Technical Appendix 7.3a

Bat Survey Report

Bat Survey Report

Contents

1.1	Introduction	1
1.2	The Site and Survey Area	1
1.3	Bats and Wind Farms	1
1.4	Methods	2
1.5	Bat Survey Details and Limitations	7
1.6	Survey Results and Analysis	8
1.7	Proximity of Roost Sites Based on Activity Data	13
1.8	References	14
Annex A	Bat Legal Status	15
Annex B	Survey Timings and Anabat Locations	17
Annex C	Initial Site Risk Assessment	18
Annex D	Preliminary Bat Roost Assessment / Daytime Bat Walkover	19
Annex E	Monthly Location Specific Data	20
Annex F	Ecobat Report	25

Figures

Figures 7.6a-f: Bat Survey Area, Anabat Locations & Preliminary Bat Roost Assessment Results

Figures 7.7a-e: Overall Risk Assessment (April – October) 2025 – Common Pipistrelle

Figures 7.8a-e: Overall Risk Assessment (April – October) 2025 – Soprano Pipistrelle

Figures 7.9a-e: Overall Risk Assessment (April – October) 2025 – Nyctalus spp.

Figures 7.10a-e: Overall Risk Assessment (April – October) 2025 – Nathusius' Pipistrelle

This page is intentionally blank.

1 Bat Survey Report

1.1 Introduction

1.1.1 MacArthur Green (now SLR Consulting Limited[1]) was commissioned by the Applicant to carry out bat surveys for the Proposed Development.

1.1.2 Bat surveys included:

- desk study;
- a Preliminary ground level Roost Assessment (PRA) / daytime bat walkover (DBW) (2022, 2024 and 2025); and
- automated activity surveys (2025).

1.1.3 The aim of the surveys was to quantify site usage by bats and variation in bat activity levels within the site, and to inform the ecological impact assessment (refer to **Chapter 7**) for the Environmental Impact Assessment Report (EIA Report) for the Proposed Development.

1.2 The Site and Survey Area

1.2.1 The site is located within the Hagshaw Energy Cluster of wind farms in South Lanarkshire, west of Douglas. The surrounding area comprises open moorland and forestry to the west, north and north-east. To the south-east lies the Douglas Valley through which Douglas Water flows, and the nearby settlements of Douglas and Glespin. The A70 leads from the M74 motorway to the east, linking these settlements, and continues south-west through the Ayr Valley towards Muirkirk. Agricultural holdings extend through the lower-lying Ayr valley to the south of the Proposed Development. The site is made up of a variety of habitats and mosaics, with larger areas of marshy grassland (see **Technical Appendix 7.1**).

1.2.2 The site does not overlap with any statutory or locally designated sites containing bat related qualifying features.

1.2.3 The temporal (Anabat) survey area covered the site and consisted of 10 Anabat deployment locations in 2025, as shown on **Figures 7.6a-f**.

1.2.4 The PRA / DBW survey undertaken during June 2022 and 2024 covered the site, and the June 2025 and November 2025 DBW survey area covered the data gaps created from the design evolution, see **Figures 7.6a-f**. A further detailed inspection of three buildings identified as containing Potential Roost Features (PRFs) were externally and internally surveyed in summer 2025 (see **Technical Appendix 7.3b**).

1.2.5 The Proposed Development and site are fully described within **Chapter 3** of the EIA Report.

1.3 Bats and Wind Farms

Policy and Guidance

1.3.1 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).

1.3.2 Details pertaining to the legal status of bats are included within **Annex A** and **Table 1.12**.

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

1.3.3 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.

1.3.4 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) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd Edition. The Bat Conservation Trust, London[2];
- 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. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. 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*.

1.4 Methods

Desk-Based Study

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

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

Field Survey Methods

Preliminary Roost Assessment (PRA) / Daytime Bat Walkover (DBW)

1.4.3 For the 2022 surveys, the PRA followed the assessment methodology as set out in Collins (2016)[2] to identify any PRFs in trees, buildings and structures, which could support roosting bats and to search for evidence of roosting bats. Where PRFs in trees or structures were identified in 2022, 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 a climbing inspection and/or dusk and dawn bat activity surveys. Collins (2016), state the following descriptions for assessing PRFs:

- Low – A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[3] 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 hibernation[4]).

[2] Methods and analysis followed the 3rd edition of the Bat Conservation Trust survey guidelines as surveys in 2021 were completed before the 4th edition guidelines were published in September 2023.
[3] For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.
[4] 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.

- A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential[5].
- Moderate – A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[3] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments are made irrespective of species conservation status, which is established after presence is confirmed).
- High – A structure or tree 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, conditions[3] and surrounding habitat.

1.4.4 For the 2024 and 2025 surveys, the DBW followed the assessment methodology as set out in Collins (2023), which state the following descriptions for assessing PRFs recorded in trees:

- 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.

1.4.5 Collins (2023) state the following descriptions for assessing PRFs recorded in structures identified in the 2024 and 2025 surveys:

- 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 conditions[3] 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 hibernation[4]).
- Moderate – A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[3] 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, conditions[3] and surrounding habitat. These structures have the potential to support high conservation status roosts.

1.4.6 The PRA / DBW was carried out within the survey areas in 2022, 2024 and 2025, as shown on **Figures 7.6a**.

Automated Activity Surveys

1.4.7 NatureScot *et al*. (2021) 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."*

1.4.8 The site layout at the time of survey in 2025 included 12 proposed wind turbines. A 12-turbine site requires 10 locations to be sampled. The 10 detectors were placed at, or in proximity to, potential wind turbine locations across the site, deployed seasonally (three deployment periods) from April

[5] *This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).*

to October. NatureScot *et al*. (2021) recommends a minimum of 10 consecutive nights of sampling per seasonal deployment. Detector locations are shown on **Figures 7.6a-f**.

1.4.9 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 1.13** of **Annex B**.

1.4.10 The Swift detector was deployed with the following settings:

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

1.4.11 Data was analysed using Kaleidoscope Pro Auto ID classifier which assigns a species label to a sound file (Reason *et al*., 2023). 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 methods (Collins, 2023). Sound files labelled as noise were reviewed. Guidance on call parameters was taken from Russ (2012).

1.4.12 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.

1.4.13 In line with NatureScot *et al*. (2021), further analysis of bat data was carried out using the secure online tool Ecobat (Mammal Society, 2024), to gain a measure of relative bat activity at the site. Ecobat data was then evaluated in accordance with NatureScot *et al*. (2021) 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.

Methods for Analysing Bat Activity Levels and Risks

1.4.14 NatureScot *et al*. (2021) 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);
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.

1.4.15 The following sections outline the methods used in each step.

Step 1: Bat Activity Levels

1.4.16 A measure of relative bat activity was obtained using the secure online tool Ecobat (Mammal Society, 2024) for automated data. NatureScot *et al*. (2021) 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''.*

1.4.17 **Table 1.1** below, taken from NatureScot *et al*. (2021), shows the five percentile categories for ease of reference.

1.4.18 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 1.1 – Percentile Score and Categorised Level of Bat Activity[6]

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)

Step 2: Vulnerability to Collision

1.4.19 Appendix 3 of NatureScot *et al*. (2021) 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 1.2** provides a summary of the vulnerability of each bat species to collision.

Table 1.2 – Vulnerability of Bat Species to Turbine Impact in the UK

Risk of Turbine Impact (Collision Risk)		
Low Risk	**Medium Risk**	**High Risk**
Myotis spp.	Serotine (*Eptesicus serotinus*)	Common pipistrelle (*Pipistrellus pipistrellus*)
Long-eared bats (*Plecotus spp.*)	Barbastelle (*Barbastella barbastellus*)	Soprano pipistrelle (*Pipistrellus pygmaeus*)
Horseshoe bats (*Rhinolophidae spp.*)		Noctule (*Nyctalus noctule*)
		Leisler's bat (*Nyctalus leisleri*)
		Nathusius' pipistrelle (*Pipistrellus nathusii*)

1.4.20 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

[6] *Table sourced from NatureScot, et al. (2021).*

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

Step 3: Population Relative Abundance

1.4.21 NatureScot *et al*. (2021) details the sensitivity of a bat species to impact based on their population's relative abundance in Scotland as detailed in **Table 1.3**. Species with the rarest relative abundance are more susceptible to significant effects.

Table 1.3 – Population Relative Abundance of Bats in Scotland

Relative Abundance	Species
Common	Common pipistrelle
	Soprano pipistrelle
Rarer	Brown long-eared bat (*Plecotus auritus*)
	Daubenton's bat (*Myotis daubentonii*)
	Natterer's bat (*Myotis nattereri*)
Rarest	Whiskered bat (*Myotis mystacinus*)
	Brandt's bat (*Myotis brandtii*)
	Nathusius' pipistrelle
	Noctule bat
	Leisler's bat

Step 4: Potential Vulnerability of Bat Populations

1.4.22 **Table 1.4**, sourced from NatureScot *et al*. (2021), 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 1.4: Level of Potential Vulnerability of Populations of British Bat Species

Scotland	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

Step 5: Categorise the Site Risk Level

1.4.23 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 1.5** to calculate the overall site risk level. The full matrix table, as provided within NatureScot *et al*. (2021), is shown in **Annex C** of this report which includes descriptions on how to determine the habitat risk and project size for the site.

Table 1.5 – Initial Site Risk Assessment

Habitat Risk	Project Size		
	Small	Medium	Large
Low			
Moderate			
High			

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.

Step 6: Risk Assessment

1.4.24 The overall risk assessment is undertaken for high collision risk species identified onsite and involves combining site risk level (**Table 1.5**) with the Ecobat activity level (**Table 1.1**). The overall risk assessment matrix is shown in **Table 1.6** 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 1.6 – 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

Step 7: Assessment of Significance and Mitigation

1.4.25 The outputs of the risk assessment detailed in Step 6 above are then used to assess the significance of effect within the EIA Report. 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.

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

1.5 Bat Survey Details and Limitations

1.5.1 The guidance 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 to May), summer (June to mid-August) and autumn (mid-August to October). Ground-level static surveys were carried out between April and October 2025.

1.5.2 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 ºC in Scotland at dusk, maximum ground level wind speed of 5 m/s and no, or only very light, rainfall)

(NatureScot *et al*., 2021). 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.

1.5.3 The Ecobat analysis automatically analyses data per month and not per season. The results are presented based on analysis per month. The Ecobat report only records to genus level for *Nyctalus* spp.

1.5.4 Due to unforeseen errors with the detectors, microphones or batteries, it was not always possible to achieve 14 consecutive nights of recordings. Two detectors failed to record data for minimum 10 nights during a deployment period (Location 1a in July/August[7] and Location 5 in July/August). A named storm hit on 4 October 2025, bringing very strong winds and heavy rain, that could have caused issues with the detectors at the end of the final survey visit. As the majority of locations recorded for more than 10 nights, with a total of 381 complete nights recorded which is beyond the minimum number of nights taking into account the required scope of the survey in line with NatureScot (2021) guidance (8 Anabats * 10 nights * 3 seasonable deployments = 240 nights of data), 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 C**, **Table 1.13.**

1.5.5 Locations 1, 2 and 3 were moved to Locations 1a, 2a and 3a for the second and third visit (July/August[7] and September/October[8]) due to a change in the Proposed Development design. Location 9 was moved to Location 9a only for the second visit due to missing equipment on site.

1.5.6 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.

1.6 Survey Results and Analysis

Desk-Based Study

1.6.1 The NBN Atlas data search (NBN Atlas Scotland, 2025) returned records of the following bat species and genus within 10 km of the site between 2010 - 2025 inclusive:

- common pipistrelle;
- Daubenton's bat;
- Leisler's bat;
- *Myotis* spp.;
- Natterer's bat; and
- soprano pipistrelle.

1.6.2 Details regarding licences and data providers for these records are included in **Table 1.7**.

Table 1.7 – Data Providers for NBN Atlas Scotland Records Used

Species	Data Provider	Licence
Common pipistrelle	NatureScot (Southern Scotland Bat Survey, Garry Nixon)	OGL[9]
Daubenton's bat	Bat Conservation Trust (Southern Scotland Bat Survey, Karen Dobbins) Scottish Wildlife Trust (Alex Kekewich, Laura Whitfield)	OGL

[7] Summer visit was deployed over July and August.
[8] Autumn visit was deployed over September and October.
[9] Open Government Licence (OGL). Available at: https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/.

Species	Data Provider	Licence
		CC-BY[10]
Leisler's bat	NatureScot (Southern Scotland Bat Survey)	OGL
Myotis spp.	NatureScot (Southern Scotland Bat Survey)	OGL
Natterer's bat	NatureScot (Southern Scotland Bat Survey)	OGL
Soprano pipistrelle	NatureScot (Southern Scotland Bat Survey, Colin Dunlop), Bat Conservation Trust (Karen Dobbins) Scottish Wildlife Trust (Adam Jones, Laura Whitfield)	OGL CC-BY

Preliminary Roost Assessment / Daytime Bat Walkover

1.6.3 The PRA / DBW survey was undertaken in June 2022 and 2024, with data gaps surveyed in June and November 2025 as per **Section 1.2**. Dawn and dusk emergence/re-entry surveys were undertaken at two trees in 2023, with no bats recorded. In July 2025, further detailed inspections of three buildings identified as containing PRFs, were carried out (see **Technical Appendix 7.3b**). Associated PRF records are shown on **Figures 7.6a-f** and detailed in **Table 1.15**, **Annex D.**

1.6.4 Six features (i.e., one structure (collection of three buildings) and five trees) were recorded which contained potential suitability for roosting bats within the respective survey area. Potential roosting suitability was classified as high (structure) and PRF-I or PRF-M (trees); see **Figures 7.6a-f** and **Table** 1.15, **Annex D**.

1.6.5 The structure (farmhouse and outbuildings) that was recorded as having high suitability fell within 200 m of a potential turbine location, and was therefore subjected to further detailed inspection surveys, fully detailed in **Technical Appendix 7.3b**. Three buildings (farmhouse, farm outbuilding and shed) were assessed further to determine the presence of bats. The shed was confirmed as a bat roost due to the presence of bat droppings. No bat signs were recorded at the farmhouse, but anecdotal evidence of a bat being present in 2024, suggest this building may support low numbers of roosting bats.

Automated Activity Surveys

1.6.6 MacArthur Green (now SLR[1]) deployed detectors at 10 locations within the site from April to October in 2025 over a total period of 42 days and collecting 381 complete recording nights of data, see **Table 1.13** of **Annex A** and **Figures 7.6a-f**.

1.6.7 Between April to October, bats were detected on 35 of the 42 nights. A total of seven bat species and one genus classification were recorded for these locations. The total number of passes recorded for each species across all the detectors within the site is shown below in **Table 1.8.**

Table 1.8: Total Number of Bat Passes for Each Species Across all Locations

Species/Species Group	No of Registrations	Percentage of total (%)
Soprano pipistrelle	952	38.7
Common pipistrelle	1,176	47.8
Nathusius' pipistrelle	4	0.2
Nyctalus spp.	125	5.1
Daubenton's	144	5.9
Whiskered	18	0.7
Natterer's	29	1.2

[10] *Creative Commons with Attribution 4.0 (CC-BY). Available at: https://creativecommons.org/licenses/by/4.0/.*

Species/Species Group	No of Registrations	Percentage of total (%)
Brown long-eared	11	0.4
Total	**2,459**	**100**

1.6.8 The survey results were processed using the Ecobat tool (Mammal Society, 2024) 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.

Step 1: Bat Activity Levels

Average Annual Site Activity Levels

1.6.9 **Table 1.9** and **Chart 1** detail the average annual site activity levels calculated using the Ecobat tool (Mammal Society, 2024).

1.6.10 The median percentile represents the most frequent activity category and the 'typical' bat activity levels in 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 1.9 – Average Annual Site Activity Levels (taken from Ecobat Analysis[11])

Species/ Group	Median Percentile	Activity Level	95 % CIs*	Max Percentile	Activity Level	Reference Range	Nights Recorded
Daubenton's	5	Low	5-5	84	High	830	51
Whiskered	61	Moderate-High	61-61	100	High	18	11
Natterer's	33	Low-Moderate	24.5-44.5	56	Moderate	223	19
Nyctalus spp.	2	Low	3.5-6	41	Moderate	3,826	41
Nathusius' pipistrelle	100	High	0	100	High	4	4
Common pipistrelle	1	Low	5-12	14	Low	38,746	138
Soprano pipistrelle	0	Low	4-10	12	Low	41,411	137
Brown long-eared	53	Moderate	76.5-76.5	100	High	126	8

**Cis: confidence intervals.*

[11] *Taken from Ecobat analysis report created on 17 November 2025 from static activity data of the site in 2025 – see **Annex F** Ecobat Report.*

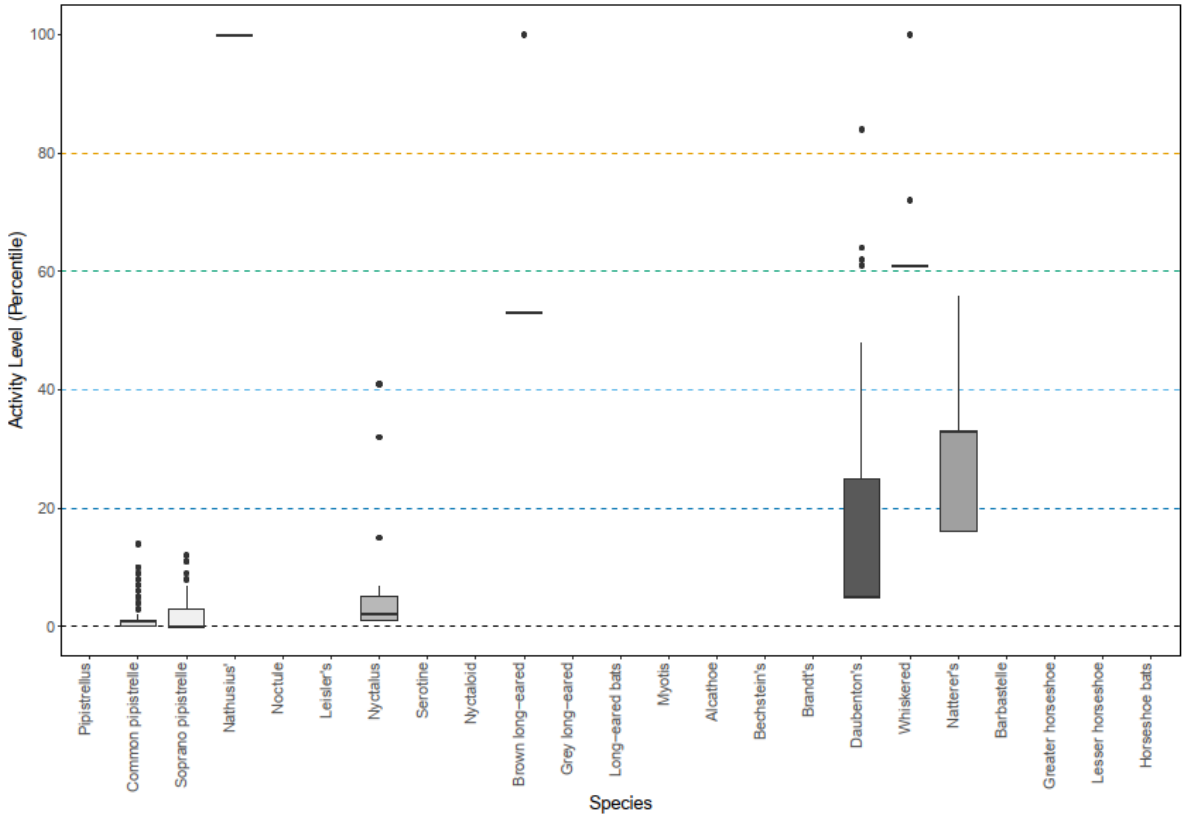


Chart 1: Average Annual Site Activity Levels

Monthly Location Specific Activity Levels

1.6.11 Data on the monthly activity levels per location is provided in **Table1.16** of **Annex E**.

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

1.6.12 **Table 1.10** details the collision risk, population relative abundance and potential vulnerability of the bat species recorded within the site.

Table 1.10 – 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
Nathusius' pipistrelle	High	Rarest	High
Nyctalus spp.	High	Rarest	High
Natterer's	Low	Rarer	Low
Daubenton's	Low	Rarer	Low
Whiskered	Low	Rarest	Medium
Brown long-eared	Low	Rarer	Low

Step 5: Categorising Site Risk Level

1.6.13 The site risk level is determined by project size and habitat risk (see **Table 1.5**). The site consists of eight wind turbines that are over 50 m in height, and so falls within the 'Medium' project size, as shown in **Table 1.5** and of **Table1.14, Annex C**.

1.6.14 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 of wind turbines. Foraging habitat quality and connectivity within this buffer area is low with connectivity of the site and the wider landscape being relatively isolated, resulting in a habitat risk classification of 'Low' as shown in **Table** 1.5 and **Table1.14** of **Annex C**.

1.6.15 According to **Table 1.5** above, the 'Medium' project size combined with a 'Low' habitat risk level results in an overall site risk assessment of 'Low' (2).

Step 6: Risk Assessment – High Collision Risk Species Only

1.6.16 The overall risk assessment is undertaken for high collision risk species which were identified 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.

1.6.17 The overall risk assessment involves multiplying the site's risk level (**Table 1.5**) with the median and the maximum Ecobat activity levels (**Table 1.1**) to calculate both the typical (median) site risk level, and the maximum site risk level (**Table 1.6**).

1.6.18 **Table 1.11** 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 percentile were 'Low' (2) to 'Medium' (10), while the overall site risk score based on the maximum percentiles were 'Low' (2) to 'Medium' (6-10).

Table 1.11 – 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)
Nathusius' pipistrelle	Medium (10)	Medium (10)
Nyctalus spp.	Low (2)	Medium (6)

1.6.19 **Figures 7.7** – **7.10** 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 varies within the site across the year and by species. This data is also presented in **Table1.16** 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.

Common Pipistrelle

1.6.20 As shown in **Figure 7.7a-e**, analysis of the risk assessment scores for common pipistrelle, when based on the median percentile, indicate consistent levels of activity across the majority of survey locations throughout the year, with all locations as having a risk assessment score of 2 (i.e., Low overall risk) or 0 (i.e., no activity[12] or no data[13]) in each survey visit. There were no peaks in bat activity as the highest risk assessment score for common pipistrelle was recorded as Low risk (2).

[12] *No bat calls were recorded during the deployment visit.*
[13] *As noted in **section 1.5**, no data was recorded from a detector failure.*

Soprano Pipistrelle

1.6.21 As shown in **Figure 7.8a-e**, analysis of the risk assessment scores for soprano pipistrelle, when based on the median percentile, indicate consistent levels of 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[12] or no data[13]) in each survey visit. Similarly to common pipistrelle, there were no peaks in bat activity with the highest risk assessment score for soprano pipistrelle was recorded as Low risk (2).

Nyctalus spp.

1.6.22 As shown in **Figure 7.9a-e**, analysis of the risk assessment scores for *Nyctalus* spp., when based on the median percentile, indicate quite consistent levels of activity across the majority of survey locations throughout the year, with all locations having a risk assessment score of 2 or 4 (Low overall risk) or 0 (no activity[12] or no data[13]) in each survey visit. The highest risk assessment score for *Nyctalus* spp., was recorded at Location 10 in August (Low risk (4); and Medium risk (6) when looking at maximum percentile, **Table1.16**).

1.6.23 Location 10 was situated in approximately 100 m from Robshill burn, and in proximity to a number of manmade drainage ditches; bats are known to use watercourses as they provide foraging opportunities.

Nathusius' Pipistrelle

1.6.24 As shown in **Figure 7.10a-e**, the majority of the survey locations recorded no Nathusius' pipistrelle activity throughout the visits. Locations 1a and 5 recorded no data in July and August[7]. Peaks in bat activity throughout the three visits with a risk assessment score of 10 were recorded at Locations 4 in August and at Locations 1a, 2a and 8 in September, indicating Medium risk. Although these locations recorded a Medium risk assessment based on the median (and maximum) percentile, the reference range for Nathusius' pipistrelle was 4 (see **Table 1.9**). For a reliable result a reference range of 200 and above is recommended, therefore the result is treated with caution, particularly in light of the low number of Nathusius' pipistrelle registrations actually recorded as per **Table 1.8** (i.e., only 4 registrations (over 381 data nights) and 0.2 % of total bat passes).

1.6.25 Locations 1a, 2a, 4 and 8 were all situated close to a watercourse with foraging resources.

Summary

1.6.26 In summary, the site risk level for the high collision risk species recorded is normally Low, with many instances of no activity (as per **Figures 7.7 – 7.10**). Medium risk assessment scores were rare, with no High risk scores being attributable to the high collision risk bat species.

