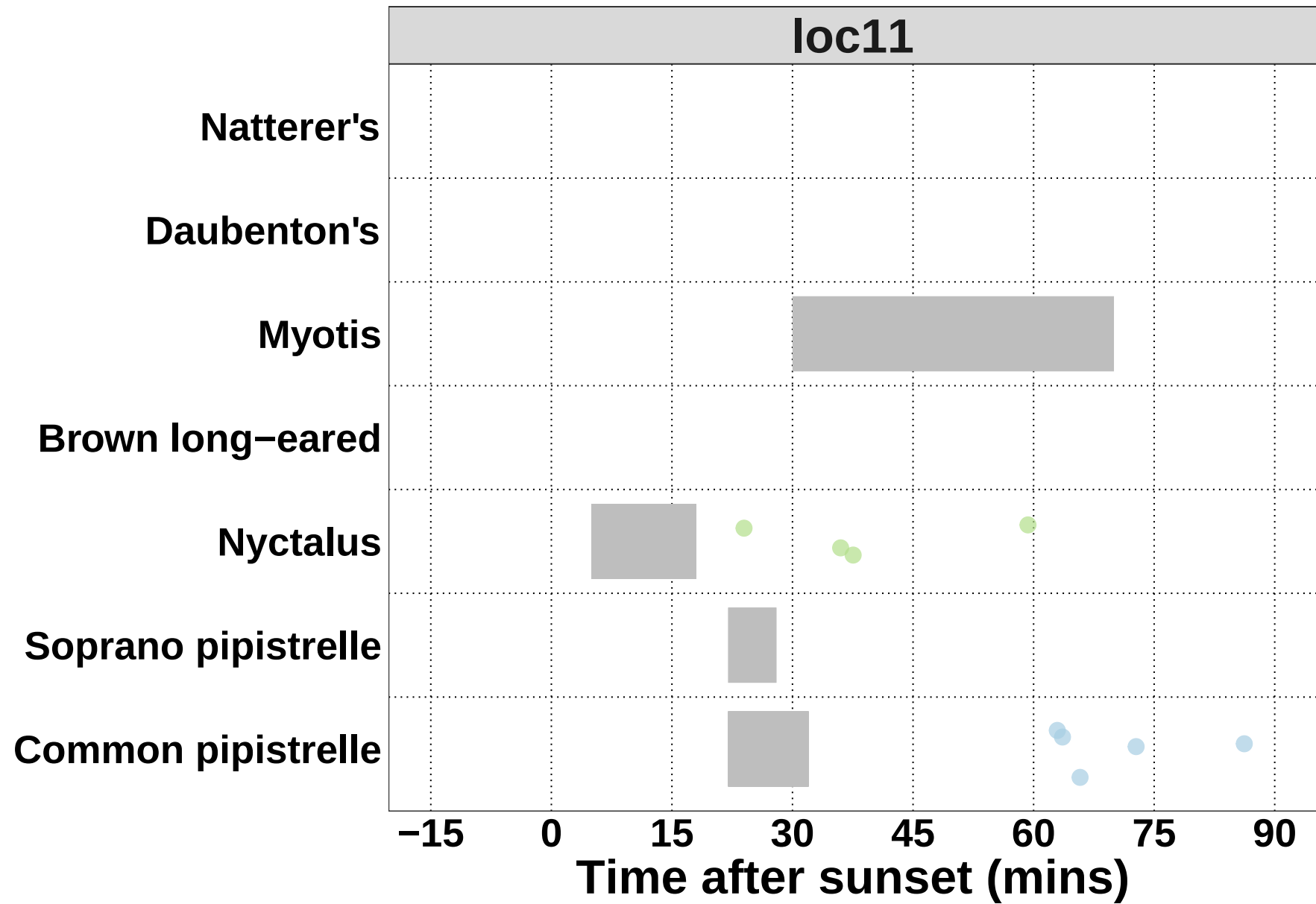
Species	Detector ID	2025-08-25
Myotis	loc16	3

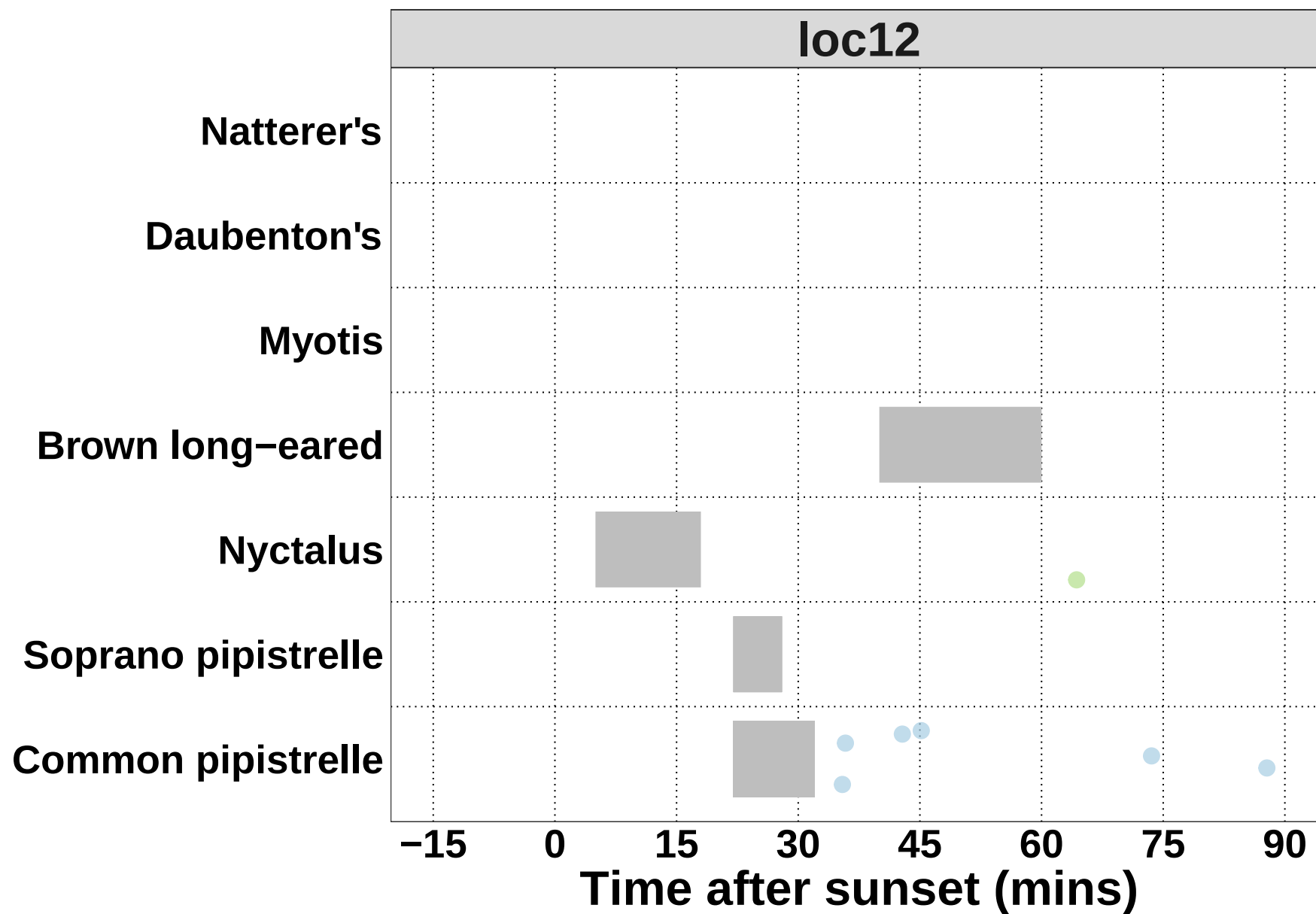
Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012)

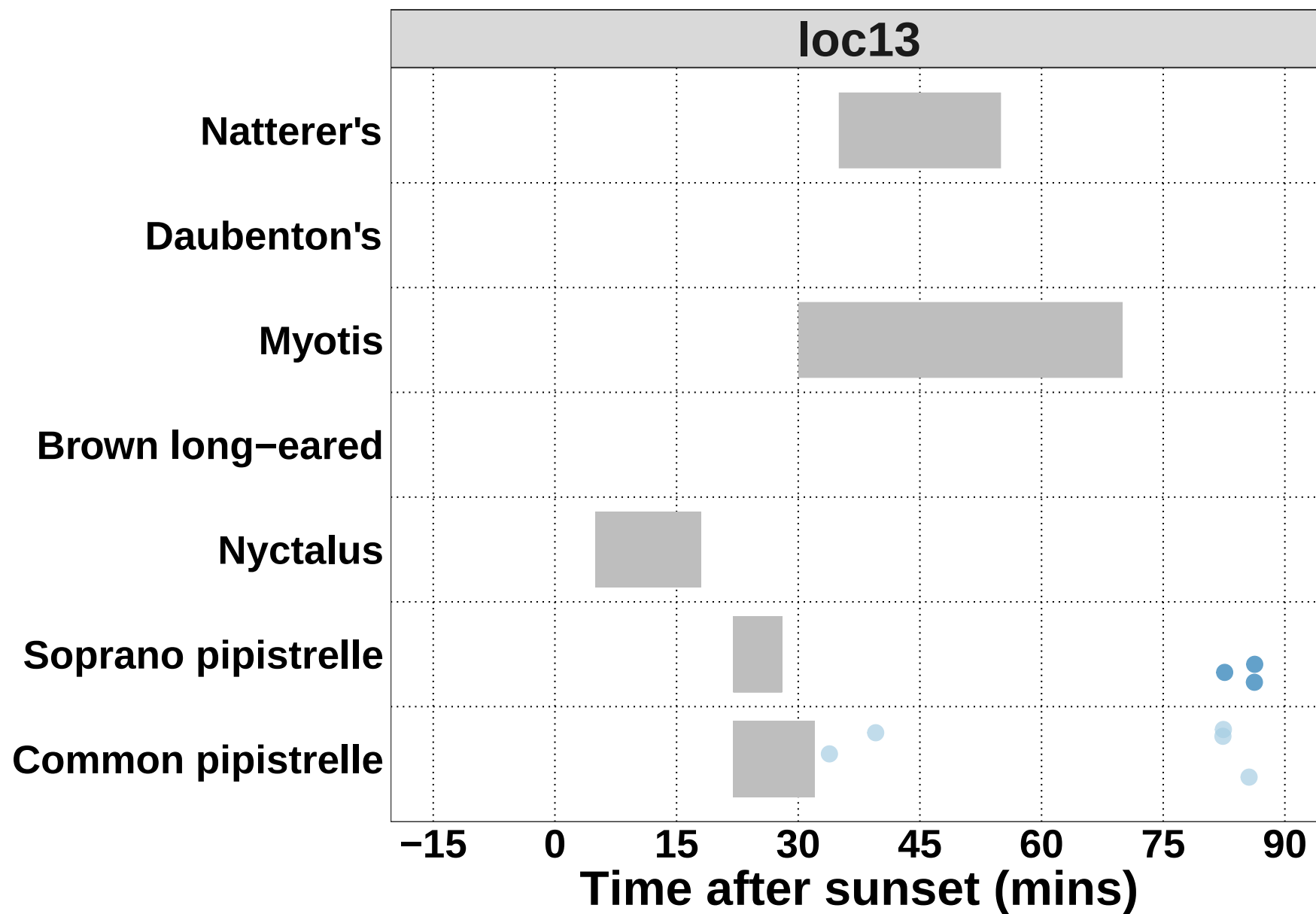
Figure 8. Time from 15 minutes before to 90 minutes after sunset. Species-specific emergence time ranges are shown as grey bars. Bat passes overlapping species-specific grey bars, or occurring earlier than this time range, may potentially indicate the presence of a nearby roost.