1.7 Proximity of Roost Sites Based on Activity Data

1.7.1 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 64 to 79 of the Ecobat report in **Annex F**.

1.7.2 Bat activity at Locations 1a, 2a, 5 – 10 and 9a indicated the potential for nearby roost sites which recorded bat species during their known emergence time ranges, as detailed in **Annex F**. The number of bat call registrations ranged from 1 – 9. The peak was recorded in August which is out with the maternity roost season (15 June to 30 July, inclusive). No bat passes were recorded for a potential nearby roost sites during the maternity roost season (see pages 80 to 87 of the Ecobat report in **Annex F**).

1.7.3 As per the results of the PRA / DBW in **Section 1.6** and further surveys reported in **Technical Appendix 7.3b**, only a minimal number of potential features suitable for roosting bats were recorded within the site.

1.8 References

Literature

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) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd Edition. The Bat Conservation Trust, London;

Collins, J. (ed) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th Edition. The Bat Conservation Trust, London. ISBN-978-1-7395126-0-6.

Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats.* Chartered Institute of Ecology and Environmental Management, Ampfield.

Russ, J. (2012). *British Bat Calls*: *A Guide to species Identification*. Pelagic Publishing.

Website

Bat Conservation Trust (2026). *Planning and the Law*. Available at: https://www.bats.org.uk/our-work/buildings-planning-and-development/planning-and-the-law. Accessed on: 6 February 2026.

Mammal Society (2024). *Bat survey tools — Ecobat*. Available at: https://mammal.org.uk/current-research/bat-survey-tools. Accessed on: 14 January 2026.

Guidance

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*.

NatureScot (2023). *Protected species: bats.* Available at: https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species/protected-species-z-guide/protected-species-bats. Accessed on: 14 January 2026.

Annex A Bat Legal Status

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

1.8.2 All bat species receive protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)[14].

1.8.3 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.

1.8.4 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 1994 (NatureScot, 2023).

[14] *Sections 39(1) – (3).*

Table 1.12 – Legal and Conservation Status of all UK Bats[15]

Species	Legislation / Convention													
	Bern Convention Appendix II	Bonn Convention Appendix II	WCA	Habitats Directive Annex IV	Habitats Directive Annex II	Habs Regs 1994 (as amended) *Scotland*	Conservation of Habs & Species Regs 2010	Conservation Regs (N 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.

[15] *Source: Bat Conservation Trust, 2026.*

Annex B Survey Timings and Anabat Locations

Table 1.13 – Description of Anabat Locations and Summary of Temporal Survey Effort

Location	Easting	Northing	Bearing	Habitat	Total Number of Complete Recording Nights		
					Visit 1 14/04/2025 – 28/04/2025	Visit 2 30/07/2025 – 13/08/2025	Visit 3 23/09/2025 – 07/10/2025
1	278250	630425	230	Open moorland (outwith Proposed Development)	14	-	-
1a	279818	629232	210	Open moorland and within 74 m of tributary of Douglas Water	-	0	14
2	278430	629938	230	Open moorland (outwith Proposed Development)	14	-	-
2a	280783	630132	340	Open moorland	-	14	11
3	280234	631014	340	Open moorland (outwith Proposed Development)	14	-	-
3a	281338	630511	40	Open moorland	-	14	12
4	280583	630684	100	Open moorland and within 170 m of Robshill Burn	14	14	14
5	280480	630086	90	Open moorland	14	0	10
6	280416	629570	20	Open moorland and within 110 m of Windrow Burn	14	14	14
7	280860	631266	25	Open moorland and within 180 m of plantation	14	14	14
8	281285	631035	25	Open moorland and within 188 m of Broadlea Burn	14	14	12
9	280979	630414	110	Open moorland and within 108 m of Robshill Burn	14	-	14
9a	281093	630411	90	Adjacent to Robshill Burn	-	14	-
10	281044	629873	150	Open moorland and within 121 m of Robshill Burn	14	14	14
Total					**381**		

Annex C Initial Site Risk Assessment

Table1.14 – Initial Site Risk Assessment[16]

Site Risk Level (1-5)[17]		Project Size		
		Small	**Medium**	**Large**
Habitat Risk	**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

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.

[16] *Sourced from: NatureScot et al., 2021.*

[17] *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.*

Annex D Preliminary Bat Roost Assessment / Daytime Bat Walkover

Table 1.15 – Preliminary Bat Roost Assessment / Daytime Bat Walkover Target Notes[18]

PRF_ID	Feature	Survey Date	Notes	Roosting Suitability	Easting	Northing
PS008	Tree	13/06/2022, 20-21/07/2023 & 14-15/08/2023	13/06/2022: a mature single beech tree by Windrow Burn. A large upward-facing crack around 2 m from ground where a bough has broken off and several rot holes higher up of moderate potential. 20-21/07/2023 & 14-15/08/2023: Dawn and dusk emergence/re-entry surveys were conducted at this location. No bats were recorded using the tree as a roost; suitability was reassessed as PRF-I.	PRF-I	280590	629523
PS009	Tree	13/06/2022, 20-21/07/2023 & 14-15/08/2023	13/06/2022: a mature single ash next to PS008. Upward-facing crack where a bough has fallen off and several rot holes of moderate potential. 20-21/07/2023 & 14-15/08/2023: Dawn and dusk emergence/re-entry surveys were conducted at this location. No bats were recorded using the tree as a roost; suitability was reassessed as PRF-I.	PRF-I	280592	629507
PS010	Structure	13/06/2022	Farmhouse and outbuildings. Farmhouse at Low Broomerside with old slate roof with several visible gaps under slates around roof ridge and flashing. Was not inspected very closely as it was an occupied private property. Some roosting potential also within the roof structure of the garage/outbuilding associated with the property.	High (see **Technical Appendix 7.3b** for further details)	279658	629156
PS038	Tree	14/11/2025	Broadleaf woodland and conifers, Scots pine and sycamore; some alive, some dead and decaying. Small holes in trunks, woodpecker holes, small cavities. 8-10 m up in most cases.	PRF-I	281617	629610
PS039	Tree	14/11/2025	Ash (alive) with features exposed to weather - water running out of cavity. Decay, storm damage, loose bark, open cavities in crown limb. 2.5-3 m up.	PRF-I	281837	630220
PS040	Tree	14/11/2025	Beech (alive) - large cavity in crown, limb delamination, snag, basal cavity	PRF-M	282516	630619

[18] *Excluding targeted surveys detailed in **Technical Appendix 7.3b**.*

Annex E Monthly Location Specific Data

Table1.16 – 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
l1	*Nyctalus* spp.	Apr	1	Low	1	Low	2	2	Low	2	Low
l10	*Nyctalus* spp.	Jul	2	Low	2	Low	2	2	Low	2	Low
l10	*Nyctalus* spp.	Aug	24	Low-Moderate	41	Moderate	2	4	Low	6	Medium
l10	*Nyctalus* spp.	Sep	1	Low	1	Low	2	2	Low	2	Low
l10	*Nyctalus* spp.	Oct	4	Low	4	Low	2	2	Low	2	Low
l10	Common pipistrelle	Jul	6	Low	7	Low	2	2	Low	2	Low
l10	Common pipistrelle	Aug	1	Low	8	Low	2	2	Low	2	Low
l10	Common pipistrelle	Sep	0	Low	1	Low	2	2	Low	2	Low
l10	Common pipistrelle	Oct	0	Low	0	Low	2	2	Low	2	Low
l10	Soprano pipistrelle	Apr	0	Low	0	Low	2	2	Low	2	Low
l10	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
l10	Soprano pipistrelle	Aug	1	Low	4	Low	2	2	Low	2	Low
l10	Soprano pipistrelle	Sep	0	Low	1	Low	2	2	Low	2	Low
l1a	Nathusius's pipistrelle	Sep	100	High	100	High	2	10	Medium	10	Medium
l1a	Common pipistrelle	Sep	1	Low	1	Low	2	2	Low	2	Low
l1a	Common pipistrelle	Oct	1	Low	1	Low	2	2	Low	2	Low
l1a	Soprano pipistrelle	Sep	0	Low	1	Low	2	2	Low	2	Low
l1a	Soprano pipistrelle	Oct	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
l2a	*Nyctalus* spp.	Aug	2	Low	2	Low	2	2	Low	2	Low
l2a	Nathusius's pipistrelle	Sep	100	High	100	High	2	10	Medium	10	Medium
l2a	Common pipistrelle	Jul	1	Low	1	Low	2	2	Low	2	Low
l2a	Common pipistrelle	Aug	1	Low	5	Low	2	2	Low	2	Low
l2a	Common pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
l2a	Soprano pipistrelle	Aug	0	Low	3	Low	2	2	Low	2	Low
l2a	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
l3	Common pipistrelle	Apr	0	Low	0	Low	2	2	Low	2	Low
l3a	*Nyctalus* spp.	Aug	1	Low	1	Low	2	2	Low	2	Low
l3a	Common pipistrelle	Jul	1	Low	1	Low	2	2	Low	2	Low
l3a	Common pipistrelle	Aug	0	Low	9	Low	2	2	Low	2	Low
l3a	Common pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
l3a	Soprano pipistrelle	Jul	2	Low	2	Low	2	2	Low	2	Low
l3a	Soprano pipistrelle	Aug	2	Low	7	Low	2	2	Low	2	Low
l3a	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
l4	*Nyctalus* spp.	Aug	5	Low	6	Low	2	2	Low	2	Low
l4	Nathusius's pipistrelle	Aug	100	High	100	High	2	10	Medium	10	Medium
l4	Common pipistrelle	Jul	1	Low	1	Low	2	2	Low	2	Low
l4	Common pipistrelle	Aug	1	Low	2	Low	2	2	Low	2	Low
l4	Common pipistrelle	Sep	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
l4	Soprano pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
l4	Soprano pipistrelle	Aug	0	Low	1	Low	2	2	Low	2	Low
l4	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
l4	Soprano pipistrelle	Oct	0	Low	0	Low	2	2	Low	2	Low
l5	*Nyctalus* spp.	Apr	1	Low	1	Low	2	2	Low	2	Low
l5	Common pipistrelle	Sep	0	Low	4	Low	2	2	Low	2	Low
l5	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
l6	*Nyctalus* spp.	Aug	4	Low	7	Low	2	2	Low	2	Low
l6	Common pipistrelle	Jul	0	Low	0	Low	2	2	Low	2	Low
l6	Common pipistrelle	Aug	0	Low	1	Low	2	2	Low	2	Low
l6	Common pipistrelle	Sep	0	Low	1	Low	2	2	Low	2	Low
l6	Common pipistrelle	Oct	1	Low	1	Low	2	2	Low	2	Low
l6	Soprano pipistrelle	Apr	0	Low	0	Low	2	2	Low	2	Low
l6	Soprano pipistrelle	Aug	1	Low	2	Low	2	2	Low	2	Low
l6	Soprano pipistrelle	Sep	1	Low	1	Low	2	2	Low	2	Low
l6	Soprano pipistrelle	Oct	2	Low	2	Low	2	2	Low	2	Low
l7	*Nyctalus* spp.	Aug	1	Low	1	Low	2	2	Low	2	Low
l7	Common pipistrelle	Apr	0	Low	0	Low	2	2	Low	2	Low
l7	Common pipistrelle	Jul	3	Low	5	Low	2	2	Low	2	Low
l7	Common pipistrelle	Aug	4	Low	5	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
l7	Common pipistrelle	Sep	1	Low	1	Low	2	2	Low	2	Low
l7	Soprano pipistrelle	Apr	0	Low	0	Low	2	2	Low	2	Low
l7	Soprano pipistrelle	Jul	6	Low	8	Low	2	2	Low	2	Low
l7	Soprano pipistrelle	Aug	2	Low	11	Low	2	2	Low	2	Low
l7	Soprano pipistrelle	Sep	0	Low	0	Low	2	2	Low	2	Low
l8	*Nyctalus* spp.	Aug	3	Low	4	Low	2	2	Low	2	Low
l8	Nathusius's pipistrelle	Sep	100	High	100	High	2	10	Medium	10	Medium
l8	Common pipistrelle	Apr	0	Low	0	Low	2	2	Low	2	Low
l8	Common pipistrelle	Jul	1	Low	1	Low	2	2	Low	2	Low
l8	Common pipistrelle	Aug	2	Low	9	Low	2	2	Low	2	Low
l8	Common pipistrelle	Sep	0	Low	2	Low	2	2	Low	2	Low
l8	Soprano pipistrelle	Apr	0	Low	0	Low	2	2	Low	2	Low
l8	Soprano pipistrelle	Jul	3	Low	5	Low	2	2	Low	2	Low
l8	Soprano pipistrelle	Aug	4	Low	9	Low	2	2	Low	2	Low
l8	Soprano pipistrelle	Sep	0	Low	5	Low	2	2	Low	2	Low
l8	Soprano pipistrelle	Oct	0	Low	0	Low	2	2	Low	2	Low
l9	Common pipistrelle	Apr	0	Low	0	Low	2	2	Low	2	Low
l9	Common pipistrelle	Sep	1	Low	1	Low	2	2	Low	2	Low
l9	Common pipistrelle	Oct	0	Low	0	Low	2	2	Low	2	Low
l9	Soprano pipistrelle	Sep	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
l9	Soprano pipistrelle	Oct	1	Low	1	Low	2	2	Low	2	Low
l9a	*Nyctalus* spp.	Jul	1	Low	1	Low	2	2	Low	2	Low
l9a	*Nyctalus* spp.	Aug	3	Low	6	Low	2	2	Low	2	Low
l9a	Common pipistrelle	Jul	8	Low	10	Low	2	2	Low	2	Low
l9a	Common pipistrelle	Aug	10	Low	14	Low	2	2	Low	2	Low
l9a	Soprano pipistrelle	Jul	7	Low	8	Low	2	2	Low	2	Low
l9a	Soprano pipistrelle	Aug	7	Low	12	Low	2	2	Low	2	Low

Annex F Ecobat Report

Ecobat Report

2025-11-17

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

Summary

Bats were detected on **35** nights between **15/04/2025** and **06/10/2025**, using **13** static bat detectors. Throughout this period, **8** species were recorded. **Table 1.** Detectors were placed at the following locations:

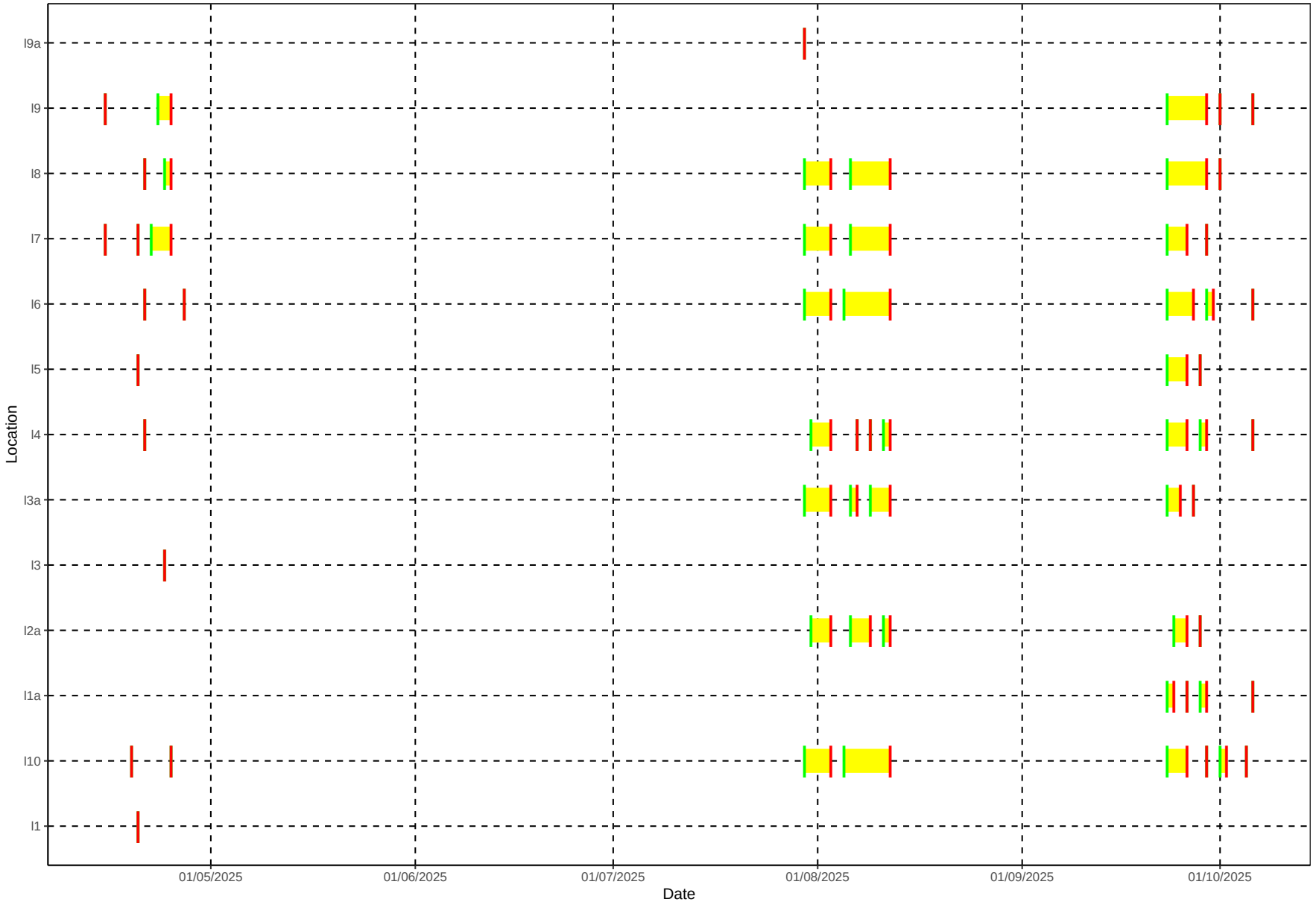
Detector ID	Latitude	Longitude
I1	55.55227	-3.931510
I5	55.54978	-3.896036
I10	55.54801	-3.887010
I2a	55.55027	-3.891256
I3a	55.55381	-3.882627
I4	55.55518	-3.894662
I6	55.54513	-3.896826
I7	55.56047	-3.890525
I8	55.55850	-3.883691
I9a	55.55285	-3.886465
I1a	55.54195	-3.906151
I9	55.55285	-3.888272
I3	55.55805	-3.900335

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
l1	1
l10	24
l1a	6
l2a	15
l3	1
l3a	17
l4	16
l5	7
l6	23
l7	23
l8	23
l9	13
l9a	14

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


Location
l9a
l9
l8
l7
l6
l5
l4
l3a
l3
l2a
l1a
l10
l1
01/05/2025
01/06/2025
01/07/2025
01/08/2025
01/09/2025
01/10/2025
Date

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
l1	Nyctalus	0	0	0	0	0	1
l10	Myotis daubentonii	0	0	0	0	0	6
l10	Myotis mystacinus	0	0	0	1	0	0
l10	Myotis nattereri	0	0	0	0	0	1
l10	Nyctalus	0	0	0	2	1	7
l10	Pipistrellus pipistrellus	0	0	0	0	0	17
l10	Pipistrellus pygmaeus	0	0	0	0	0	16
l10	Plecotus auritus	0	0	0	1	0	0
l1a	Myotis daubentonii	0	0	0	0	0	2
l1a	Myotis mystacinus	0	0	1	0	0	0
l1a	Myotis nattereri	0	0	0	0	0	1
l1a	Pipistrellus nathusii	1	0	0	0	0	0
l1a	Pipistrellus pipistrellus	0	0	0	0	0	5
l1a	Pipistrellus pygmaeus	0	0	0	0	0	4
l2a	Myotis nattereri	0	0	0	0	0	1
l2a	Nyctalus	0	0	0	0	0	3
l2a	Pipistrellus nathusii	1	0	0	0	0	0
l2a	Pipistrellus pipistrellus	0	0	0	0	0	11

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
l2a	Pipistrellus pygmaeus	0	0	0	0	0	10
l2a	Plecotus auritus	0	0	0	2	0	0
l3	Pipistrellus pipistrellus	0	0	0	0	0	1
l3a	Myotis daubentonii	0	0	0	0	0	2
l3a	Myotis mystacinus	0	0	0	1	0	0
l3a	Nyctalus	0	0	0	0	0	3
l3a	Pipistrellus pipistrellus	0	0	0	0	0	11
l3a	Pipistrellus pygmaeus	0	0	0	0	0	15
l3a	Plecotus auritus	1	0	0	1	0	0
l4	Myotis daubentonii	0	0	0	0	0	9
l4	Myotis nattereri	0	0	0	0	3	2
l4	Nyctalus	0	0	0	0	0	4
l4	Pipistrellus nathusii	1	0	0	0	0	0
l4	Pipistrellus pipistrellus	0	0	0	0	0	9
l4	Pipistrellus pygmaeus	0	0	0	0	0	10
l4	Plecotus auritus	0	0	0	1	0	0
l5	Myotis daubentonii	0	0	0	0	0	1
l5	Nyctalus	0	0	0	0	0	1
l5	Pipistrellus pipistrellus	0	0	0	0	0	5
l5	Pipistrellus pygmaeus	0	0	0	0	0	5

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
l6	Myotis daubentonii	0	0	0	0	0	6
l6	Myotis mystacinus	0	0	0	1	0	0
l6	Nyctalus	0	0	0	0	0	8
l6	Pipistrellus pipistrellus	0	0	0	0	0	17
l6	Pipistrellus pygmaeus	0	0	0	0	0	15
l7	Myotis daubentonii	0	0	0	0	1	4
l7	Myotis mystacinus	0	0	0	1	0	0
l7	Myotis nattereri	0	0	0	0	0	1
l7	Nyctalus	0	0	0	0	0	1
l7	Pipistrellus pipistrellus	0	0	0	0	0	16
l7	Pipistrellus pygmaeus	0	0	0	0	0	20
l8	Myotis daubentonii	0	0	0	0	0	5
l8	Nyctalus	0	0	0	0	0	2
l8	Pipistrellus nathusii	1	0	0	0	0	0
l8	Pipistrellus pipistrellus	0	0	0	0	0	21
l8	Pipistrellus pygmaeus	0	0	0	0	0	20
l8	Plecotus auritus	0	0	0	1	0	0
l9	Myotis daubentonii	0	0	0	0	0	2
l9	Pipistrellus pipistrellus	0	0	0	0	0	12

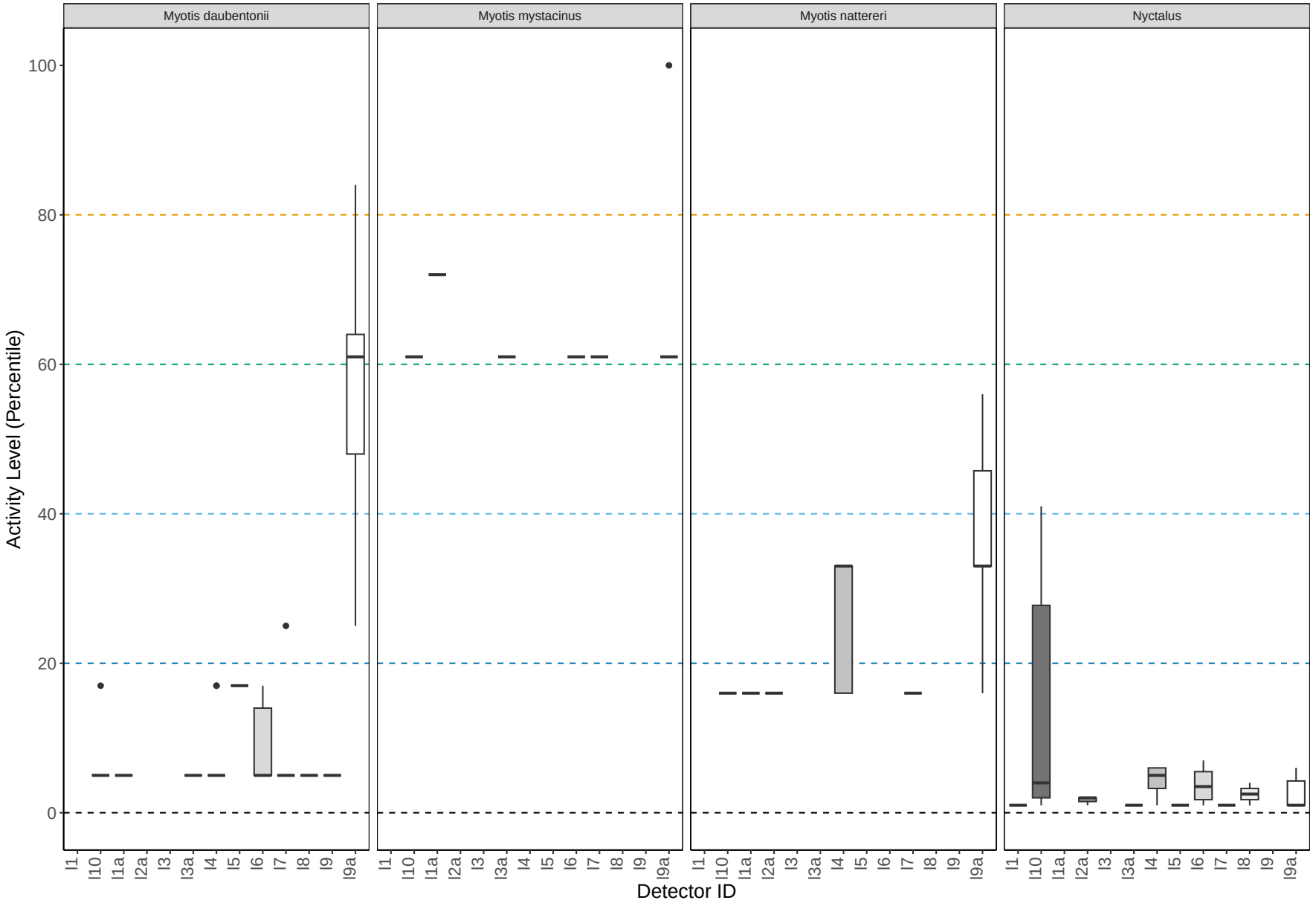
Detector ID	Species/Species Group	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/High Activity	Nights of Moderate Activity	Nights of Low/Moderate Activity	Nights of Low Activity
l9	Pipistrellus pygmaeus	0	0	0	0	0	9
l9a	Myotis daubentonii	0	2	5	4	2	0
l9a	Myotis mystacinus	1	0	0	5	0	0
l9a	Myotis nattereri	0	0	0	3	5	2
l9a	Nyctalus	0	0	0	0	0	8
l9a	Pipistrellus pipistrellus	0	0	0	0	0	13
l9a	Pipistrellus pygmaeus	0	0	0	0	0	13
l9a	Plecotus auritus	0	0	0	1	0	0

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
l1	Nyctalus	1	0	1	1	3826
l10	Myotis daubentonii	5	5 - 5	17	6	830
l10	Myotis mystacinus	61	0	61	1	18
l10	Myotis nattereri	16	0	16	1	223
l10	Nyctalus	4	2 - 28	41	10	3826
l10	Pipistrellus pipistrellus	1	1 - 4.5	8	17	38746
l10	Pipistrellus pygmaeus	0	1.5 - 4	4	16	41411
l10	Plecotus auritus	53	0	53	1	126
l1a	Myotis daubentonii	5	5 - 5	5	2	830
l1a	Myotis mystacinus	72	0	72	1	18
l1a	Myotis nattereri	16	0	16	1	223
l1a	Pipistrellus nathusii	100	0	100	1	4
l1a	Pipistrellus pipistrellus	1	1 - 1	1	5	38746
l1a	Pipistrellus pygmaeus	0	0 - 0	1	4	41411
l2a	Myotis nattereri	16	0	16	1	223
l2a	Nyctalus	2	2 - 2	2	3	3826
l2a	Pipistrellus nathusii	100	0	100	1	4
l2a	Pipistrellus pipistrellus	0	1 - 5	5	11	38746
l2a	Pipistrellus pygmaeus	0	0 - 0	3	10	41411
l2a	Plecotus auritus	53	53 - 53	53	2	126
l3	Pipistrellus pipistrellus	0	0	0	1	38746
l3a	Myotis daubentonii	5	5 - 5	5	2	830
l3a	Myotis mystacinus	61	0	61	1	18
l3a	Nyctalus	1	1 - 1	1	3	3826
l3a	Pipistrellus pipistrellus	0	1 - 9	9	11	38746
l3a	Pipistrellus pygmaeus	0	2 - 7	7	15	41411
l3a	Plecotus auritus	77	76.5 - 76.5	100	2	126
l4	Myotis daubentonii	5	5 - 11	17	9	830
l4	Myotis nattereri	33	24.5 - 33	33	5	223
l4	Nyctalus	5	3.5 - 6	6	4	3826
l4	Pipistrellus nathusii	100	0	100	1	4
l4	Pipistrellus pipistrellus	1	1 - 1	2	9	38746
l4	Pipistrellus pygmaeus	0	0 - 0	1	10	41411

Detector ID	Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded	Reference Range
l4	Plecotus auritus	53	0	53	1	126
l5	Myotis daubentonii	17	0	17	1	830
l5	Nyctalus	1	0	1	1	3826
l5	Pipistrellus pipistrellus	0	0 - 0	4	5	38746
l5	Pipistrellus pygmaeus	0	0 - 0	0	5	41411
l6	Myotis daubentonii	5	5 - 11	17	6	830
l6	Myotis mystacinus	61	0	61	1	18
l6	Nyctalus	4	1.5 - 6	7	8	3826
l6	Pipistrellus pipistrellus	0	0 - 0	1	17	38746
l6	Pipistrellus pygmaeus	0	1.5 - 2	2	15	41411
l7	Myotis daubentonii	5	5 - 5	25	5	830
l7	Myotis mystacinus	61	0	61	1	18
l7	Myotis nattereri	16	0	16	1	223
l7	Nyctalus	1	0	1	1	3826
l7	Pipistrellus pipistrellus	1	1.5 - 4.5	5	16	38746
l7	Pipistrellus pygmaeus	1	2 - 7	11	20	41411
l8	Myotis daubentonii	5	5 - 5	5	5	830
l8	Nyctalus	3	2.5 - 2.5	4	2	3826
l8	Pipistrellus nathusii	100	0	100	1	4
l8	Pipistrellus pipistrellus	1	1 - 5	9	21	38746
l8	Pipistrellus pygmaeus	3	3 - 6.5	9	20	41411
l8	Plecotus auritus	53	0	53	1	126
l9	Myotis daubentonii	5	5 - 5	5	2	830
l9	Pipistrellus pipistrellus	1	1 - 1	1	12	38746
l9	Pipistrellus pygmaeus	1	1 - 1.5	2	9	41411
l9a	Myotis daubentonii	61	48 - 66	84	13	830
l9a	Myotis mystacinus	61	61 - 61	100	6	18
l9a	Myotis nattereri	33	24.5 - 44.5	56	10	223
l9a	Nyctalus	1	1 - 3.5	6	8	3826
l9a	Pipistrellus pipistrellus	10	5 - 12	14	13	38746
l9a	Pipistrellus pygmaeus	7	4 - 10	12	13	41411
l9a	Plecotus auritus	53	0	53	1	126

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).


Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus
Activity Level (Percentile)
100
80
60
40
20
0
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID

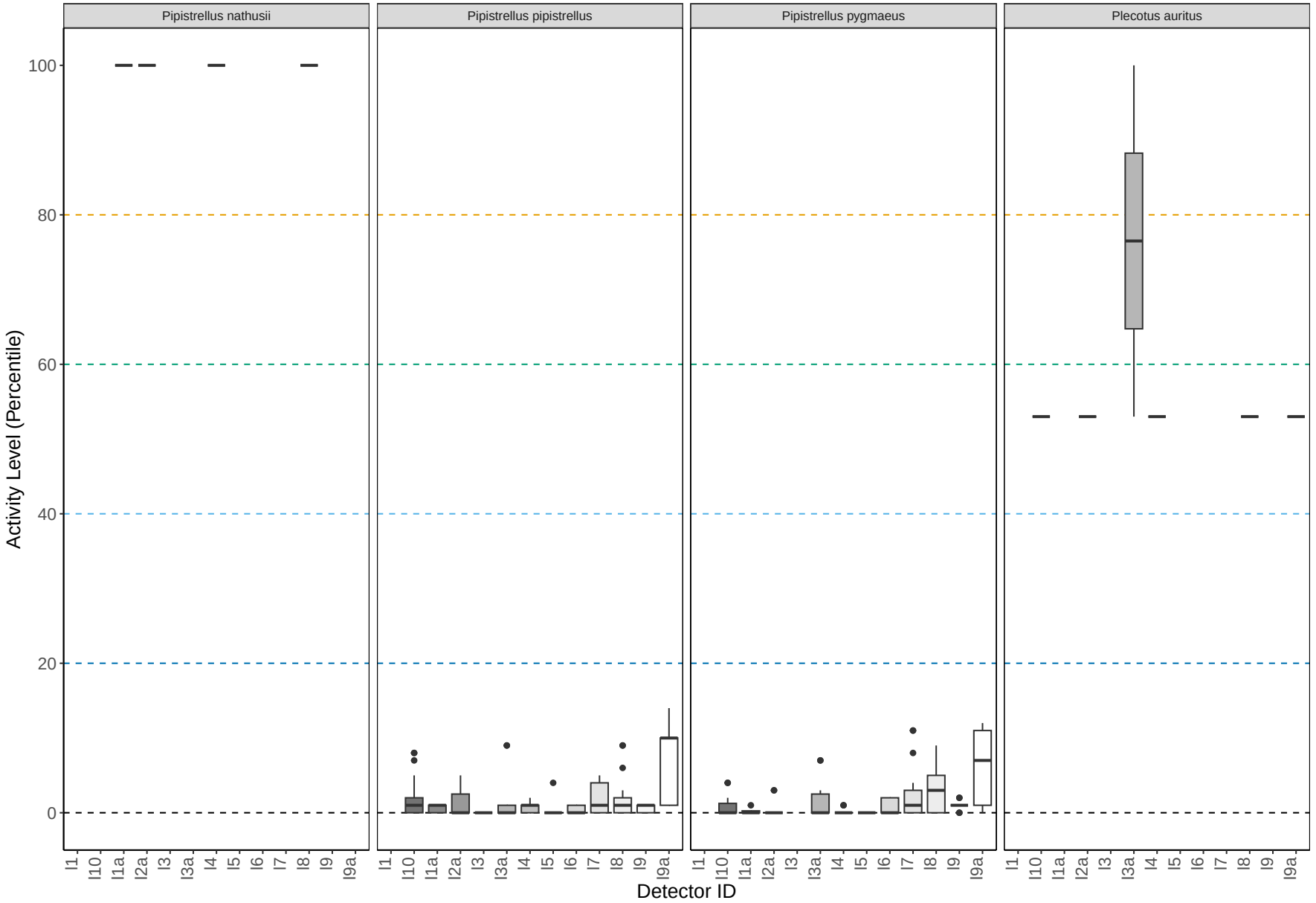
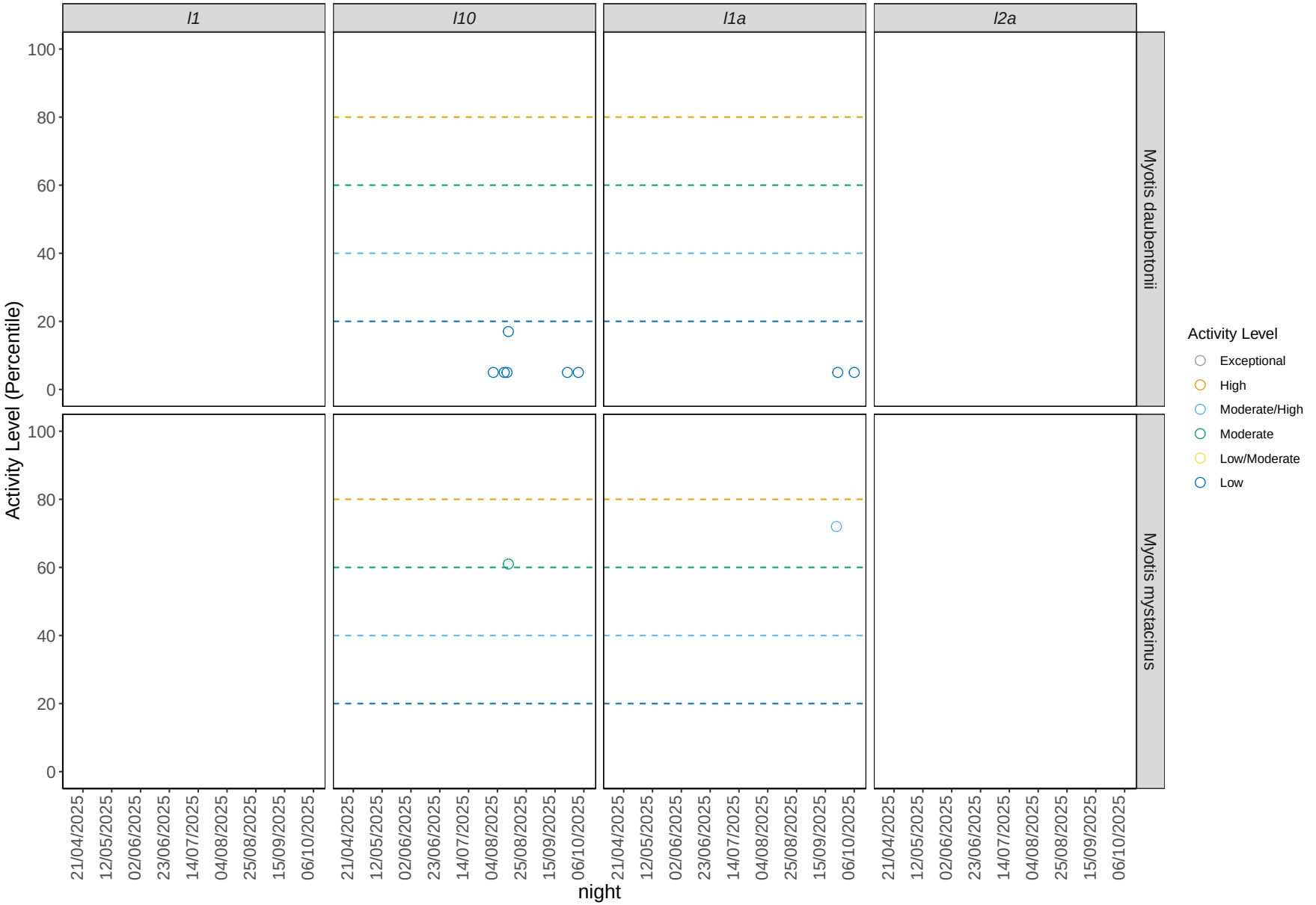
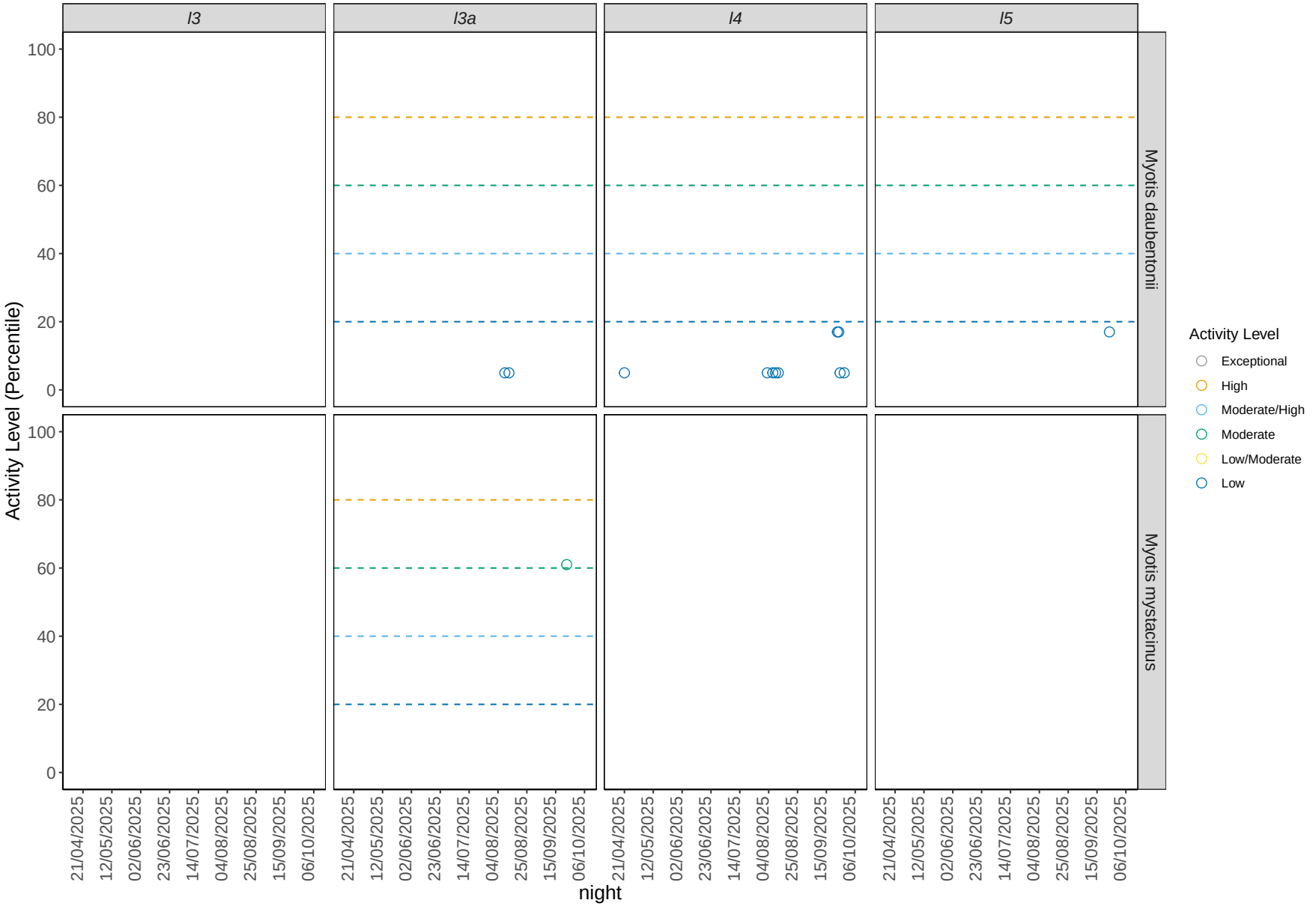
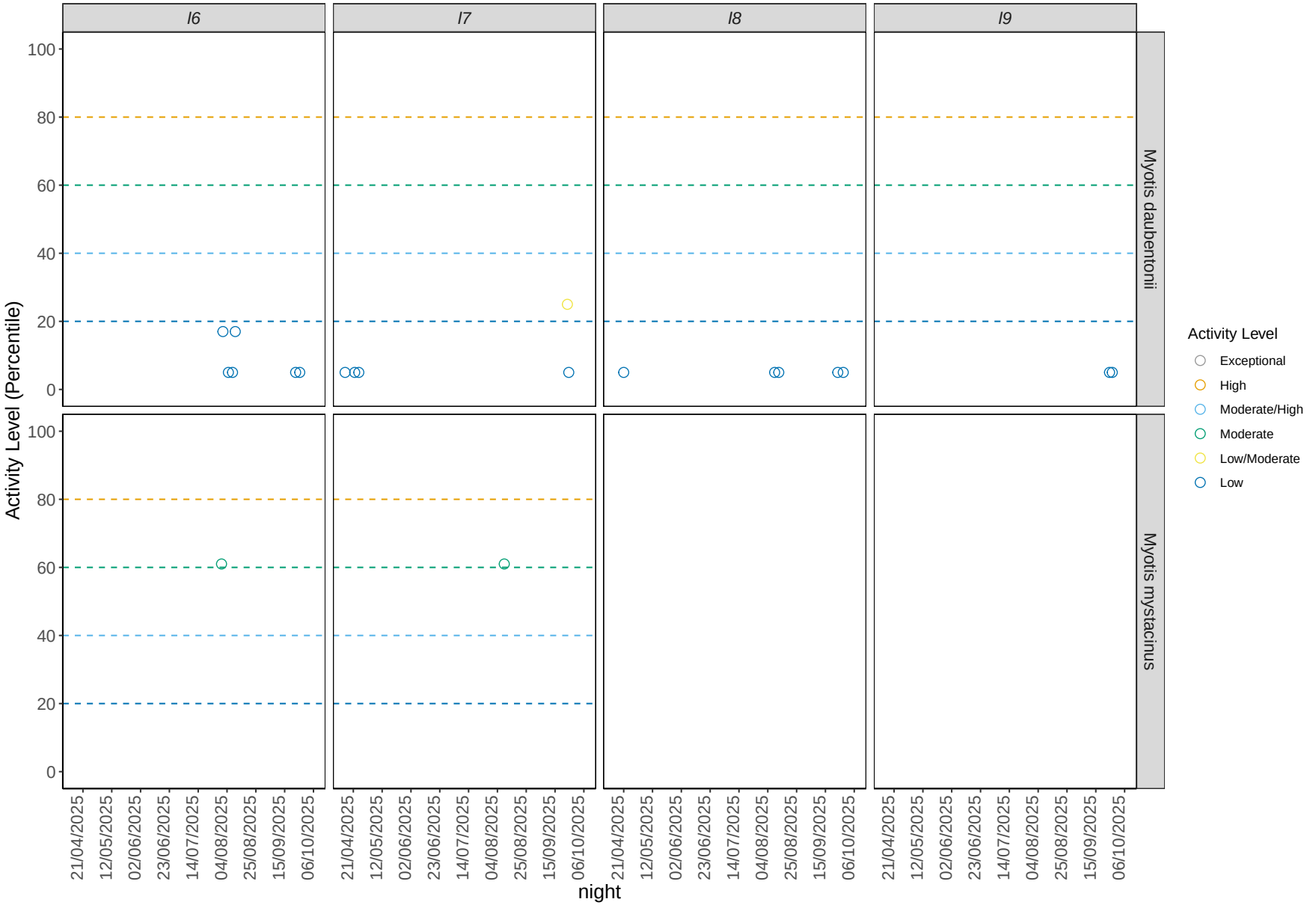
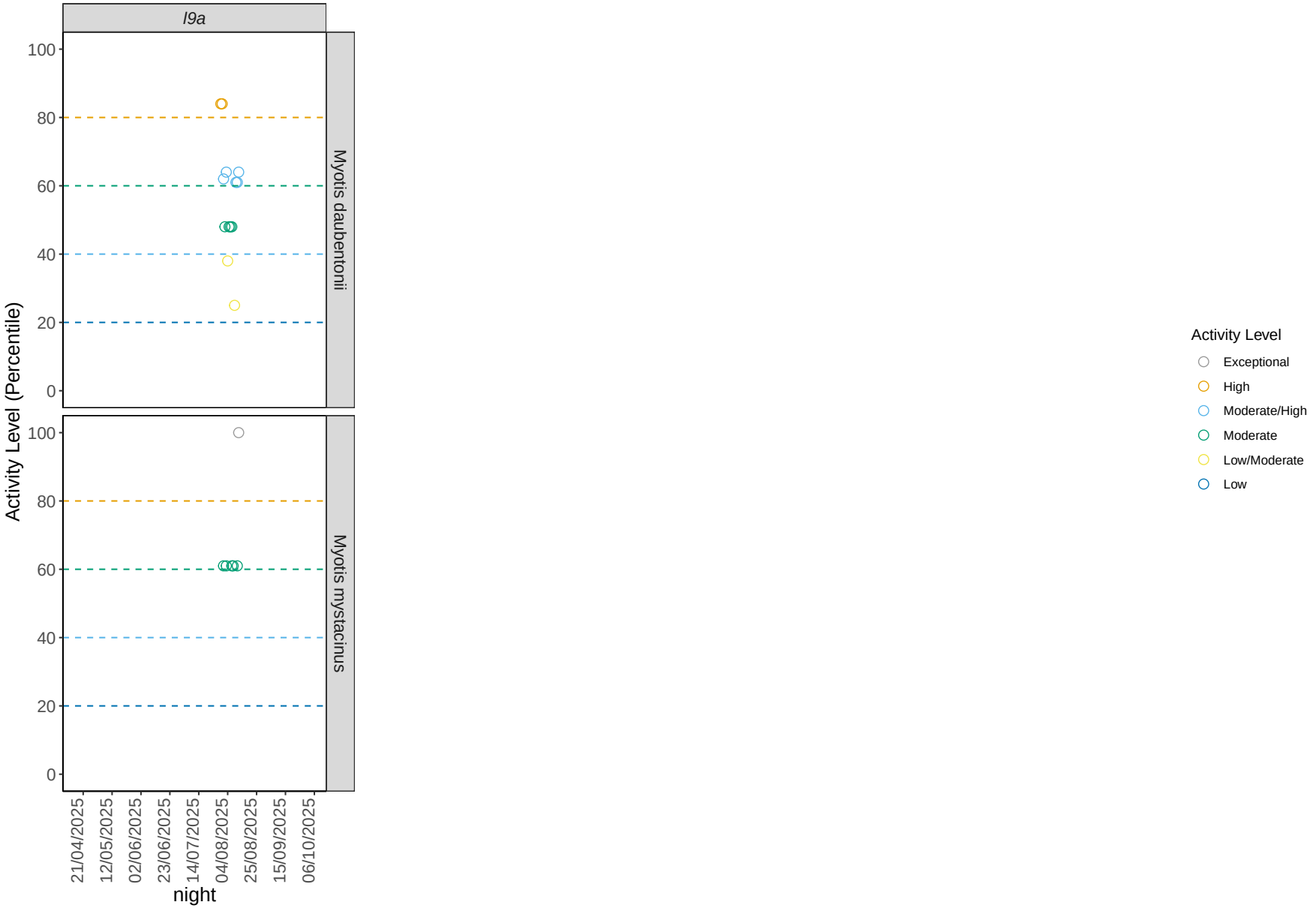

Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Plecotus auritus
Activity Level (Percentile)
100
80
60
40
20
0
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID

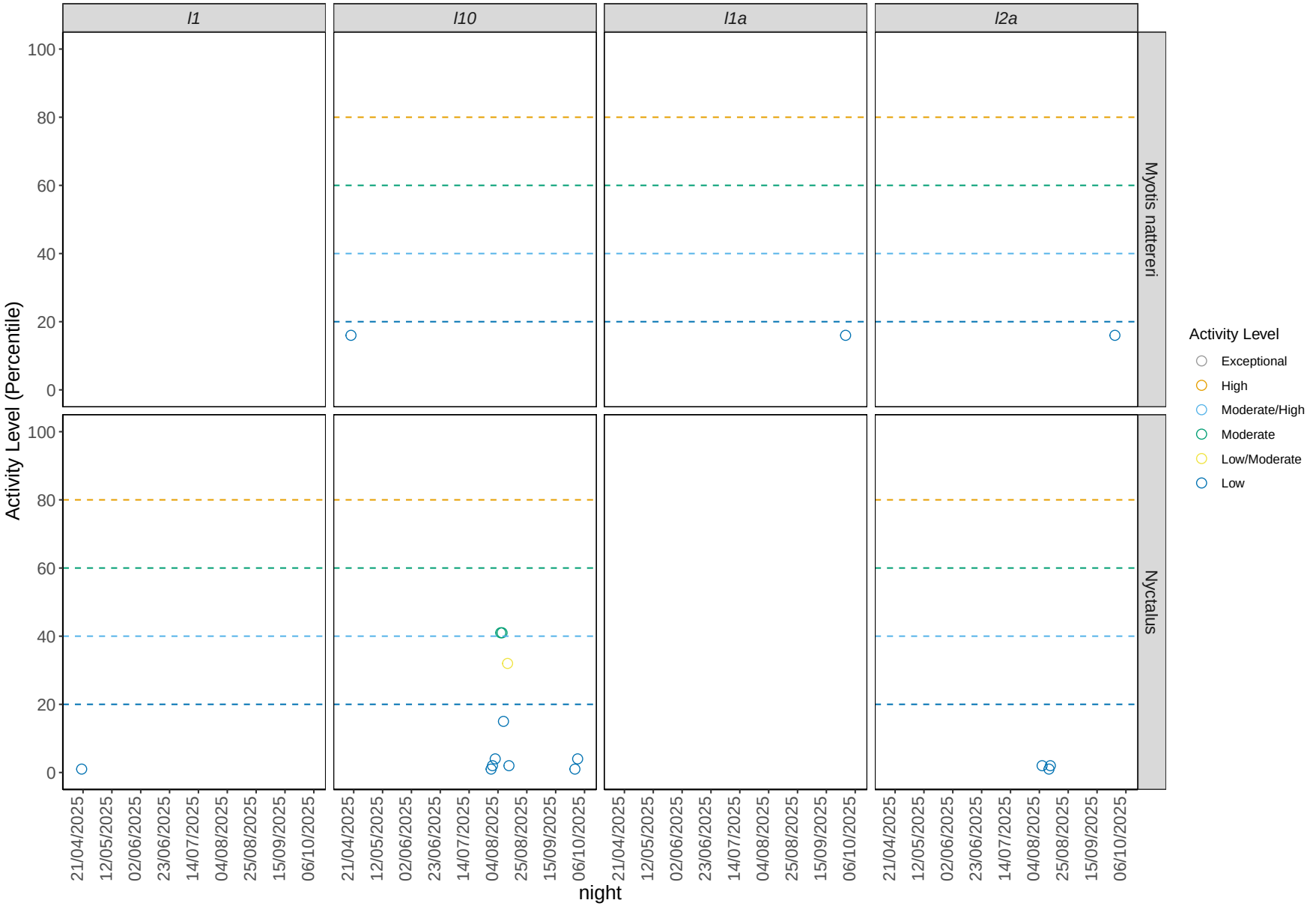
Figure 3. The activity level (percentile) of bats recorded across each night of the bat survey.

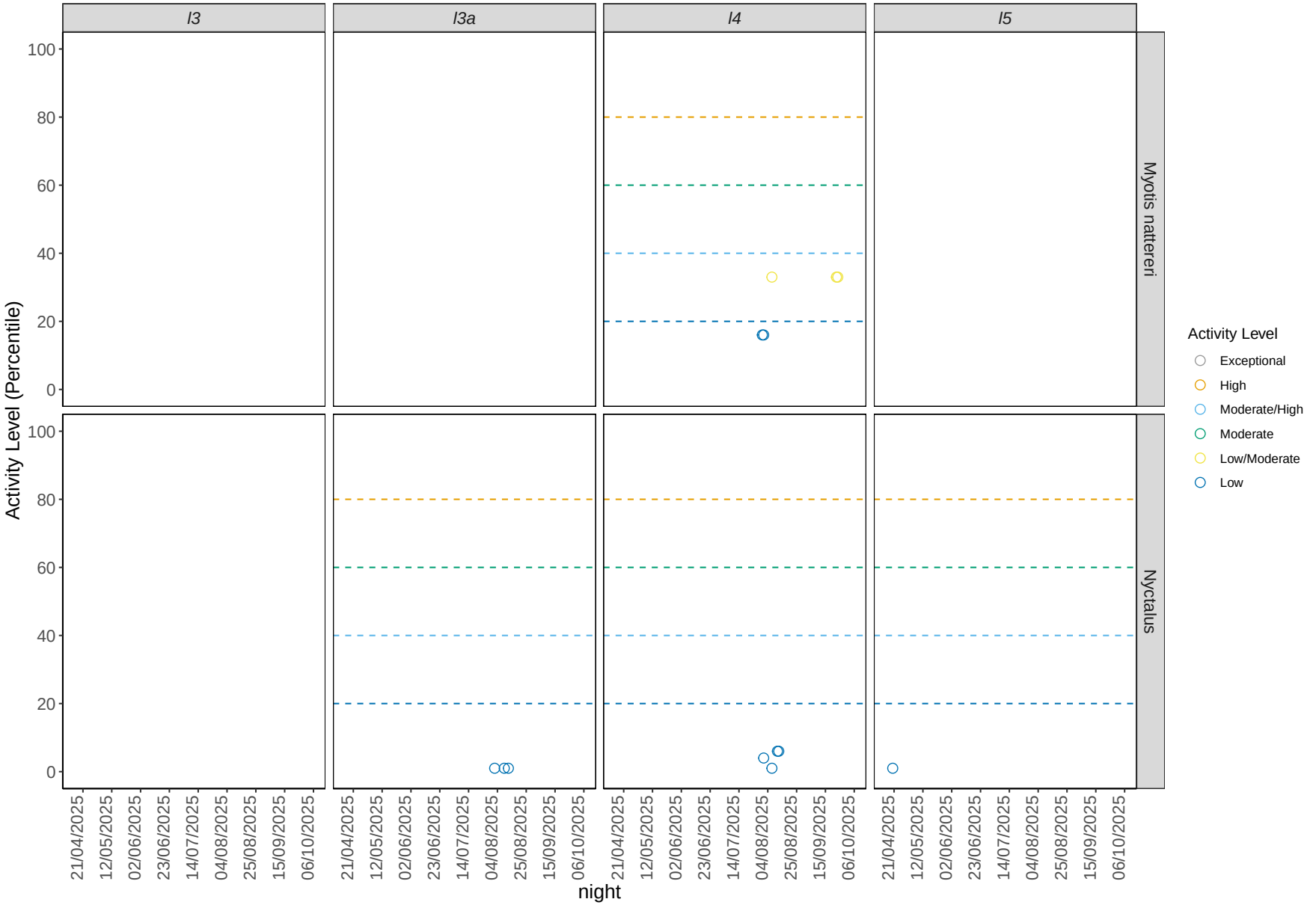

I1
I10
I1a
I2a
Myotis daubentonii
Myotis mystacinus
Activity Level (Percentile)
100
80
60
40
20
0
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
night
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low

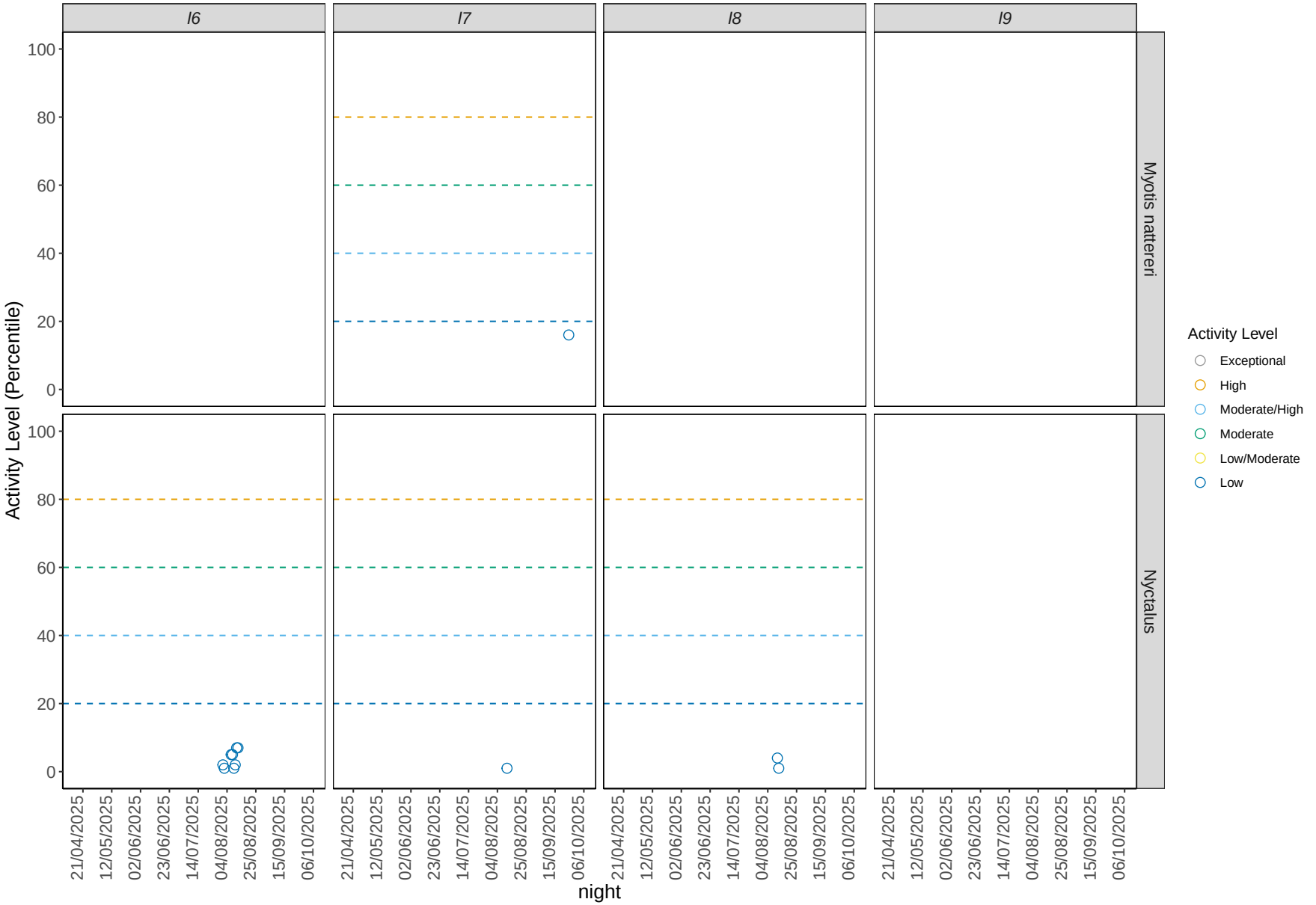

I3
I3a
I4
I5
Myotis daubentonii
Myotis mystacinus
Activity Level (Percentile)
0
20
40
60
80
100
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
night
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low

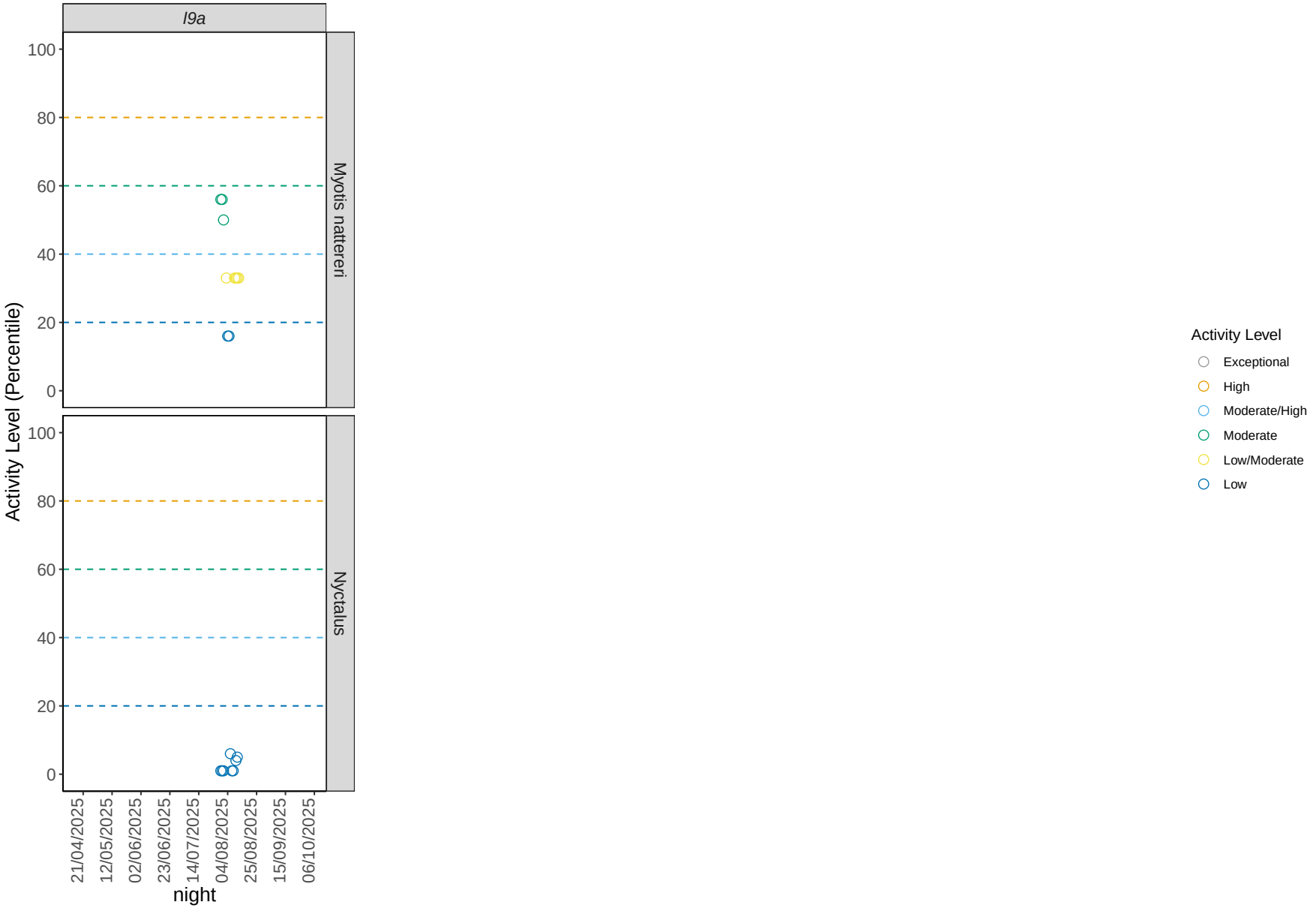

I6
I7
I8
I9
Myotis daubentonii
Myotis mystacinus
Activity Level (Percentile)
0
20
40
60
80
100
night
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low

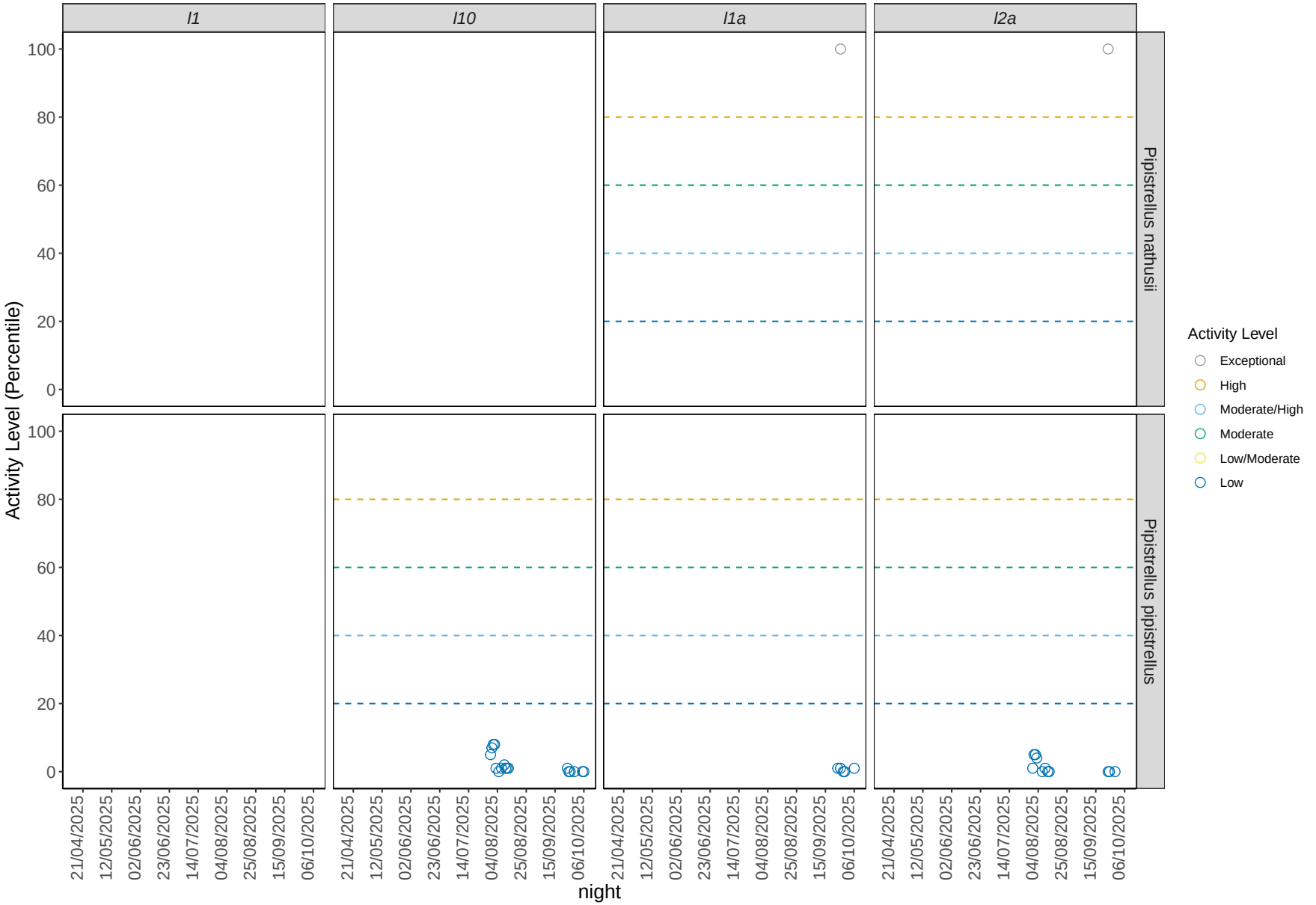

I9a
Myotis daubentonii
Myotis mystacinus
Activity Level (Percentile)
100
80
60
40
20
0
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
night
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low


I1
I10
I1a
I2a
Myotis nattereri
Nyctalus
Activity Level (Percentile)
0
20
40
60
80
100
night
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low


I3
I3a
I4
I5
Myotis nattereri
Nyctalus
Activity Level (Percentile)
0
20
40
60
80
100
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
night
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low


I6
I7
I8
I9
Myotis nattereri
Nyctalus
Activity Level (Percentile)
0
20
40
60
80
100
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
night
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low


I9a
Myotis nattereri
Nyctalus
Activity Level (Percentile)
100
80
60
40
20
0
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
night
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low


I1
I10
I1a
I2a
Pipistrellus nathusii
Pipistrellus pipistrellus
Activity Level (Percentile)
0
20
40
60
80
100
night
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low

Per Detector, Per Month

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

Detector ID	Species/Species Group	month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/High Activity	Nights of Moderate Activity	Nights of Low/Moderate Activity	Nights of Low Activity
l1	Nyctalus	Apr	0	0	0	0	0	1
l10	Myotis daubentonii	Aug	0	0	0	0	0	4
l10	Myotis daubentonii	Sep	0	0	0	0	0	1
l10	Myotis daubentonii	Oct	0	0	0	0	0	1
l10	Myotis mystacinus	Aug	0	0	0	1	0	0
l10	Myotis nattereri	Apr	0	0	0	0	0	1
l10	Nyctalus	Jul	0	0	0	0	0	2
l10	Nyctalus	Aug	0	0	0	2	1	3
l10	Nyctalus	Sep	0	0	0	0	0	1
l10	Nyctalus	Oct	0	0	0	0	0	1
l10	Pipistrellus pipistrellus	Jul	0	0	0	0	0	2
l10	Pipistrellus pipistrellus	Aug	0	0	0	0	0	9
l10	Pipistrellus pipistrellus	Sep	0	0	0	0	0	4
l10	Pipistrellus pipistrellus	Oct	0	0	0	0	0	2
l10	Pipistrellus pygmaeus	Apr	0	0	0	0	0	1
l10	Pipistrellus pygmaeus	Jul	0	0	0	0	0	2
l10	Pipistrellus pygmaeus	Aug	0	0	0	0	0	8
l10	Pipistrellus pygmaeus	Sep	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
l10	Plecotus auritus	Sep	0	0	0	1	0	0
l1a	Myotis daubentonii	Sep	0	0	0	0	0	1
l1a	Myotis daubentonii	Oct	0	0	0	0	0	1
l1a	Myotis mystacinus	Sep	0	0	1	0	0	0
l1a	Myotis nattereri	Sep	0	0	0	0	0	1
l1a	Pipistrellus nathusii	Sep	1	0	0	0	0	0
l1a	Pipistrellus pipistrellus	Sep	0	0	0	0	0	4
l1a	Pipistrellus pipistrellus	Oct	0	0	0	0	0	1
l1a	Pipistrellus pygmaeus	Sep	0	0	0	0	0	3
l1a	Pipistrellus pygmaeus	Oct	0	0	0	0	0	1
l2a	Myotis nattereri	Sep	0	0	0	0	0	1
l2a	Nyctalus	Aug	0	0	0	0	0	3
l2a	Pipistrellus nathusii	Sep	1	0	0	0	0	0
l2a	Pipistrellus pipistrellus	Jul	0	0	0	0	0	1
l2a	Pipistrellus pipistrellus	Aug	0	0	0	0	0	7
l2a	Pipistrellus pipistrellus	Sep	0	0	0	0	0	3
l2a	Pipistrellus pygmaeus	Aug	0	0	0	0	0	7
l2a	Pipistrellus pygmaeus	Sep	0	0	0	0	0	3
l2a	Plecotus auritus	Sep	0	0	0	2	0	0