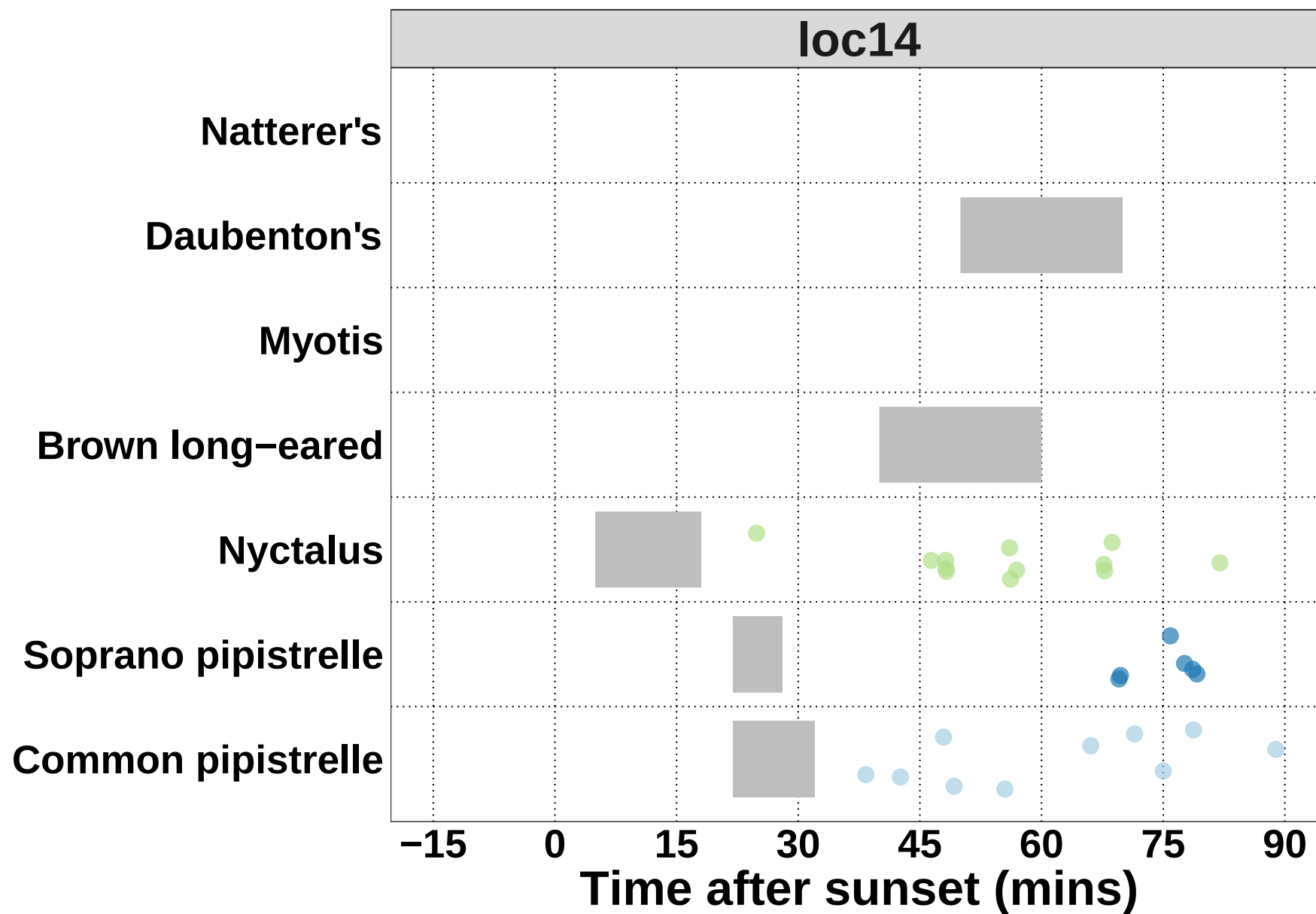


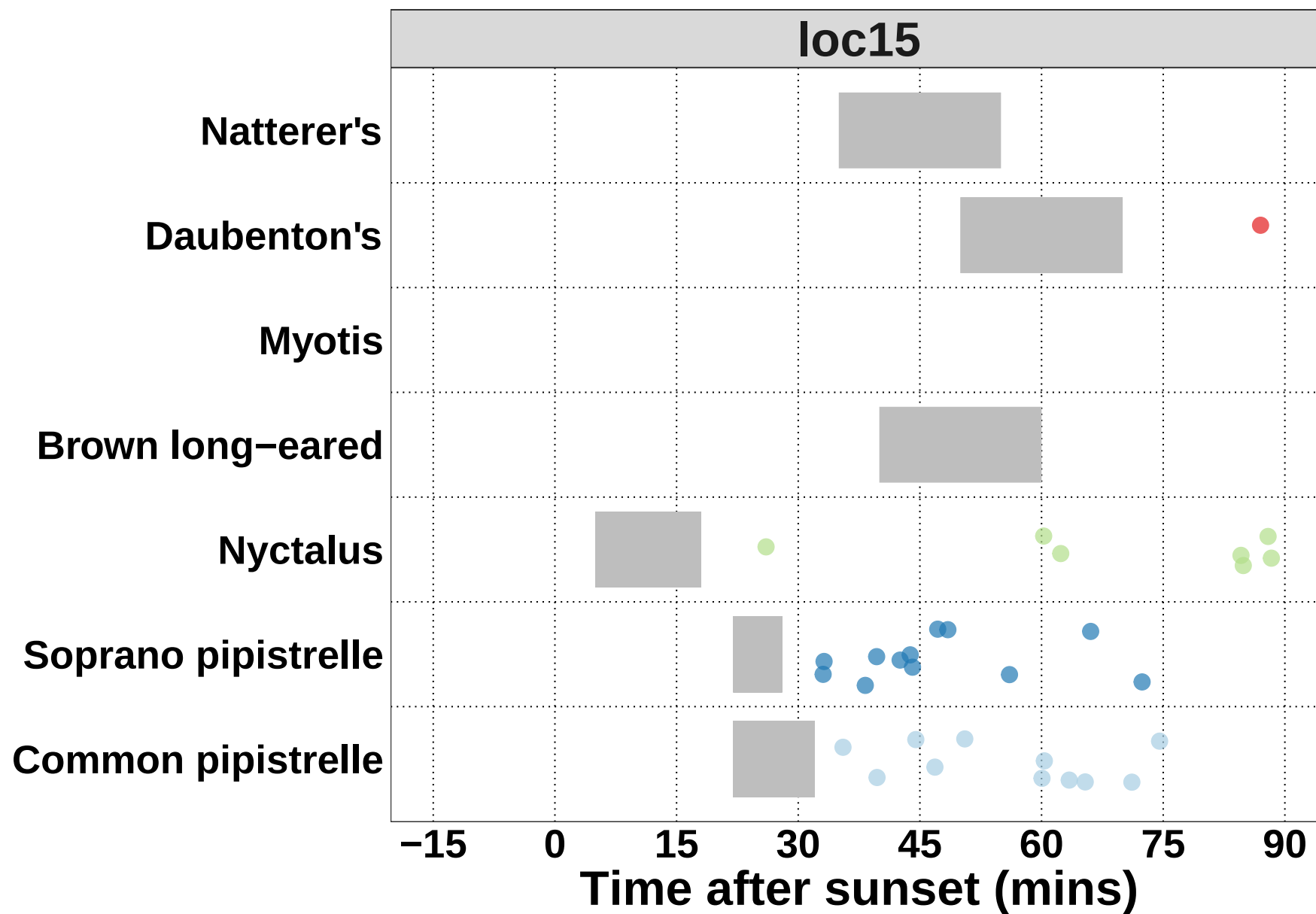


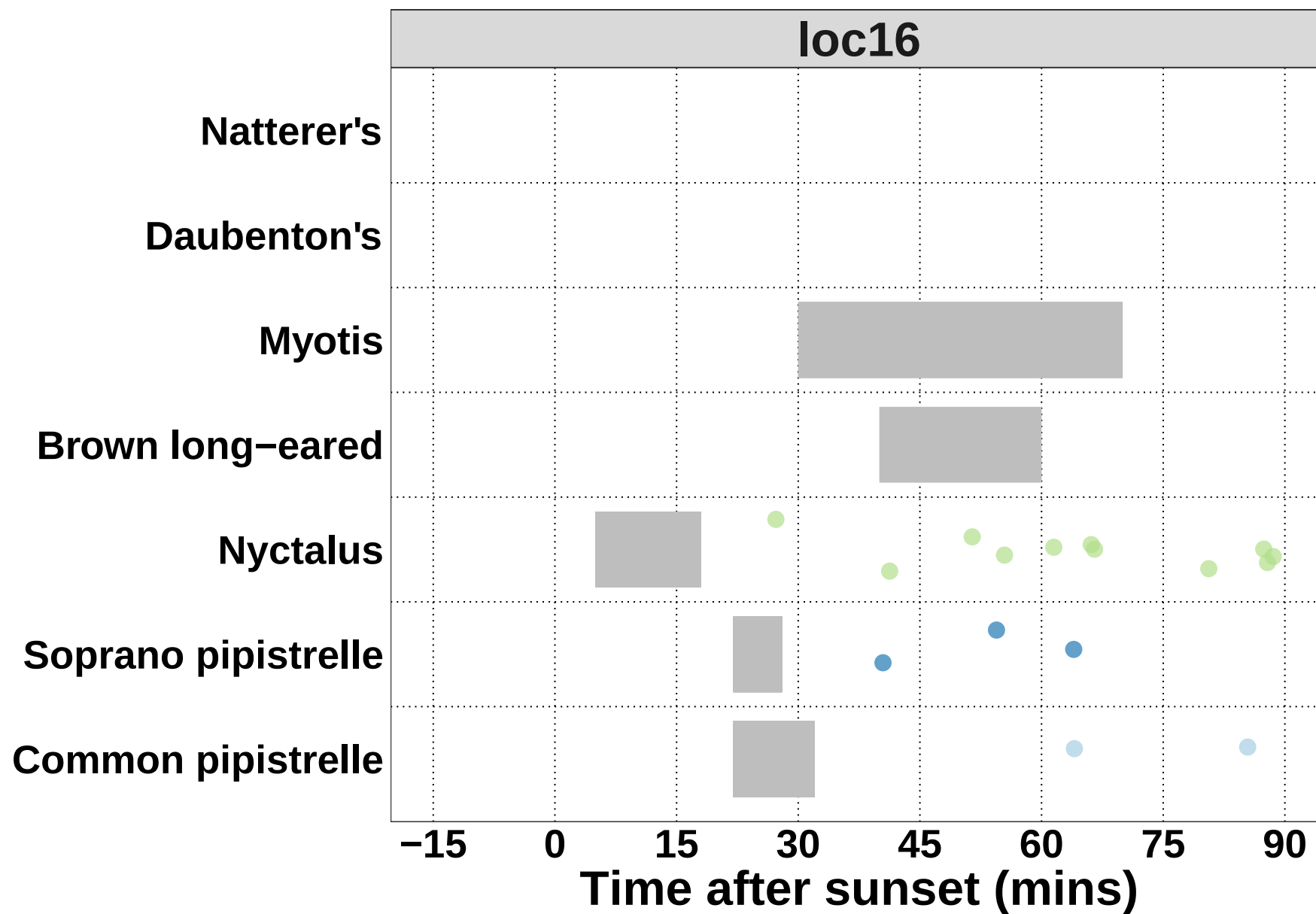


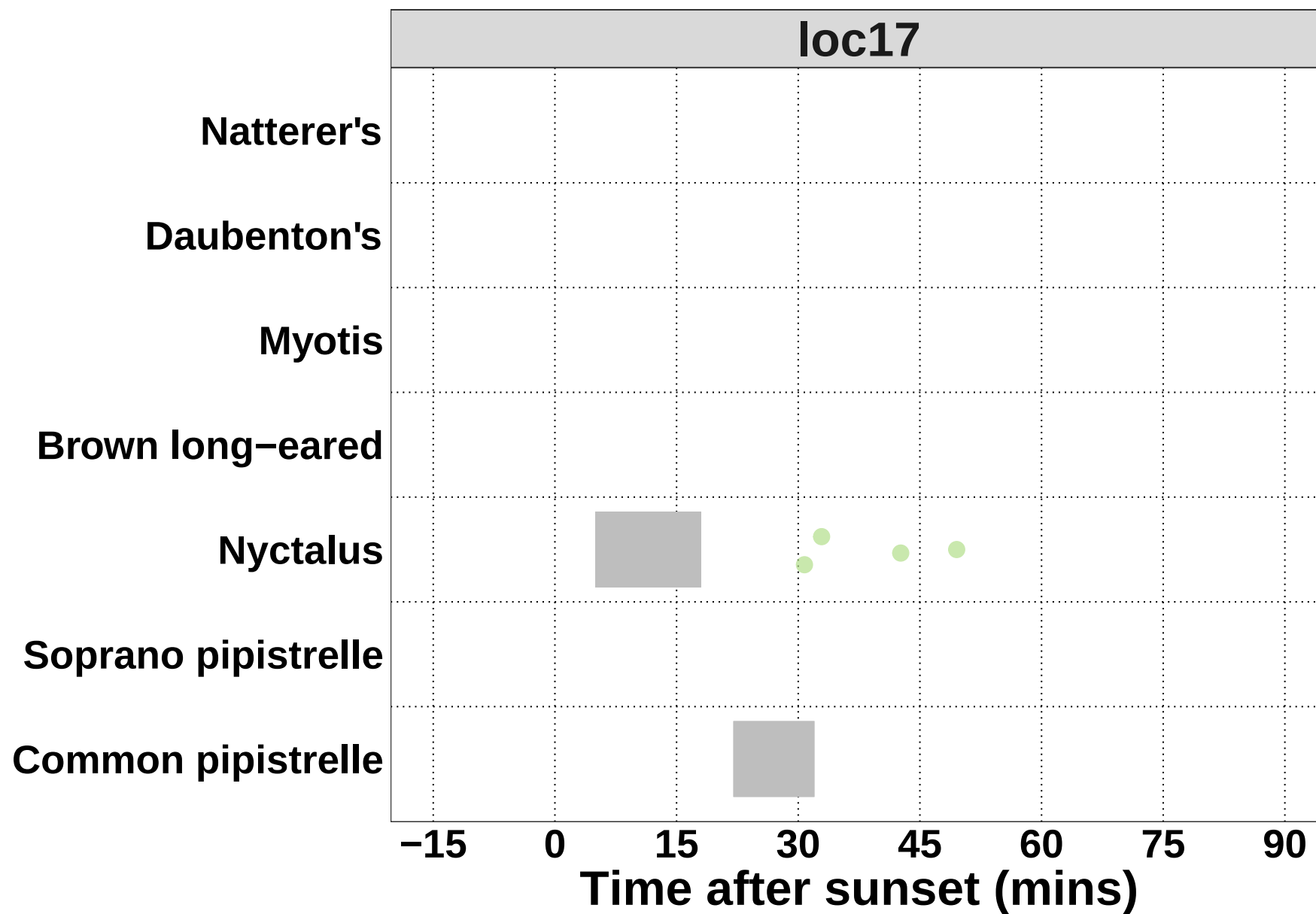


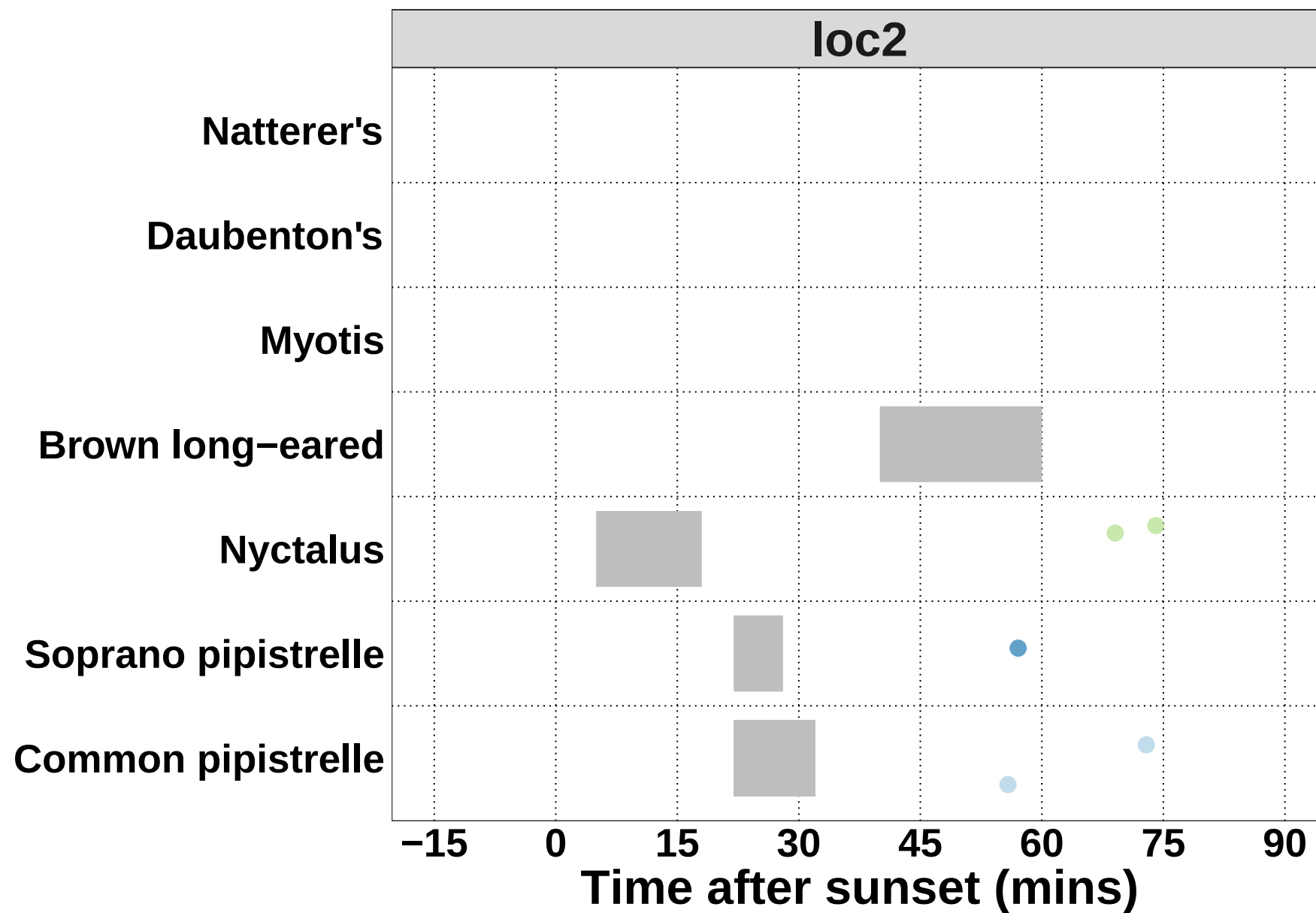


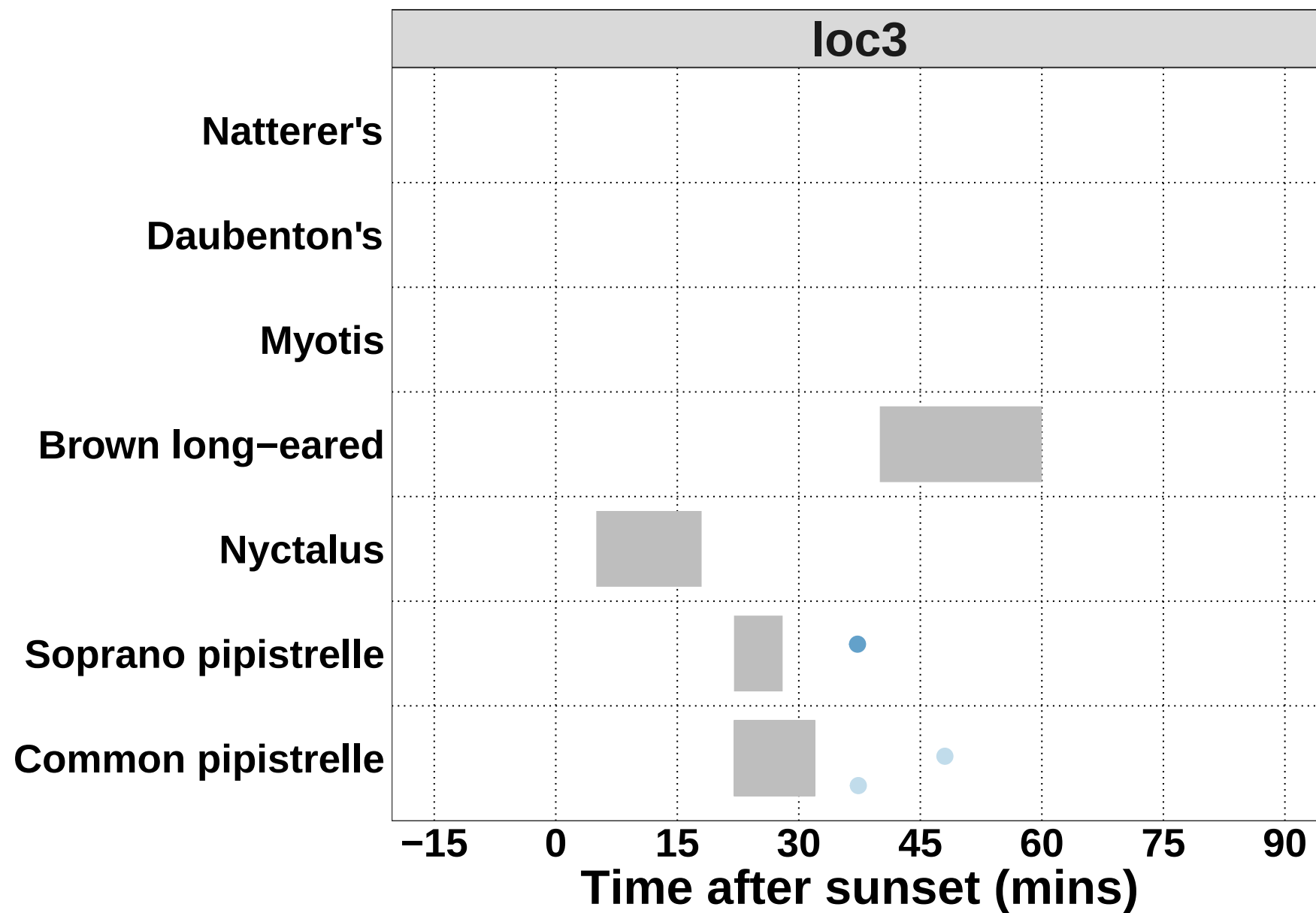


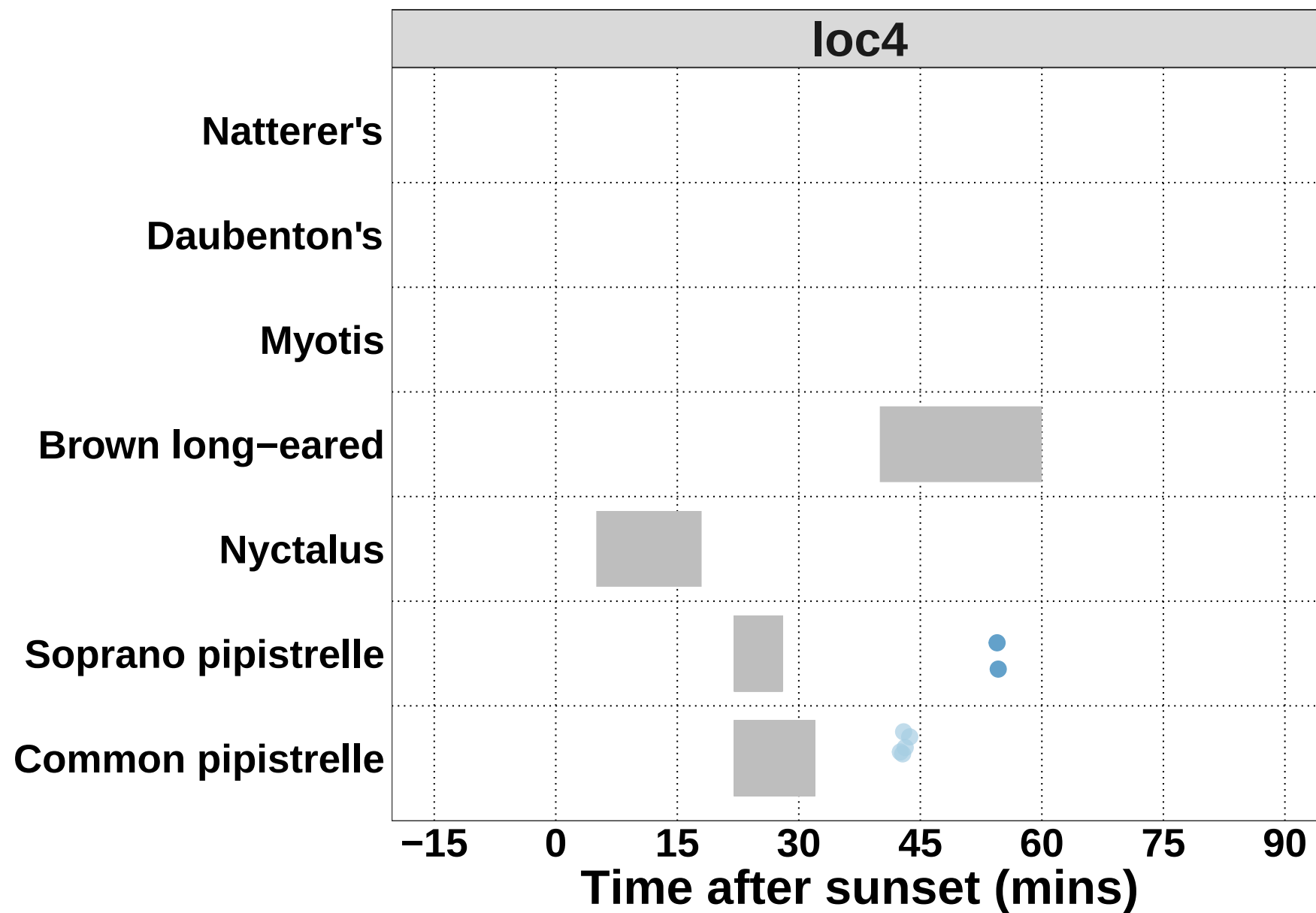


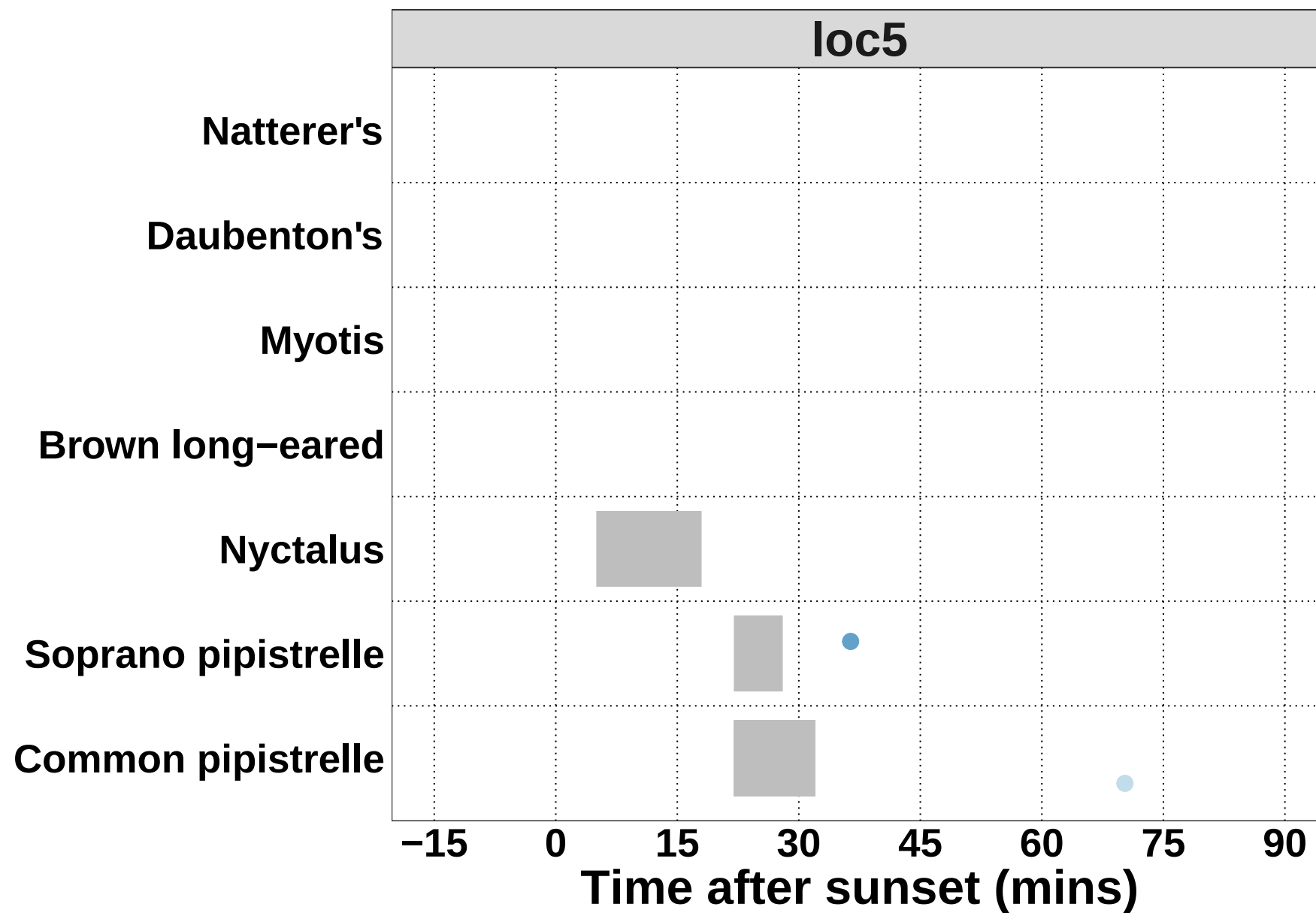


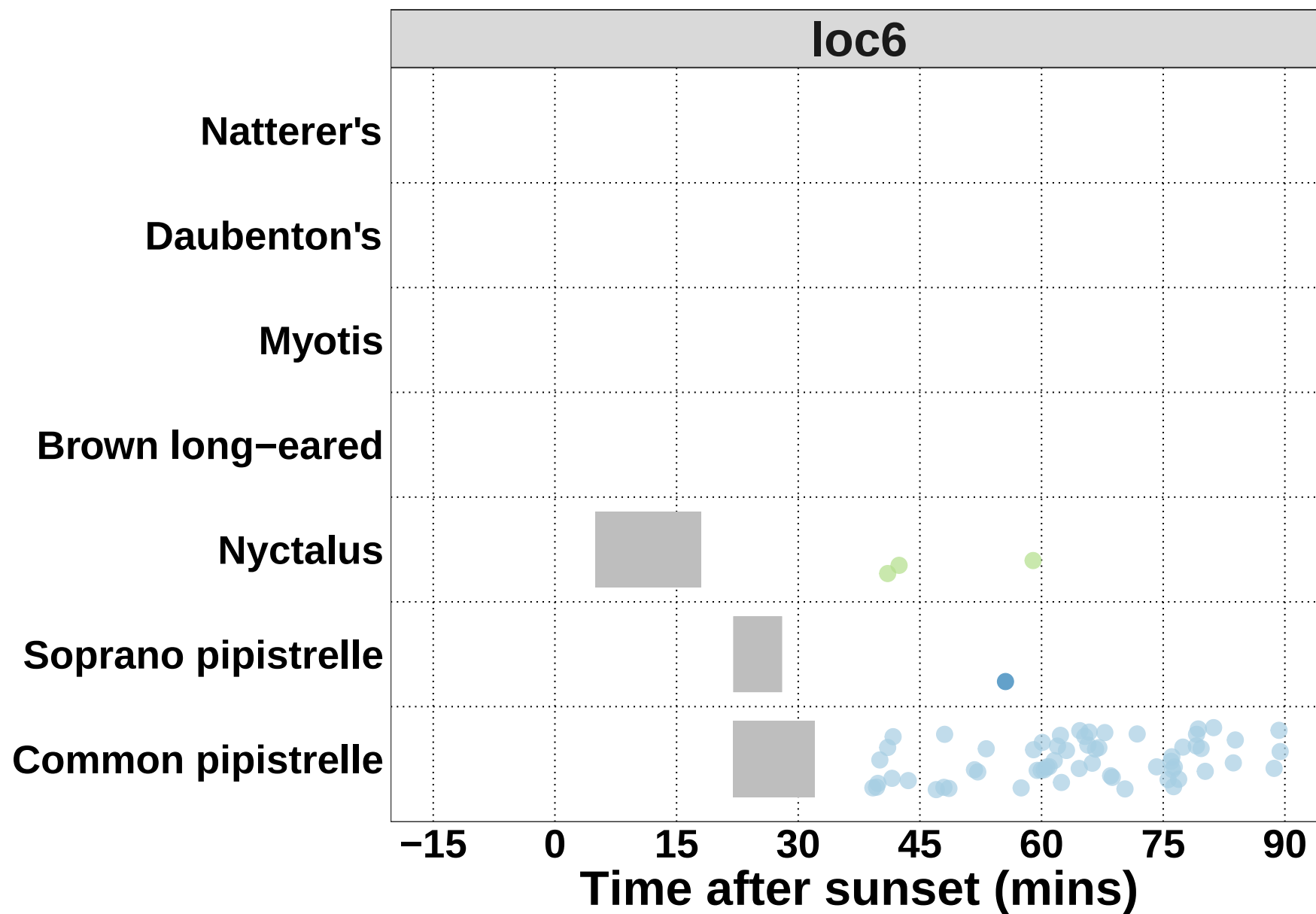


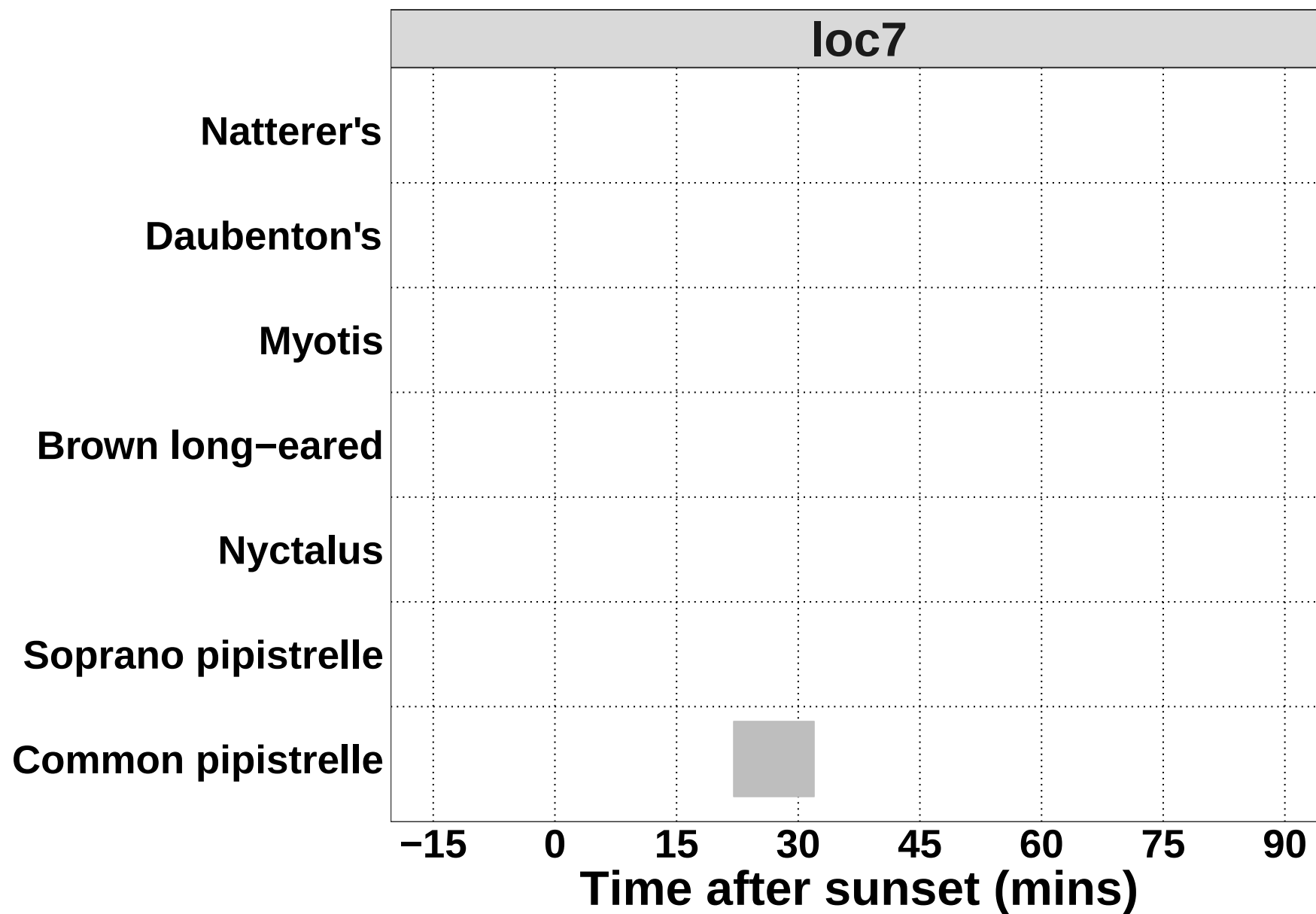


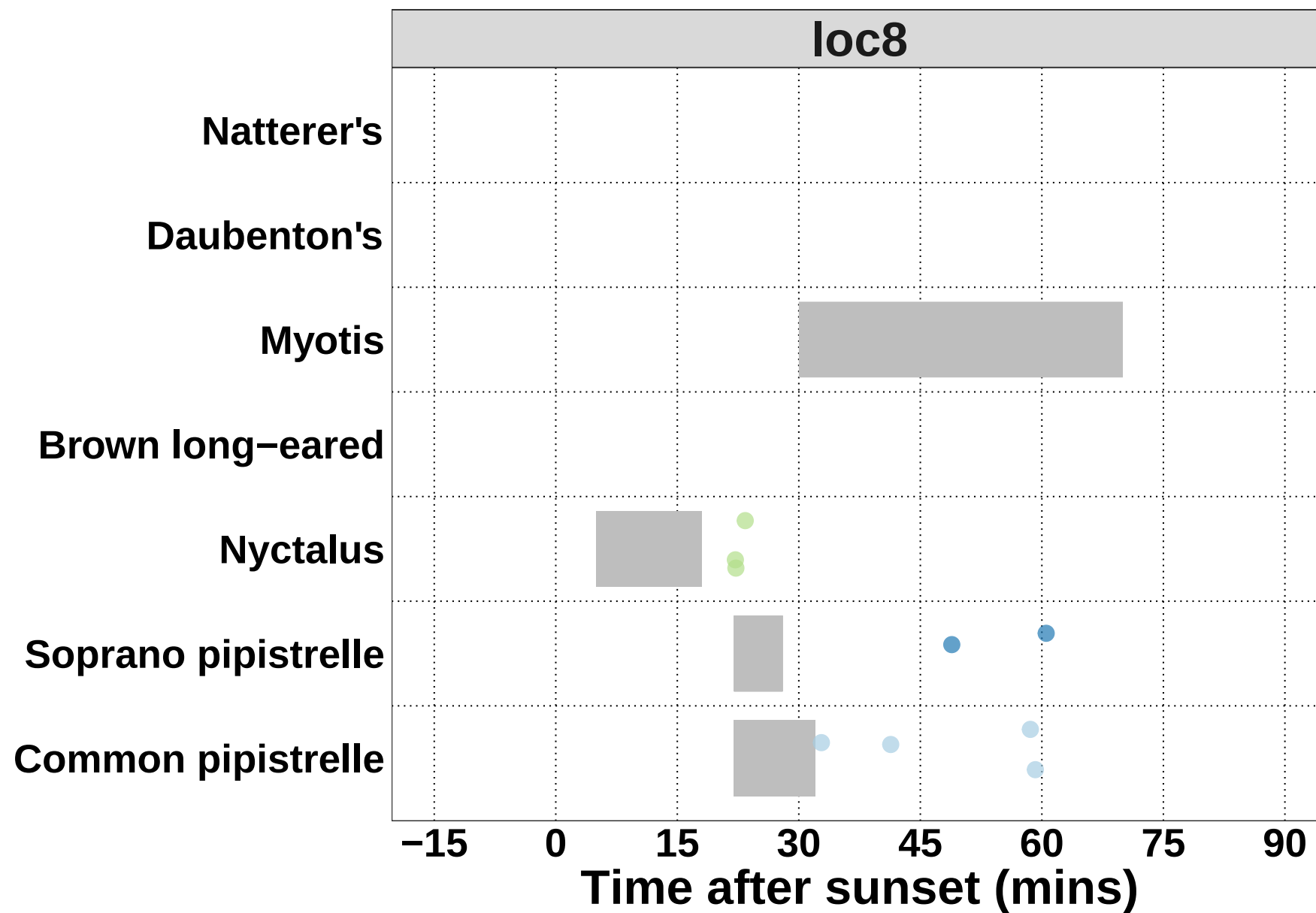


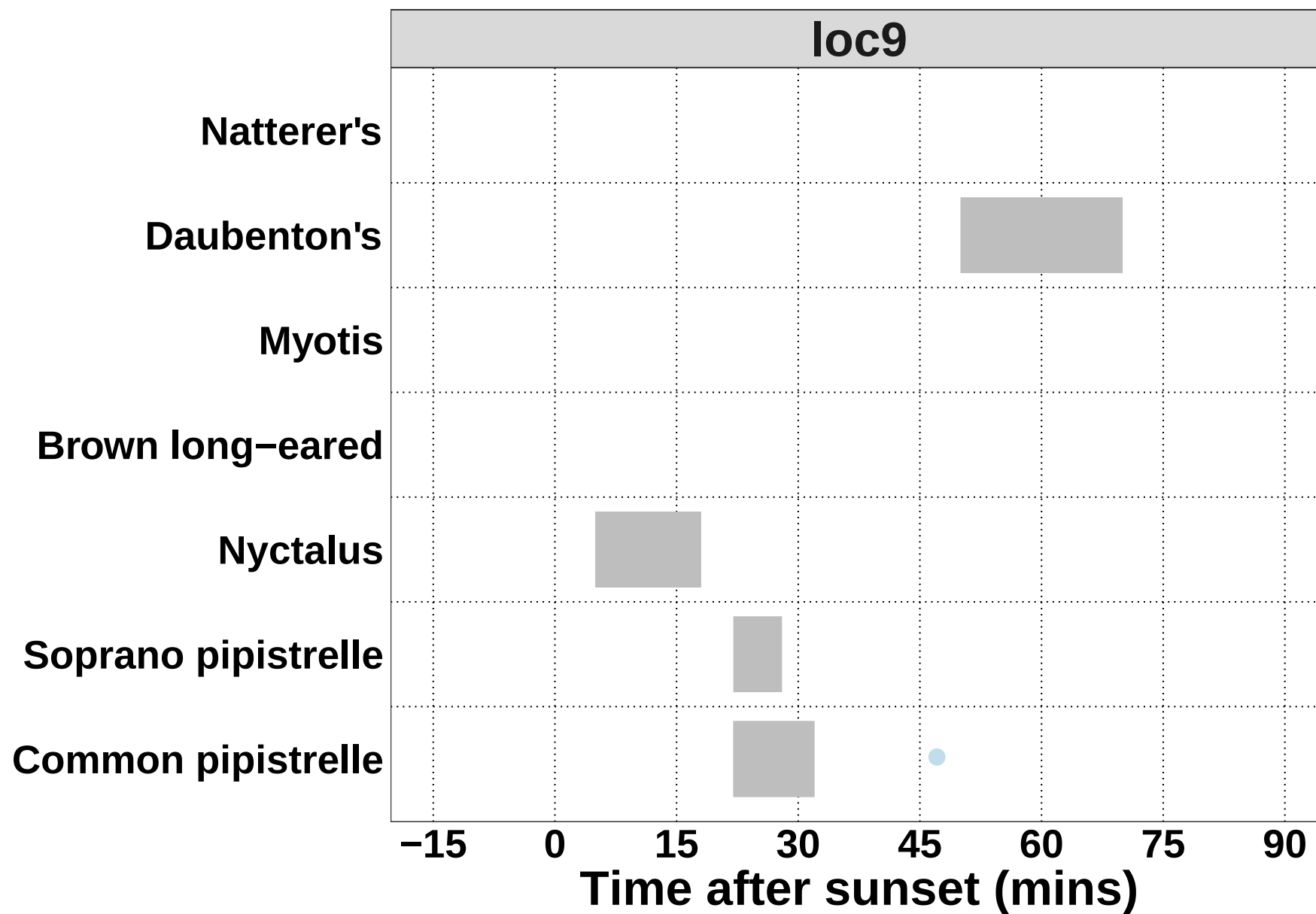








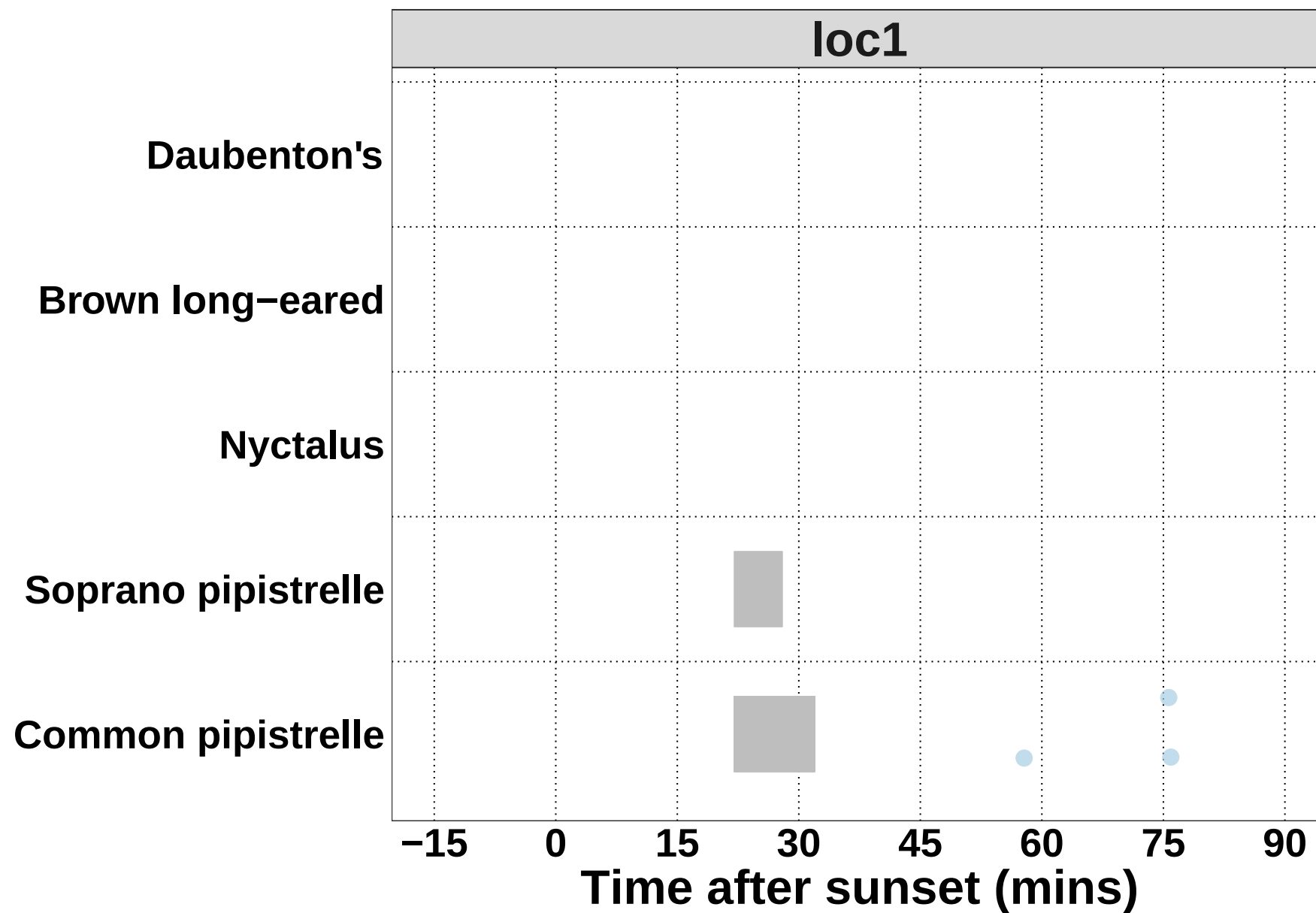


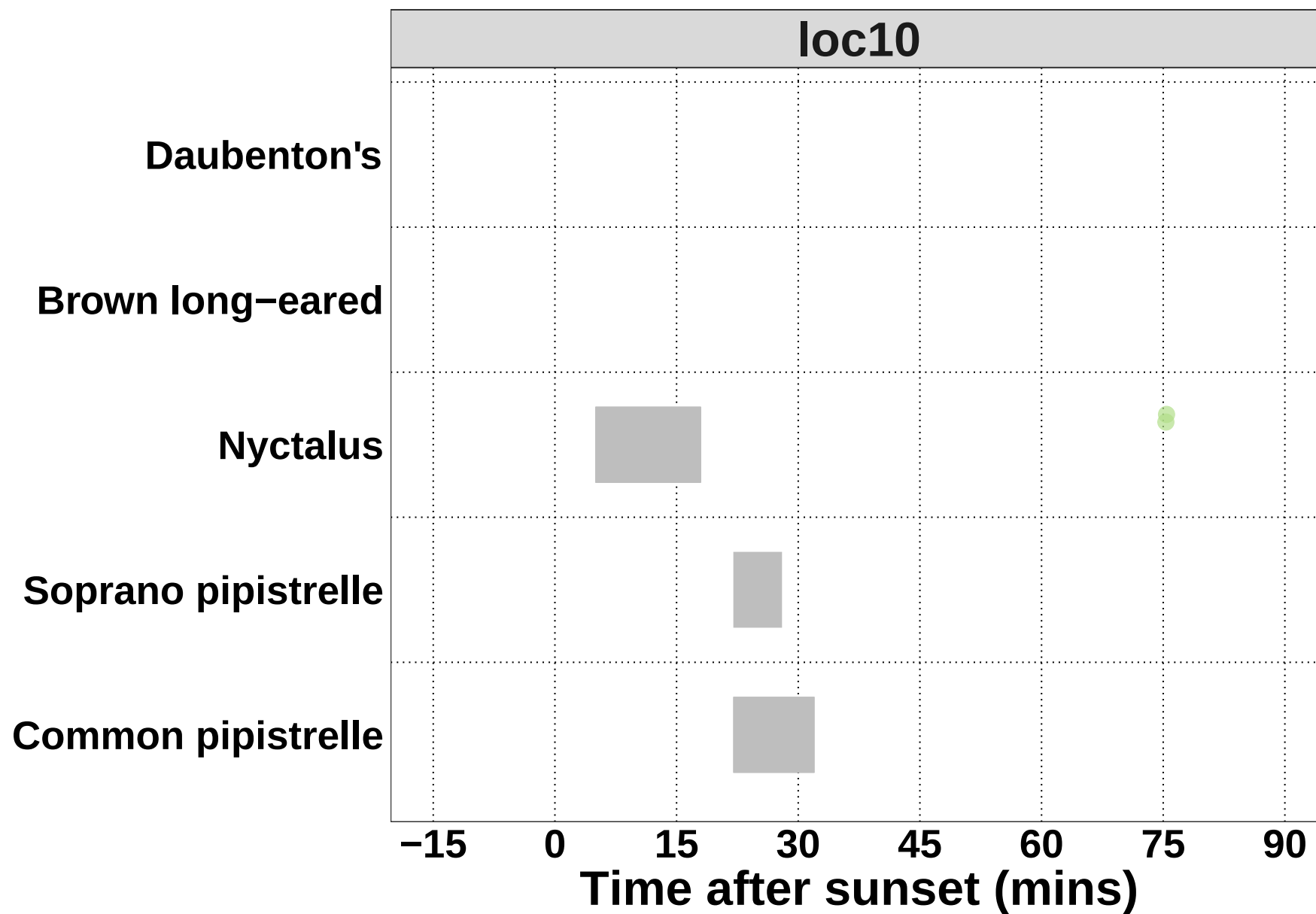


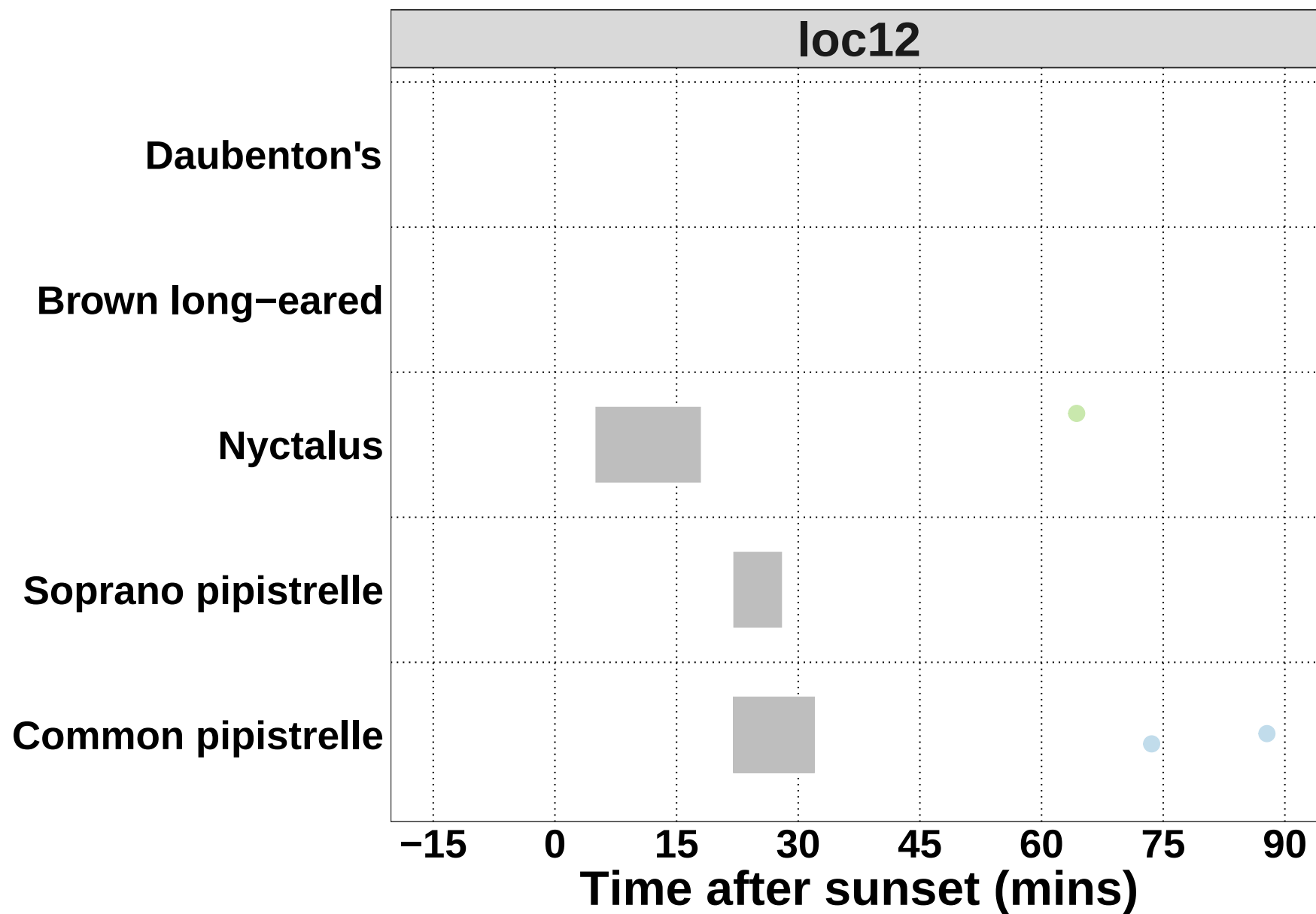
Bat Passes Potentially Indicating Close Proximity to a Roost (Maternity Period Only) - *Maternity period defined as 15th June - 30th July.