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
l3	Pipistrellus pipistrellus	Apr	0	0	0	0	0	1
l3a	Myotis daubentonii	Aug	0	0	0	0	0	2
l3a	Myotis mystacinus	Sep	0	0	0	1	0	0
l3a	Nyctalus	Aug	0	0	0	0	0	3
l3a	Pipistrellus pipistrellus	Jul	0	0	0	0	0	2
l3a	Pipistrellus pipistrellus	Aug	0	0	0	0	0	8
l3a	Pipistrellus pipistrellus	Sep	0	0	0	0	0	1
l3a	Pipistrellus pygmaeus	Jul	0	0	0	0	0	1
l3a	Pipistrellus pygmaeus	Aug	0	0	0	0	0	8
l3a	Pipistrellus pygmaeus	Sep	0	0	0	0	0	6
l3a	Plecotus auritus	Aug	0	0	0	1	0	0
l3a	Plecotus auritus	Sep	1	0	0	0	0	0
l4	Myotis daubentonii	Apr	0	0	0	0	0	1
l4	Myotis daubentonii	Aug	0	0	0	0	0	4
l4	Myotis daubentonii	Sep	0	0	0	0	0	4
l4	Myotis nattereri	Jul	0	0	0	0	0	1
l4	Myotis nattereri	Aug	0	0	0	0	1	1
l4	Myotis nattereri	Sep	0	0	0	0	2	0
l4	Nyctalus	Aug	0	0	0	0	0	4
l4	Pipistrellus nathusii	Aug	1	0	0	0	0	0

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
l4	Pipistrellus pipistrellus	Jul	0	0	0	0	0	1
l4	Pipistrellus pipistrellus	Aug	0	0	0	0	0	6
l4	Pipistrellus pipistrellus	Sep	0	0	0	0	0	2
l4	Pipistrellus pygmaeus	Jul	0	0	0	0	0	1
l4	Pipistrellus pygmaeus	Aug	0	0	0	0	0	6
l4	Pipistrellus pygmaeus	Sep	0	0	0	0	0	2
l4	Pipistrellus pygmaeus	Oct	0	0	0	0	0	1
l4	Plecotus auritus	Sep	0	0	0	1	0	0
l5	Myotis daubentonii	Sep	0	0	0	0	0	1
l5	Nyctalus	Apr	0	0	0	0	0	1
l5	Pipistrellus pipistrellus	Sep	0	0	0	0	0	5
l5	Pipistrellus pygmaeus	Sep	0	0	0	0	0	5
l6	Myotis daubentonii	Aug	0	0	0	0	0	4
l6	Myotis daubentonii	Sep	0	0	0	0	0	2
l6	Myotis mystacinus	Jul	0	0	0	1	0	0
l6	Nyctalus	Aug	0	0	0	0	0	8
l6	Pipistrellus pipistrellus	Jul	0	0	0	0	0	2
l6	Pipistrellus pipistrellus	Aug	0	0	0	0	0	8

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
l6	Pipistrellus pipistrellus	Sep	0	0	0	0	0	6
l6	Pipistrellus pipistrellus	Oct	0	0	0	0	0	1
l6	Pipistrellus pygmaeus	Apr	0	0	0	0	0	2
l6	Pipistrellus pygmaeus	Aug	0	0	0	0	0	8
l6	Pipistrellus pygmaeus	Sep	0	0	0	0	0	4
l6	Pipistrellus pygmaeus	Oct	0	0	0	0	0	1
l7	Myotis daubentonii	Apr	0	0	0	0	0	3
l7	Myotis daubentonii	Sep	0	0	0	0	1	1
l7	Myotis mystacinus	Aug	0	0	0	1	0	0
l7	Myotis nattereri	Sep	0	0	0	0	0	1
l7	Nyctalus	Aug	0	0	0	0	0	1
l7	Pipistrellus pipistrellus	Apr	0	0	0	0	0	4
l7	Pipistrellus pipistrellus	Jul	0	0	0	0	0	2
l7	Pipistrellus pipistrellus	Aug	0	0	0	0	0	8
l7	Pipistrellus pipistrellus	Sep	0	0	0	0	0	2
l7	Pipistrellus pygmaeus	Apr	0	0	0	0	0	3
l7	Pipistrellus pygmaeus	Jul	0	0	0	0	0	2
l7	Pipistrellus pygmaeus	Aug	0	0	0	0	0	10

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
l7	Pipistrellus pygmaeus	Sep	0	0	0	0	0	5
l8	Myotis daubentonii	Apr	0	0	0	0	0	1
l8	Myotis daubentonii	Aug	0	0	0	0	0	2
l8	Myotis daubentonii	Sep	0	0	0	0	0	2
l8	Nyctalus	Aug	0	0	0	0	0	2
l8	Pipistrellus nathusii	Sep	1	0	0	0	0	0
l8	Pipistrellus pipistrellus	Apr	0	0	0	0	0	2
l8	Pipistrellus pipistrellus	Jul	0	0	0	0	0	2
l8	Pipistrellus pipistrellus	Aug	0	0	0	0	0	10
l8	Pipistrellus pipistrellus	Sep	0	0	0	0	0	7
l8	Pipistrellus pygmaeus	Apr	0	0	0	0	0	1
l8	Pipistrellus pygmaeus	Jul	0	0	0	0	0	2
l8	Pipistrellus pygmaeus	Aug	0	0	0	0	0	9
l8	Pipistrellus pygmaeus	Sep	0	0	0	0	0	7
l8	Pipistrellus pygmaeus	Oct	0	0	0	0	0	1
l8	Plecotus auritus	Aug	0	0	0	1	0	0
l9	Myotis daubentonii	Sep	0	0	0	0	0	2
l9	Pipistrellus pipistrellus	Apr	0	0	0	0	0	4

Detector ID	Species/Species Group	month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/High Activity	Nights of Moderate Activity	Nights of Low/Moderate Activity	Nights of Low Activity
l9	Pipistrellus pipistrellus	Sep	0	0	0	0	0	7
l9	Pipistrellus pipistrellus	Oct	0	0	0	0	0	1
l9	Pipistrellus pygmaeus	Sep	0	0	0	0	0	7
l9	Pipistrellus pygmaeus	Oct	0	0	0	0	0	2
l9a	Myotis daubentonii	Jul	0	2	0	0	0	0
l9a	Myotis daubentonii	Aug	0	0	5	4	2	0
l9a	Myotis mystacinus	Aug	1	0	0	5	0	0
l9a	Myotis nattereri	Jul	0	0	0	2	0	0
l9a	Myotis nattereri	Aug	0	0	0	1	5	2
l9a	Nyctalus	Jul	0	0	0	0	0	2
l9a	Nyctalus	Aug	0	0	0	0	0	6
l9a	Pipistrellus pipistrellus	Jul	0	0	0	0	0	2
l9a	Pipistrellus pipistrellus	Aug	0	0	0	0	0	11
l9a	Pipistrellus pygmaeus	Jul	0	0	0	0	0	2
l9a	Pipistrellus pygmaeus	Aug	0	0	0	0	0	11
l9a	Plecotus auritus	Aug	0	0	0	1	0	0

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
l1	Nyctalus	Apr	1	0	1	1
l10	Myotis daubentonii	Aug	5	5 - 5	17	4
l10	Myotis daubentonii	Sep	5	5 - 5	5	1
l10	Myotis daubentonii	Oct	5	5 - 5	5	1
l10	Myotis mystacinus	Aug	61	0	61	1
l10	Myotis nattereri	Apr	16	0	16	1
l10	Nyctalus	Jul	2	2 - 28	2	2
l10	Nyctalus	Aug	24	2 - 28	41	6
l10	Nyctalus	Sep	1	2 - 28	1	1
l10	Nyctalus	Oct	4	2 - 28	4	1
l10	Pipistrellus pipistrellus	Jul	6	1 - 4.5	7	2
l10	Pipistrellus pipistrellus	Aug	1	1 - 4.5	8	9
l10	Pipistrellus pipistrellus	Sep	0	1 - 4.5	1	4
l10	Pipistrellus pipistrellus	Oct	0	1 - 4.5	0	2
l10	Pipistrellus pygmaeus	Apr	0	1.5 - 4	0	1
l10	Pipistrellus pygmaeus	Jul	0	1.5 - 4	0	2
l10	Pipistrellus pygmaeus	Aug	1	1.5 - 4	4	8
l10	Pipistrellus pygmaeus	Sep	0	1.5 - 4	1	5
l10	Plecotus auritus	Sep	53	0	53	1
l1a	Myotis daubentonii	Sep	5	5 - 5	5	1
l1a	Myotis daubentonii	Oct	5	5 - 5	5	1
l1a	Myotis mystacinus	Sep	72	0	72	1
l1a	Myotis nattereri	Sep	16	0	16	1
l1a	Pipistrellus nathusii	Sep	100	0	100	1
l1a	Pipistrellus pipistrellus	Sep	1	1 - 1	1	4
l1a	Pipistrellus pipistrellus	Oct	1	1 - 1	1	1
l1a	Pipistrellus pygmaeus	Sep	0	0 - 0	1	3
l1a	Pipistrellus pygmaeus	Oct	0	0 - 0	0	1
l2a	Myotis nattereri	Sep	16	0	16	1
l2a	Nyctalus	Aug	2	2 - 2	2	3
l2a	Pipistrellus nathusii	Sep	100	0	100	1
l2a	Pipistrellus pipistrellus	Jul	1	1 - 5	1	1
l2a	Pipistrellus pipistrellus	Aug	1	1 - 5	5	7

Detector ID	Species/Species Group	month	Median Percentile	95% CIs	Max. Percentile	Nights Recorded
l2a	Pipistrellus pipistrellus	Sep	0	1 - 5	0	3
l2a	Pipistrellus pygmaeus	Aug	0	0 - 0	3	7
l2a	Pipistrellus pygmaeus	Sep	0	0 - 0	0	3
l2a	Plecotus auritus	Sep	53	53 - 53	53	2
l3	Pipistrellus pipistrellus	Apr	0	0	0	1
l3a	Myotis daubentonii	Aug	5	5 - 5	5	2
l3a	Myotis mystacinus	Sep	61	0	61	1
l3a	Nyctalus	Aug	1	1 - 1	1	3
l3a	Pipistrellus pipistrellus	Jul	1	1 - 9	1	2
l3a	Pipistrellus pipistrellus	Aug	0	1 - 9	9	8
l3a	Pipistrellus pipistrellus	Sep	0	1 - 9	0	1
l3a	Pipistrellus pygmaeus	Jul	2	2 - 7	2	1
l3a	Pipistrellus pygmaeus	Aug	2	2 - 7	7	8
l3a	Pipistrellus pygmaeus	Sep	0	2 - 7	0	6
l3a	Plecotus auritus	Aug	53	76.5 - 76.5	53	1
l3a	Plecotus auritus	Sep	100	76.5 - 76.5	100	1
l4	Myotis daubentonii	Apr	5	5 - 11	5	1
l4	Myotis daubentonii	Aug	5	5 - 11	5	4
l4	Myotis daubentonii	Sep	11	5 - 11	17	4
l4	Myotis nattereri	Jul	16	24.5 - 33	16	1
l4	Myotis nattereri	Aug	25	24.5 - 33	33	2
l4	Myotis nattereri	Sep	33	24.5 - 33	33	2
l4	Nyctalus	Aug	5	3.5 - 6	6	4
l4	Pipistrellus nathusii	Aug	100	0	100	1
l4	Pipistrellus pipistrellus	Jul	1	1 - 1	1	1
l4	Pipistrellus pipistrellus	Aug	1	1 - 1	2	6
l4	Pipistrellus pipistrellus	Sep	0	1 - 1	0	2
l4	Pipistrellus pygmaeus	Jul	0	0 - 0	0	1
l4	Pipistrellus pygmaeus	Aug	0	0 - 0	1	6
l4	Pipistrellus pygmaeus	Sep	0	0 - 0	0	2
l4	Pipistrellus pygmaeus	Oct	0	0 - 0	0	1
l4	Plecotus auritus	Sep	53	0	53	1
l5	Myotis daubentonii	Sep	17	0	17	1
l5	Nyctalus	Apr	1	0	1	1
l5	Pipistrellus pipistrellus	Sep	0	0 - 0	4	5
l5	Pipistrellus pygmaeus	Sep	0	0 - 0	0	5

Detector ID	Species/Species Group	month	Median Percentile	95% CIs	Max. Percentile	Nights Recorded
I6	Myotis daubentonii	Aug	11	5 - 11	17	4
I6	Myotis daubentonii	Sep	5	5 - 11	5	2
I6	Myotis mystacinus	Jul	61	0	61	1
I6	Nyctalus	Aug	4	1.5 - 6	7	8
I6	Pipistrellus pipistrellus	Jul	0	0 - 0	0	2
I6	Pipistrellus pipistrellus	Aug	0	0 - 0	1	8
I6	Pipistrellus pipistrellus	Sep	0	0 - 0	1	6
I6	Pipistrellus pipistrellus	Oct	1	0 - 0	1	1
I6	Pipistrellus pygmaeus	Apr	0	1.5 - 2	0	2
I6	Pipistrellus pygmaeus	Aug	1	1.5 - 2	2	8
I6	Pipistrellus pygmaeus	Sep	1	1.5 - 2	1	4
I6	Pipistrellus pygmaeus	Oct	2	1.5 - 2	2	1
I7	Myotis daubentonii	Apr	5	5 - 5	5	3
I7	Myotis daubentonii	Sep	15	5 - 5	25	2
I7	Myotis mystacinus	Aug	61	0	61	1
I7	Myotis nattereri	Sep	16	0	16	1
I7	Nyctalus	Aug	1	0	1	1
I7	Pipistrellus pipistrellus	Apr	0	1.5 - 4.5	0	4
I7	Pipistrellus pipistrellus	Jul	3	1.5 - 4.5	5	2
I7	Pipistrellus pipistrellus	Aug	4	1.5 - 4.5	5	8
I7	Pipistrellus pipistrellus	Sep	1	1.5 - 4.5	1	2
I7	Pipistrellus pygmaeus	Apr	0	2 - 7	0	3
I7	Pipistrellus pygmaeus	Jul	6	2 - 7	8	2
I7	Pipistrellus pygmaeus	Aug	2	2 - 7	11	10
I7	Pipistrellus pygmaeus	Sep	0	2 - 7	0	5
I8	Myotis daubentonii	Apr	5	5 - 5	5	1
I8	Myotis daubentonii	Aug	5	5 - 5	5	2
I8	Myotis daubentonii	Sep	5	5 - 5	5	2
I8	Nyctalus	Aug	3	2.5 - 2.5	4	2
I8	Pipistrellus nathusii	Sep	100	0	100	1
I8	Pipistrellus pipistrellus	Apr	0	1 - 5	0	2
I8	Pipistrellus pipistrellus	Jul	1	1 - 5	1	2
I8	Pipistrellus pipistrellus	Aug	2	1 - 5	9	10
I8	Pipistrellus pipistrellus	Sep	0	1 - 5	2	7
I8	Pipistrellus pygmaeus	Apr	0	3 - 6.5	0	1
I8	Pipistrellus pygmaeus	Jul	3	3 - 6.5	5	2

Detector ID	Species/Species Group	month	Median Percentile	95% CIs	Max. Percentile	Nights Recorded
l8	Pipistrellus pygmaeus	Aug	4	3 - 6.5	9	9
l8	Pipistrellus pygmaeus	Sep	0	3 - 6.5	5	7
l8	Pipistrellus pygmaeus	Oct	0	3 - 6.5	0	1
l8	Plecotus auritus	Aug	53	0	53	1
l9	Myotis daubentonii	Sep	5	5 - 5	5	2
l9	Pipistrellus pipistrellus	Apr	0	1 - 1	0	4
l9	Pipistrellus pipistrellus	Sep	1	1 - 1	1	7
l9	Pipistrellus pipistrellus	Oct	0	1 - 1	0	1
l9	Pipistrellus pygmaeus	Sep	1	1 - 1.5	2	7
l9	Pipistrellus pygmaeus	Oct	1	1 - 1.5	1	2
l9a	Myotis daubentonii	Jul	84	48 - 66	84	2
l9a	Myotis daubentonii	Aug	48	48 - 66	64	11
l9a	Myotis mystacinus	Aug	61	61 - 61	100	6
l9a	Myotis nattereri	Jul	56	24.5 - 44.5	56	2
l9a	Myotis nattereri	Aug	33	24.5 - 44.5	50	8
l9a	Nyctalus	Jul	1	1 - 3.5	1	2
l9a	Nyctalus	Aug	3	1 - 3.5	6	6
l9a	Pipistrellus pipistrellus	Jul	8	5 - 12	10	2
l9a	Pipistrellus pipistrellus	Aug	10	5 - 12	14	11
l9a	Pipistrellus pygmaeus	Jul	7	4 - 10	8	2
l9a	Pipistrellus pygmaeus	Aug	7	4 - 10	12	11
l9a	Plecotus auritus	Aug	53	0	53	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 daubentonii	0	2	5	4	3	37
Myotis mystacinus	1	0	1	9	0	0
Myotis nattereri	0	0	0	3	8	8
Nyctalus	0	0	0	2	1	38
Pipistrellus nathusii	4	0	0	0	0	0
Pipistrellus pipistrellus	0	0	0	0	0	138
Pipistrellus pygmaeus	0	0	0	0	0	137
Plecotus auritus	1	0	0	7	0	0

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

Species/Species Group	Median Percentile	95% CIs	Max. Percentile	Nights Recorded
Myotis daubentonii	5	5 - 5	84	51
Myotis mystacinus	61	61 - 61	100	11
Myotis nattereri	33	24.5 - 44.5	56	19
Nyctalus	2	3.5 - 6	41	41
Pipistrellus nathusii	100	0	100	4
Pipistrellus pipistrellus	1	5 - 12	14	138
Pipistrellus pygmaeus	0	4 - 10	12	137
Plecotus auritus	53	76.5 - 76.5	100	8

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

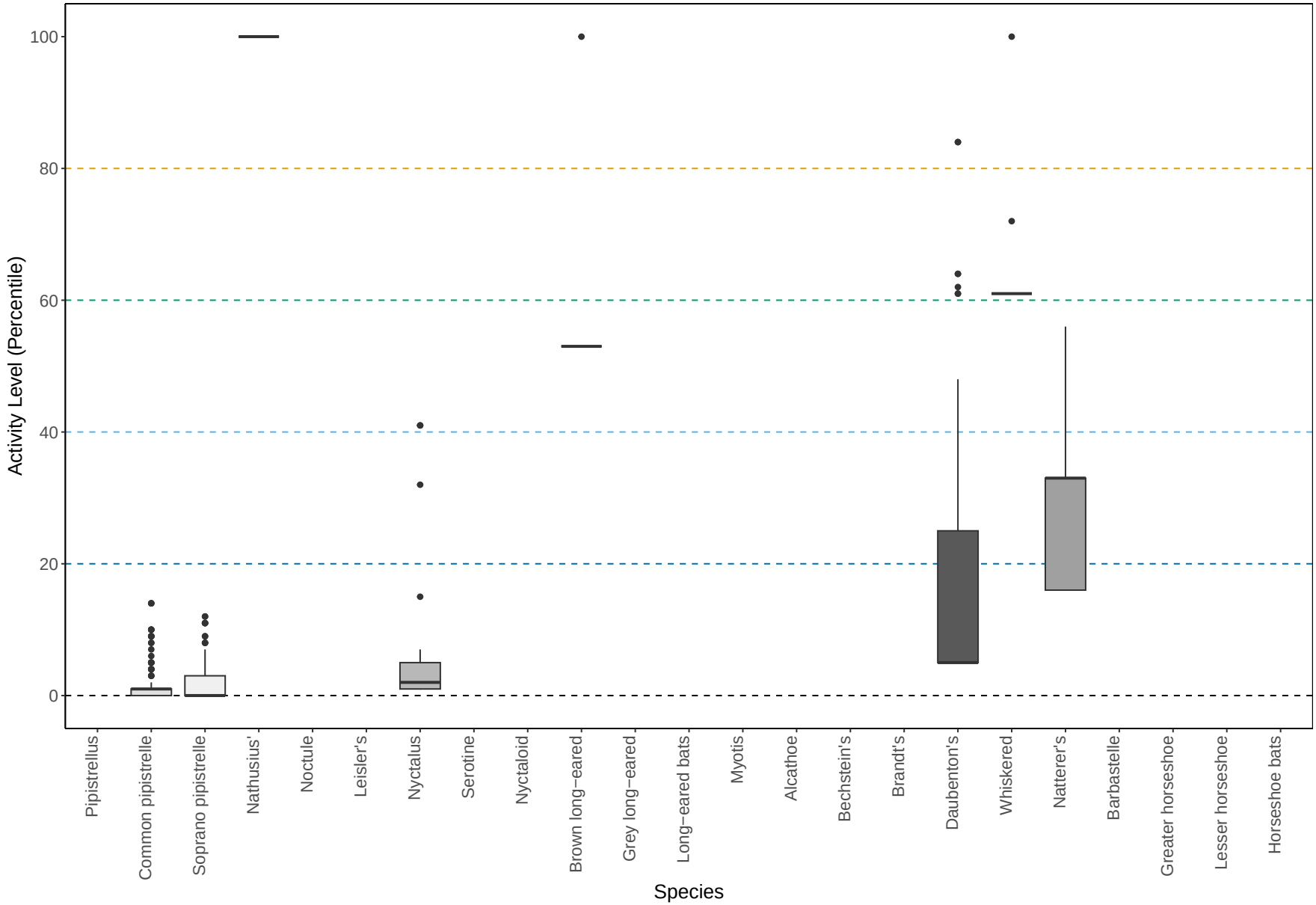
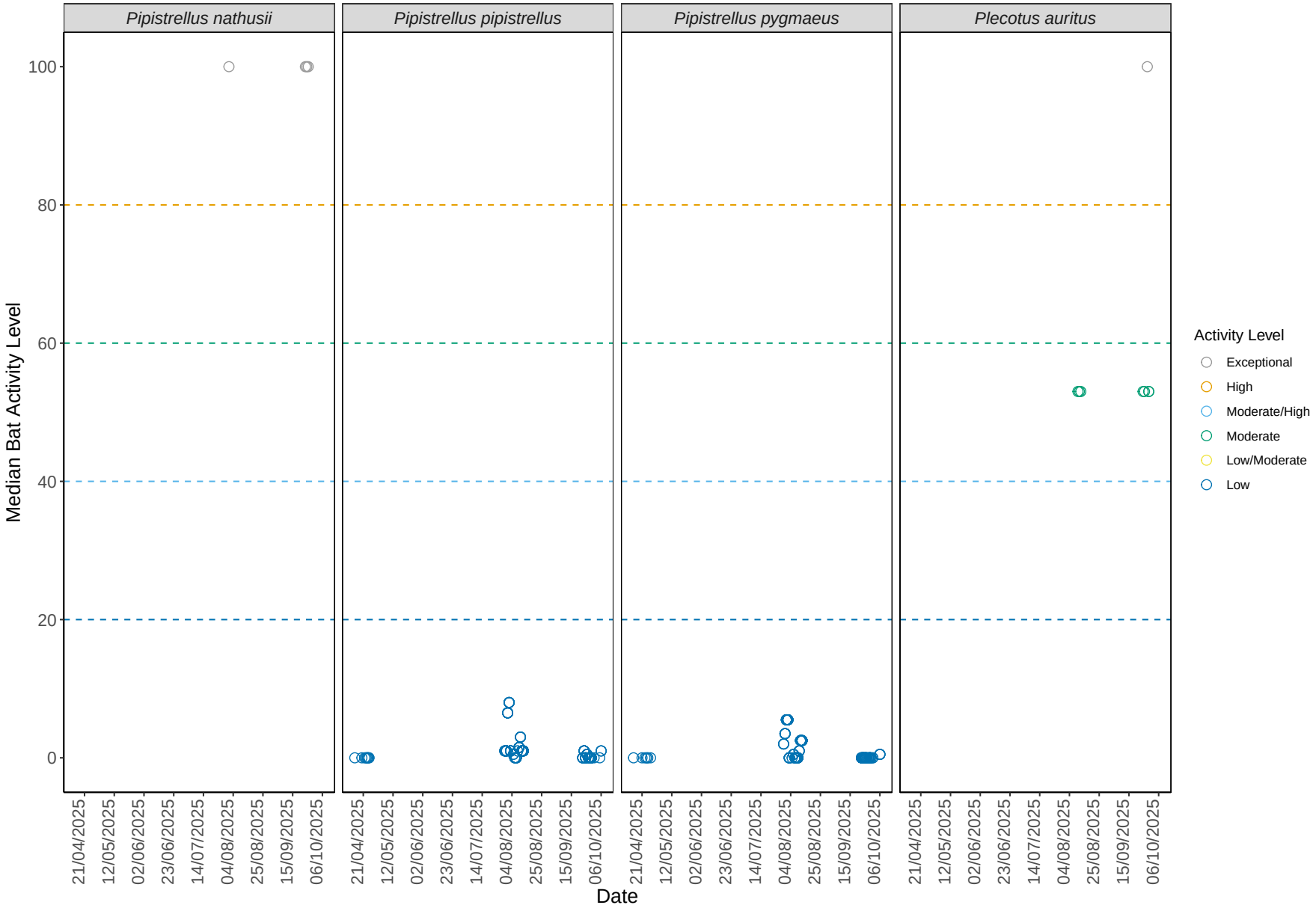

Activity Level (Percentile)
100
80
60
40
20
0
Pipistrellus
Common pipistrelle
Soprano pipistrelle
Nathusius'
Noctule
Leisler's
Nyctalus
Serotine
Nyctaloid
Brown long−eared
Grey long−eared
Long−eared bats
Myotis
Alcathoe
Bechstein's
Brandt's
Daubenton's
Whiskered
Natterer's
Barbastelle
Greater horseshoe
Lesser horseshoe
Horseshoe bats
Species

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


Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus
Median Bat Activity Level
100
80
60
40
20
0
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
Date
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low


Pipistrellus nathusii
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Plecotus auritus
Median Bat Activity Level
100
80
60
40
20
0
21/04/2025
12/05/2025
02/06/2025
23/06/2025
14/07/2025
04/08/2025
25/08/2025
15/09/2025
06/10/2025
Date
Activity Level
Exceptional
High
Moderate/High
Moderate
Low/Moderate
Low

Per Site, Per Month

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

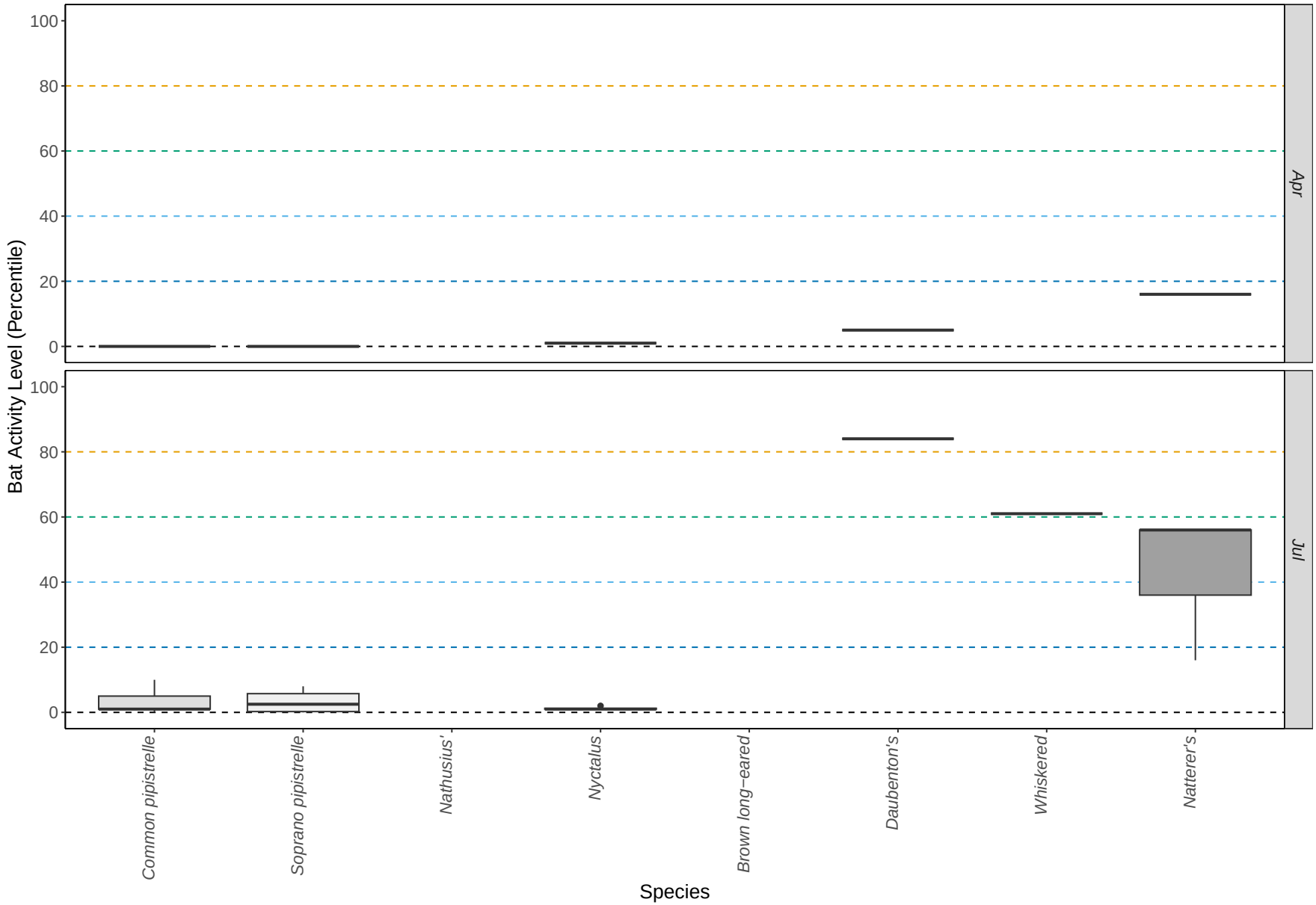
Species/Species Group	month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/High Activity	Nights of Moderate Activity	Nights of Low/Moderate Activity	Nights of Low Activity
Myotis daubentonii	Apr	0	0	0	0	0	5
Myotis daubentonii	Jul	0	2	0	0	0	0
Myotis daubentonii	Aug	0	0	5	4	2	16
Myotis daubentonii	Sep	0	0	0	0	1	14
Myotis daubentonii	Oct	0	0	0	0	0	2
Myotis mystacinus	Jul	0	0	0	1	0	0
Myotis mystacinus	Aug	1	0	0	7	0	0
Myotis mystacinus	Sep	0	0	1	1	0	0
Myotis nattereri	Apr	0	0	0	0	0	1
Myotis nattereri	Jul	0	0	0	2	0	1
Myotis nattereri	Aug	0	0	0	1	6	3
Myotis nattereri	Sep	0	0	0	0	2	3
Nyctalus	Apr	0	0	0	0	0	2
Nyctalus	Jul	0	0	0	0	0	4
Nyctalus	Aug	0	0	0	2	1	30
Nyctalus	Sep	0	0	0	0	0	1
Nyctalus	Oct	0	0	0	0	0	1
Pipistrellus nathusii	Aug	1	0	0	0	0	0
Pipistrellus nathusii	Sep	3	0	0	0	0	0
Pipistrellus pipistrellus	Apr	0	0	0	0	0	11

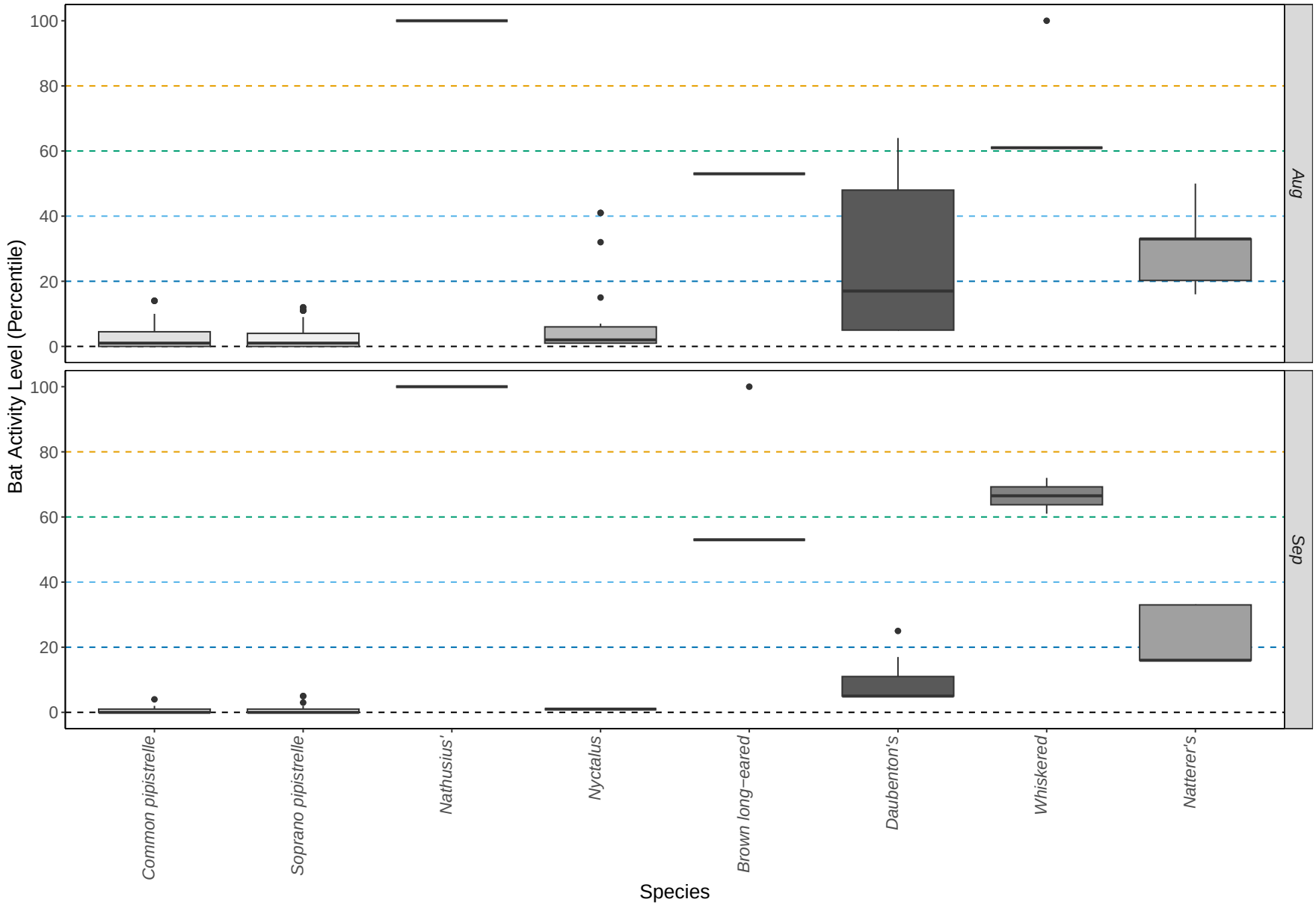
Species/Species Group	month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/High Activity	Nights of Moderate Activity	Nights of Low/Moderate Activity	Nights of Low Activity
Pipistrellus pipistrellus	Jul	0	0	0	0	0	14
Pipistrellus pipistrellus	Aug	0	0	0	0	0	67
Pipistrellus pipistrellus	Sep	0	0	0	0	0	41
Pipistrellus pipistrellus	Oct	0	0	0	0	0	5
Pipistrellus pygmaeus	Apr	0	0	0	0	0	7
Pipistrellus pygmaeus	Jul	0	0	0	0	0	10
Pipistrellus pygmaeus	Aug	0	0	0	0	0	67
Pipistrellus pygmaeus	Sep	0	0	0	0	0	47
Pipistrellus pygmaeus	Oct	0	0	0	0	0	6
Plecotus auritus	Aug	0	0	0	3	0	0
Plecotus auritus	Sep	1	0	0	4	0	0

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

Species/Species Group	month	Median Percentile	95% CIs	Max. Percentile	Nights Recorded
Myotis daubentonii	Apr	5	5 - 5	5	5
Myotis daubentonii	Jul	84	48 - 66	84	2
Myotis daubentonii	Aug	17	5 - 5	64	27
Myotis daubentonii	Sep	5	5 - 5	25	15
Myotis daubentonii	Oct	5	5 - 5	5	2
Myotis mystacinus	Jul	61	0	61	1
Myotis mystacinus	Aug	61	61 - 61	100	8
Myotis mystacinus	Sep	67	0	72	2
Myotis nattereri	Apr	16	0	16	1
Myotis nattereri	Jul	56	24.5 - 44.5	56	3
Myotis nattereri	Aug	33	24.5 - 44.5	50	10
Myotis nattereri	Sep	16	24.5 - 33	33	5
Nyctalus	Apr	1	0	1	2
Nyctalus	Jul	1	2 - 28	2	4
Nyctalus	Aug	2	3.5 - 6	41	33
Nyctalus	Sep	1	2 - 28	1	1
Nyctalus	Oct	4	2 - 28	4	1
Pipistrellus nathusii	Aug	100	0	100	1
Pipistrellus nathusii	Sep	100	0	100	3
Pipistrellus pipistrellus	Apr	0	1.5 - 4.5	0	11
Pipistrellus pipistrellus	Jul	1	5 - 12	10	14
Pipistrellus pipistrellus	Aug	1	5 - 12	14	67
Pipistrellus pipistrellus	Sep	0	1.5 - 4.5	4	41
Pipistrellus pipistrellus	Oct	0	1 - 4.5	1	5
Pipistrellus pygmaeus	Apr	0	3 - 6.5	0	7
Pipistrellus pygmaeus	Jul	3	4 - 10	8	10
Pipistrellus pygmaeus	Aug	1	4 - 10	12	67
Pipistrellus pygmaeus	Sep	0	3 - 6.5	5	47
Pipistrellus pygmaeus	Oct	0	3 - 6.5	2	6
Plecotus auritus	Aug	53	76.5 - 76.5	53	3
Plecotus auritus	Sep	53	76.5 - 76.5	100	5

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


Bat Activity Level (Percentile)
100
80
60
40
20
0
Apr
Jul
Common pipistrelle
Soprano pipistrelle
Nathusius'
Nyctalus
Brown long−eared
Daubenton's
Whiskered
Natterer's
Species


Bat Activity Level (Percentile)
100
80
60
40
20
0
Aug
Sep
Common pipistrelle
Soprano pipistrelle
Nathusius'
Nyctalus
Brown long−eared
Daubenton's
Whiskered
Natterer's
Species

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.

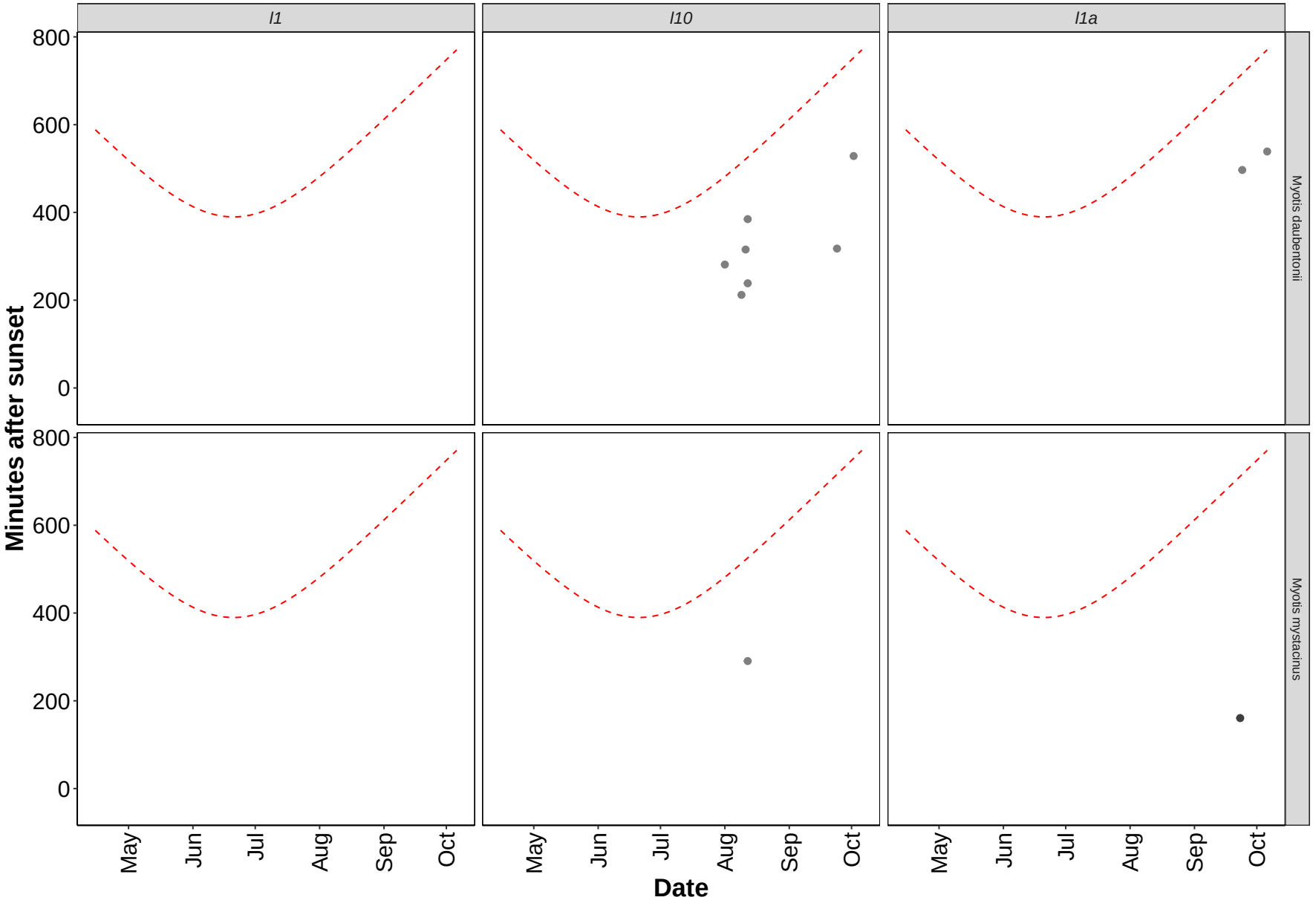
Night (y-m-d)	Sunset (h:m)	Sunrise (h:m)	Night Length (hours)
2025-04-15	20:21	06:09	9.8
2025-04-19	20:29	05:59	9.5
2025-04-20	20:31	05:57	9.4
2025-04-21	20:33	05:55	9.4
2025-04-22	20:35	05:52	9.3
2025-04-23	20:37	05:50	9.2
2025-04-24	20:39	05:47	9.1
2025-04-25	20:41	05:45	9.1
2025-04-27	20:45	05:41	8.9
2025-07-30	21:27	05:21	7.9
2025-07-31	21:25	05:23	8.0
2025-08-01	21:23	05:24	8.0
2025-08-02	21:21	05:26	8.1
2025-08-03	21:19	05:28	8.2
2025-08-04	21:17	05:30	8.2
2025-08-05	21:15	05:32	8.3
2025-08-06	21:13	05:34	8.4
2025-08-07	21:11	05:36	8.4
2025-08-08	21:08	05:38	8.5
2025-08-09	21:06	05:39	8.6
2025-08-10	21:04	05:41	8.6
2025-08-11	21:02	05:43	8.7
2025-08-12	21:00	05:45	8.8
2025-09-23	19:14	07:05	11.9
2025-09-24	19:11	07:07	11.9
2025-09-25	19:09	07:09	12.0
2025-09-26	19:06	07:11	12.1
2025-09-27	19:03	07:13	12.2

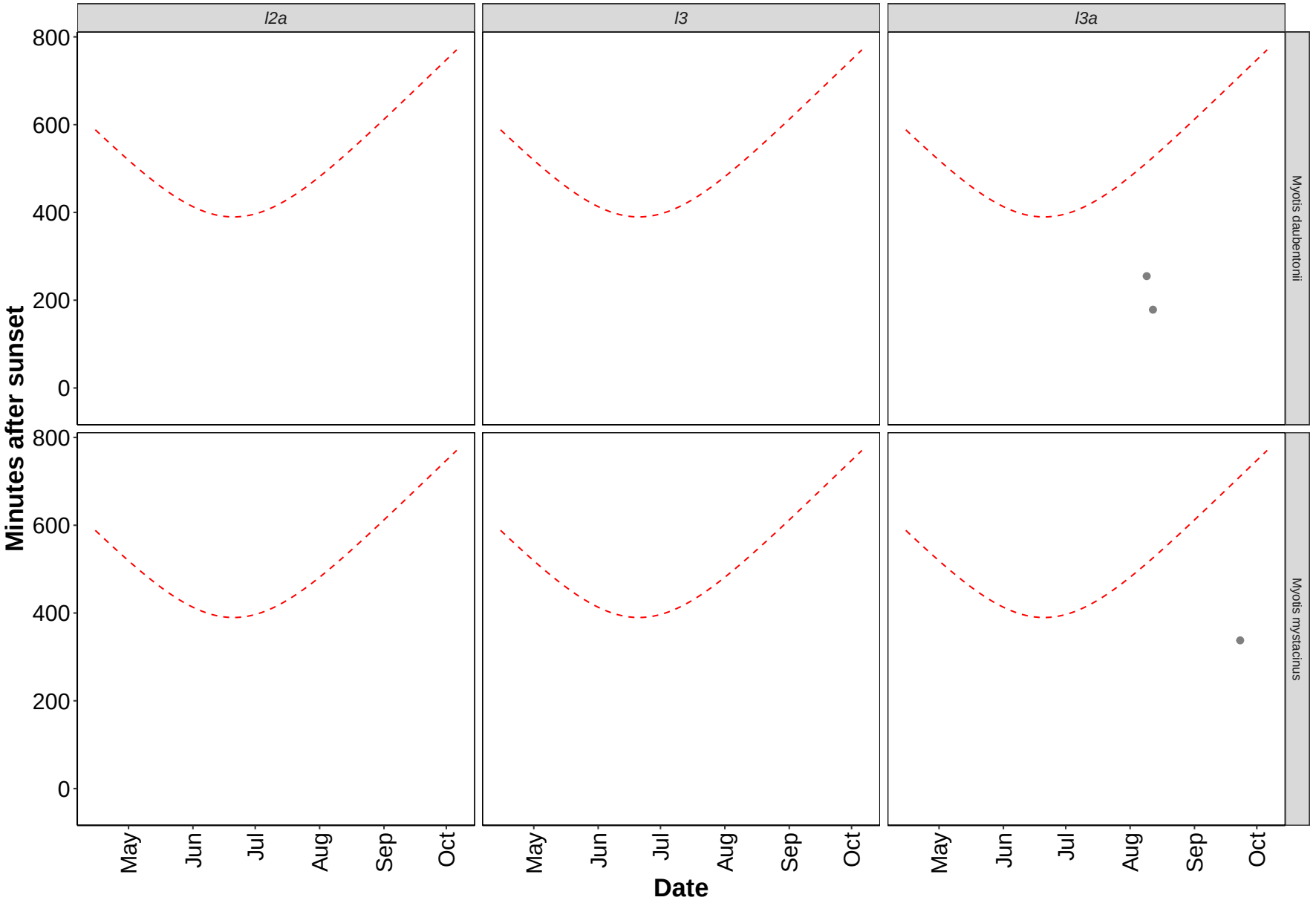
Night (y-m-d)	Sunset (h:m)	Sunrise (h:m)	Night Length (hours)
2025-09-28	19:01	07:15	12.2
2025-09-29	18:58	07:17	12.3
2025-09-30	18:56	07:19	12.4
2025-10-01	18:53	07:21	12.5
2025-10-02	18:50	07:23	12.5
2025-10-05	18:43	07:29	12.8
2025-10-06	18:40	07:31	12.8