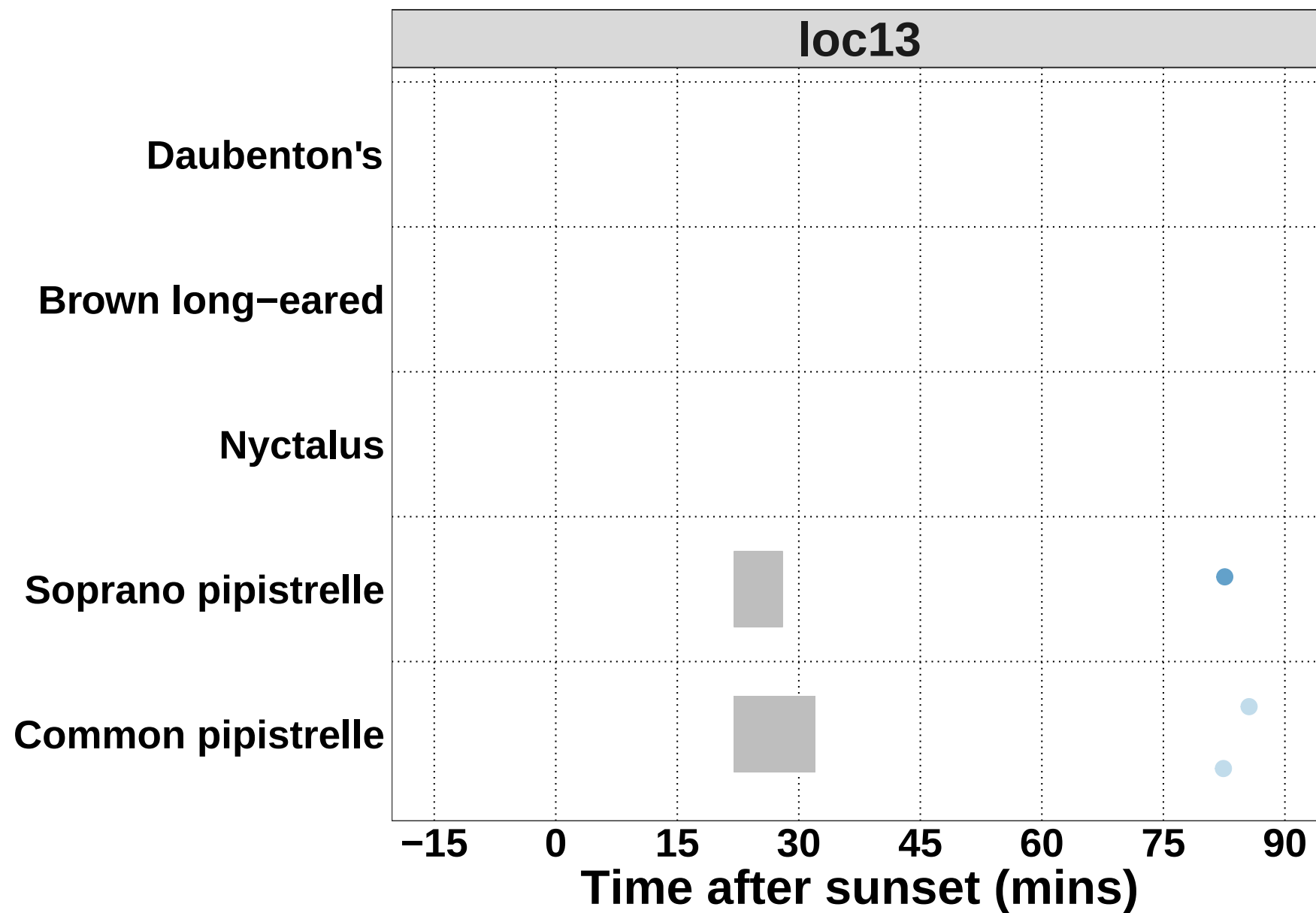
Species	Detector ID
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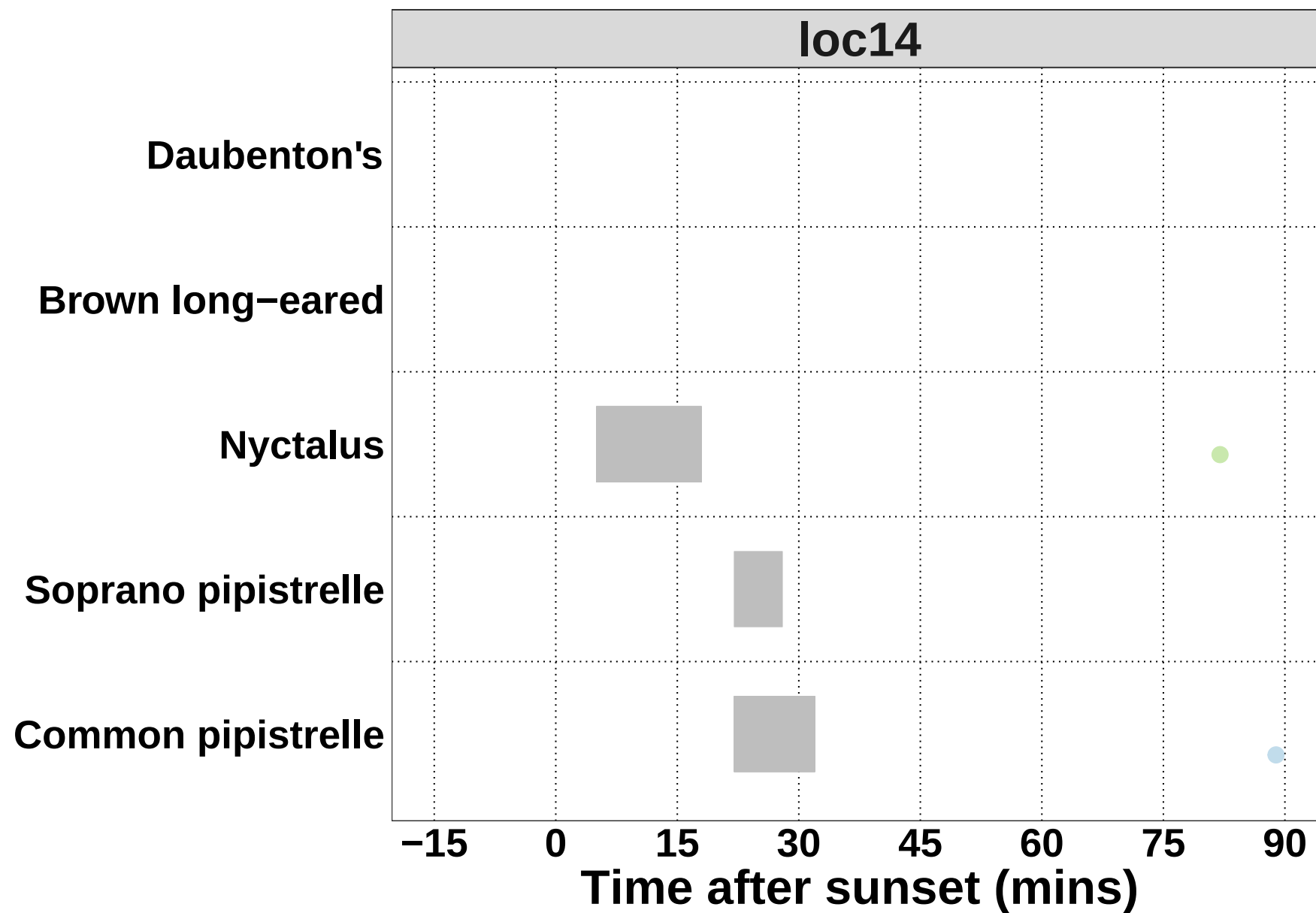
Bat Passes Potentially Indicating Close Proximity to a Roost (Maternity Period Only) - Maternity period defined as 15th June - 30th July.

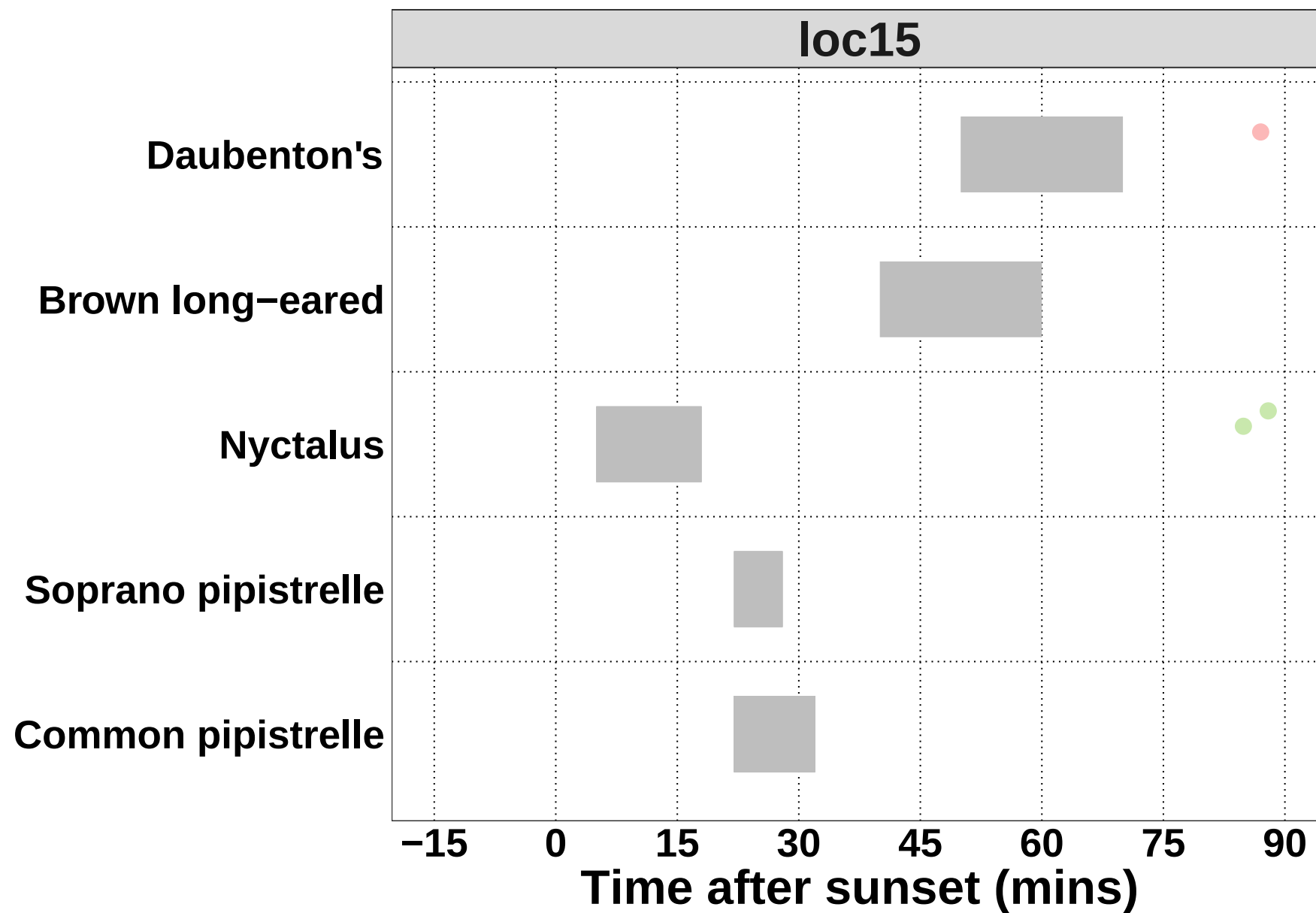


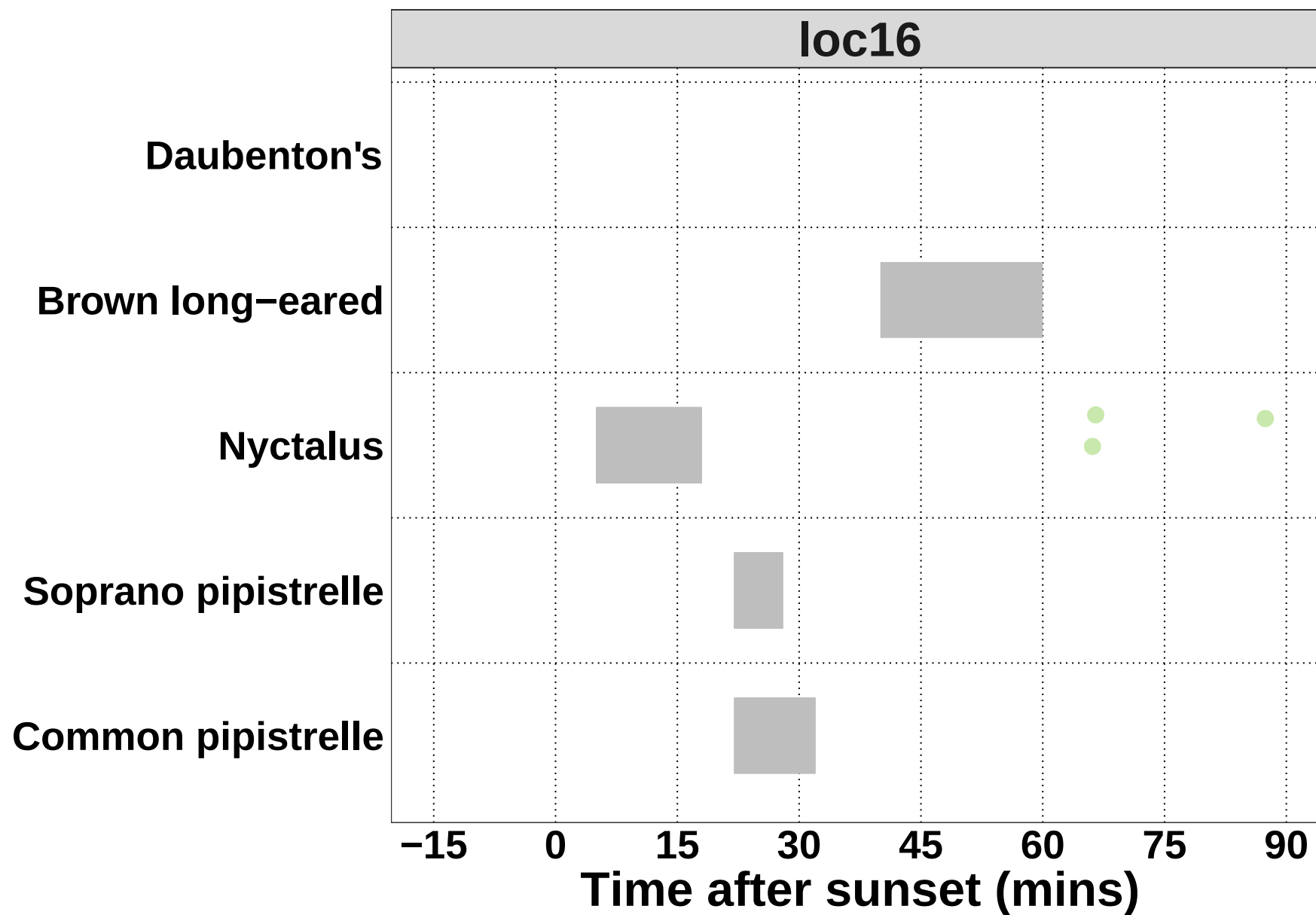


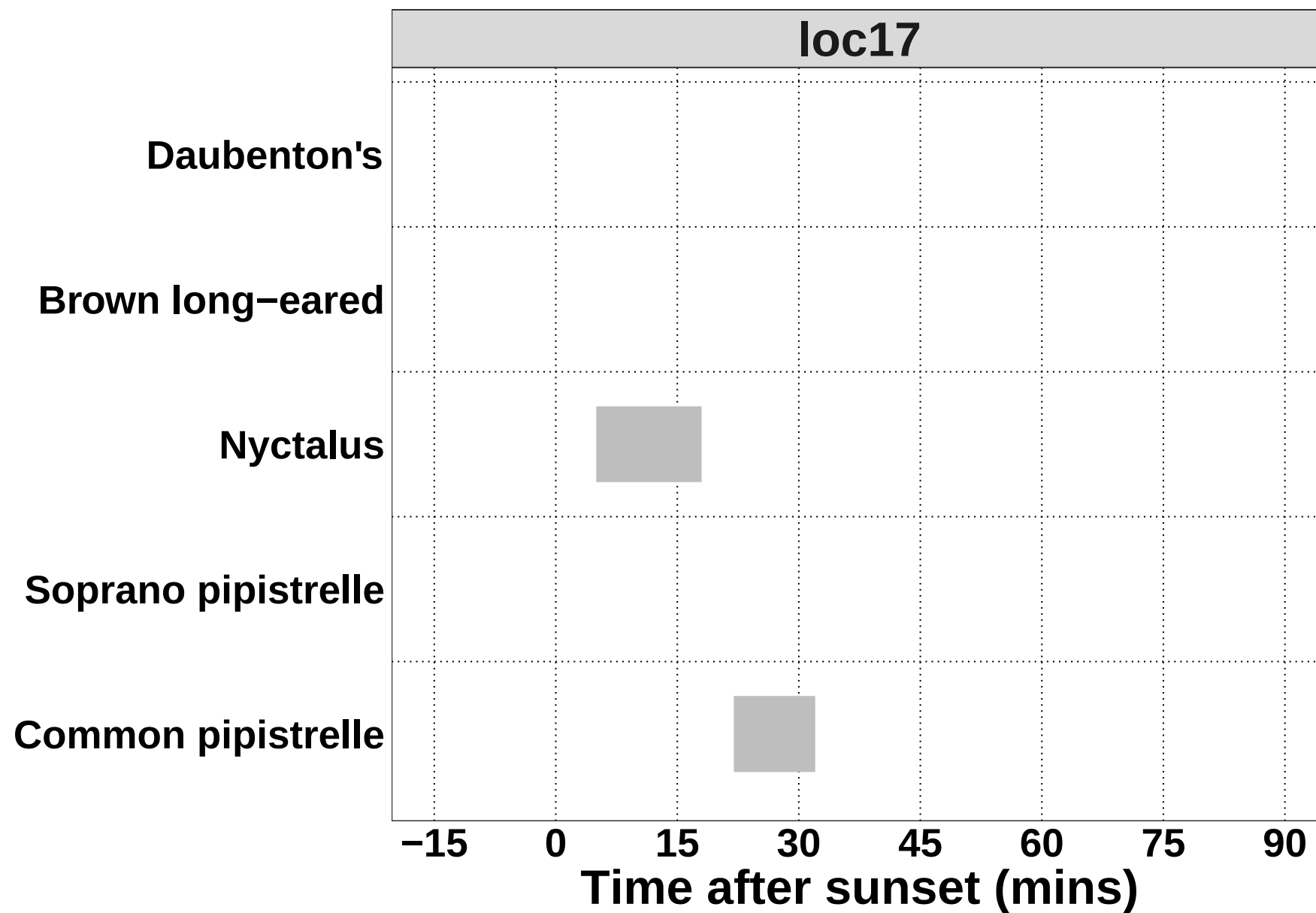


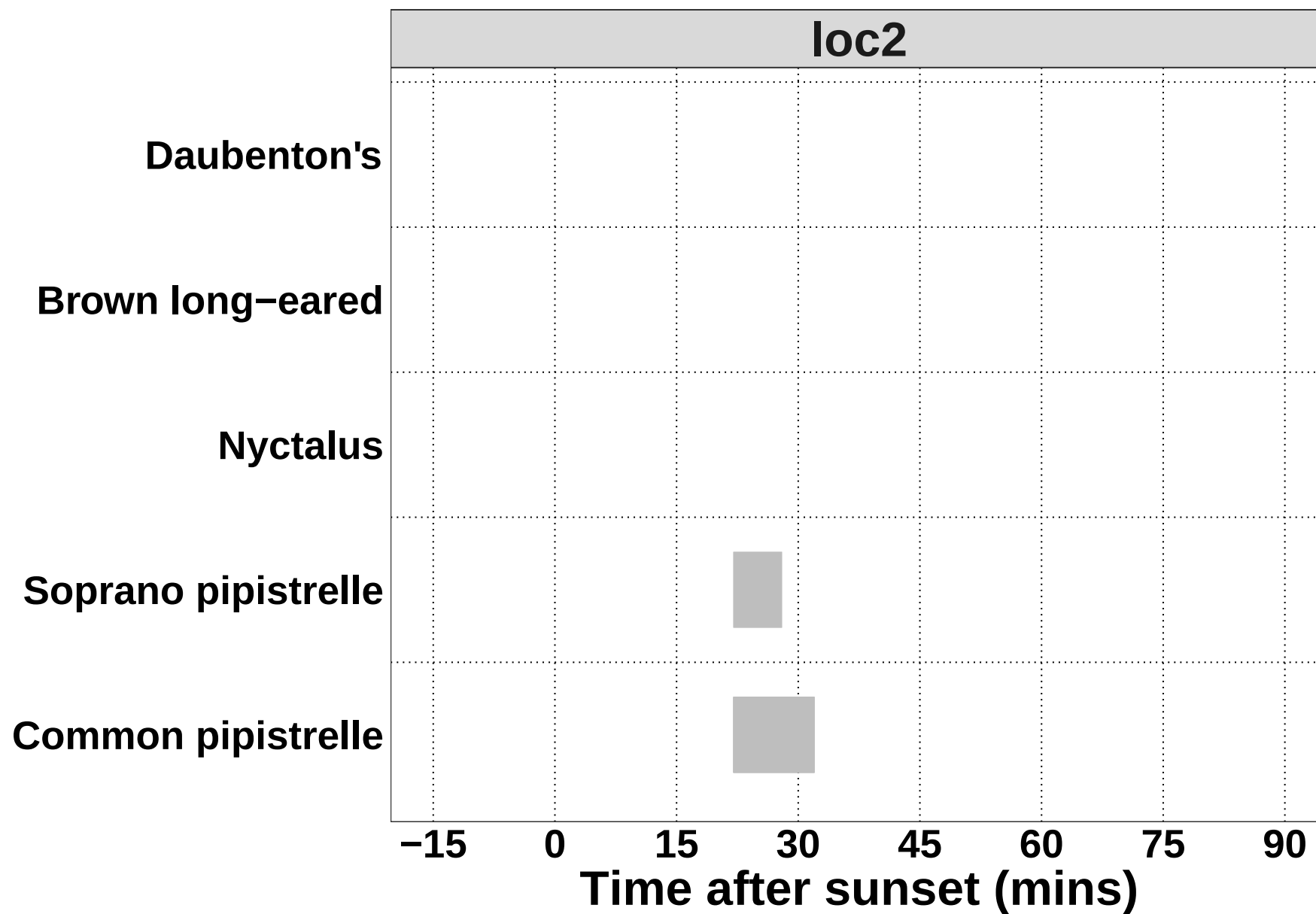


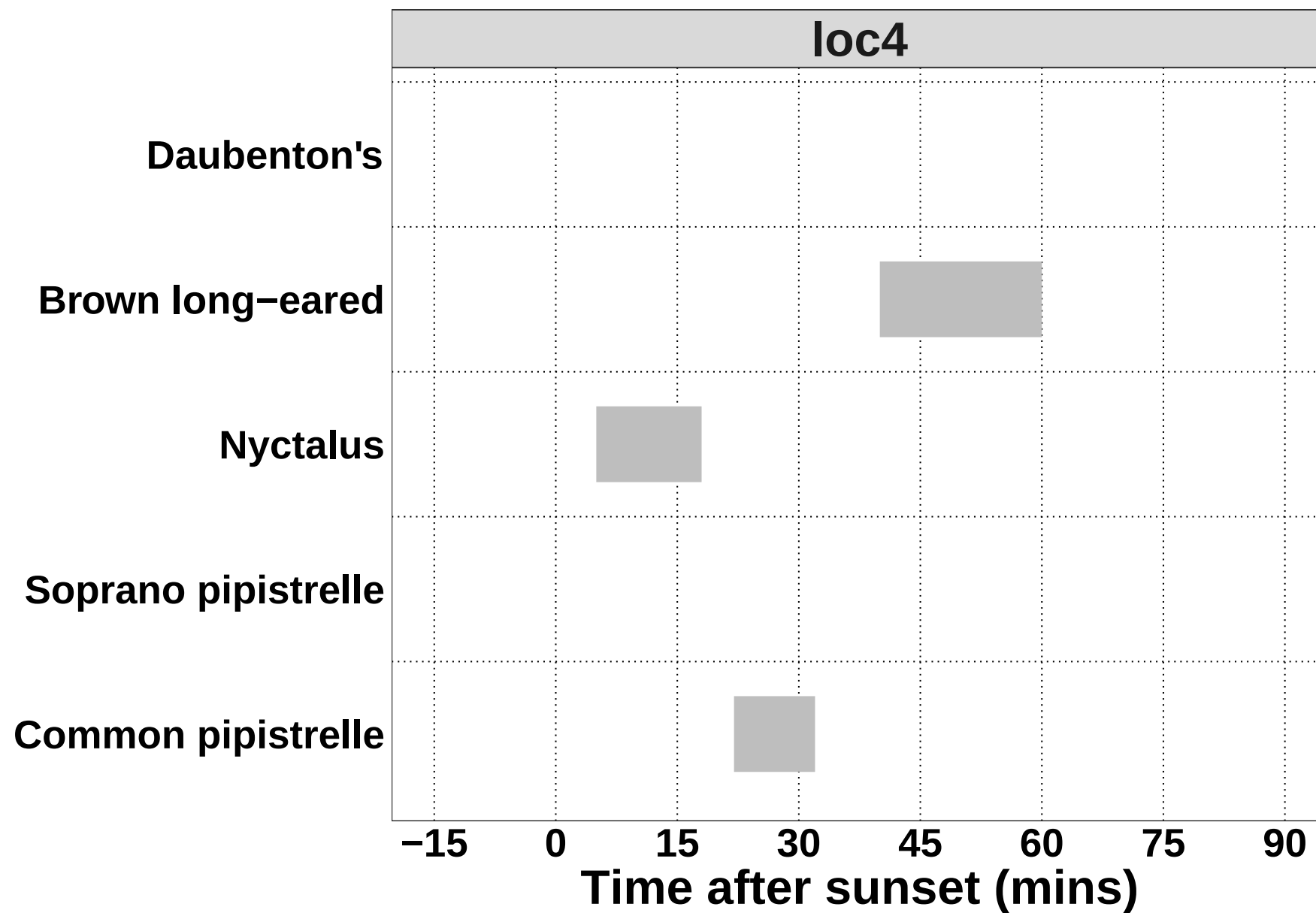


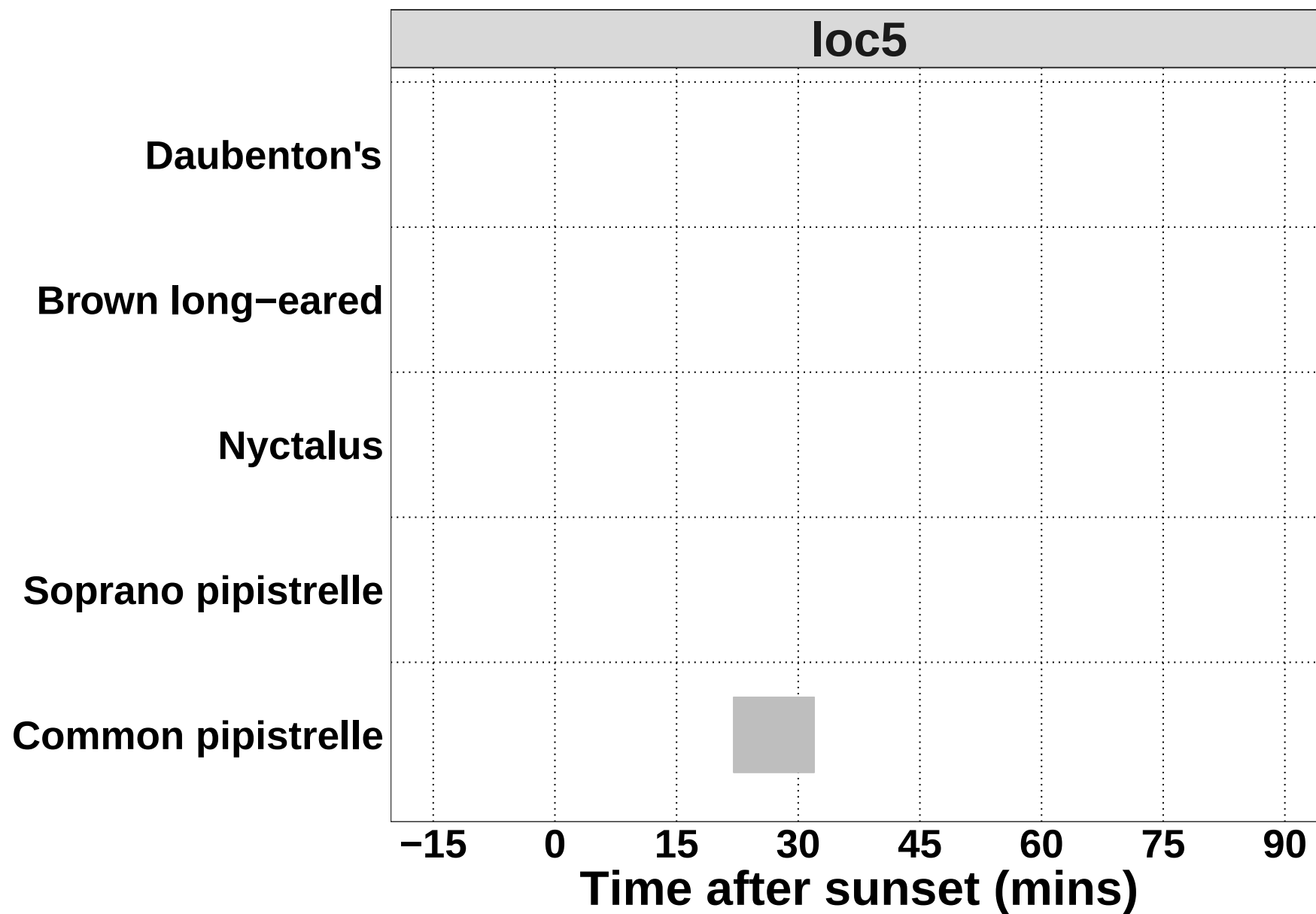


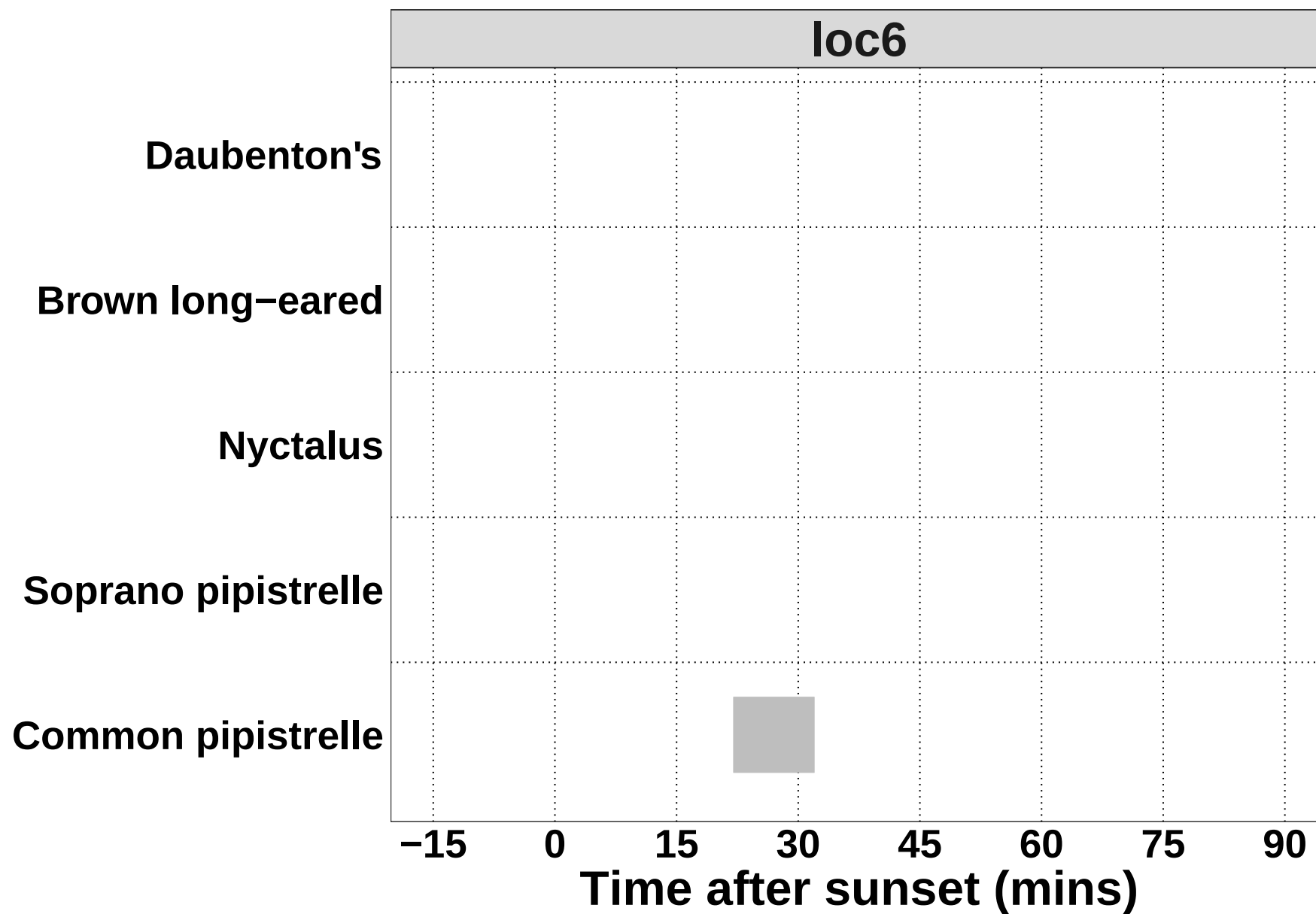


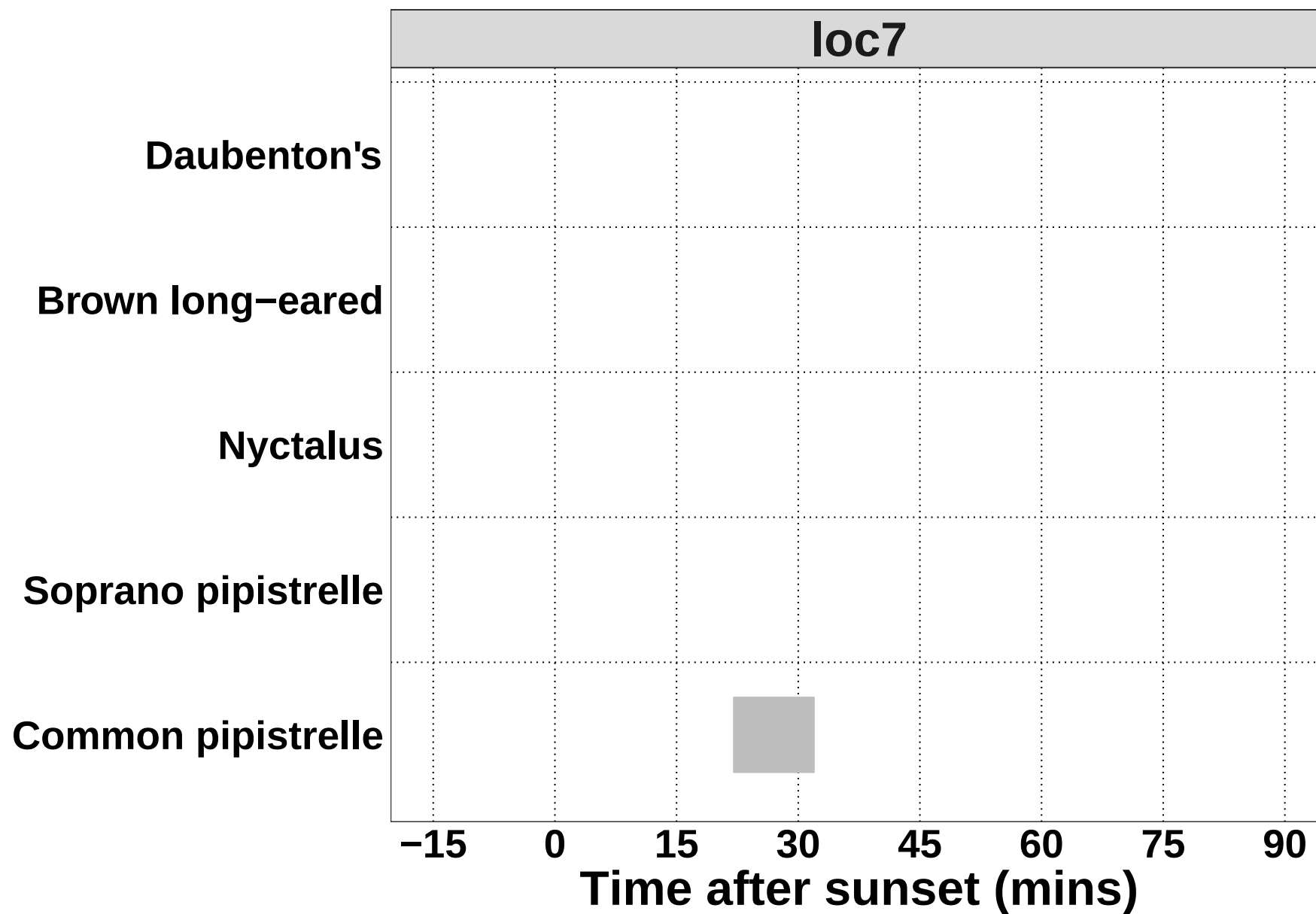


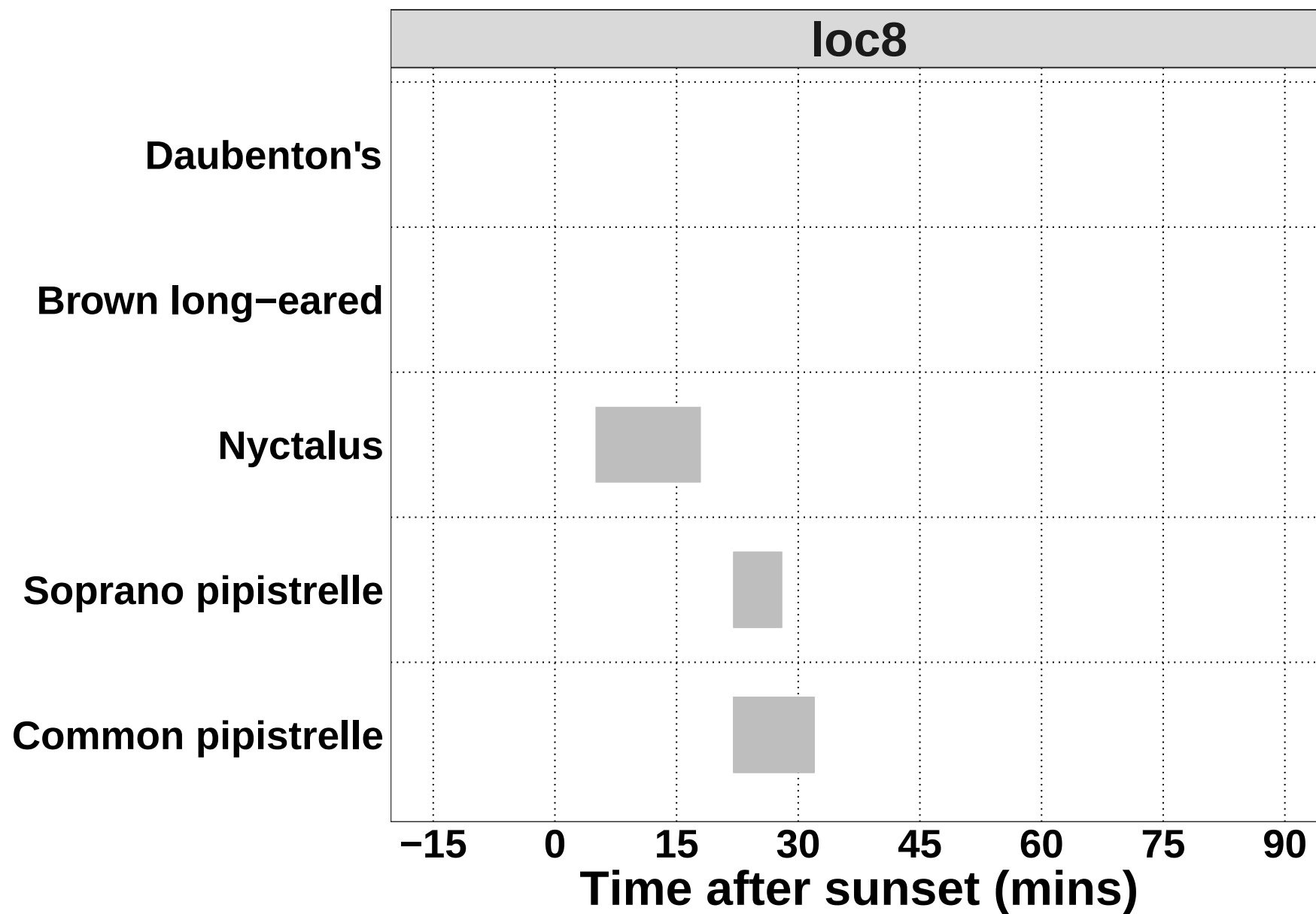












Count of Bat Passes

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 (%)
Myotis	8	1.4
Myotis daubentonii	4	0.7
Myotis nattereri	4	0.7
Nyctalus	110	18.7
Pipistrellus pipistrellus	338	57.5
Pipistrellus pygmaeus	116	19.7
Plecotus auritus	8	1.4
Total	588	100.1

Per Detector

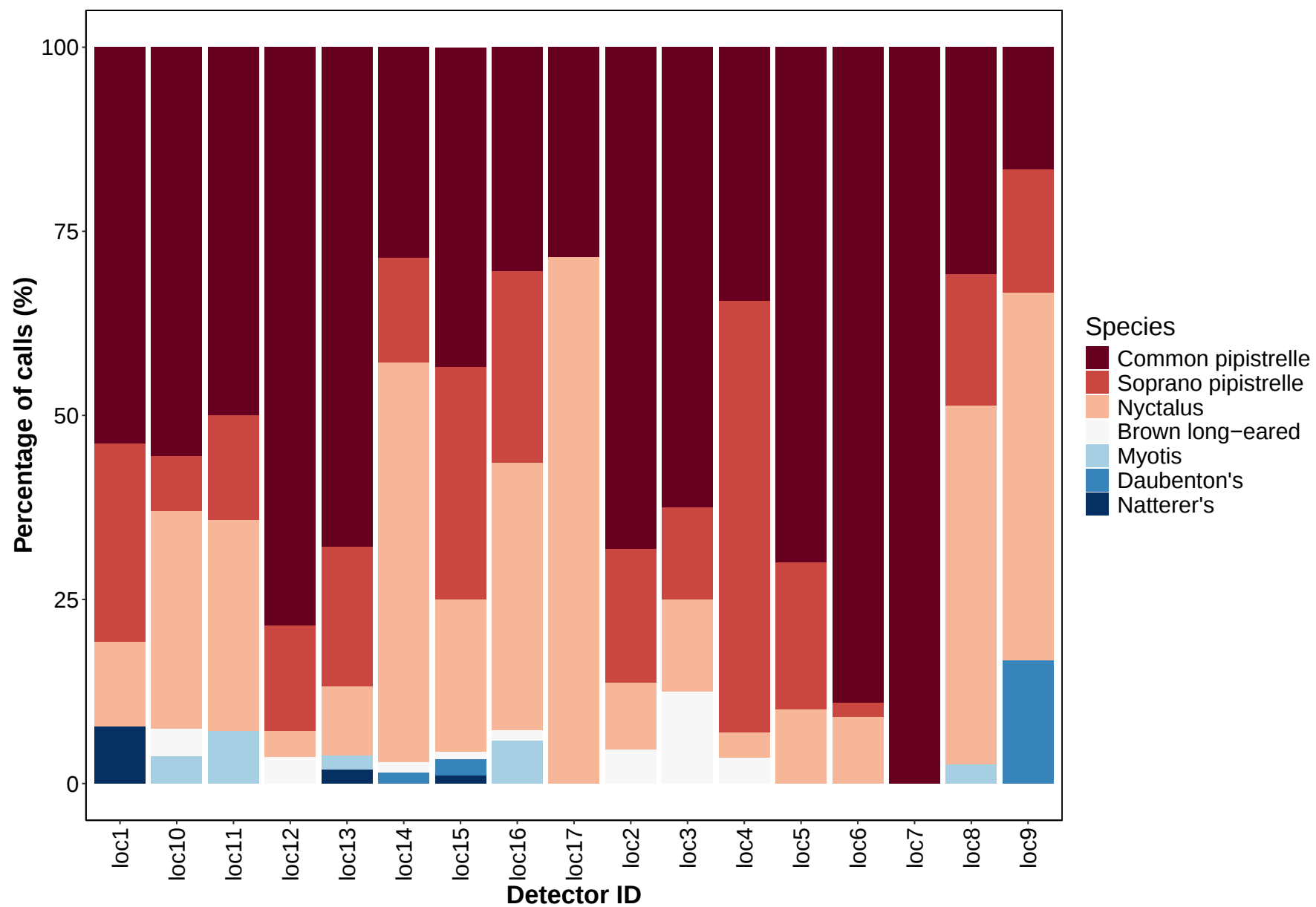
The number of passes recorded for each species at each detector.

Species	Detector ID	Count (no.)	Percentage by Detector (%)
Common pipistrelle	loc1	17	58.620690
Common pipistrelle	loc10	15	55.555556
Common pipistrelle	loc11	7	46.666667
Common pipistrelle	loc12	21	77.777778
Common pipistrelle	loc13	39	66.101695
Common pipistrelle	loc14	22	36.065574
Common pipistrelle	loc15	43	48.314607
Common pipistrelle	loc16	21	35.000000
Common pipistrelle	loc17	2	28.571429
Common pipistrelle	loc2	14	66.666667
Common pipistrelle	loc3	7	70.000000
Common pipistrelle	loc4	10	34.482759
Common pipistrelle	loc5	9	75.000000
Common pipistrelle	loc6	90	91.836735
Common pipistrelle	loc7	3	100.000000
Common pipistrelle	loc8	16	47.058824
Common pipistrelle	loc9	2	28.571429
Soprano pipistrelle	loc1	7	24.137931
Soprano pipistrelle	loc10	2	7.407407
Soprano pipistrelle	loc11	2	13.333333
Soprano pipistrelle	loc12	4	14.814815
Soprano pipistrelle	loc13	13	22.033898
Soprano pipistrelle	loc14	11	18.032787
Soprano pipistrelle	loc15	29	32.584270
Soprano pipistrelle	loc16	14	23.333333
Soprano pipistrelle	loc2	4	19.047619
Soprano pipistrelle	loc3	1	10.000000
Soprano pipistrelle	loc4	17	58.620690
Soprano pipistrelle	loc5	2	16.666667
Soprano pipistrelle	loc6	2	2.040816
Soprano pipistrelle	loc8	7	20.588235
Soprano pipistrelle	loc9	1	14.285714

Species	Detector ID	Count (no.)	Percentage by Detector (%)
Nyctalus	loc1	3	10.344828
Nyctalus	loc10	8	29.629630
Nyctalus	loc11	5	33.333333
Nyctalus	loc12	1	3.703704
Nyctalus	loc13	5	8.474576
Nyctalus	loc14	26	42.622951
Nyctalus	loc15	13	14.606742
Nyctalus	loc16	20	33.333333
Nyctalus	loc17	5	71.428571
Nyctalus	loc2	2	9.523810
Nyctalus	loc3	1	10.000000
Nyctalus	loc4	1	3.448276
Nyctalus	loc5	1	8.333333
Nyctalus	loc6	6	6.122449
Nyctalus	loc8	10	29.411765
Nyctalus	loc9	3	42.857143
Brown long-eared	loc10	1	3.703704
Brown long-eared	loc12	1	3.703704
Brown long-eared	loc14	1	1.639344
Brown long-eared	loc15	1	1.123595
Brown long-eared	loc16	1	1.666667
Brown long-eared	loc2	1	4.761905
Brown long-eared	loc3	1	10.000000
Brown long-eared	loc4	1	3.448276
Myotis	loc10	1	3.703704
Myotis	loc11	1	6.666667
Myotis	loc13	1	1.694915
Myotis	loc16	4	6.666667
Myotis	loc8	1	2.941177
Daubenton's	loc14	1	1.639344
Daubenton's	loc15	2	2.247191
Daubenton's	loc9	1	14.285714
Natterer's	loc1	2	6.896552
Natterer's	loc13	1	1.694915
Natterer's	loc15	1	1.123595

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 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	loc1	0.2
Common pipistrelle	loc10	0.2
Common pipistrelle	loc11	0.1
Common pipistrelle	loc12	0.4
Common pipistrelle	loc13	0.2
Common pipistrelle	loc14	0.3
Common pipistrelle	loc15	0.4
Common pipistrelle	loc16	0.1
Common pipistrelle	loc17	0.3
Common pipistrelle	loc2	0.1
Common pipistrelle	loc3	0.1
Common pipistrelle	loc4	0.4
Common pipistrelle	loc5	0.1
Common pipistrelle	loc6	0.2
Common pipistrelle	loc7	0.3
Common pipistrelle	loc8	0.2
Common pipistrelle	loc9	0.1
Soprano pipistrelle	loc1	0.2
Soprano pipistrelle	loc10	0.1
Soprano pipistrelle	loc11	0.1
Soprano pipistrelle	loc12	0.1
Soprano pipistrelle	loc13	0.1
Soprano pipistrelle	loc14	0.1
Soprano pipistrelle	loc15	0.4
Soprano pipistrelle	loc16	0.4
Soprano pipistrelle	loc2	0.1
Soprano pipistrelle	loc3	0.1
Soprano pipistrelle	loc4	0.2
Soprano pipistrelle	loc5	0.1
Soprano pipistrelle	loc6	0.1
Soprano pipistrelle	loc8	0.2
Soprano pipistrelle	loc9	0.1
Nyctalus	loc1	0.2
Nyctalus	loc10	0.3
Nyctalus	loc11	0.4
Nyctalus	loc12	0.1

Species	Detector ID	Median Pass Rate
Nyctalus	loc13	0.1
Nyctalus	loc14	0.3
Nyctalus	loc15	0.4
Nyctalus	loc16	0.5
Nyctalus	loc17	0.1
Nyctalus	loc2	0.1
Nyctalus	loc3	0.1
Nyctalus	loc4	0.1
Nyctalus	loc5	0.1
Nyctalus	loc6	0.4
Nyctalus	loc8	0.9
Nyctalus	loc9	0.3
Brown long-eared	loc10	0.1
Brown long-eared	loc12	0.1
Brown long-eared	loc14	0.1
Brown long-eared	loc15	0.1
Brown long-eared	loc16	0.1
Brown long-eared	loc2	0.1
Brown long-eared	loc3	0.1
Brown long-eared	loc4	0.1
Myotis	loc10	0.1
Myotis	loc11	0.1
Myotis	loc13	0.1
Myotis	loc16	0.2
Myotis	loc8	0.1
Daubenton's	loc14	0.1
Daubenton's	loc15	0.1
Daubenton's	loc9	0.1
Natterer's	loc1	0.1
Natterer's	loc13	0.1
Natterer's	loc15	0.1

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.

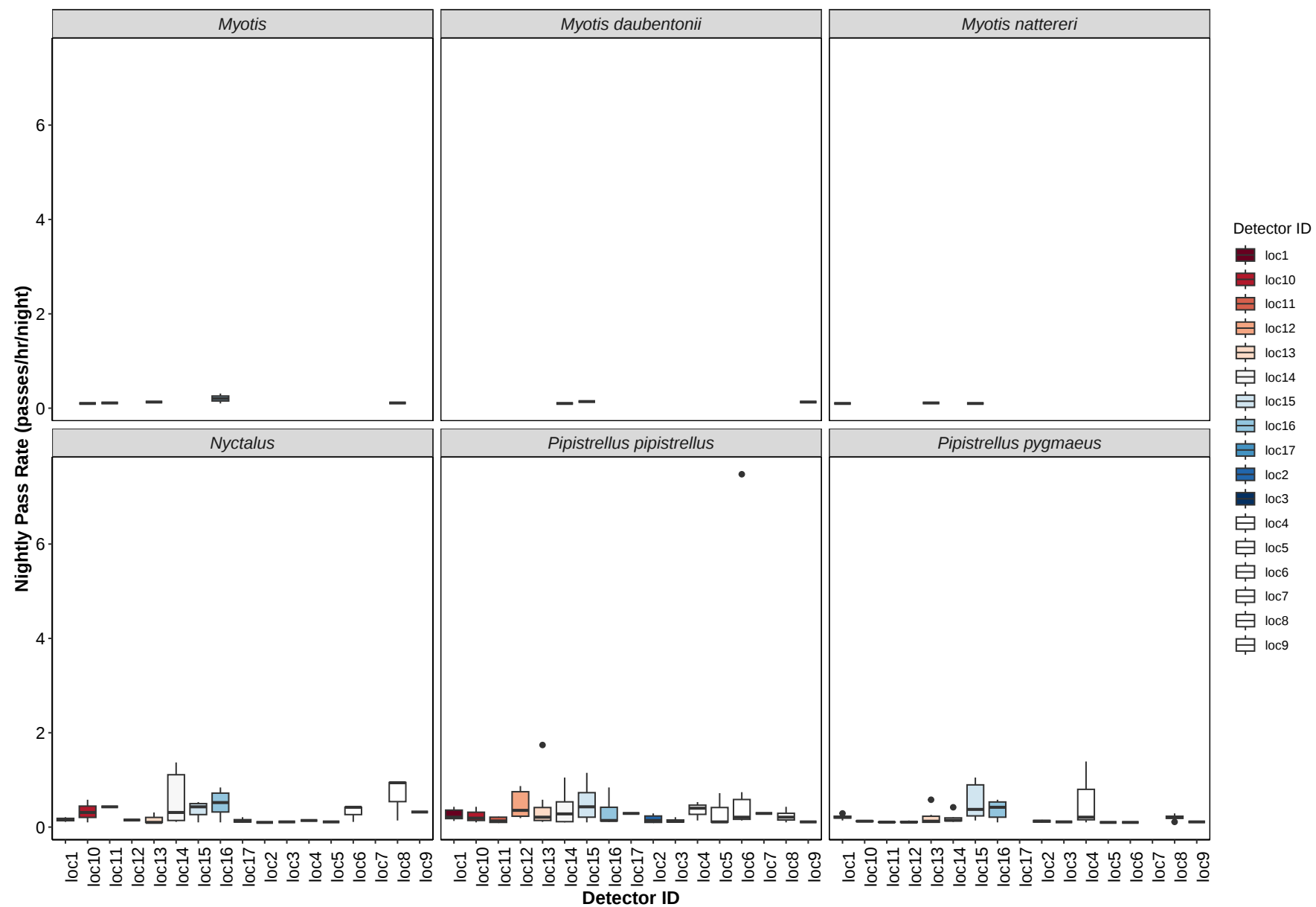
Species	Detector ID	Mean Pass Rate
Common pipistrelle	loc1	0.3
Common pipistrelle	loc10	0.2
Common pipistrelle	loc11	0.1
Common pipistrelle	loc12	0.5
Common pipistrelle	loc13	0.4
Common pipistrelle	loc14	0.4
Common pipistrelle	loc15	0.5
Common pipistrelle	loc16	0.3
Common pipistrelle	loc17	0.3
Common pipistrelle	loc2	0.2
Common pipistrelle	loc3	0.1
Common pipistrelle	loc4	0.4
Common pipistrelle	loc5	0.3
Common pipistrelle	loc6	1.3
Common pipistrelle	loc7	0.3
Common pipistrelle	loc8	0.2
Common pipistrelle	loc9	0.1
Soprano pipistrelle	loc1	0.2
Soprano pipistrelle	loc10	0.1
Soprano pipistrelle	loc11	0.1
Soprano pipistrelle	loc12	0.1
Soprano pipistrelle	loc13	0.2
Soprano pipistrelle	loc14	0.2
Soprano pipistrelle	loc15	0.5
Soprano pipistrelle	loc16	0.4
Soprano pipistrelle	loc2	0.1
Soprano pipistrelle	loc3	0.1
Soprano pipistrelle	loc4	0.6
Soprano pipistrelle	loc5	0.1
Soprano pipistrelle	loc6	0.1

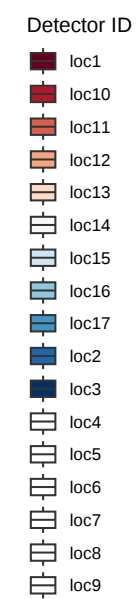
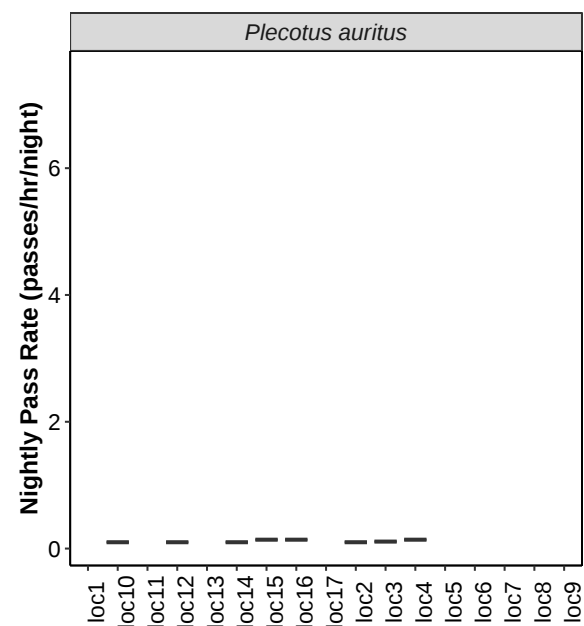
Species	Detector ID	Mean Pass Rate
Soprano pipistrelle	loc8	0.2
Soprano pipistrelle	loc9	0.1
Nyctalus	loc1	0.2
Nyctalus	loc10	0.3
Nyctalus	loc11	0.4
Nyctalus	loc12	0.1
Nyctalus	loc13	0.2
Nyctalus	loc14	0.6
Nyctalus	loc15	0.4
Nyctalus	loc16	0.5
Nyctalus	loc17	0.1
Nyctalus	loc2	0.1
Nyctalus	loc3	0.1
Nyctalus	loc4	0.1
Nyctalus	loc5	0.1
Nyctalus	loc6	0.3
Nyctalus	loc8	0.7
Nyctalus	loc9	0.3
Brown long-eared	loc10	0.1
Brown long-eared	loc12	0.1
Brown long-eared	loc14	0.1
Brown long-eared	loc15	0.1
Brown long-eared	loc16	0.1
Brown long-eared	loc2	0.1
Brown long-eared	loc3	0.1
Brown long-eared	loc4	0.1
Myotis	loc10	0.1
Myotis	loc11	0.1
Myotis	loc13	0.1
Myotis	loc16	0.2
Myotis	loc8	0.1
Daubenton's	loc14	0.1
Daubenton's	loc15	0.1
Daubenton's	loc9	0.1
Natterer's	loc1	0.1
Natterer's	loc13	0.1

Species	Detector ID	Mean Pass Rate
Natterer's	loc15	0.1

Per Detector

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.