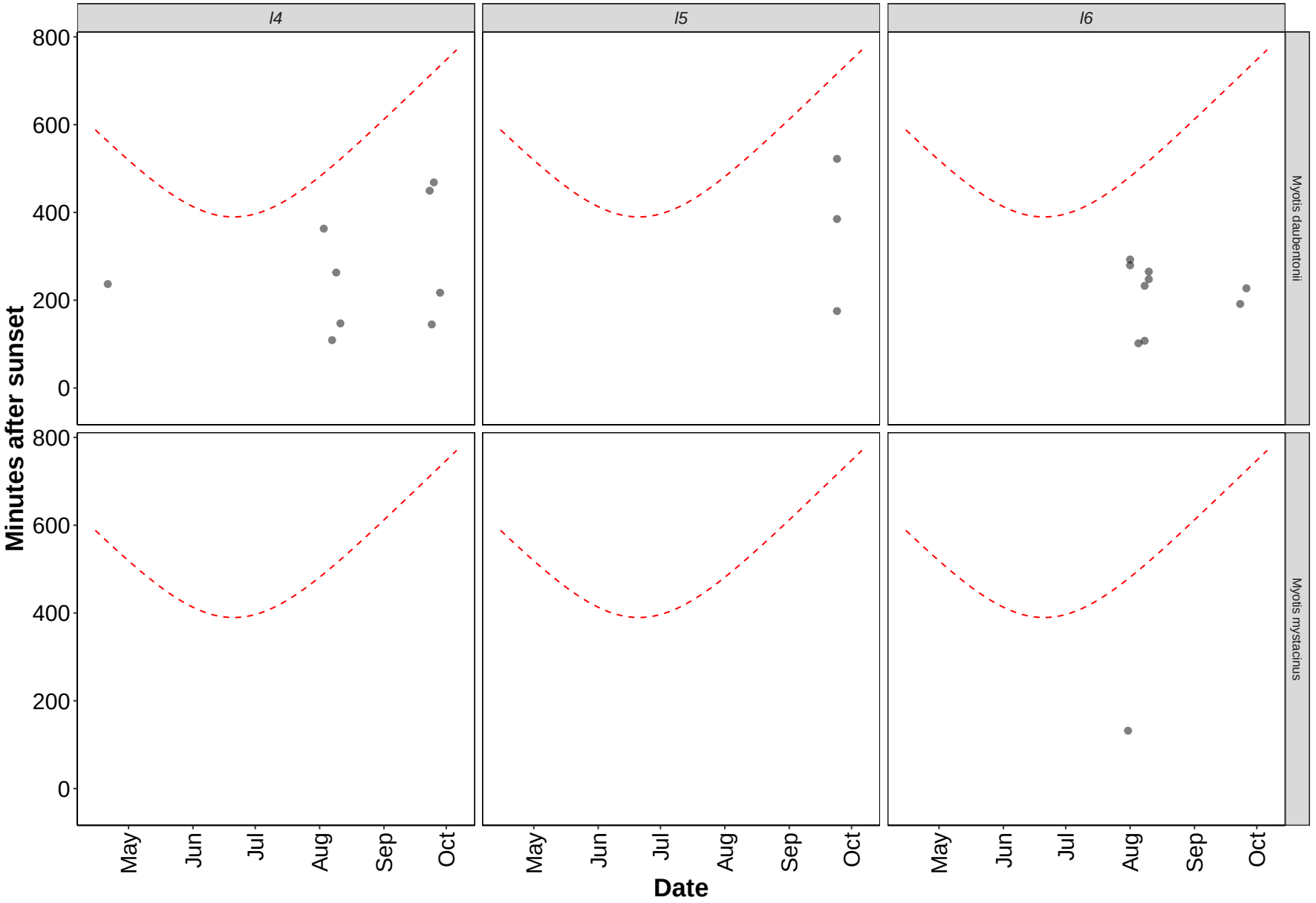
Distribution of Bat Activity Across the Night through Time

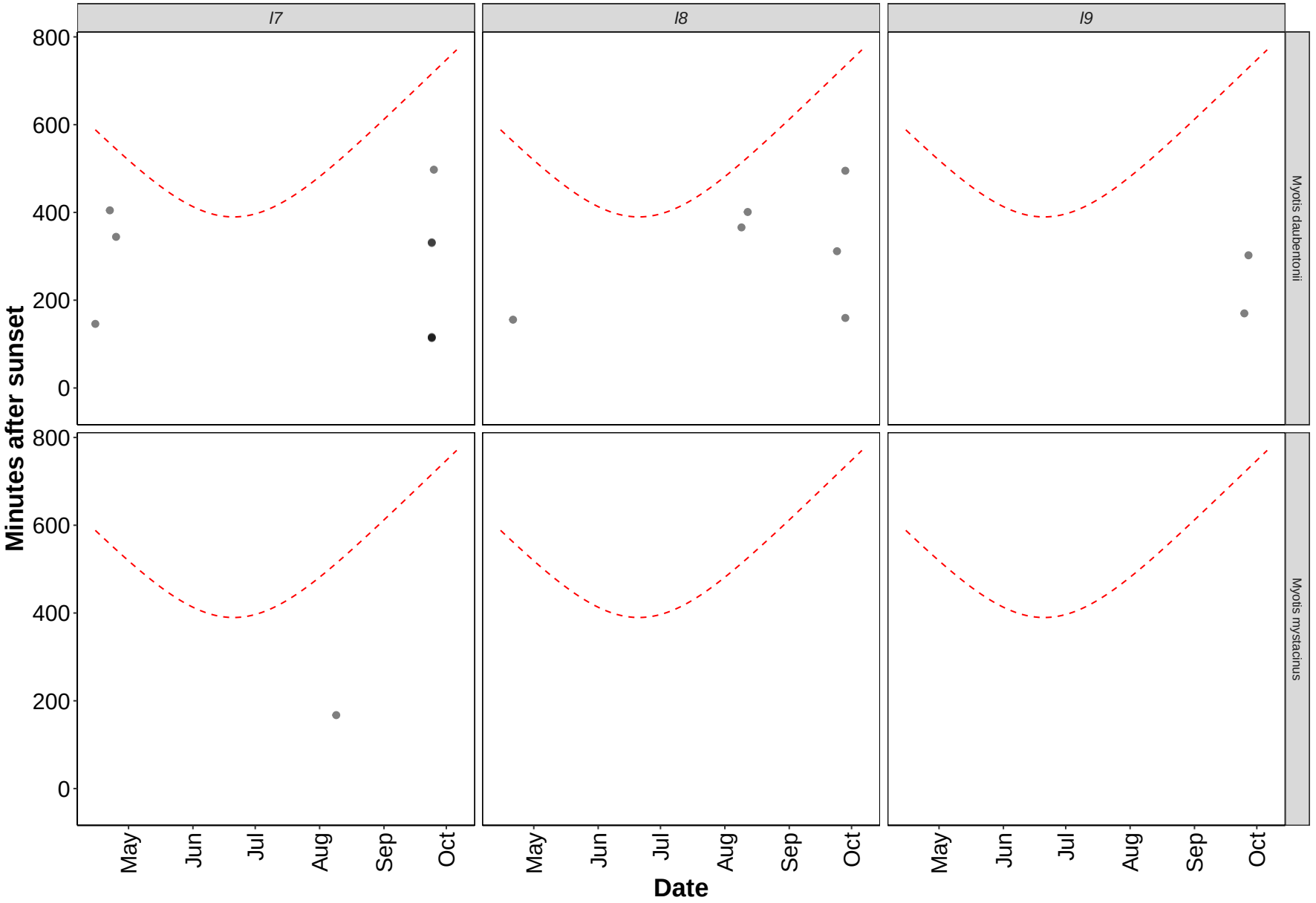
Per Detector

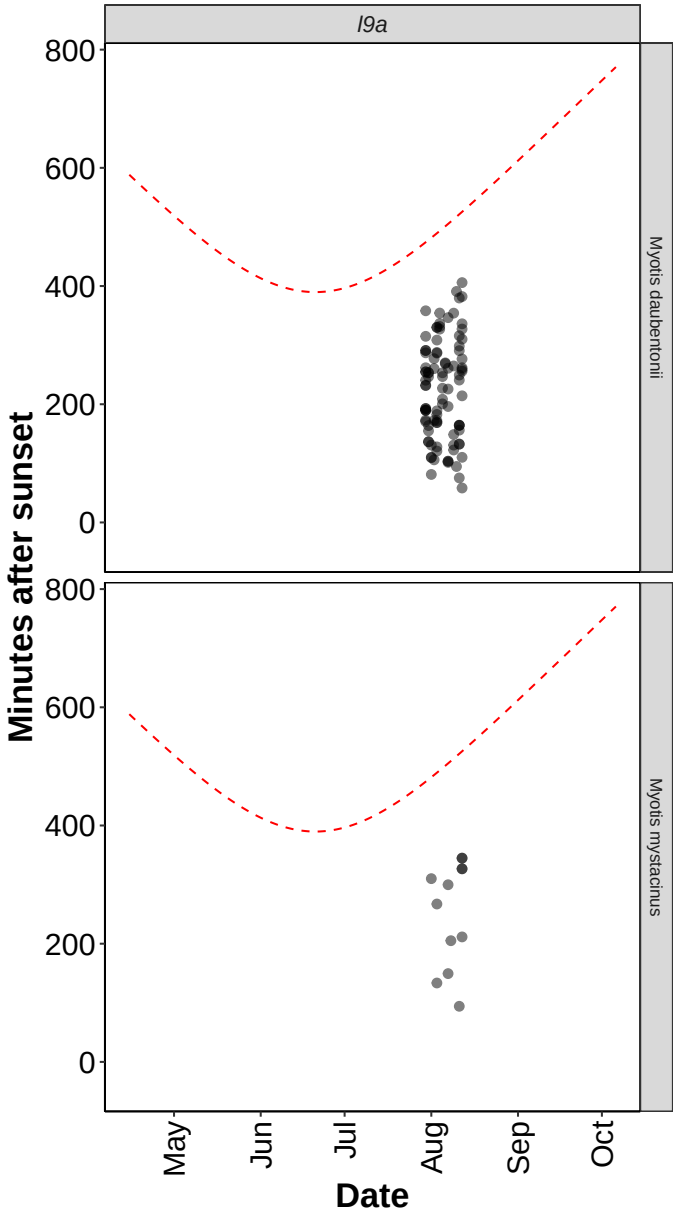
Figure 7. Timing of bat calls plotted as minutes before/after sunset, whereby 0 on the y axis represents sunset. Sunrise throughout the survey period is depicted as the red dashed line. Colours indicate kernel densities, with darkest colours showing peaks of activity. These colours are comparative only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

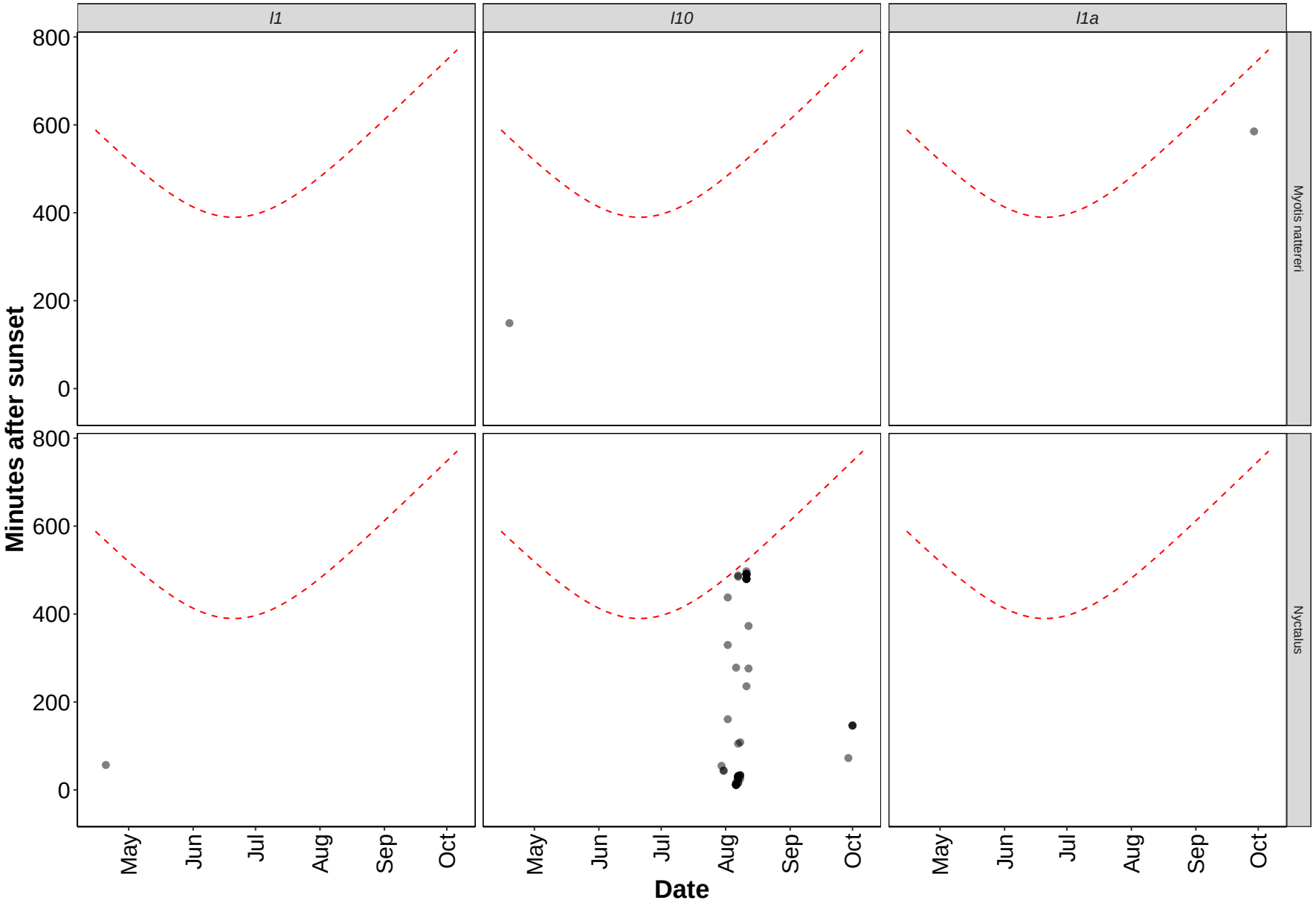

l1
l10
l1a
Myotis daubentonii
Myotis mystacinus
Minutes after sunset
0
200
400
600
800
May
Jun
Jul
Aug
Sep
Oct
Date

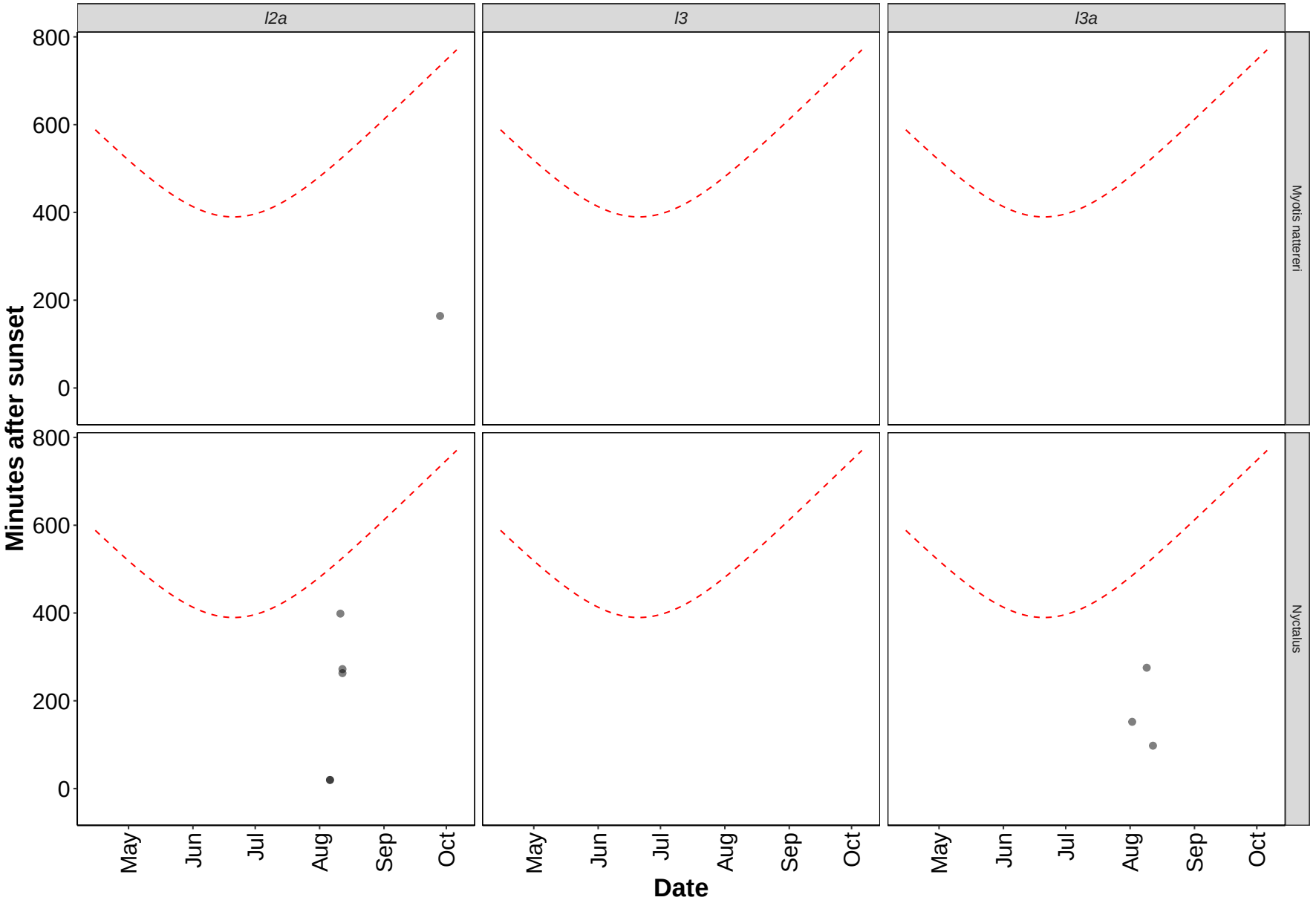

I2a
I3
I3a
Myotis daubentonii
Myotis mystacinus
Minutes after sunset
800
600
400
200
0
May
Jun
Jul
Aug
Sep
Oct
Date

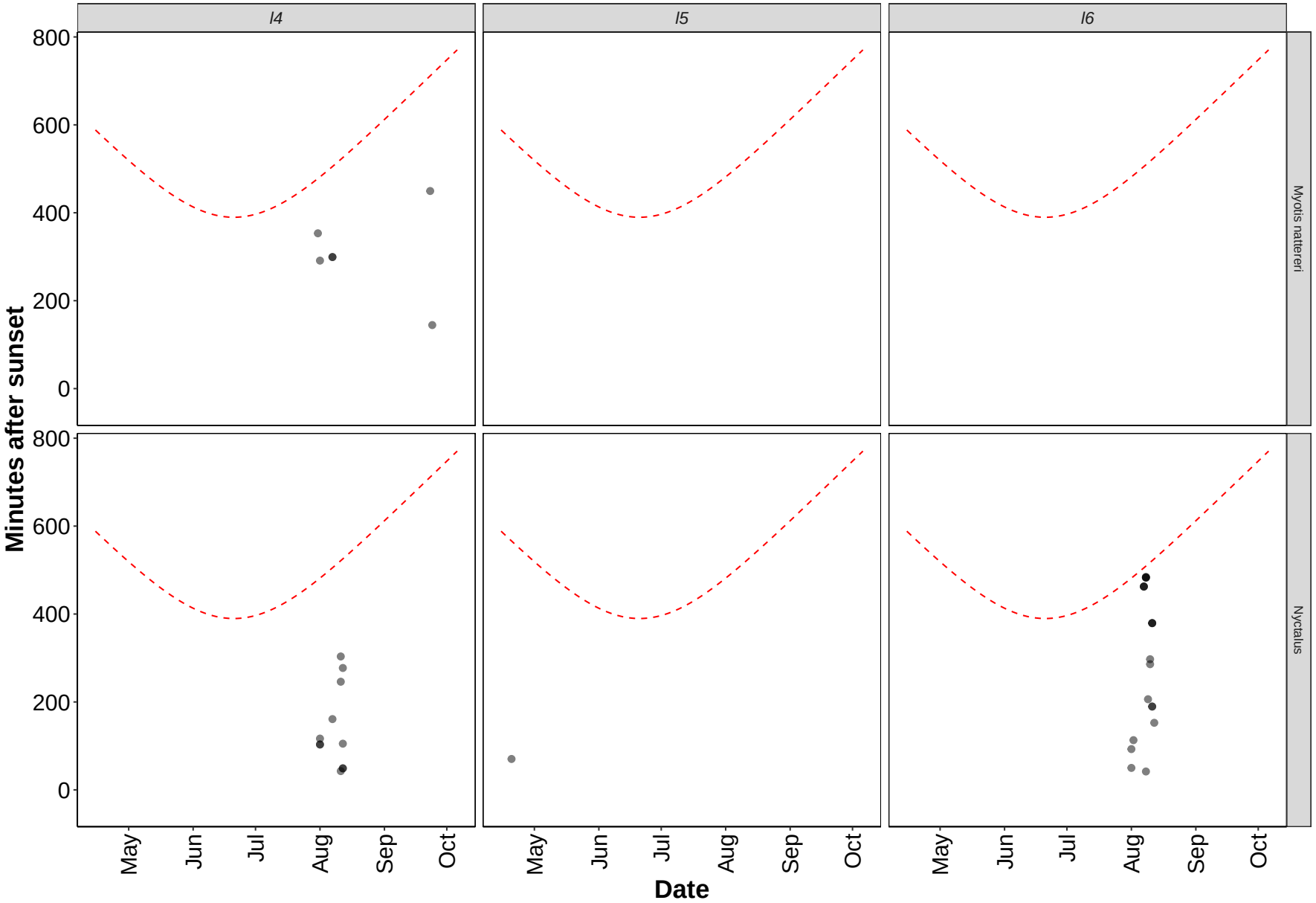

I4
I5
I6
Myotis daubentonii
Myotis mystacinus
Minutes after sunset
0
200
400
600
800
May
Jun
Jul
Aug
Sep
Oct
Date

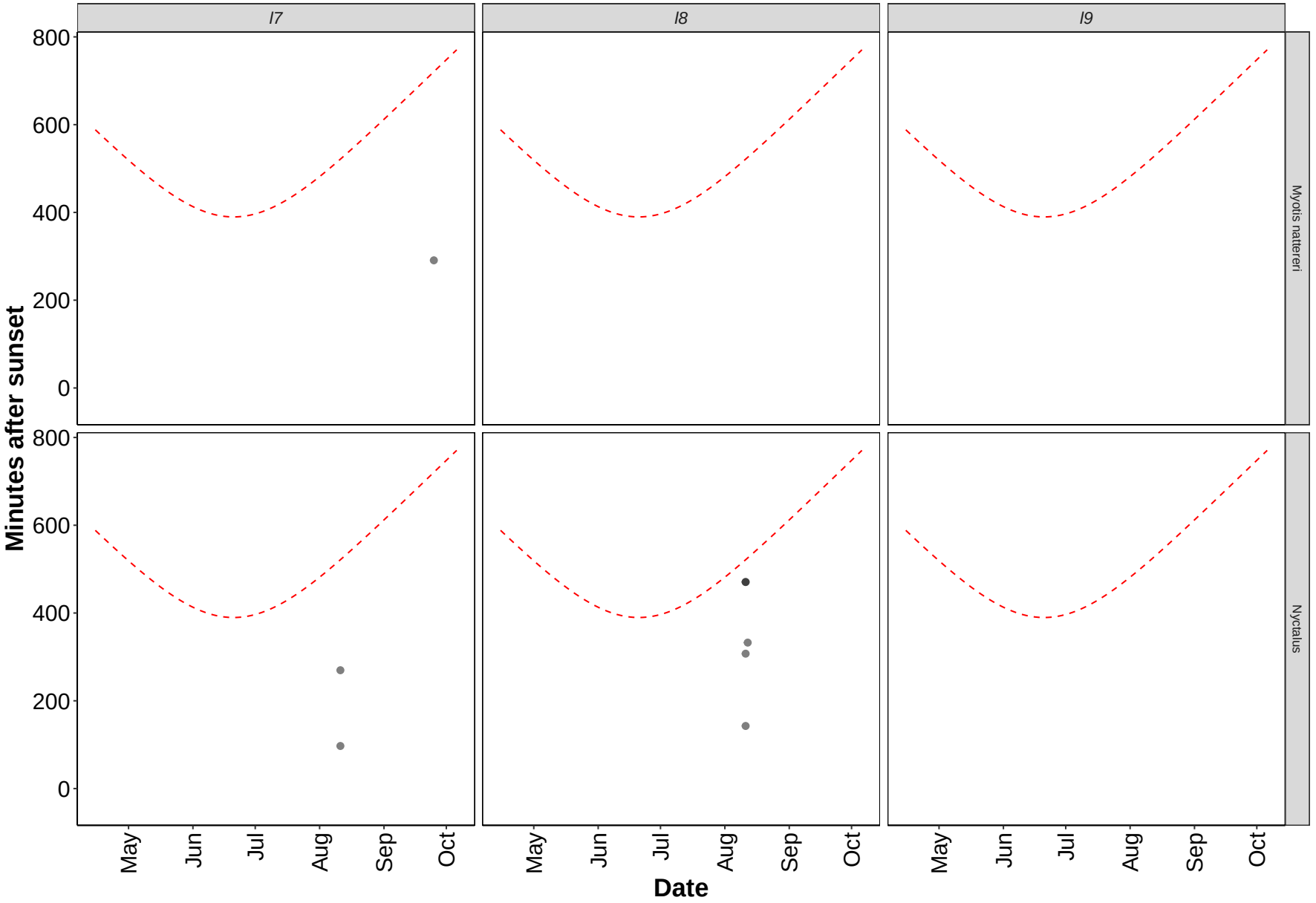

I7
I8
I9
Myotis daubentonii
Myotis mystacinus
Minutes after sunset
0
200
400
600
800
May
Jun
Jul
Aug
Sep
Oct
Date