Detector ID

Split by Month

Total Bat Passes per Detector each Month

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	Jul	Aug	Sep
Common pipistrelle	loc1	1	9	4	0
Common pipistrelle	loc10	0	2	10	3
Common pipistrelle	loc11	1	0	6	0
Common pipistrelle	loc12	0	14	6	2
Common pipistrelle	loc13	3	14	13	6
Common pipistrelle	loc14	1	7	12	0
Common pipistrelle	loc15	1	12	27	0
Common pipistrelle	loc16	4	4	13	0
Common pipistrelle	loc17	0	2	0	0
Common pipistrelle	loc2	2	6	6	1
Common pipistrelle	loc3	1	0	4	0
Common pipistrelle	loc4	0	1	9	0
Common pipistrelle	loc5	0	5	2	0
Common pipistrelle	loc6	0	2	85	2
Common pipistrelle	loc7	0	2	0	0
Common pipistrelle	loc8	1	3	8	0
Common pipistrelle	loc9	0	0	1	0
Soprano pipistrelle	loc1	0	3	4	0
Soprano pipistrelle	loc10	0	1	1	0
Soprano pipistrelle	loc11	0	0	1	1
Soprano pipistrelle	loc12	0	1	2	1
Soprano pipistrelle	loc13	2	5	2	1
Soprano pipistrelle	loc14	1	2	7	0
Soprano pipistrelle	loc15	0	4	25	0
Soprano pipistrelle	loc16	0	9	9	0
Soprano pipistrelle	loc2	0	2	2	0
Soprano pipistrelle	loc3	0	0	1	0
Soprano pipistrelle	loc4	0	0	17	0
Soprano pipistrelle	loc5	0	0	1	1
Soprano pipistrelle	loc6	0	0	1	1
Soprano pipistrelle	loc8	0	2	5	0
Soprano pipistrelle	loc9	0	0	1	0
Nyctalus	loc1	0	0	3	0
Nyctalus	loc10	0	4	4	0
Nyctalus	loc11	0	0	4	0
Nyctalus	loc12	0	1	0	0

Species	Detector ID	May	Jul	Aug	Sep
Nyctalus	loc13	0	0	5	0
Nyctalus	loc14	0	8	30	0
Nyctalus	loc15	0	6	13	0
Nyctalus	loc16	0	10	15	0
Nyctalus	loc17	0	1	4	0
Nyctalus	loc2	0	0	1	1
Nyctalus	loc3	0	0	1	0
Nyctalus	loc4	0	1	0	0
Nyctalus	loc5	0	0	1	0
Nyctalus	loc6	0	0	9	0
Nyctalus	loc8	0	1	18	0
Nyctalus	loc9	0	0	3	0
Brown long-eared	loc10	0	0	1	0
Brown long-eared	loc12	0	0	0	1
Brown long-eared	loc14	0	0	1	0
Brown long-eared	loc15	0	1	0	0
Brown long-eared	loc16	0	1	0	0
Brown long-eared	loc2	0	0	1	0
Brown long-eared	loc3	0	0	1	0
Brown long-eared	loc4	0	1	0	0
Myotis	loc10	0	0	1	0
Myotis	loc11	0	0	1	0
Myotis	loc13	1	0	0	0
Myotis	loc16	0	0	4	0
Myotis	loc8	0	0	1	0
Daubenton's	loc14	0	0	1	0
Daubenton's	loc15	0	2	0	0
Daubenton's	loc9	1	0	0	0
Natterer's	loc1	0	0	1	1
Natterer's	loc13	0	0	1	0
Natterer's	loc15	0	0	1	0

Survey Effort

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

month	Detector ID	No. of Survey Nights
May	loc1	1
May	loc11	1
May	loc13	3
May	loc14	2
May	loc15	1
May	loc16	4
May	loc2	1
May	loc3	1
May	loc8	1
May	loc9	1
Jul	loc1	5
Jul	loc10	3
Jul	loc12	4
Jul	loc13	4
Jul	loc14	5
Jul	loc15	4
Jul	loc16	4
Jul	loc17	1
Jul	loc2	5
Jul	loc4	2
Jul	loc5	1
Jul	loc6	2
Jul	loc7	1
Jul	loc8	2
Aug	loc1	3
Aug	loc10	4
Aug	loc11	4
Aug	loc12	4
Aug	loc13	6
Aug	loc14	4
Aug	loc15	5
Aug	loc16	6

month	Detector ID	No. of Survey Nights
Aug	loc17	3
Aug	loc2	5
Aug	loc3	3
Aug	loc4	3
Aug	loc5	3
Aug	loc6	5
Aug	loc8	4
Aug	loc9	1
Sep	loc1	1
Sep	loc10	2
Sep	loc11	1
Sep	loc12	2
Sep	loc13	2
Sep	loc2	2
Sep	loc5	1
Sep	loc6	1

Nightly Bat Passes 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	Jul	Aug	Sep
Common pipistrelle	loc1	0.1	0.4	0.2	NA
Common pipistrelle	loc10	NA	0.1	0.4	0.1
Common pipistrelle	loc11	0.1	NA	0.2	NA
Common pipistrelle	loc12	NA	0.9	0.3	0.2
Common pipistrelle	loc13	0.2	0.1	0.2	0.6
Common pipistrelle	loc14	0.1	0.5	0.1	NA
Common pipistrelle	loc15	0.1	0.4	0.6	NA
Common pipistrelle	loc16	0.1	0.3	0.4	NA
Common pipistrelle	loc17	NA	0.3	NA	NA
Common pipistrelle	loc2	0.3	0.2	0.1	0.1
Common pipistrelle	loc3	0.1	NA	0.1	NA
Common pipistrelle	loc4	NA	0.1	0.5	NA
Common pipistrelle	loc5	NA	0.7	0.1	NA
Common pipistrelle	loc6	NA	0.1	0.6	0.2
Common pipistrelle	loc7	NA	0.3	NA	NA
Common pipistrelle	loc8	0.1	0.4	0.2	NA
Common pipistrelle	loc9	NA	NA	0.1	NA
Soprano pipistrelle	loc1	NA	0.2	0.2	NA
Soprano pipistrelle	loc10	NA	0.1	0.1	NA
Soprano pipistrelle	loc11	NA	NA	0.1	0.1
Soprano pipistrelle	loc12	NA	0.1	0.1	0.1
Soprano pipistrelle	loc13	0.3	0.4	0.1	0.1
Soprano pipistrelle	loc14	0.1	0.1	0.2	NA
Soprano pipistrelle	loc15	NA	0.3	0.7	NA
Soprano pipistrelle	loc16	NA	0.6	0.4	NA
Soprano pipistrelle	loc2	NA	0.1	0.1	NA
Soprano pipistrelle	loc3	NA	NA	0.1	NA
Soprano pipistrelle	loc4	NA	NA	0.2	NA
Soprano pipistrelle	loc5	NA	NA	0.1	0.1
Soprano pipistrelle	loc6	NA	NA	0.1	0.1
Soprano pipistrelle	loc8	NA	0.3	0.2	NA
Soprano pipistrelle	loc9	NA	NA	0.1	NA
Nyctalus	loc1	NA	NA	0.2	NA
Nyctalus	loc10	NA	0.6	0.2	NA
Nyctalus	loc11	NA	NA	0.4	NA
Nyctalus	loc12	NA	0.1	NA	NA

Species	Detector ID	May	Jul	Aug	Sep
Nyctalus	loc13	NA	NA	0.1	NA
Nyctalus	loc14	NA	0.1	0.8	NA
Nyctalus	loc15	NA	0.4	0.4	NA
Nyctalus	loc16	NA	0.7	0.3	NA
Nyctalus	loc17	NA	0.1	0.1	NA
Nyctalus	loc2	NA	NA	0.1	0.1
Nyctalus	loc3	NA	NA	0.1	NA
Nyctalus	loc4	NA	0.1	NA	NA
Nyctalus	loc5	NA	NA	0.1	NA
Nyctalus	loc6	NA	NA	0.4	NA
Nyctalus	loc8	NA	0.1	0.9	NA
Nyctalus	loc9	NA	NA	0.3	NA
Brown long-eared	loc10	NA	NA	0.1	NA
Brown long-eared	loc12	NA	NA	NA	0.1
Brown long-eared	loc14	NA	NA	0.1	NA
Brown long-eared	loc15	NA	0.1	NA	NA
Brown long-eared	loc16	NA	0.1	NA	NA
Brown long-eared	loc2	NA	NA	0.1	NA
Brown long-eared	loc3	NA	NA	0.1	NA
Brown long-eared	loc4	NA	0.1	NA	NA
Myotis	loc10	NA	NA	0.1	NA
Myotis	loc11	NA	NA	0.1	NA
Myotis	loc13	0.1	NA	NA	NA
Myotis	loc16	NA	NA	0.2	NA
Myotis	loc8	NA	NA	0.1	NA
Daubenton's	loc14	NA	NA	0.1	NA
Daubenton's	loc15	NA	0.1	NA	NA
Daubenton's	loc9	0.1	NA	NA	NA
Natterer's	loc1	NA	NA	0.1	0.1
Natterer's	loc13	NA	NA	0.1	NA
Natterer's	loc15	NA	NA	0.1	NA

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	Jul	Aug	Sep
Common pipistrelle	loc1	0.1	0.3	0.2	NA
Common pipistrelle	loc10	NA	0.1	0.4	0.1
Common pipistrelle	loc11	0.1	NA	0.2	NA
Common pipistrelle	loc12	NA	0.7	0.3	0.2
Common pipistrelle	loc13	0.2	0.7	0.3	0.6
Common pipistrelle	loc14	0.1	0.5	0.4	NA
Common pipistrelle	loc15	0.1	0.6	0.6	NA
Common pipistrelle	loc16	0.1	0.3	0.5	NA
Common pipistrelle	loc17	NA	0.3	NA	NA
Common pipistrelle	loc2	0.3	0.2	0.1	0.1
Common pipistrelle	loc3	0.1	NA	0.1	NA
Common pipistrelle	loc4	NA	0.1	0.5	NA
Common pipistrelle	loc5	NA	0.7	0.1	NA
Common pipistrelle	loc6	NA	0.1	2.2	0.2
Common pipistrelle	loc7	NA	0.3	NA	NA
Common pipistrelle	loc8	0.1	0.4	0.2	NA
Common pipistrelle	loc9	NA	NA	0.1	NA
Soprano pipistrelle	loc1	NA	0.2	0.2	NA
Soprano pipistrelle	loc10	NA	0.1	0.1	NA
Soprano pipistrelle	loc11	NA	NA	0.1	0.1
Soprano pipistrelle	loc12	NA	0.1	0.1	0.1
Soprano pipistrelle	loc13	0.3	0.4	0.1	0.1
Soprano pipistrelle	loc14	0.1	0.1	0.2	NA
Soprano pipistrelle	loc15	NA	0.3	0.7	NA
Soprano pipistrelle	loc16	NA	0.4	0.3	NA
Soprano pipistrelle	loc2	NA	0.1	0.1	NA
Soprano pipistrelle	loc3	NA	NA	0.1	NA
Soprano pipistrelle	loc4	NA	NA	0.6	NA
Soprano pipistrelle	loc5	NA	NA	0.1	0.1
Soprano pipistrelle	loc6	NA	NA	0.1	0.1

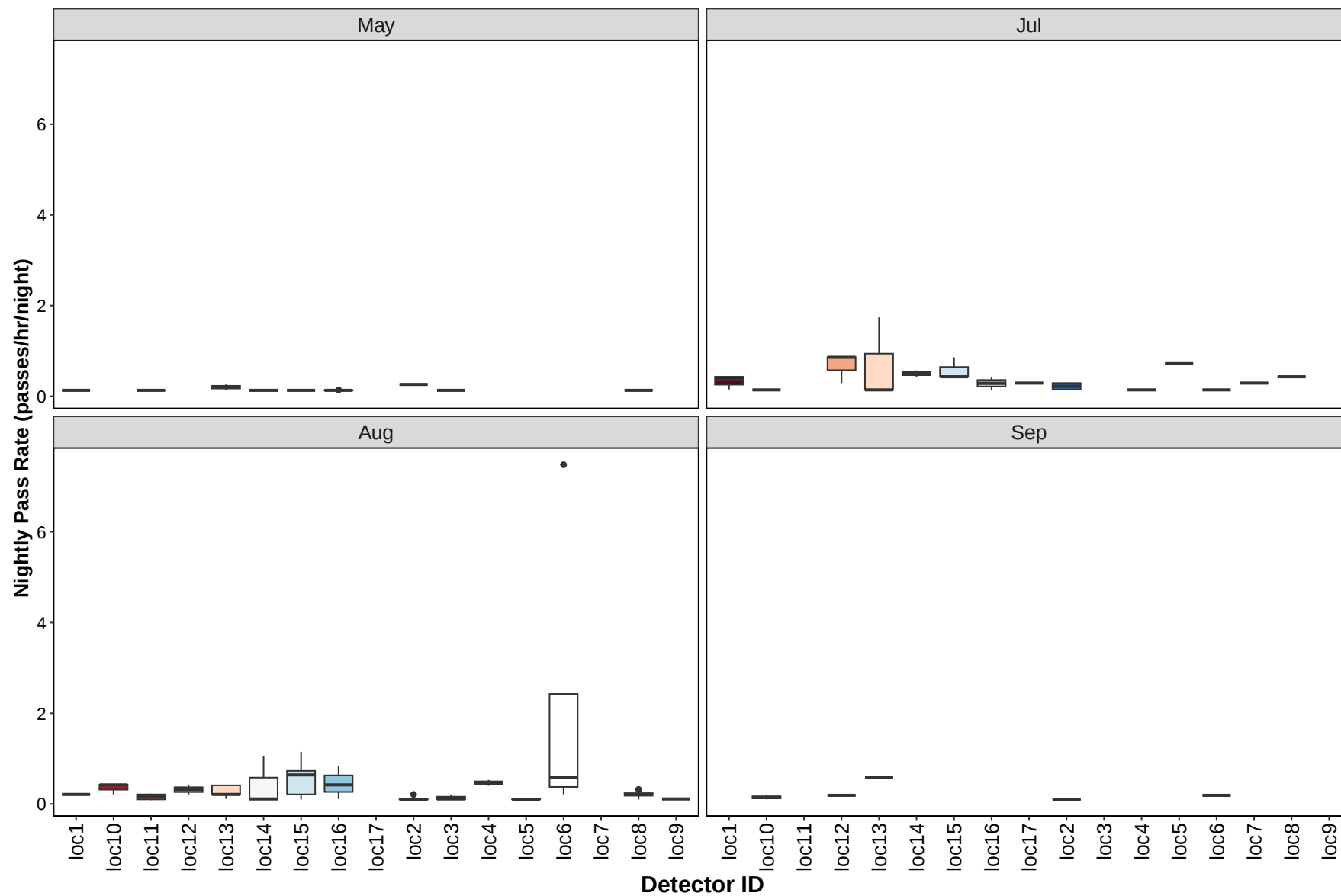
Species	Detector ID	May	Jul	Aug	Sep
Soprano pipistrelle	loc8	NA	0.3	0.2	NA
Soprano pipistrelle	loc9	NA	NA	0.1	NA
Nyctalus	loc1	NA	NA	0.2	NA
Nyctalus	loc10	NA	0.6	0.2	NA
Nyctalus	loc11	NA	NA	0.4	NA
Nyctalus	loc12	NA	0.1	NA	NA
Nyctalus	loc13	NA	NA	0.2	NA
Nyctalus	loc14	NA	0.4	0.8	NA
Nyctalus	loc15	NA	0.4	0.3	NA
Nyctalus	loc16	NA	0.7	0.4	NA
Nyctalus	loc17	NA	0.1	0.1	NA
Nyctalus	loc2	NA	NA	0.1	0.1
Nyctalus	loc3	NA	NA	0.1	NA
Nyctalus	loc4	NA	0.1	NA	NA
Nyctalus	loc5	NA	NA	0.1	NA
Nyctalus	loc6	NA	NA	0.3	NA
Nyctalus	loc8	NA	0.1	0.9	NA
Nyctalus	loc9	NA	NA	0.3	NA
Brown long-eared	loc10	NA	NA	0.1	NA
Brown long-eared	loc12	NA	NA	NA	0.1
Brown long-eared	loc14	NA	NA	0.1	NA
Brown long-eared	loc15	NA	0.1	NA	NA
Brown long-eared	loc16	NA	0.1	NA	NA
Brown long-eared	loc2	NA	NA	0.1	NA
Brown long-eared	loc3	NA	NA	0.1	NA
Brown long-eared	loc4	NA	0.1	NA	NA
Myotis	loc10	NA	NA	0.1	NA
Myotis	loc11	NA	NA	0.1	NA
Myotis	loc13	0.1	NA	NA	NA
Myotis	loc16	NA	NA	0.2	NA
Myotis	loc8	NA	NA	0.1	NA
Daubenton's	loc14	NA	NA	0.1	NA
Daubenton's	loc15	NA	0.1	NA	NA
Daubenton's	loc9	0.1	NA	NA	NA
Natterer's	loc1	NA	NA	0.1	0.1
Natterer's	loc13	NA	NA	0.1	NA

Species	Detector ID	May	Jul	Aug	Sep
Natterer's	loc15	NA	NA	0.1	NA

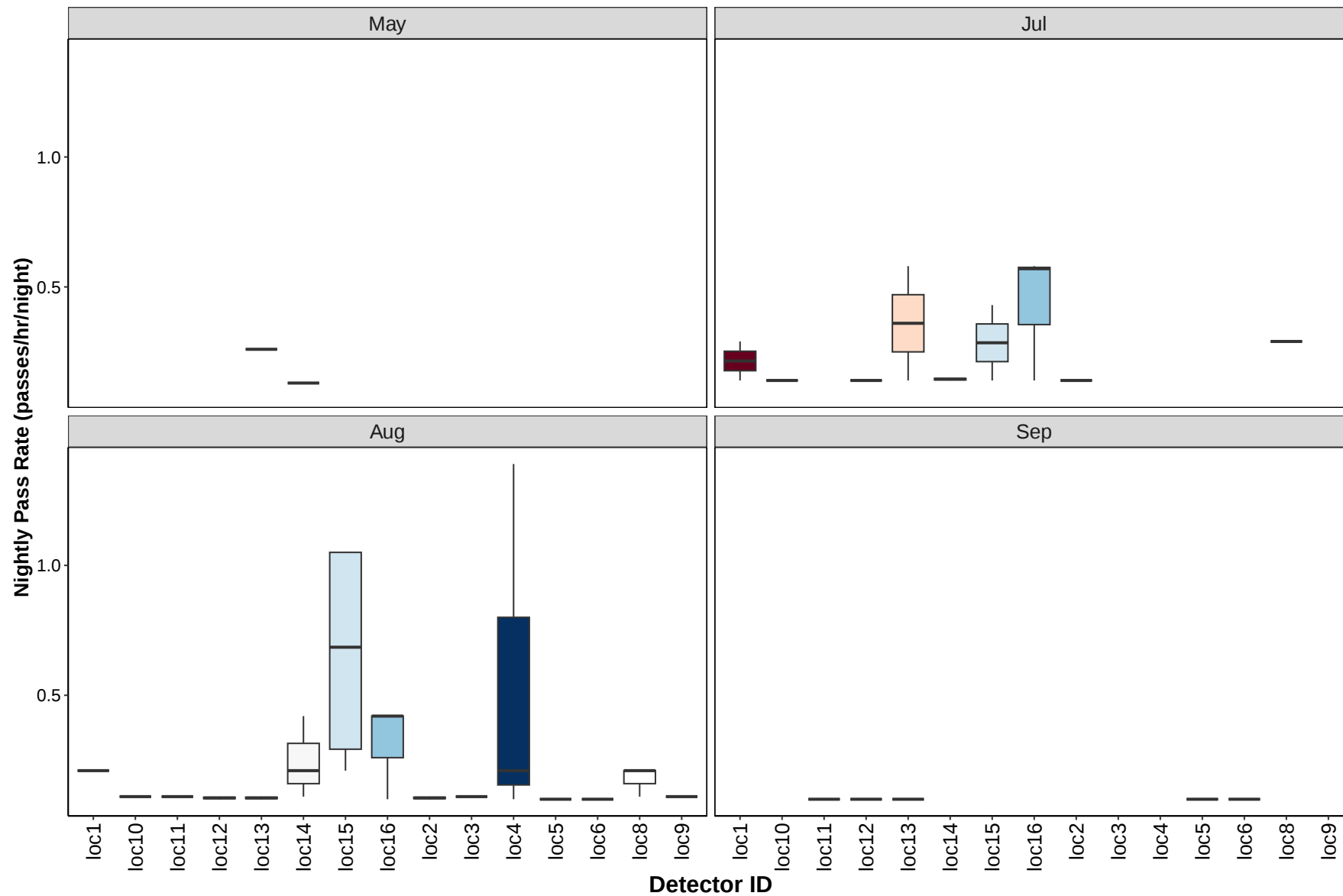
Per Detector

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.

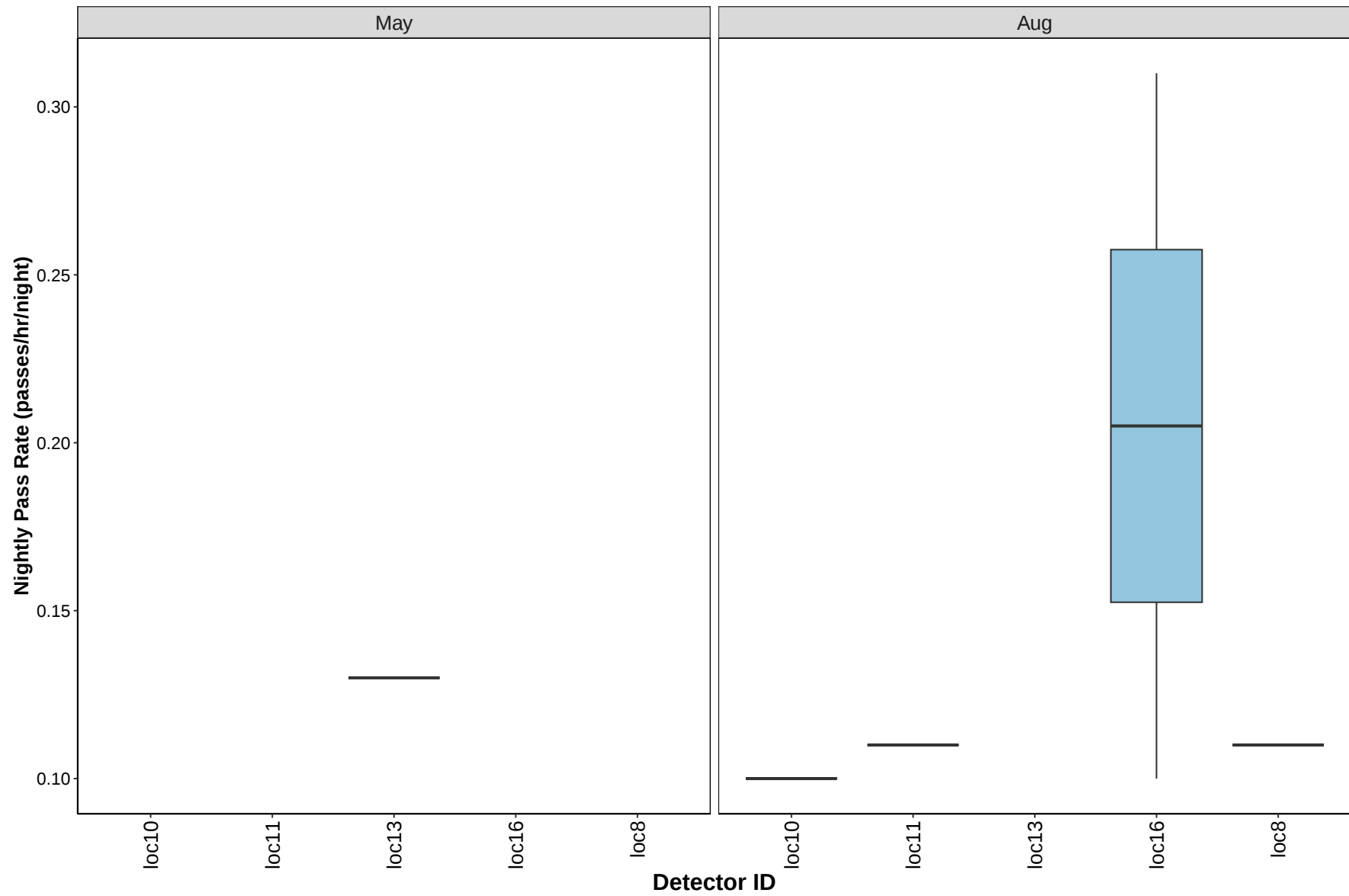
Common pipistrelle



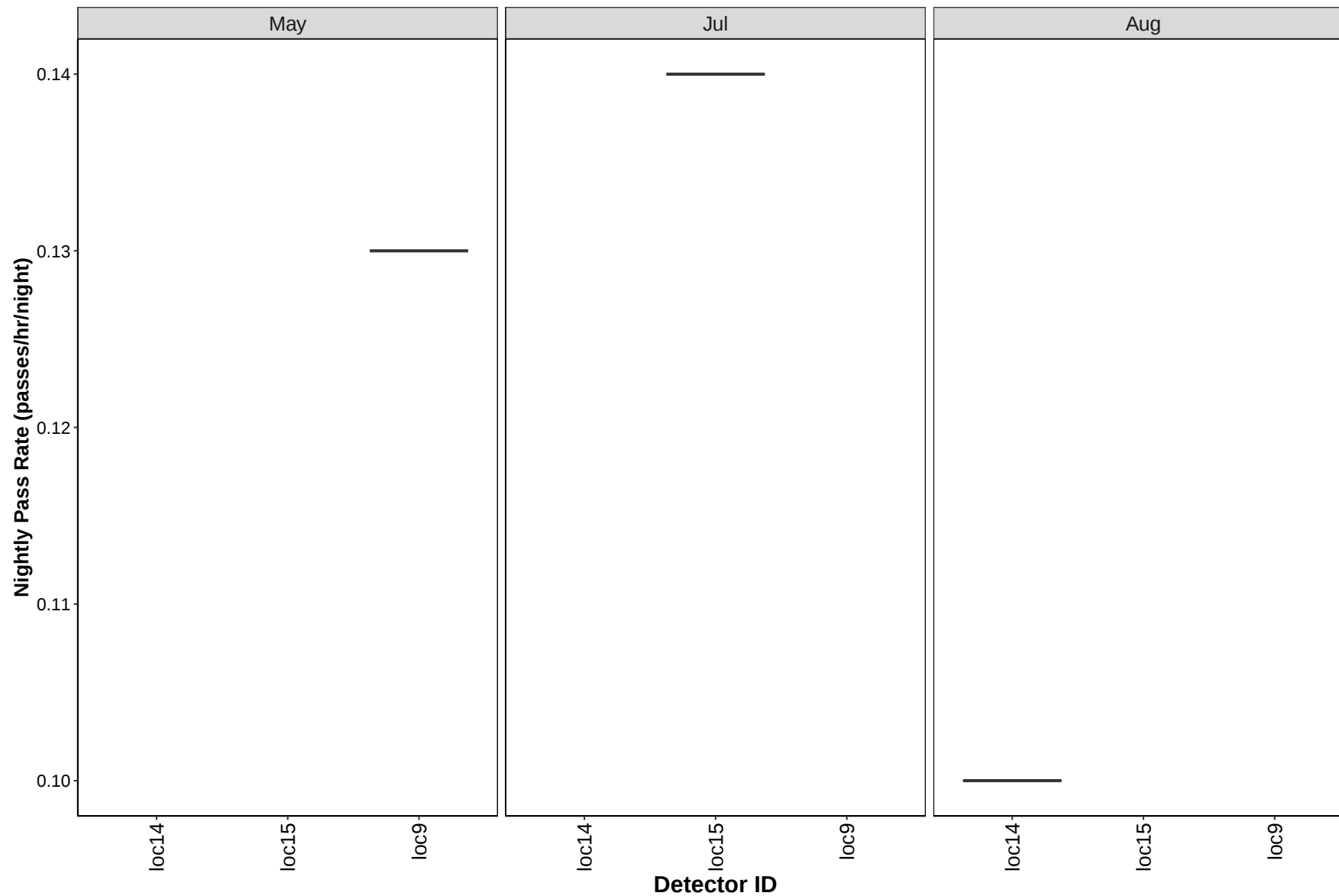
Soprano pipistrelle



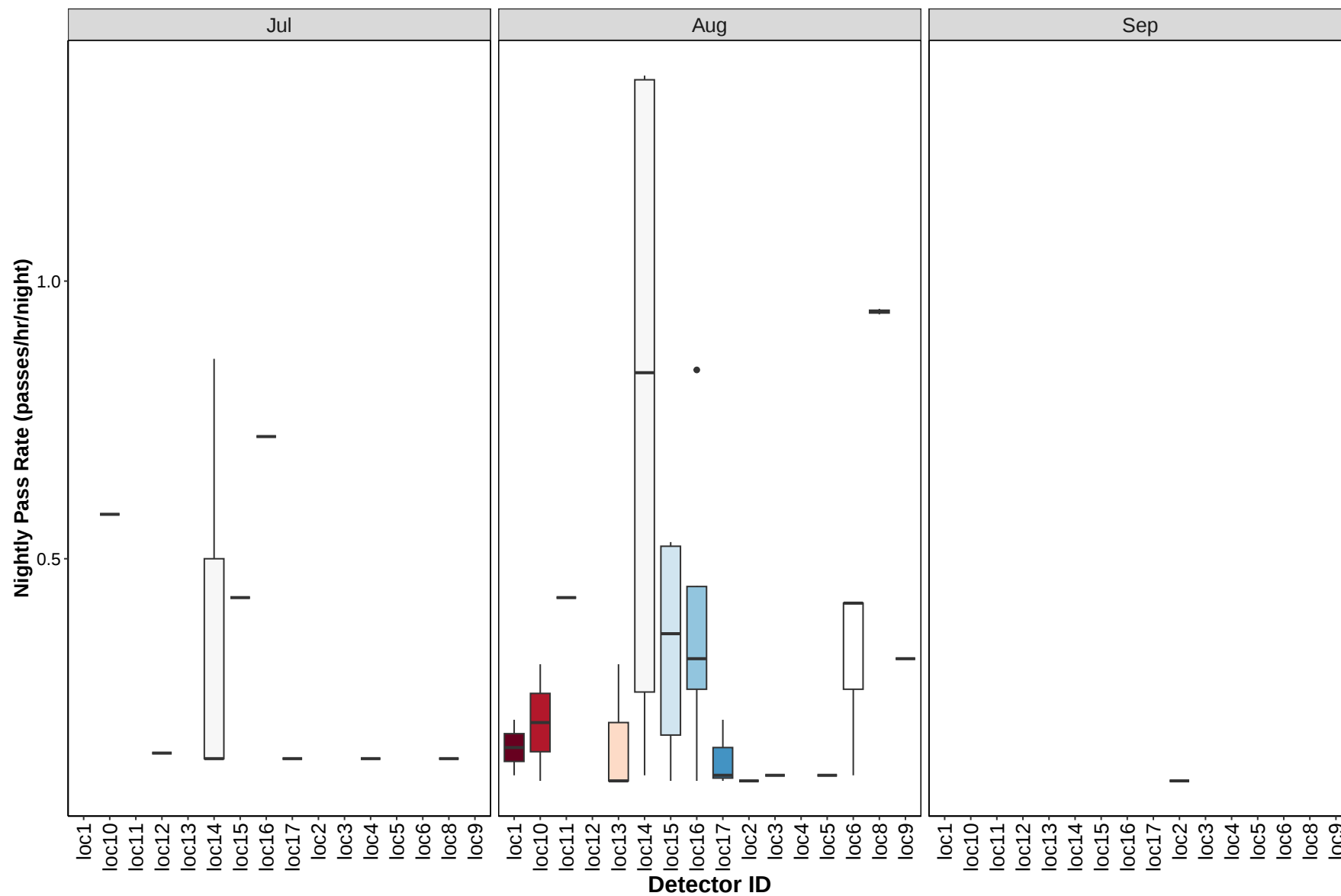
Myotis



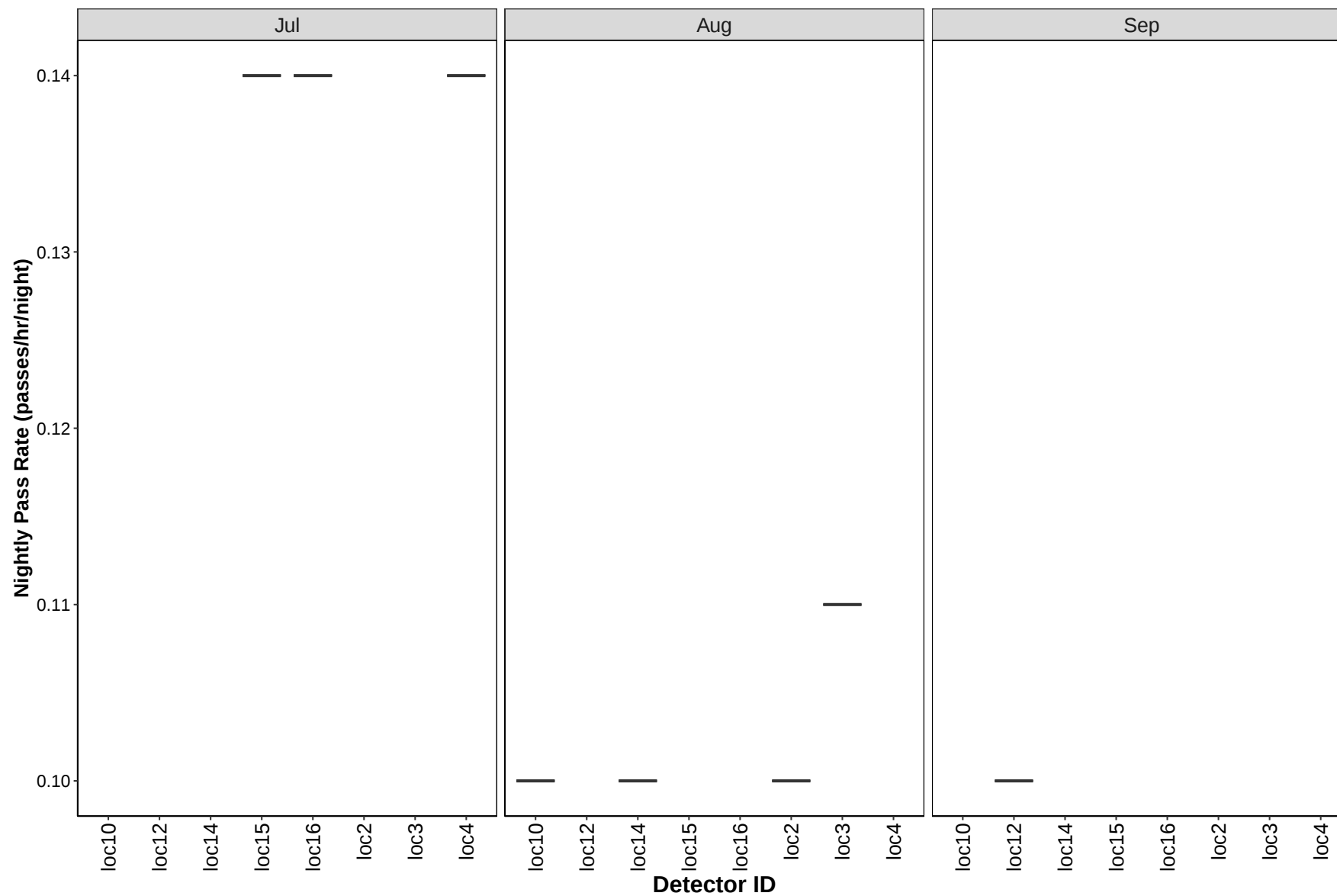
Daubenton's

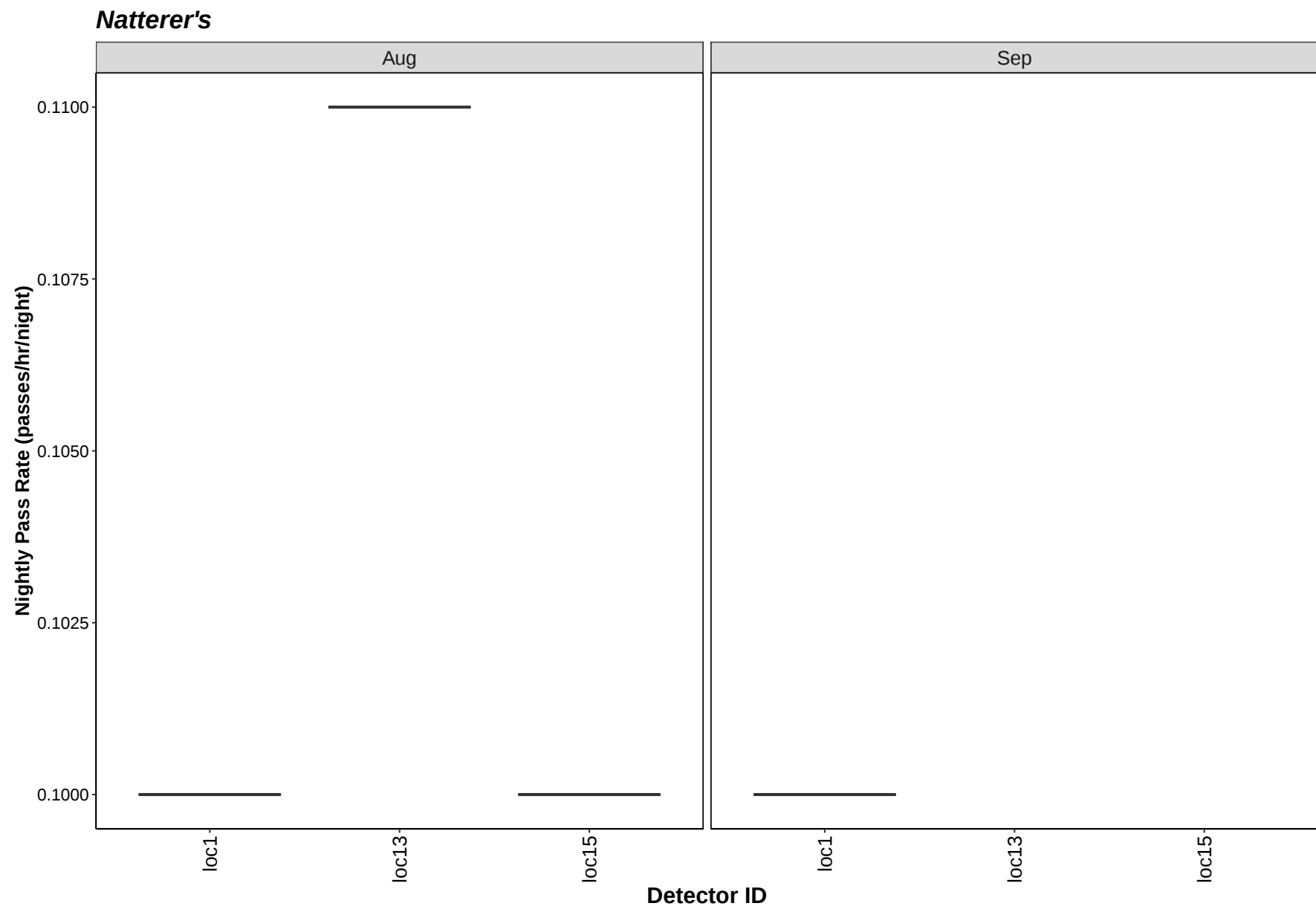


Nyctalus



Brown long-eared





Bat Activity per Detector Location

Figure 13. Detector ID reference:

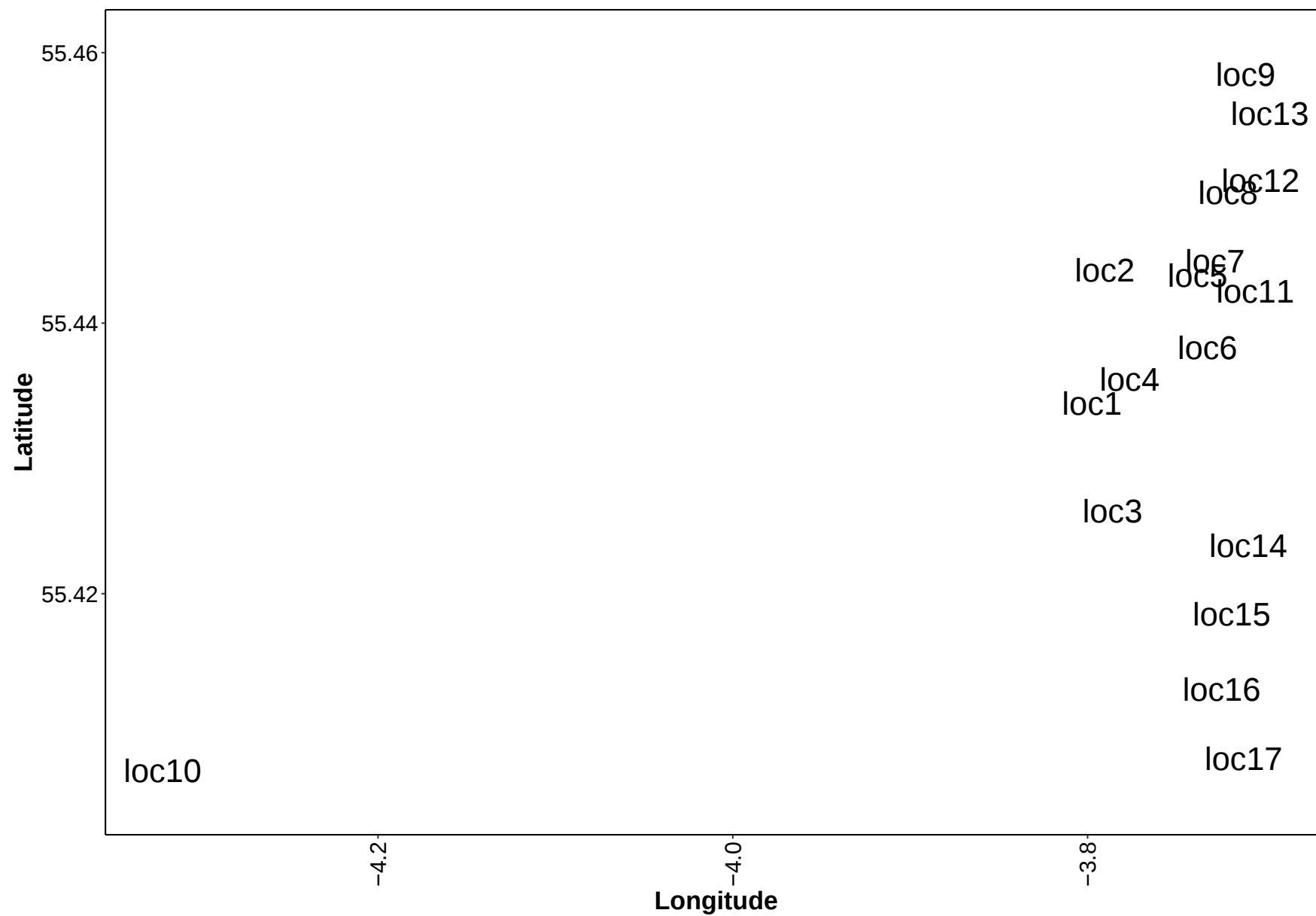
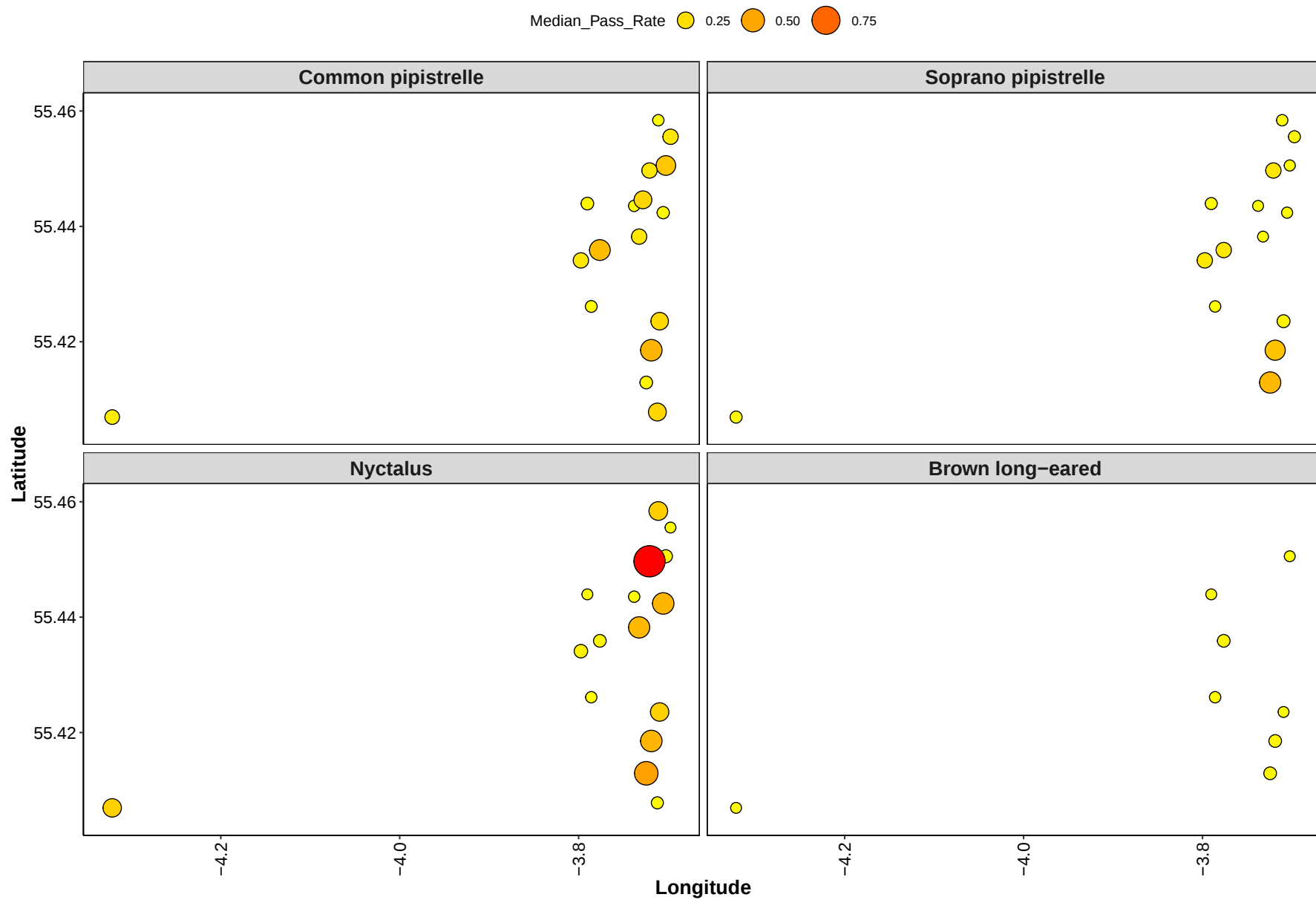


Figure 14. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.



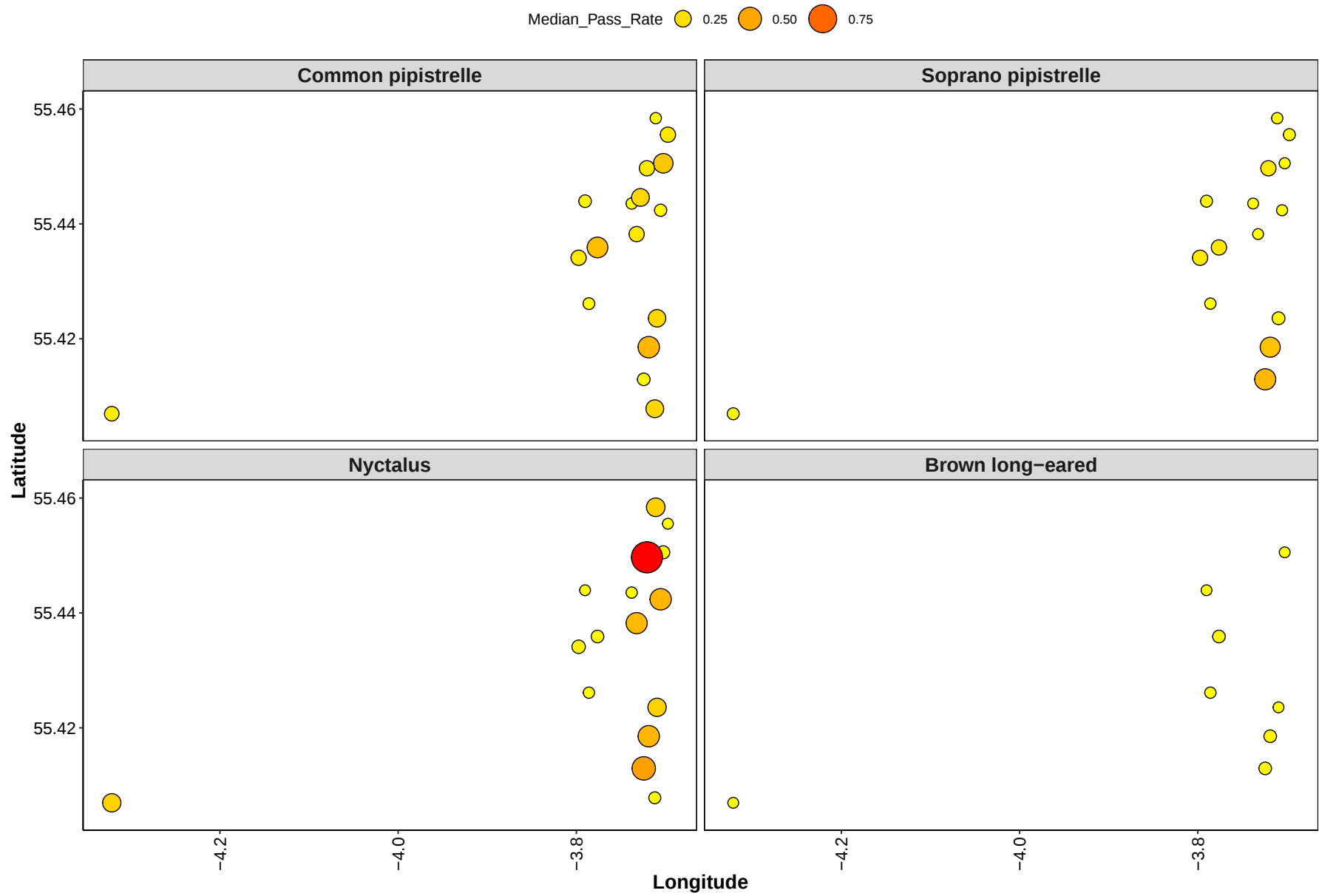
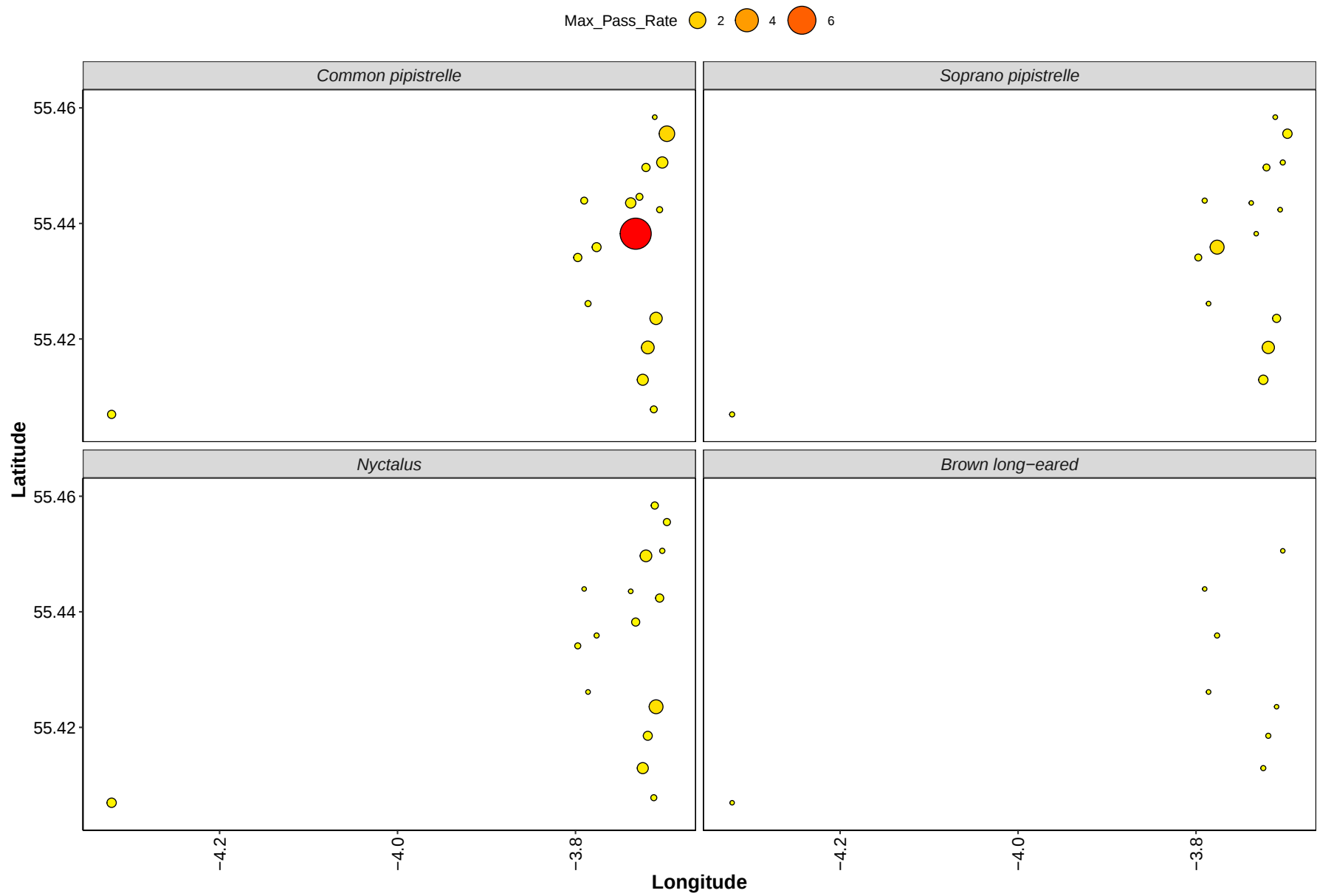
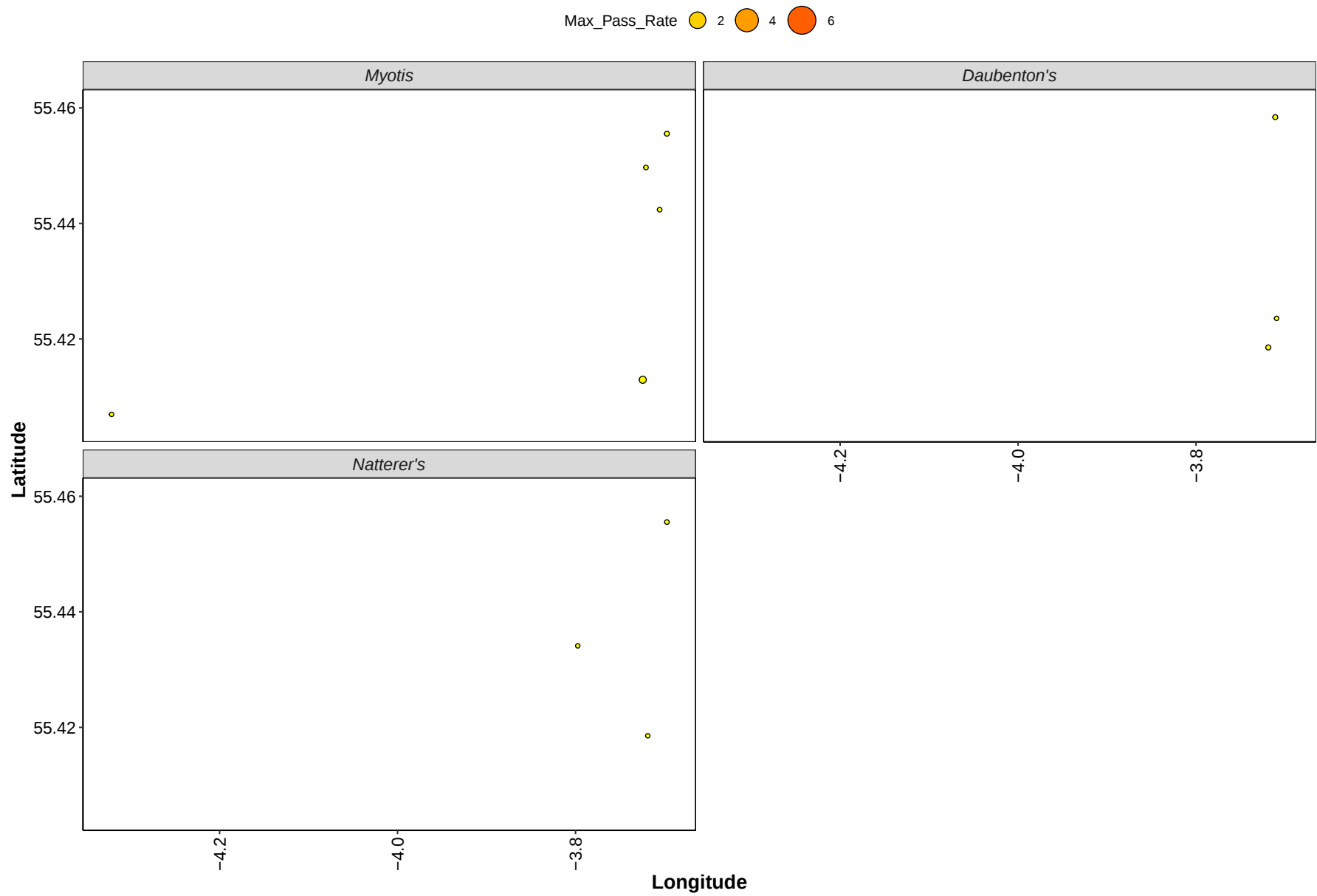


Figure 15. Maximum Nightly Pass Rate (bat passes/hr/night) recorded in a single night throughout the survey period - represented by the size and colour of the point at each detector location.





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

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
Brown long-eared	loc1	0.0
Brown long-eared	loc10	0.0
Brown long-eared	loc11	0.0
Brown long-eared	loc12	0.0
Brown long-eared	loc13	0.0
Brown long-eared	loc14	0.0
Brown long-eared	loc15	0.0
Brown long-eared	loc16	0.0
Brown long-eared	loc17	0.0
Brown long-eared	loc2	0.0
Brown long-eared	loc3	0.0
Brown long-eared	loc4	0.0
Brown long-eared	loc5	0.0
Brown long-eared	loc6	0.0
Brown long-eared	loc7	0.0
Brown long-eared	loc8	0.0
Brown long-eared	loc9	0.0
Common pipistrelle	loc1	0.2
Common pipistrelle	loc10	0.1
Common pipistrelle	loc11	0.1
Common pipistrelle	loc12	0.2
Common pipistrelle	loc13	0.1
Common pipistrelle	loc14	0.1
Common pipistrelle	loc15	0.4
Common pipistrelle	loc16	0.1
Common pipistrelle	loc17	0.0
Common pipistrelle	loc2	0.1
Common pipistrelle	loc3	0.1
Common pipistrelle	loc4	0.1
Common pipistrelle	loc5	0.1
Common pipistrelle	loc6	0.2
Common pipistrelle	loc7	0.3
Common pipistrelle	loc8	0.2
Common pipistrelle	loc9	0.1
Daubenton's	loc1	0.0
Daubenton's	loc10	0.0

Species	Detector ID	Median Pass Rate
Daubenton's	loc11	0.0
Daubenton's	loc12	0.0
Daubenton's	loc13	0.0
Daubenton's	loc14	0.0
Daubenton's	loc15	0.0
Daubenton's	loc16	0.0
Daubenton's	loc17	0.0
Daubenton's	loc2	0.0
Daubenton's	loc3	0.0
Daubenton's	loc4	0.0
Daubenton's	loc5	0.0
Daubenton's	loc6	0.0
Daubenton's	loc7	0.0
Daubenton's	loc8	0.0
Daubenton's	loc9	0.1
Myotis	loc1	0.0
Myotis	loc10	0.0
Myotis	loc11	0.0
Myotis	loc12	0.0
Myotis	loc13	0.0
Myotis	loc14	0.0
Myotis	loc15	0.0
Myotis	loc16	0.0
Myotis	loc17	0.0
Myotis	loc2	0.0
Myotis	loc3	0.0
Myotis	loc4	0.0
Myotis	loc5	0.0
Myotis	loc6	0.0
Myotis	loc7	0.0
Myotis	loc8	0.0
Myotis	loc9	0.0
Natterer's	loc1	0.0
Natterer's	loc10	0.0
Natterer's	loc11	0.0
Natterer's	loc12	0.0

Species	Detector ID	Median Pass Rate
Natterer's	loc13	0.0
Natterer's	loc14	0.0
Natterer's	loc15	0.0
Natterer's	loc16	0.0
Natterer's	loc17	0.0
Natterer's	loc2	0.0
Natterer's	loc3	0.0
Natterer's	loc4	0.0
Natterer's	loc5	0.0
Natterer's	loc6	0.0
Natterer's	loc7	0.0
Natterer's	loc8	0.0
Natterer's	loc9	0.0
Nyctalus	loc1	0.0
Nyctalus	loc10	0.0
Nyctalus	loc11	0.0
Nyctalus	loc12	0.0
Nyctalus	loc13	0.0
Nyctalus	loc14	0.1
Nyctalus	loc15	0.2
Nyctalus	loc16	0.0
Nyctalus	loc17	0.1
Nyctalus	loc2	0.0
Nyctalus	loc3	0.0
Nyctalus	loc4	0.0
Nyctalus	loc5	0.0
Nyctalus	loc6	0.0
Nyctalus	loc7	0.0
Nyctalus	loc8	0.0
Nyctalus	loc9	0.2
Soprano pipistrelle	loc1	0.0
Soprano pipistrelle	loc10	0.0
Soprano pipistrelle	loc11	0.0
Soprano pipistrelle	loc12	0.0
Soprano pipistrelle	loc13	0.0
Soprano pipistrelle	loc14	0.1

Species	Detector ID	Median Pass Rate
Soprano pipistrelle	loc15	0.2
Soprano pipistrelle	loc16	0.0
Soprano pipistrelle	loc17	0.0
Soprano pipistrelle	loc2	0.0
Soprano pipistrelle	loc3	0.0
Soprano pipistrelle	loc4	0.1
Soprano pipistrelle	loc5	0.0
Soprano pipistrelle	loc6	0.0
Soprano pipistrelle	loc7	0.0
Soprano pipistrelle	loc8	0.1
Soprano pipistrelle	loc9	0.1

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
Brown long-eared	loc1	0.0
Brown long-eared	loc10	0.0
Brown long-eared	loc11	0.0
Brown long-eared	loc12	0.0
Brown long-eared	loc13	0.0
Brown long-eared	loc14	0.0
Brown long-eared	loc15	0.0
Brown long-eared	loc16	0.0
Brown long-eared	loc17	0.0
Brown long-eared	loc2	0.0
Brown long-eared	loc3	0.0
Brown long-eared	loc4	0.0
Brown long-eared	loc5	0.0
Brown long-eared	loc6	0.0
Brown long-eared	loc7	0.0
Brown long-eared	loc8	0.0
Brown long-eared	loc9	0.0
Common pipistrelle	loc1	0.2
Common pipistrelle	loc10	0.2
Common pipistrelle	loc11	0.1
Common pipistrelle	loc12	0.3
Common pipistrelle	loc13	0.3
Common pipistrelle	loc14	0.2
Common pipistrelle	loc15	0.5
Common pipistrelle	loc16	0.2
Common pipistrelle	loc17	0.1
Common pipistrelle	loc2	0.1
Common pipistrelle	loc3	0.1
Common pipistrelle	loc4	0.2
Common pipistrelle	loc5	0.2
Common pipistrelle	loc6	1.2
Common pipistrelle	loc7	0.3
Common pipistrelle	loc8	0.2
Common pipistrelle	loc9	0.1
Daubenton's	loc1	0.0
Daubenton's	loc10	0.0

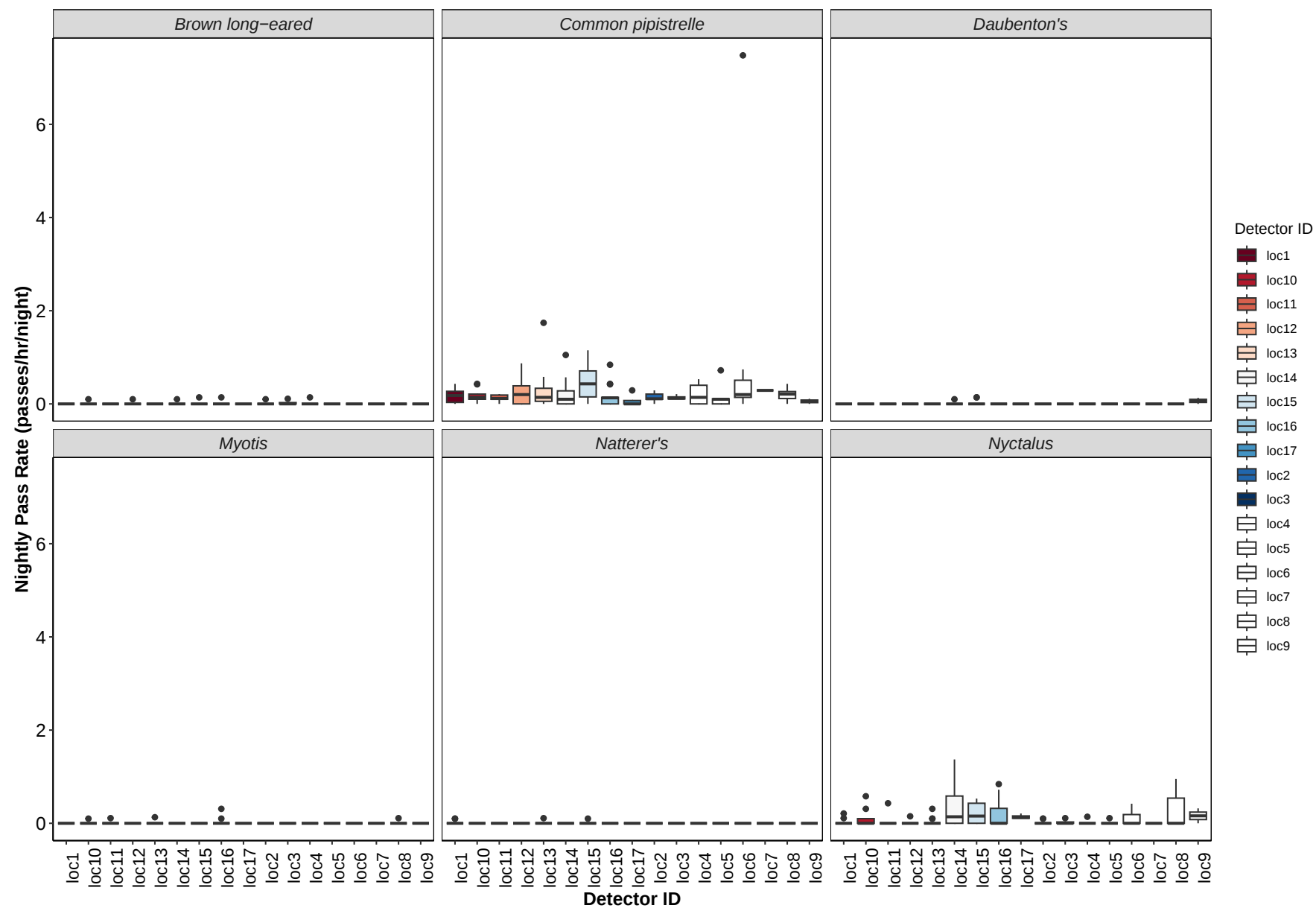
Species	Detector ID	Mean Pass Rate
Daubenton's	loc11	0.0
Daubenton's	loc12	0.0
Daubenton's	loc13	0.0
Daubenton's	loc14	0.0
Daubenton's	loc15	0.0
Daubenton's	loc16	0.0
Daubenton's	loc17	0.0
Daubenton's	loc2	0.0
Daubenton's	loc3	0.0
Daubenton's	loc4	0.0
Daubenton's	loc5	0.0
Daubenton's	loc6	0.0
Daubenton's	loc7	0.0
Daubenton's	loc8	0.0
Daubenton's	loc9	0.1
Myotis	loc1	0.0
Myotis	loc10	0.0
Myotis	loc11	0.0
Myotis	loc12	0.0
Myotis	loc13	0.0
Myotis	loc14	0.0
Myotis	loc15	0.0
Myotis	loc16	0.0
Myotis	loc17	0.0
Myotis	loc2	0.0
Myotis	loc3	0.0
Myotis	loc4	0.0
Myotis	loc5	0.0
Myotis	loc6	0.0
Myotis	loc7	0.0
Myotis	loc8	0.0
Myotis	loc9	0.0
Natterer's	loc1	0.0
Natterer's	loc10	0.0
Natterer's	loc11	0.0
Natterer's	loc12	0.0

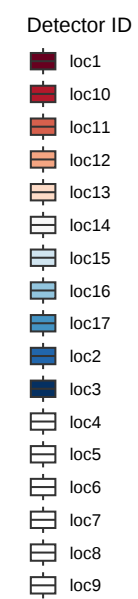
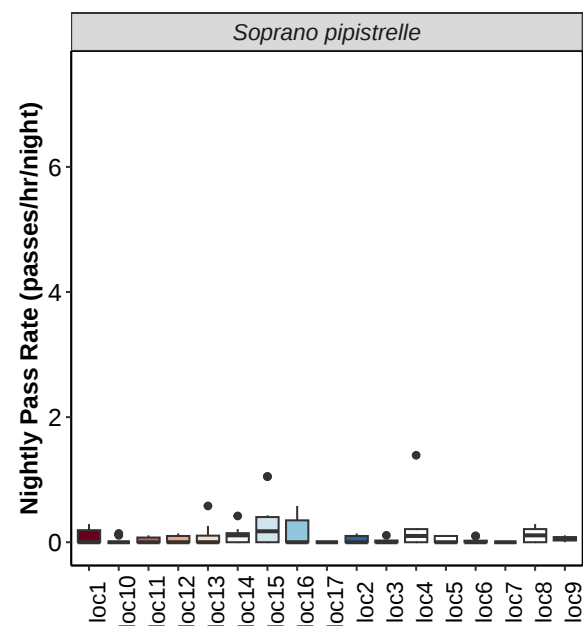
Species	Detector ID	Mean Pass Rate
Natterer's	loc13	0.0
Natterer's	loc14	0.0
Natterer's	loc15	0.0
Natterer's	loc16	0.0
Natterer's	loc17	0.0
Natterer's	loc2	0.0
Natterer's	loc3	0.0
Natterer's	loc4	0.0
Natterer's	loc5	0.0
Natterer's	loc6	0.0
Natterer's	loc7	0.0
Natterer's	loc8	0.0
Natterer's	loc9	0.0
Nyctalus	loc1	0.0
Nyctalus	loc10	0.1
Nyctalus	loc11	0.1
Nyctalus	loc12	0.0
Nyctalus	loc13	0.0
Nyctalus	loc14	0.4
Nyctalus	loc15	0.2
Nyctalus	loc16	0.2
Nyctalus	loc17	0.1
Nyctalus	loc2	0.0
Nyctalus	loc3	0.0
Nyctalus	loc4	0.0
Nyctalus	loc5	0.0
Nyctalus	loc6	0.1
Nyctalus	loc7	0.0
Nyctalus	loc8	0.3
Nyctalus	loc9	0.2
Soprano pipistrelle	loc1	0.1
Soprano pipistrelle	loc10	0.0
Soprano pipistrelle	loc11	0.0
Soprano pipistrelle	loc12	0.0
Soprano pipistrelle	loc13	0.1
Soprano pipistrelle	loc14	0.1

Species	Detector ID	Mean Pass Rate
Soprano pipistrelle	loc15	0.3
Soprano pipistrelle	loc16	0.2
Soprano pipistrelle	loc17	0.0
Soprano pipistrelle	loc2	0.0
Soprano pipistrelle	loc3	0.0
Soprano pipistrelle	loc4	0.3
Soprano pipistrelle	loc5	0.0
Soprano pipistrelle	loc6	0.0
Soprano pipistrelle	loc7	0.0
Soprano pipistrelle	loc8	0.1
Soprano pipistrelle	loc9	0.1

Per Detector

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.





Detector ID

Survey Effort

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

month	Detector ID	No. of Survey Nights
May	loc1	1
May	loc11	1
May	loc13	3
May	loc14	2
May	loc15	1
May	loc16	4
May	loc2	1
May	loc3	1
May	loc8	1
May	loc9	1
Jul	loc1	5
Jul	loc10	3
Jul	loc12	4
Jul	loc13	4
Jul	loc14	5
Jul	loc15	4
Jul	loc16	4
Jul	loc17	1
Jul	loc2	5
Jul	loc4	2
Jul	loc5	1
Jul	loc6	2
Jul	loc7	1
Jul	loc8	2
Aug	loc1	3
Aug	loc10	4
Aug	loc11	4
Aug	loc12	4
Aug	loc13	6
Aug	loc14	4
Aug	loc15	5
Aug	loc16	6

month	Detector ID	No. of Survey Nights
Aug	loc17	3
Aug	loc2	5
Aug	loc3	3
Aug	loc4	3
Aug	loc5	3
Aug	loc6	5
Aug	loc8	4
Aug	loc9	1
Sep	loc1	1
Sep	loc10	2
Sep	loc11	1
Sep	loc12	2
Sep	loc13	2
Sep	loc2	2
Sep	loc5	1
Sep	loc6	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	Aug	Jul	May	Sep
Brown long-eared	loc1	0.0	0.0	0.0	0.0
Brown long-eared	loc10	0.0	0.0	NA	0.0
Brown long-eared	loc11	0.0	NA	0.0	0.0
Brown long-eared	loc12	0.0	0.0	NA	0.0
Brown long-eared	loc13	0.0	0.0	0.0	0.0
Brown long-eared	loc14	0.0	0.0	0.0	NA
Brown long-eared	loc15	0.0	0.0	0.0	NA
Brown long-eared	loc16	0.0	0.0	0.0	NA
Brown long-eared	loc17	0.0	0.0	NA	NA
Brown long-eared	loc2	0.0	0.0	0.0	0.0
Brown long-eared	loc3	0.0	NA	0.0	NA
Brown long-eared	loc4	0.0	0.1	NA	NA
Brown long-eared	loc5	0.0	0.0	NA	0.0
Brown long-eared	loc6	0.0	0.0	NA	0.0
Brown long-eared	loc7	NA	0.0	NA	NA
Brown long-eared	loc8	0.0	0.0	0.0	NA
Brown long-eared	loc9	0.0	NA	0.0	NA
Common pipistrelle	loc1	0.2	0.3	0.1	0.0
Common pipistrelle	loc10	0.3	0.1	NA	0.1
Common pipistrelle	loc11	0.2	NA	0.1	0.0
Common pipistrelle	loc12	0.1	0.6	NA	0.1
Common pipistrelle	loc13	0.2	0.1	0.1	0.3
Common pipistrelle	loc14	0.1	0.0	0.1	NA
Common pipistrelle	loc15	0.6	0.4	0.1	NA
Common pipistrelle	loc16	0.1	0.1	0.1	NA
Common pipistrelle	loc17	0.0	0.3	NA	NA
Common pipistrelle	loc2	0.1	0.1	0.3	0.0
Common pipistrelle	loc3	0.1	NA	0.1	NA
Common pipistrelle	loc4	0.4	0.1	NA	NA
Common pipistrelle	loc5	0.1	0.7	NA	0.0
Common pipistrelle	loc6	0.4	0.1	NA	0.2
Common pipistrelle	loc7	NA	0.3	NA	NA
Common pipistrelle	loc8	0.2	0.2	0.1	NA
Common pipistrelle	loc9	0.1	NA	0.0	NA
Daubenton's	loc1	0.0	0.0	0.0	0.0
Daubenton's	loc10	0.0	0.0	NA	0.0

Species	Detector ID	Aug	Jul	May	Sep
Daubenton's	loc11	0.0	NA	0.0	0.0
Daubenton's	loc12	0.0	0.0	NA	0.0
Daubenton's	loc13	0.0	0.0	0.0	0.0
Daubenton's	loc14	0.0	0.0	0.0	NA
Daubenton's	loc15	0.0	0.1	0.0	NA
Daubenton's	loc16	0.0	0.0	0.0	NA
Daubenton's	loc17	0.0	0.0	NA	NA
Daubenton's	loc2	0.0	0.0	0.0	0.0
Daubenton's	loc3	0.0	NA	0.0	NA
Daubenton's	loc4	0.0	0.0	NA	NA
Daubenton's	loc5	0.0	0.0	NA	0.0
Daubenton's	loc6	0.0	0.0	NA	0.0
Daubenton's	loc7	NA	0.0	NA	NA
Daubenton's	loc8	0.0	0.0	0.0	NA
Daubenton's	loc9	0.0	NA	0.1	NA
Myotis	loc1	0.0	0.0	0.0	0.0
Myotis	loc10	0.0	0.0	NA	0.0
Myotis	loc11	0.0	NA	0.0	0.0
Myotis	loc12	0.0	0.0	NA	0.0
Myotis	loc13	0.0	0.0	0.0	0.0
Myotis	loc14	0.0	0.0	0.0	NA
Myotis	loc15	0.0	0.0	0.0	NA
Myotis	loc16	0.0	0.0	0.0	NA
Myotis	loc17	0.0	0.0	NA	NA
Myotis	loc2	0.0	0.0	0.0	0.0
Myotis	loc3	0.0	NA	0.0	NA
Myotis	loc4	0.0	0.0	NA	NA
Myotis	loc5	0.0	0.0	NA	0.0
Myotis	loc6	0.0	0.0	NA	0.0
Myotis	loc7	NA	0.0	NA	NA
Myotis	loc8	0.0	0.0	0.0	NA
Myotis	loc9	0.0	NA	0.0	NA
Natterer's	loc1	0.0	0.0	0.0	0.1
Natterer's	loc10	0.0	0.0	NA	0.0
Natterer's	loc11	0.0	NA	0.0	0.0
Natterer's	loc12	0.0	0.0	NA	0.0

Species	Detector ID	Aug	Jul	May	Sep
Natterer's	loc13	0.0	0.0	0.0	0.0
Natterer's	loc14	0.0	0.0	0.0	NA
Natterer's	loc15	0.0	0.0	0.0	NA
Natterer's	loc16	0.0	0.0	0.0	NA
Natterer's	loc17	0.0	0.0	NA	NA
Natterer's	loc2	0.0	0.0	0.0	0.0
Natterer's	loc3	0.0	NA	0.0	NA
Natterer's	loc4	0.0	0.0	NA	NA
Natterer's	loc5	0.0	0.0	NA	0.0
Natterer's	loc6	0.0	0.0	NA	0.0
Natterer's	loc7	NA	0.0	NA	NA
Natterer's	loc8	0.0	0.0	0.0	NA
Natterer's	loc9	0.0	NA	0.0	NA
Nyctalus	loc1	0.1	0.0	0.0	0.0
Nyctalus	loc10	0.0	0.0	NA	0.0
Nyctalus	loc11	0.0	NA	0.0	0.0
Nyctalus	loc12	0.0	0.0	NA	0.0
Nyctalus	loc13	0.0	0.0	0.0	0.0
Nyctalus	loc14	0.8	0.1	0.0	NA
Nyctalus	loc15	0.2	0.2	0.0	NA
Nyctalus	loc16	0.2	0.4	0.0	NA
Nyctalus	loc17	0.1	0.1	NA	NA
Nyctalus	loc2	0.0	0.0	0.0	0.0
Nyctalus	loc3	0.0	NA	0.0	NA
Nyctalus	loc4	0.0	0.1	NA	NA
Nyctalus	loc5	0.0	0.0	NA	0.0
Nyctalus	loc6	0.1	0.0	NA	0.0
Nyctalus	loc7	NA	0.0	NA	NA
Nyctalus	loc8	0.5	0.1	0.0	NA
Nyctalus	loc9	0.3	NA	0.0	NA
Soprano pipistrelle	loc1	0.2	0.0	0.0	0.0
Soprano pipistrelle	loc10	0.0	0.0	NA	0.0
Soprano pipistrelle	loc11	0.0	NA	0.0	0.1
Soprano pipistrelle	loc12	0.0	0.0	NA	0.0
Soprano pipistrelle	loc13	0.0	0.1	0.0	0.0
Soprano pipistrelle	loc14	0.2	0.0	0.1	NA

Species	Detector ID	Aug	Jul	May	Sep
Soprano pipistrelle	loc15	0.3	0.1	0.0	NA
Soprano pipistrelle	loc16	0.0	0.4	0.0	NA
Soprano pipistrelle	loc17	0.0	0.0	NA	NA
Soprano pipistrelle	loc2	0.0	0.0	0.0	0.0
Soprano pipistrelle	loc3	0.0	NA	0.0	NA
Soprano pipistrelle	loc4	0.2	0.0	NA	NA
Soprano pipistrelle	loc5	0.0	0.0	NA	0.1
Soprano pipistrelle	loc6	0.0	0.0	NA	0.1
Soprano pipistrelle	loc7	NA	0.0	NA	NA
Soprano pipistrelle	loc8	0.2	0.1	0.0	NA
Soprano pipistrelle	loc9	0.1	NA	0.0	NA

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	Jul	May	Sep
Brown long-eared	loc1	0.0	0.0	0.0	0.0
Brown long-eared	loc10	0.0	0.0	NA	0.0
Brown long-eared	loc11	0.0	NA	0.0	0.0
Brown long-eared	loc12	0.0	0.0	NA	0.0
Brown long-eared	loc13	0.0	0.0	0.0	0.0
Brown long-eared	loc14	0.0	0.0	0.0	NA
Brown long-eared	loc15	0.0	0.0	0.0	NA
Brown long-eared	loc16	0.0	0.0	0.0	NA
Brown long-eared	loc17	0.0	0.0	NA	NA
Brown long-eared	loc2	0.0	0.0	0.0	0.0
Brown long-eared	loc3	0.0	NA	0.0	NA
Brown long-eared	loc4	0.0	0.1	NA	NA
Brown long-eared	loc5	0.0	0.0	NA	0.0
Brown long-eared	loc6	0.0	0.0	NA	0.0
Brown long-eared	loc7	NA	0.0	NA	NA
Brown long-eared	loc8	0.0	0.0	0.0	NA
Brown long-eared	loc9	0.0	NA	0.0	NA
Common pipistrelle	loc1	0.1	0.3	0.1	0.0
Common pipistrelle	loc10	0.3	0.1	NA	0.1
Common pipistrelle	loc11	0.2	NA	0.1	0.0
Common pipistrelle	loc12	0.2	0.5	NA	0.1
Common pipistrelle	loc13	0.2	0.5	0.1	0.3
Common pipistrelle	loc14	0.3	0.2	0.1	NA
Common pipistrelle	loc15	0.6	0.4	0.1	NA
Common pipistrelle	loc16	0.2	0.1	0.1	NA
Common pipistrelle	loc17	0.0	0.3	NA	NA
Common pipistrelle	loc2	0.1	0.2	0.3	0.0
Common pipistrelle	loc3	0.1	NA	0.1	NA
Common pipistrelle	loc4	0.3	0.1	NA	NA
Common pipistrelle	loc5	0.1	0.7	NA	0.0
Common pipistrelle	loc6	1.8	0.1	NA	0.2
Common pipistrelle	loc7	NA	0.3	NA	NA
Common pipistrelle	loc8	0.2	0.2	0.1	NA
Common pipistrelle	loc9	0.1	NA	0.0	NA
Daubenton's	loc1	0.0	0.0	0.0	0.0
Daubenton's	loc10	0.0	0.0	NA	0.0

Species	Detector ID	Aug	Jul	May	Sep
Daubenton's	loc11	0.0	NA	0.0	0.0
Daubenton's	loc12	0.0	0.0	NA	0.0
Daubenton's	loc13	0.0	0.0	0.0	0.0
Daubenton's	loc14	0.0	0.0	0.0	NA
Daubenton's	loc15	0.0	0.1	0.0	NA
Daubenton's	loc16	0.0	0.0	0.0	NA
Daubenton's	loc17	0.0	0.0	NA	NA
Daubenton's	loc2	0.0	0.0	0.0	0.0
Daubenton's	loc3	0.0	NA	0.0	NA
Daubenton's	loc4	0.0	0.0	NA	NA
Daubenton's	loc5	0.0	0.0	NA	0.0
Daubenton's	loc6	0.0	0.0	NA	0.0
Daubenton's	loc7	NA	0.0	NA	NA
Daubenton's	loc8	0.0	0.0	0.0	NA
Daubenton's	loc9	0.0	NA	0.1	NA
Myotis	loc1	0.0	0.0	0.0	0.0
Myotis	loc10	0.0	0.0	NA	0.0
Myotis	loc11	0.0	NA	0.0	0.0
Myotis	loc12	0.0	0.0	NA	0.0
Myotis	loc13	0.0	0.0	0.0	0.0
Myotis	loc14	0.0	0.0	0.0	NA
Myotis	loc15	0.0	0.0	0.0	NA
Myotis	loc16	0.1	0.0	0.0	NA
Myotis	loc17	0.0	0.0	NA	NA
Myotis	loc2	0.0	0.0	0.0	0.0
Myotis	loc3	0.0	NA	0.0	NA
Myotis	loc4	0.0	0.0	NA	NA
Myotis	loc5	0.0	0.0	NA	0.0
Myotis	loc6	0.0	0.0	NA	0.0
Myotis	loc7	NA	0.0	NA	NA
Myotis	loc8	0.0	0.0	0.0	NA
Myotis	loc9	0.0	NA	0.0	NA
Natterer's	loc1	0.0	0.0	0.0	0.1
Natterer's	loc10	0.0	0.0	NA	0.0
Natterer's	loc11	0.0	NA	0.0	0.0
Natterer's	loc12	0.0	0.0	NA	0.0

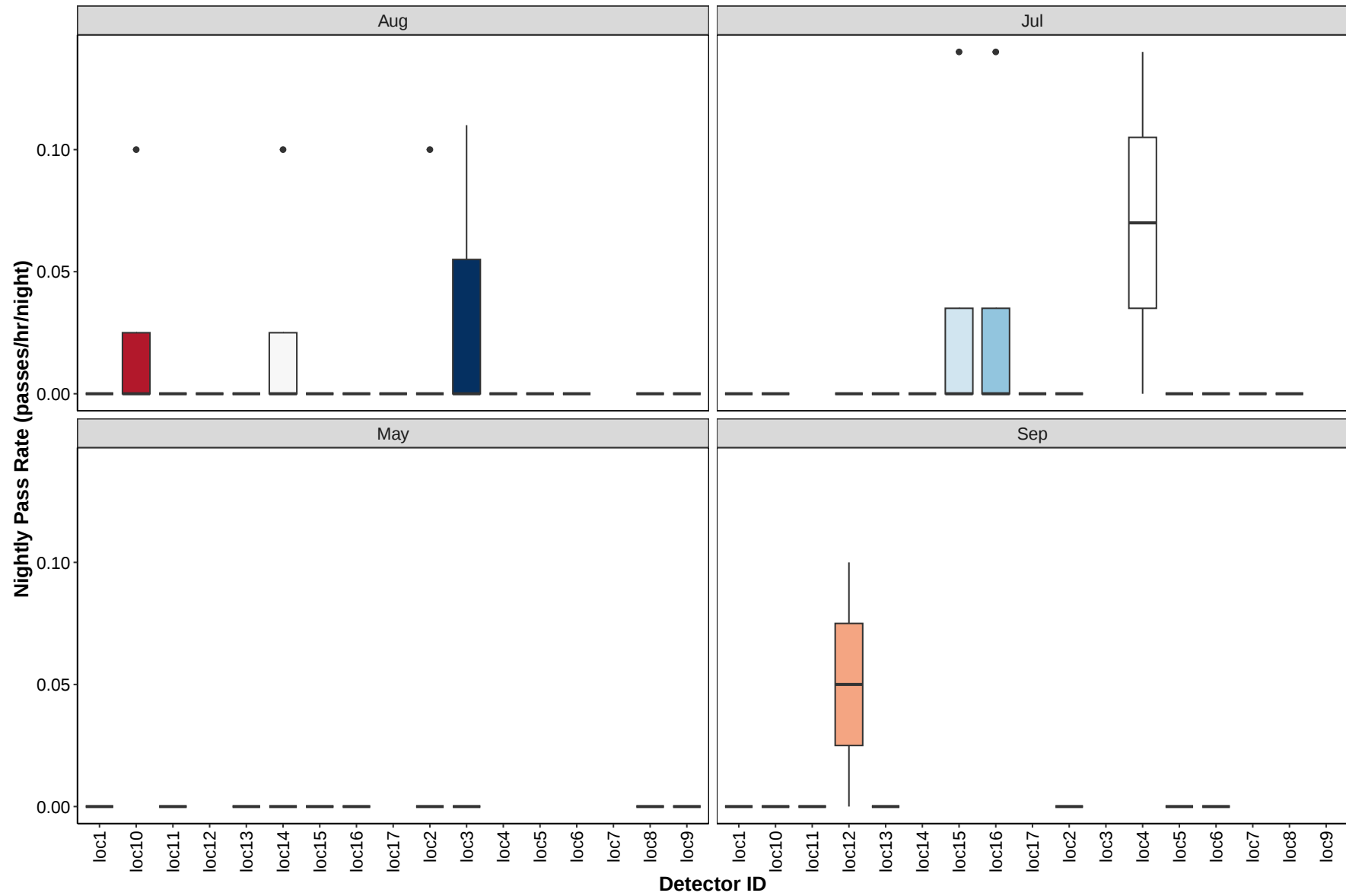
Species	Detector ID	Aug	Jul	May	Sep
Natterer's	loc13	0.0	0.0	0.0	0.0
Natterer's	loc14	0.0	0.0	0.0	NA
Natterer's	loc15	0.0	0.0	0.0	NA
Natterer's	loc16	0.0	0.0	0.0	NA
Natterer's	loc17	0.0	0.0	NA	NA
Natterer's	loc2	0.0	0.0	0.0	0.0
Natterer's	loc3	0.0	NA	0.0	NA
Natterer's	loc4	0.0	0.0	NA	NA
Natterer's	loc5	0.0	0.0	NA	0.0
Natterer's	loc6	0.0	0.0	NA	0.0
Natterer's	loc7	NA	0.0	NA	NA
Natterer's	loc8	0.0	0.0	0.0	NA
Natterer's	loc9	0.0	NA	0.0	NA
Nyctalus	loc1	0.1	0.0	0.0	0.0
Nyctalus	loc10	0.1	0.2	NA	0.0
Nyctalus	loc11	0.1	NA	0.0	0.0
Nyctalus	loc12	0.0	0.0	NA	0.0
Nyctalus	loc13	0.1	0.0	0.0	0.0
Nyctalus	loc14	0.8	0.2	0.0	NA
Nyctalus	loc15	0.3	0.2	0.0	NA
Nyctalus	loc16	0.3	0.4	0.0	NA
Nyctalus	loc17	0.1	0.1	NA	NA
Nyctalus	loc2	0.0	0.0	0.0	0.0
Nyctalus	loc3	0.0	NA	0.0	NA
Nyctalus	loc4	0.0	0.1	NA	NA
Nyctalus	loc5	0.0	0.0	NA	0.0
Nyctalus	loc6	0.2	0.0	NA	0.0
Nyctalus	loc7	NA	0.0	NA	NA
Nyctalus	loc8	0.5	0.1	0.0	NA
Nyctalus	loc9	0.3	NA	0.0	NA
Soprano pipistrelle	loc1	0.1	0.1	0.0	0.0
Soprano pipistrelle	loc10	0.0	0.0	NA	0.0
Soprano pipistrelle	loc11	0.0	NA	0.0	0.1
Soprano pipistrelle	loc12	0.1	0.0	NA	0.0
Soprano pipistrelle	loc13	0.0	0.2	0.1	0.0
Soprano pipistrelle	loc14	0.2	0.1	0.1	NA

Species	Detector ID	Aug	Jul	May	Sep
Soprano pipistrelle	loc15	0.5	0.1	0.0	NA
Soprano pipistrelle	loc16	0.2	0.3	0.0	NA
Soprano pipistrelle	loc17	0.0	0.0	NA	NA
Soprano pipistrelle	loc2	0.0	0.1	0.0	0.0
Soprano pipistrelle	loc3	0.0	NA	0.0	NA
Soprano pipistrelle	loc4	0.6	0.0	NA	NA
Soprano pipistrelle	loc5	0.0	0.0	NA	0.1
Soprano pipistrelle	loc6	0.0	0.0	NA	0.1
Soprano pipistrelle	loc7	NA	0.0	NA	NA
Soprano pipistrelle	loc8	0.1	0.1	0.0	NA
Soprano pipistrelle	loc9	0.1	NA	0.0	NA

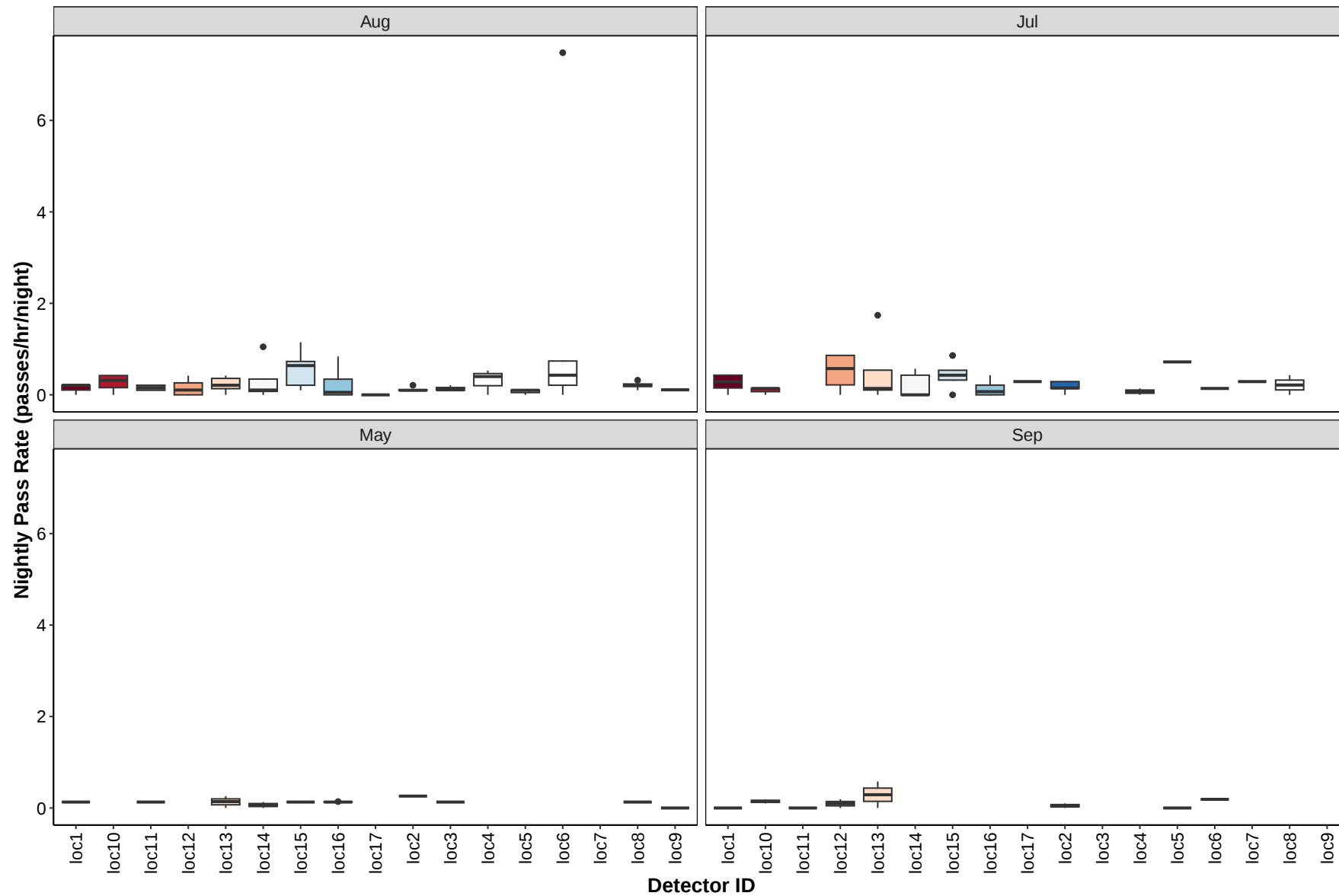
Per Detector

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.

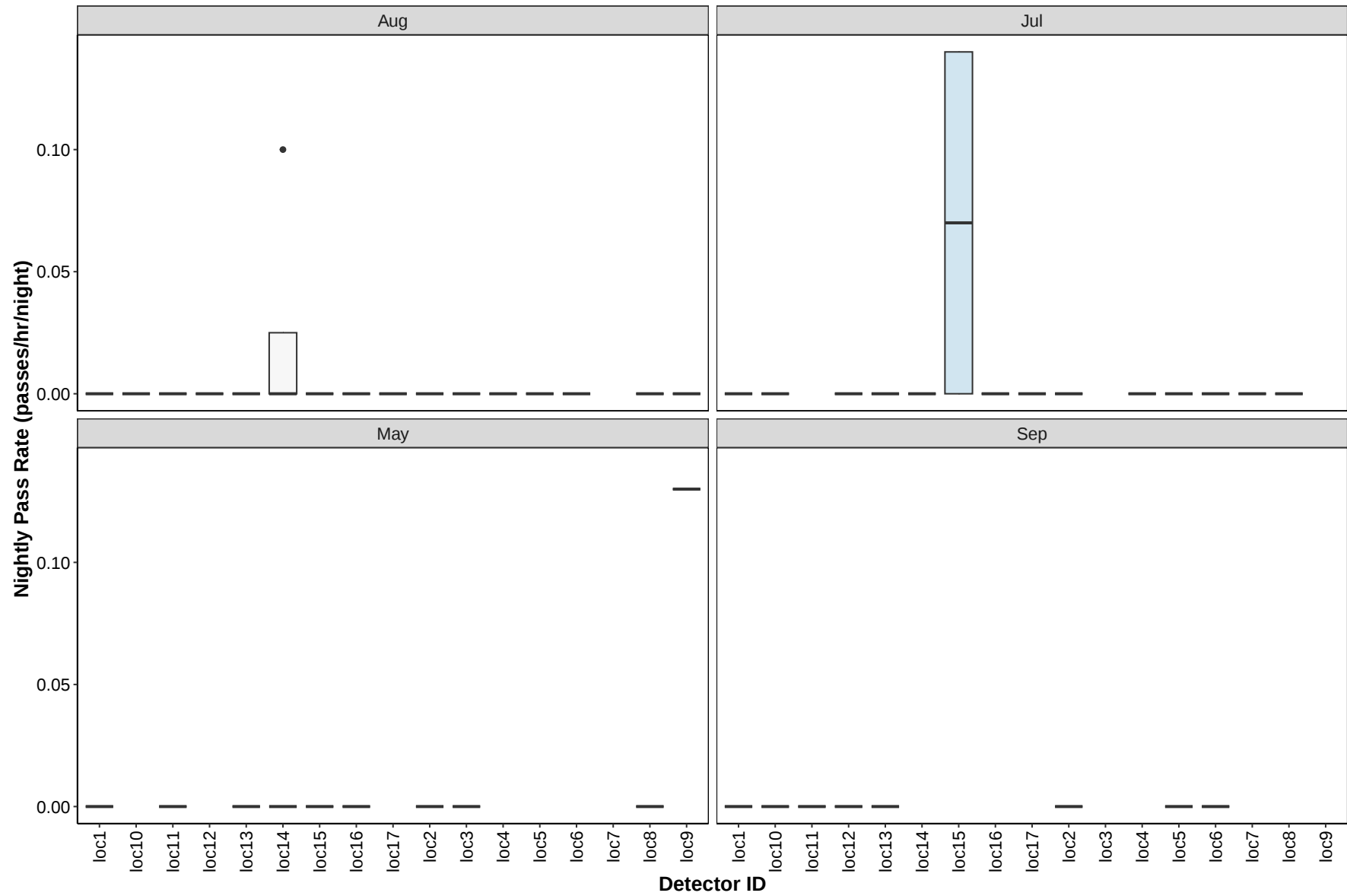
Brown long-eared



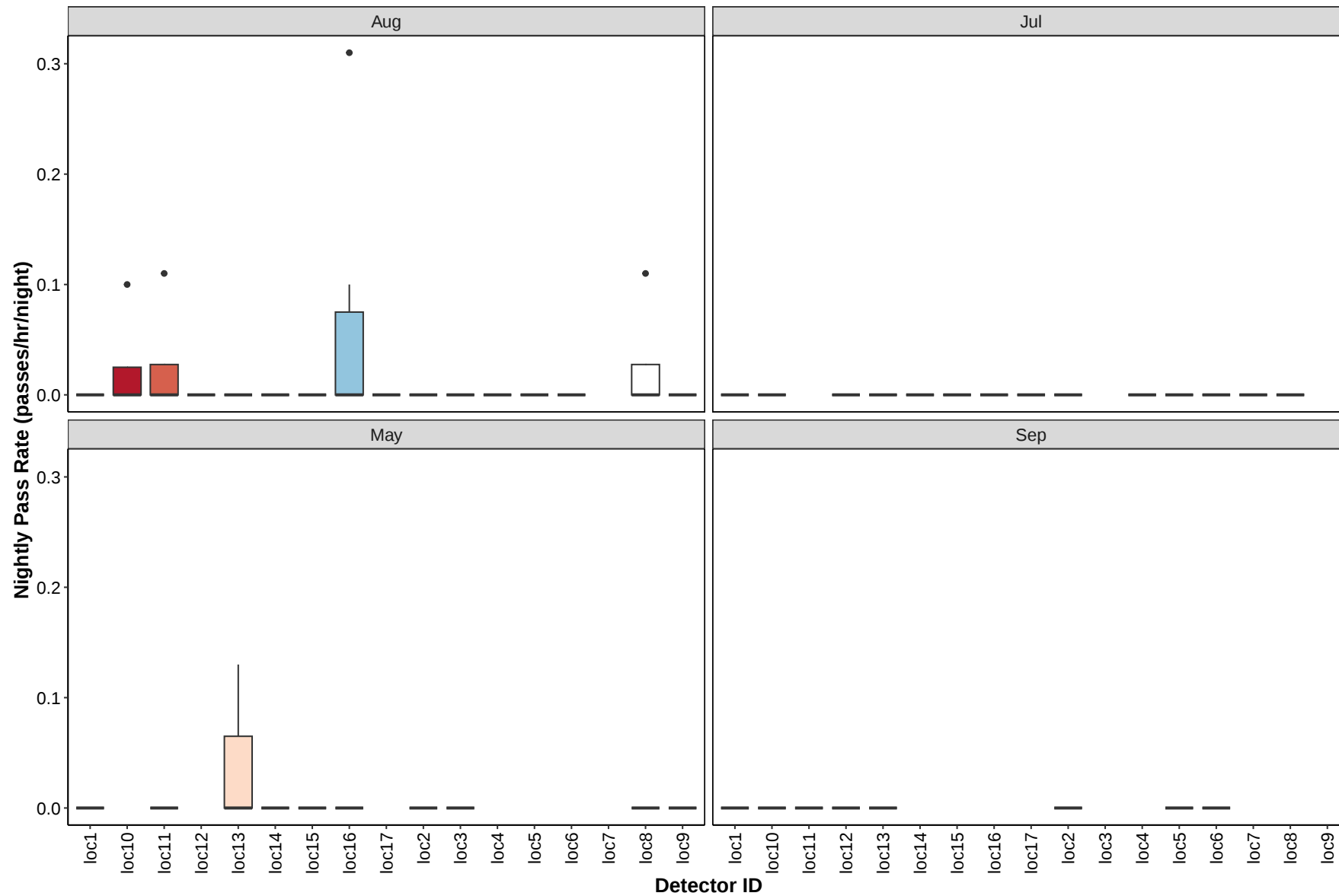
Common pipistrelle



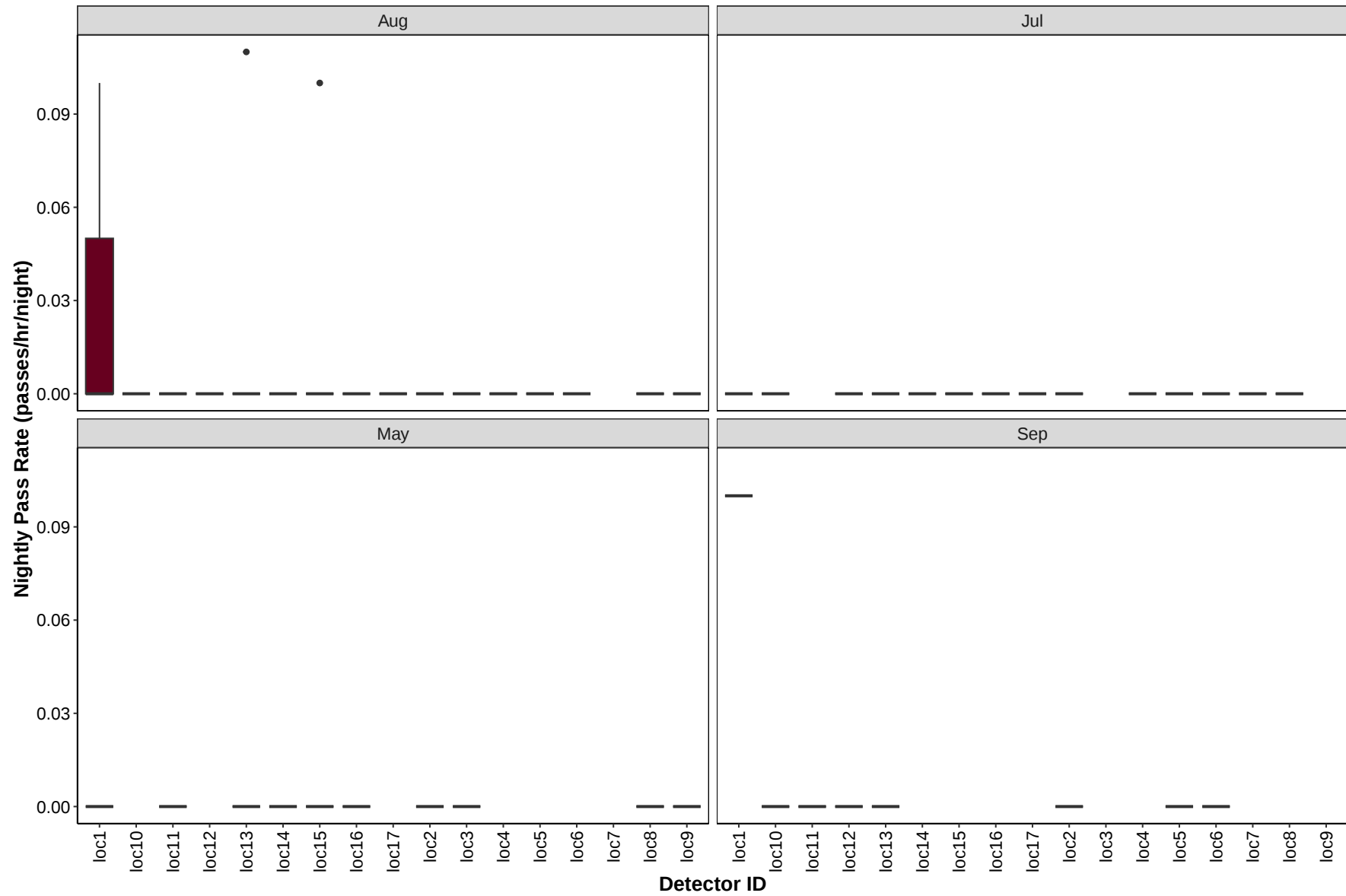
Daubenton's



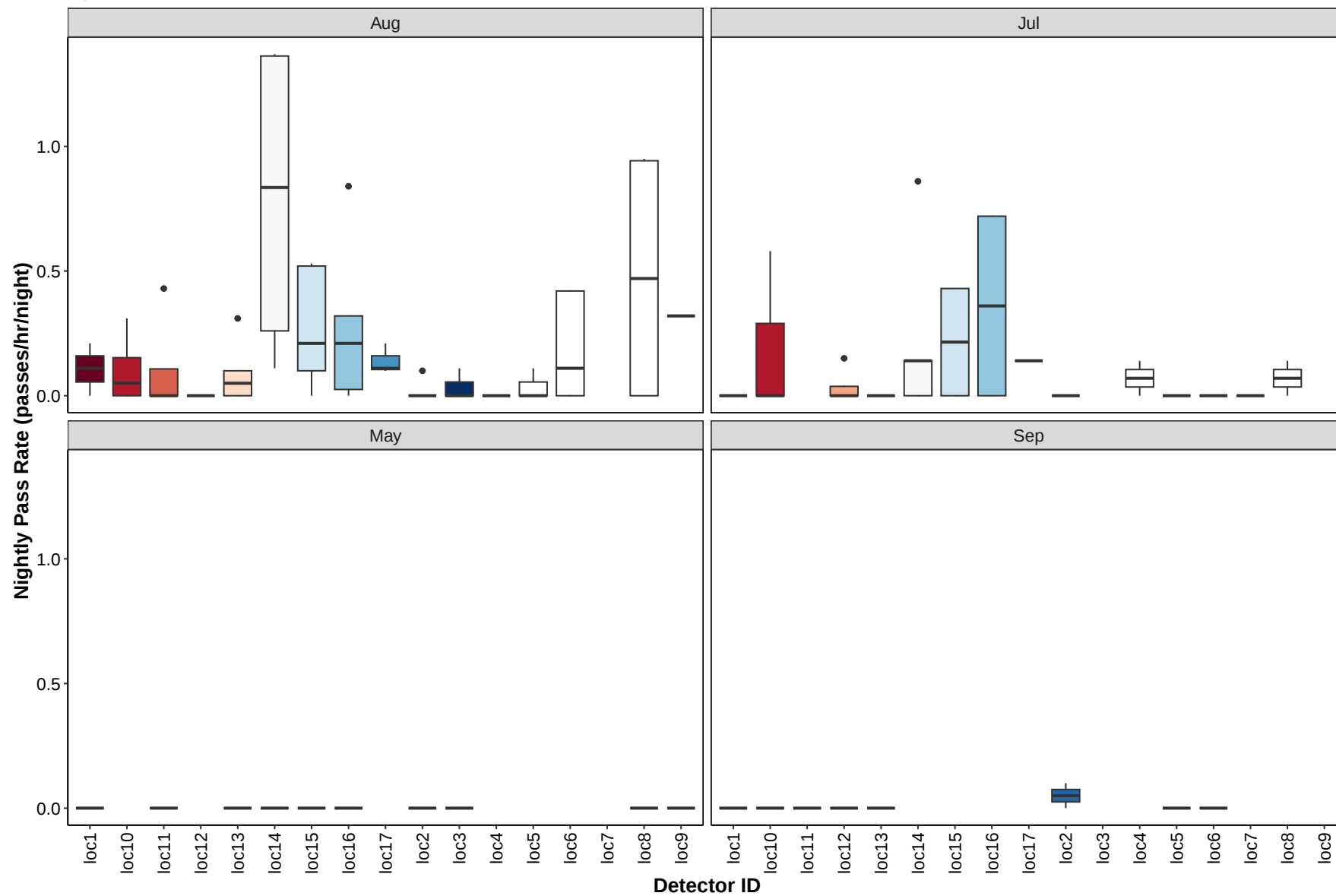
Myotis



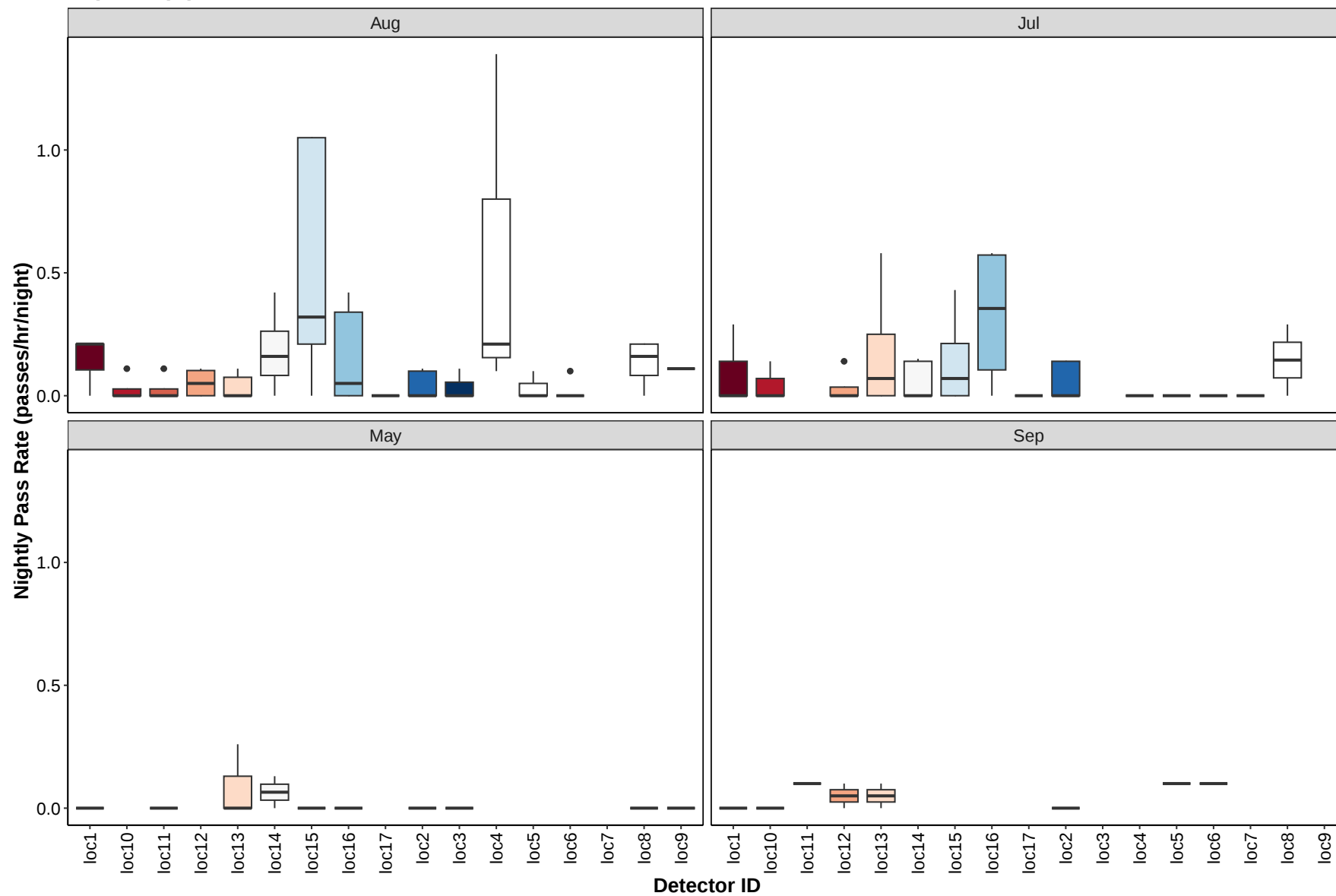
Natterer's



Nyctalus



Soprano pipistrelle



Bat Activity per Detector Location

Figure 18. Detector ID reference:

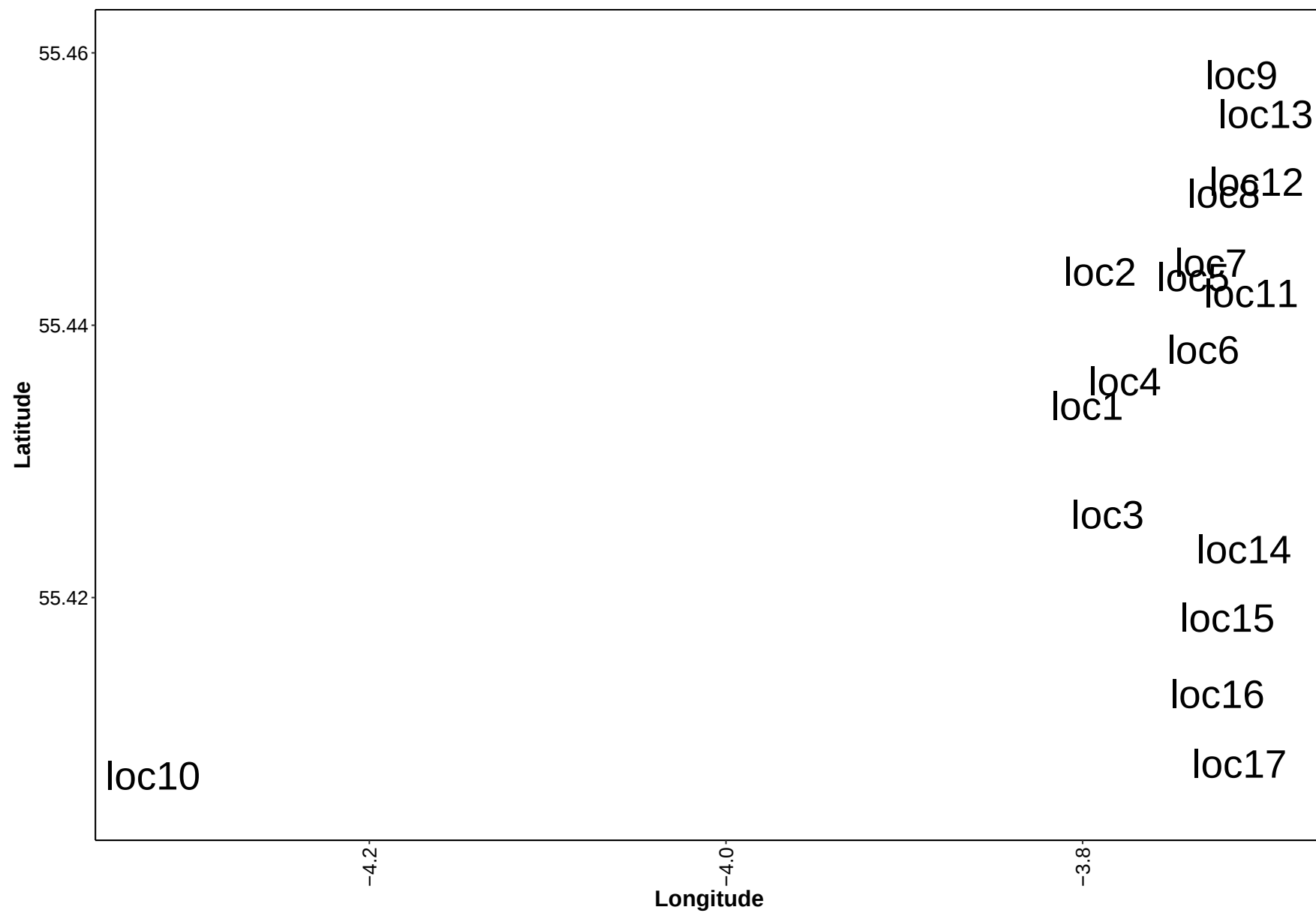
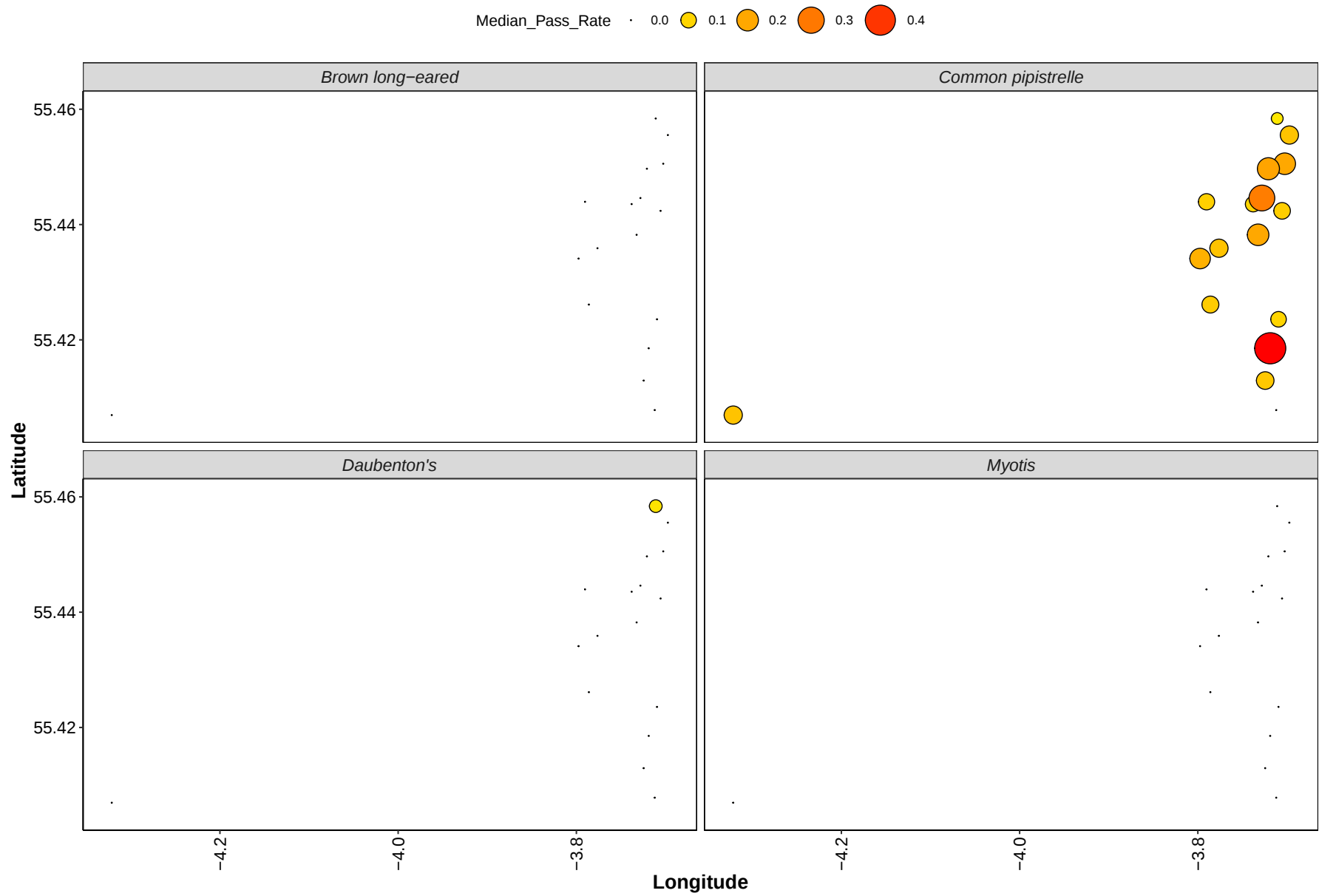


Figure 19. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.



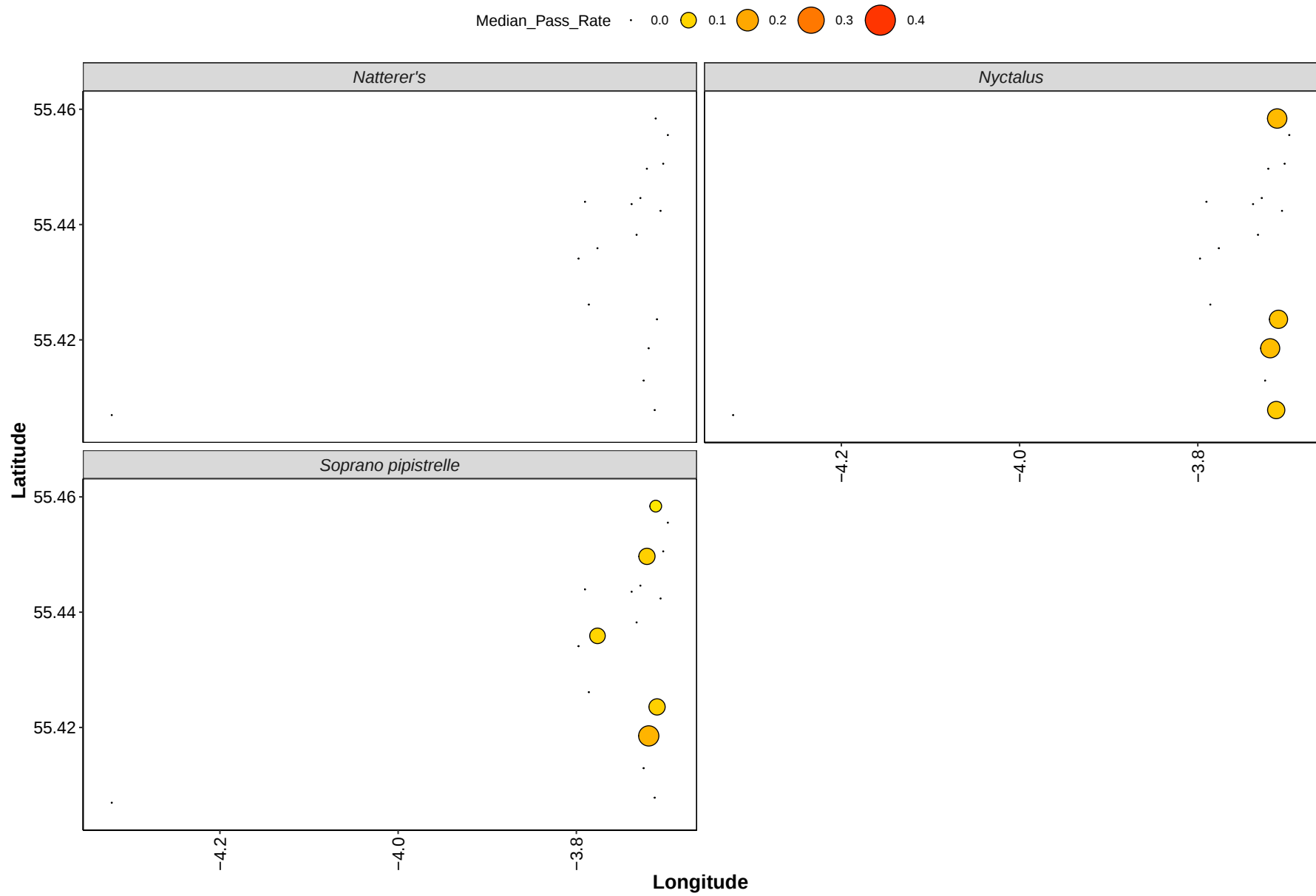
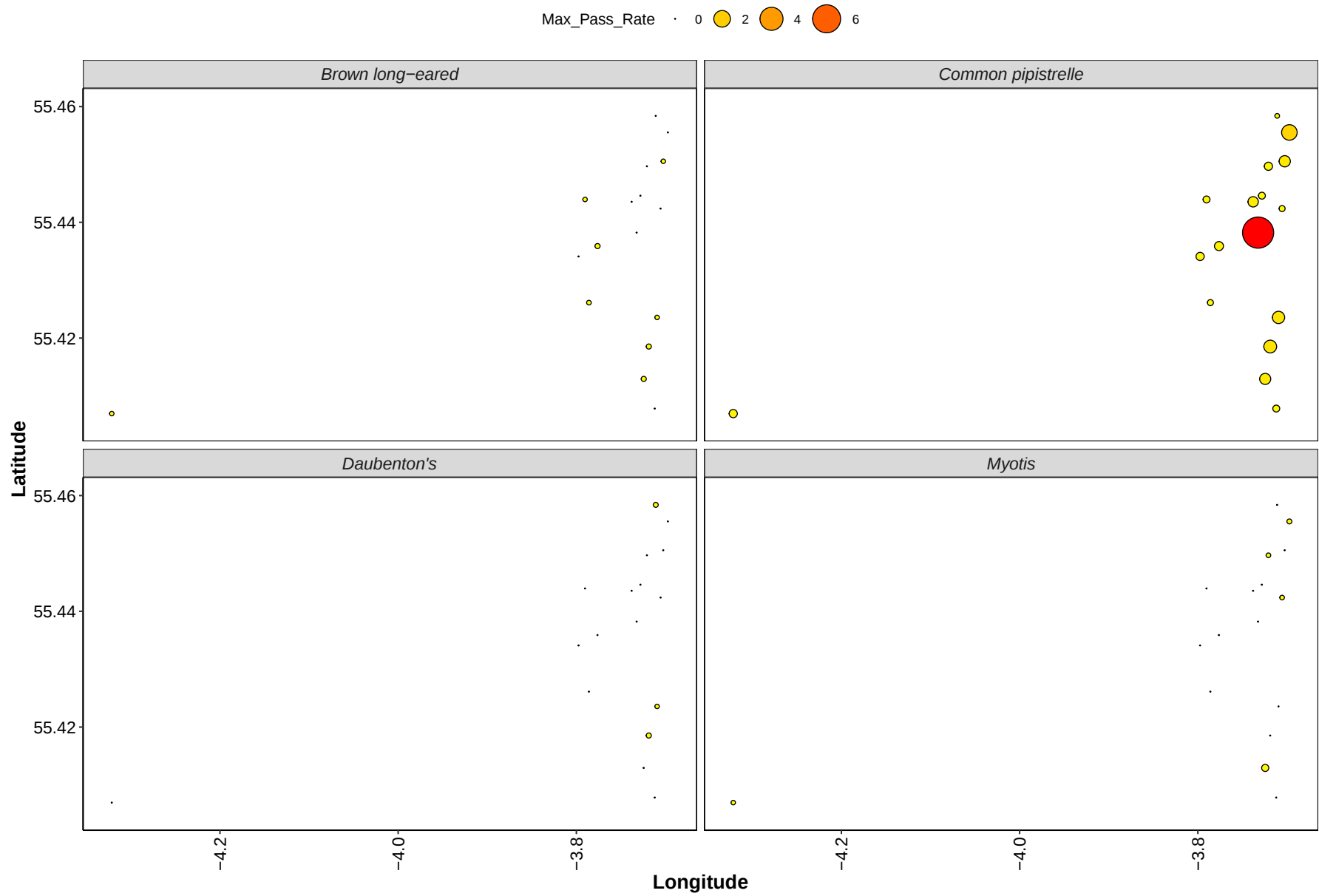
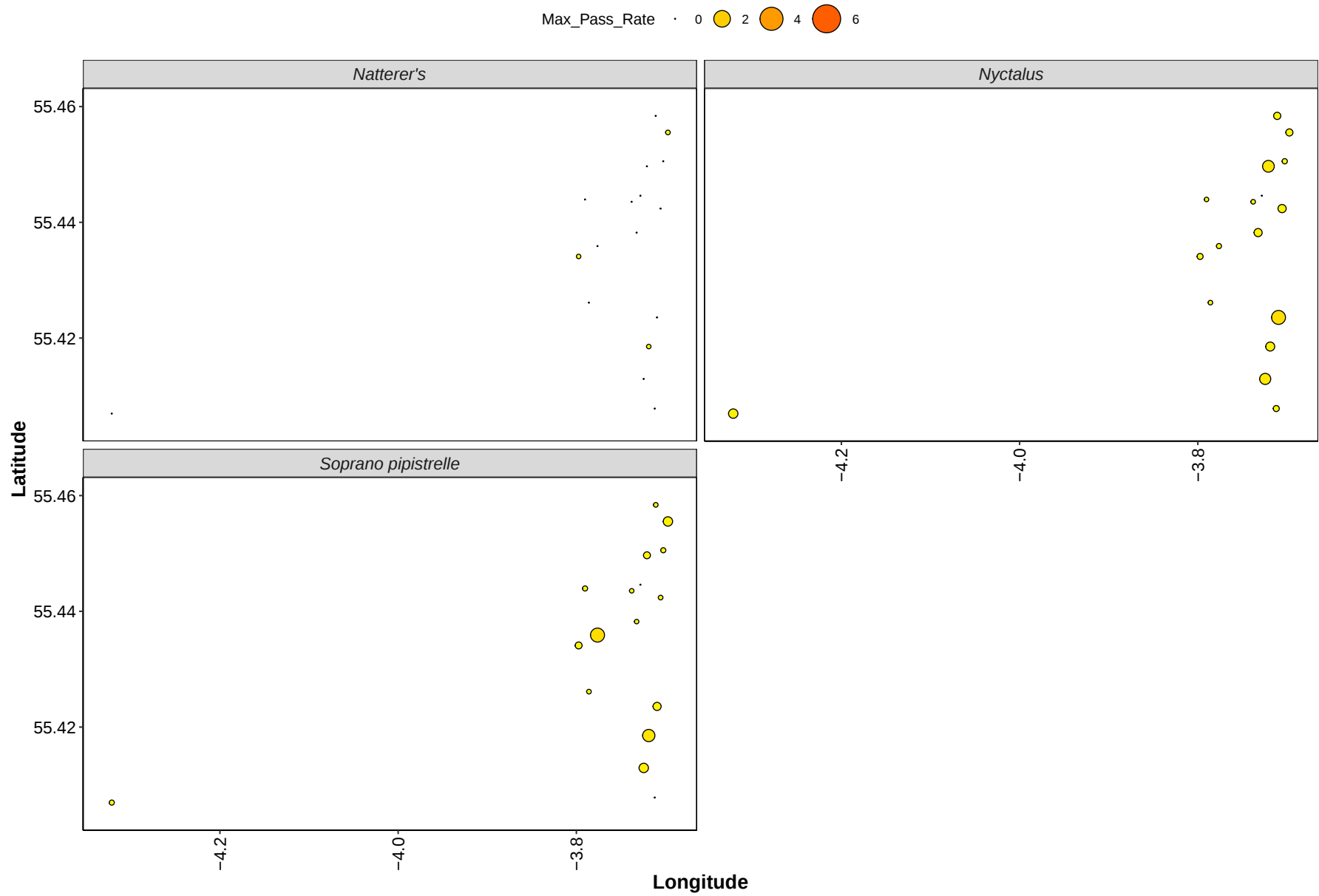


Figure 20. Maximum Nightly Pass Rate (bat passes/hr/night) recorded in a single night throughout the survey period - represented by the size and colour of the point at each detector location.





Thank you for using Ecobat!