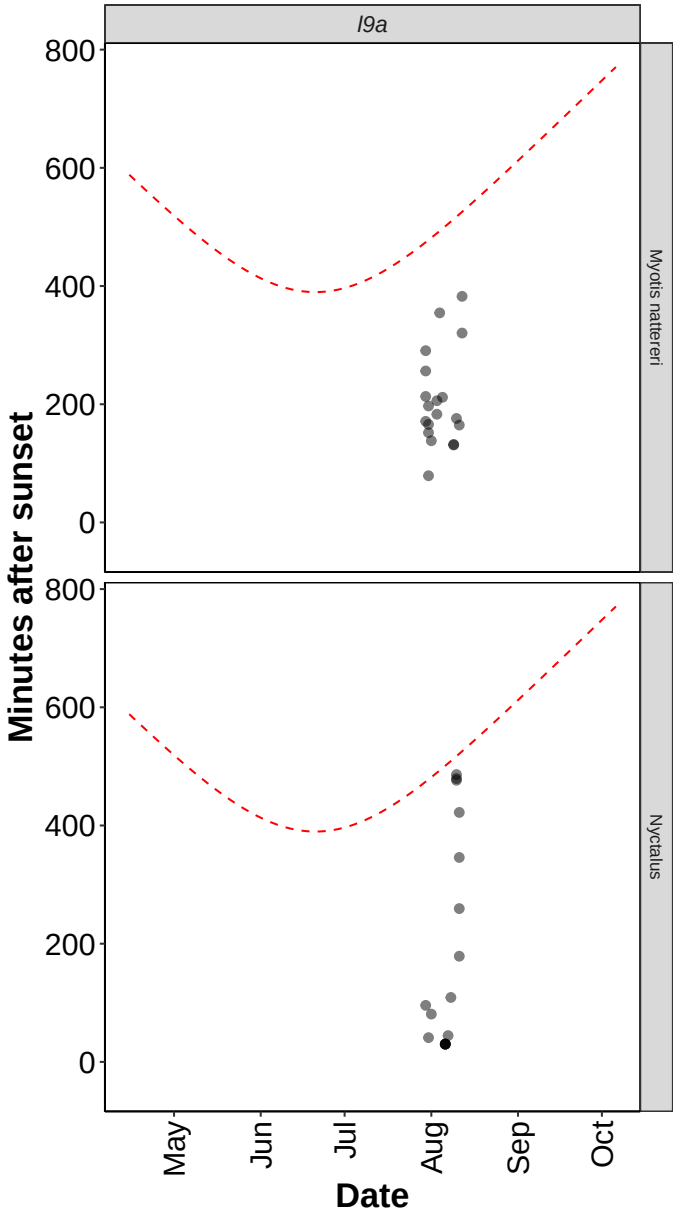

I9a
Myotis daubentonii
Myotis mystacinus
Minutes after sunset
800
600
400
200
0
May
Jun
Jul
Aug
Sep
Oct
Date

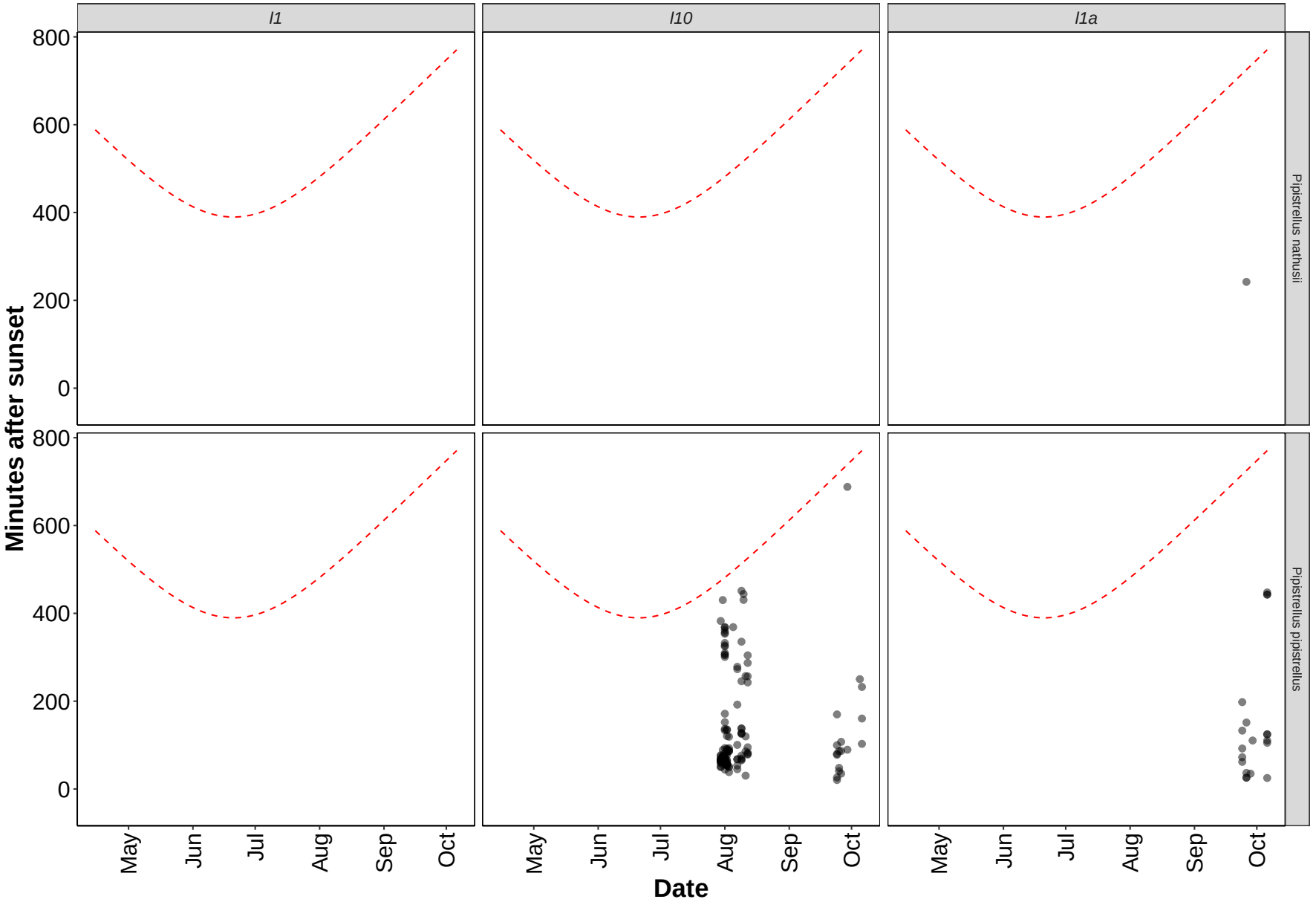

I1
I10
I1a
Myotis nattereri
Nyctalus
Minutes after sunset
0
200
400
600
800
May
Jun
Jul
Aug
Sep
Oct
Date


I2a
I3
I3a
Myotis nattereri
Nyctalus
Minutes after sunset
0
200
400
600
800
May
Jun
Jul
Aug
Sep
Oct
Date


I4
I5
I6
Myotis nattereri
Nyctalus
Minutes after sunset
0
200
400
600
800
May
Jun
Jul
Aug
Sep
Oct
Date


I7
I8
I9
Myotis nattereri
Nyctalus
Minutes after sunset
0
200
400
600
800
May
Jun
Jul
Aug
Sep
Oct
Date


I9a
Myotis nattereri
Nyctalus
Minutes after sunset
0
200
400
600
800
May
Jun
Jul
Aug
Sep
Oct
Date


l1
l10
l1a
Pipistrellus nathusii
Pipistrellus pipistrellus
Minutes after sunset
800
600
400
200
0
May
Jun
Jul
Aug
Sep
Oct
Date

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.

Table 12: Table continues below

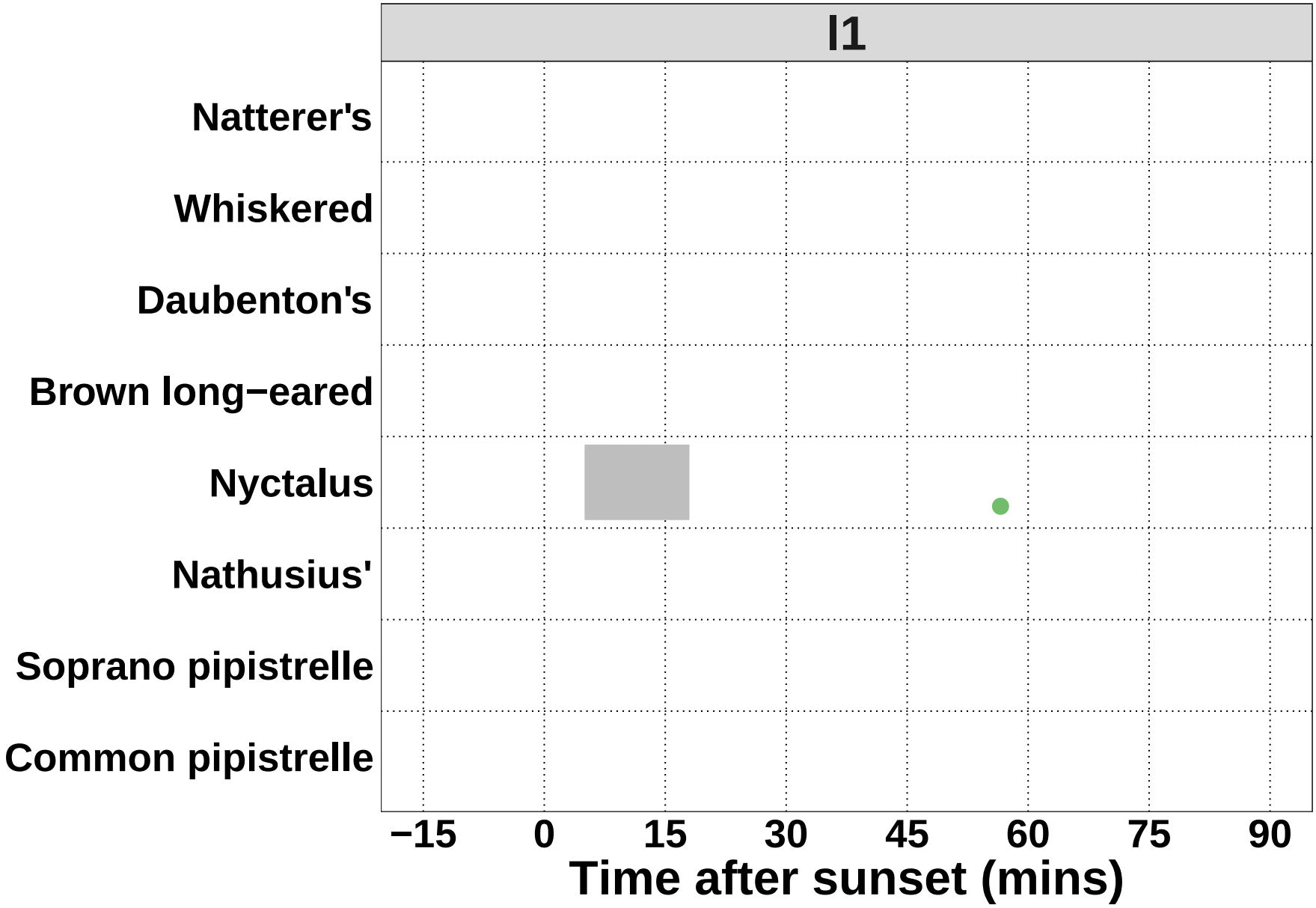
Species	Detector ID	2025-04-15	2025-08-06	2025-08-07	2025-08-11	2025-08-12
Common pipistrelle	l10	0	0	0	1	0
Common pipistrelle	l1a	0	0	0	0	0
Common pipistrelle	l2a	0	0	0	0	0
Common pipistrelle	l5	0	0	0	0	0
Common pipistrelle	l6	0	0	0	0	0
Common pipistrelle	l7	0	0	0	0	0
Common pipistrelle	l8	0	1	0	0	0
Common pipistrelle	l9	1	0	0	0	0
Soprano pipistrelle	l10	0	0	0	0	0
Soprano pipistrelle	l1a	0	0	0	0	0
Soprano pipistrelle	l2a	0	0	0	0	0
Soprano pipistrelle	l5	0	0	0	0	0
Soprano pipistrelle	l6	0	0	0	0	0
Soprano pipistrelle	l7	0	0	0	0	0
Soprano pipistrelle	l8	0	0	0	0	0
Soprano pipistrelle	l9	0	0	0	0	0
Nyctalus	l10	0	9	2	0	0
Daubenton's	l9a	0	0	0	0	1

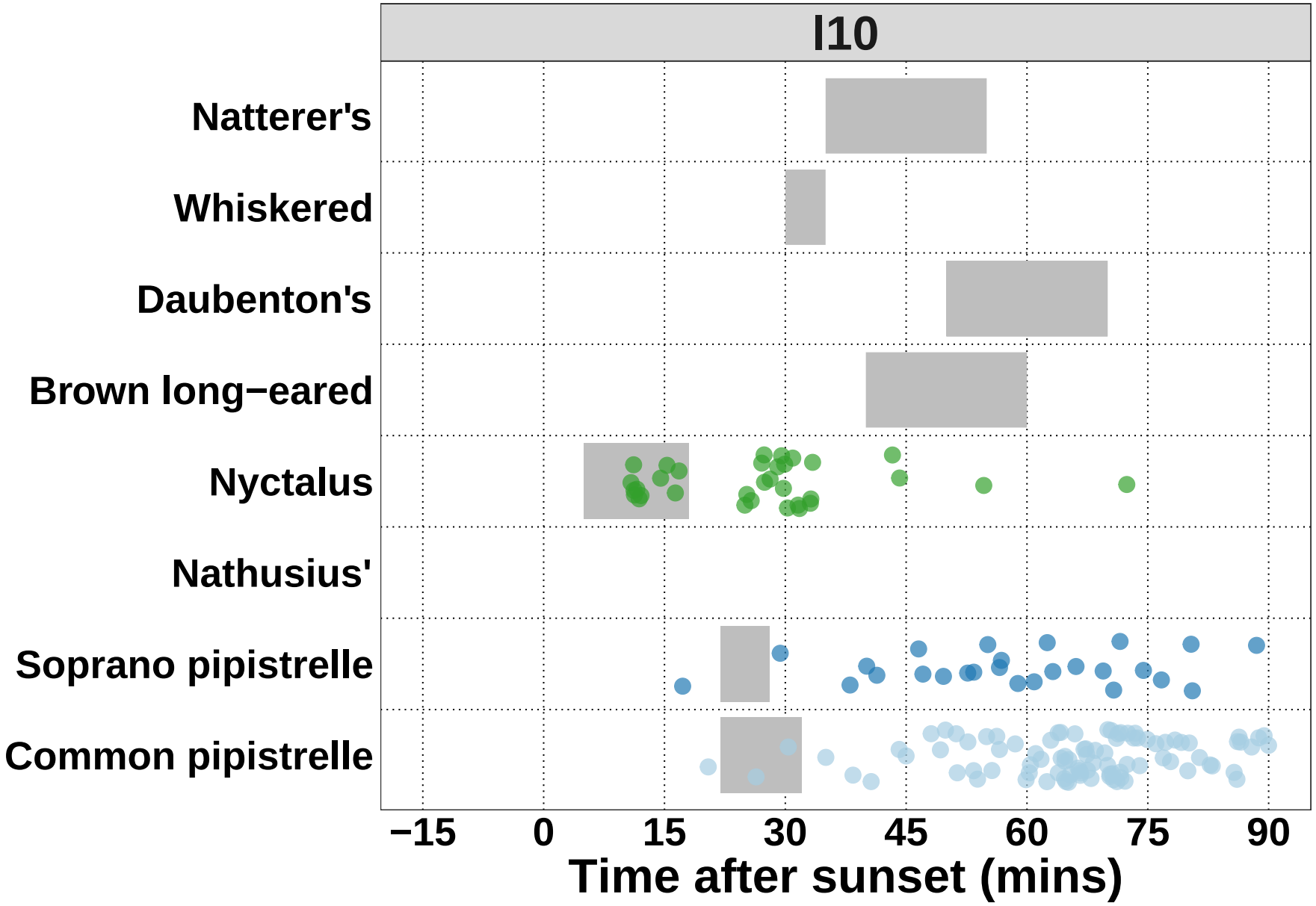
2025-09-23	2025-09-24	2025-09-25	2025-09-26	2025-09-29	2025-10-06
0	2	0	0	0	0
0	0	0	2	0	1
0	2	1	0	0	0

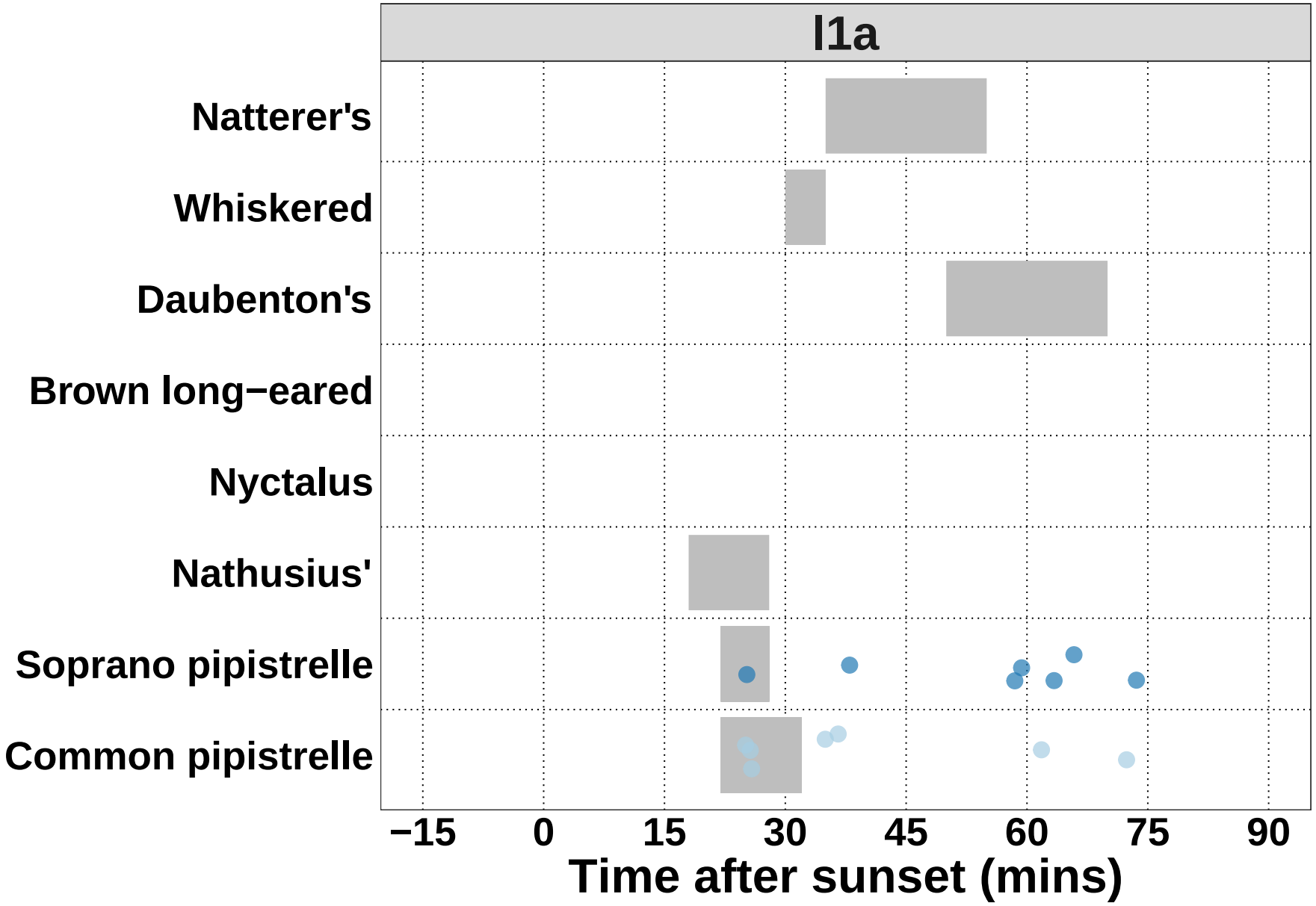
2025-09-23	2025-09-24	2025-09-25	2025-09-26	2025-09-29	2025-10-06
0	3	0	0	1	0
0	2	0	0	0	1
1	3	0	0	0	0
0	1	0	1	0	0
0	2	0	6	0	0
0	0	0	1	0	0
0	1	0	0	0	0
0	2	0	0	1	0
0	0	1	0	1	0
0	2	0	1	0	0
1	2	0	2	1	0
0	3	0	0	5	0
0	4	0	0	2	0
0	0	0	0	0	0
0	0	0	0	0	0

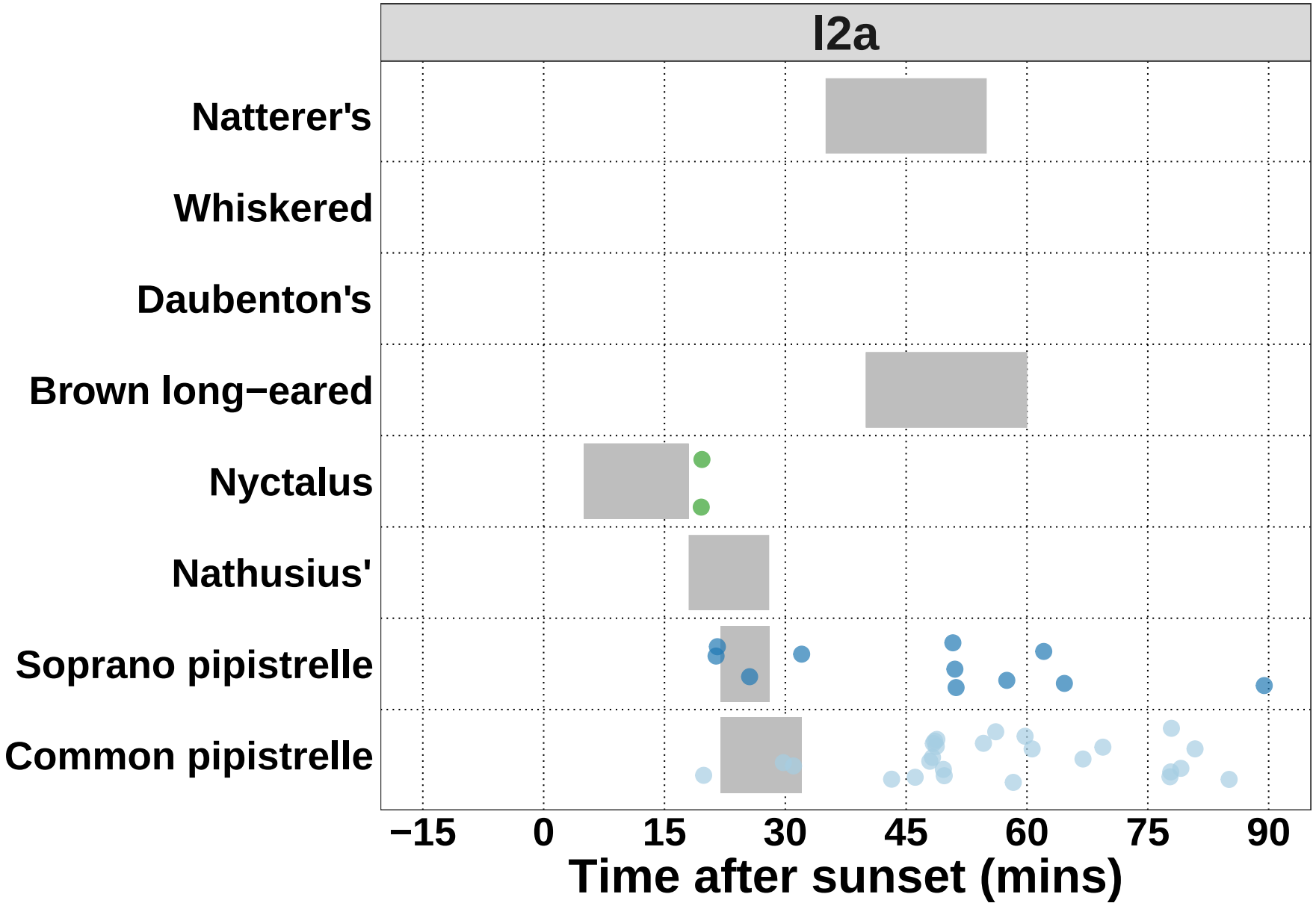
Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012)

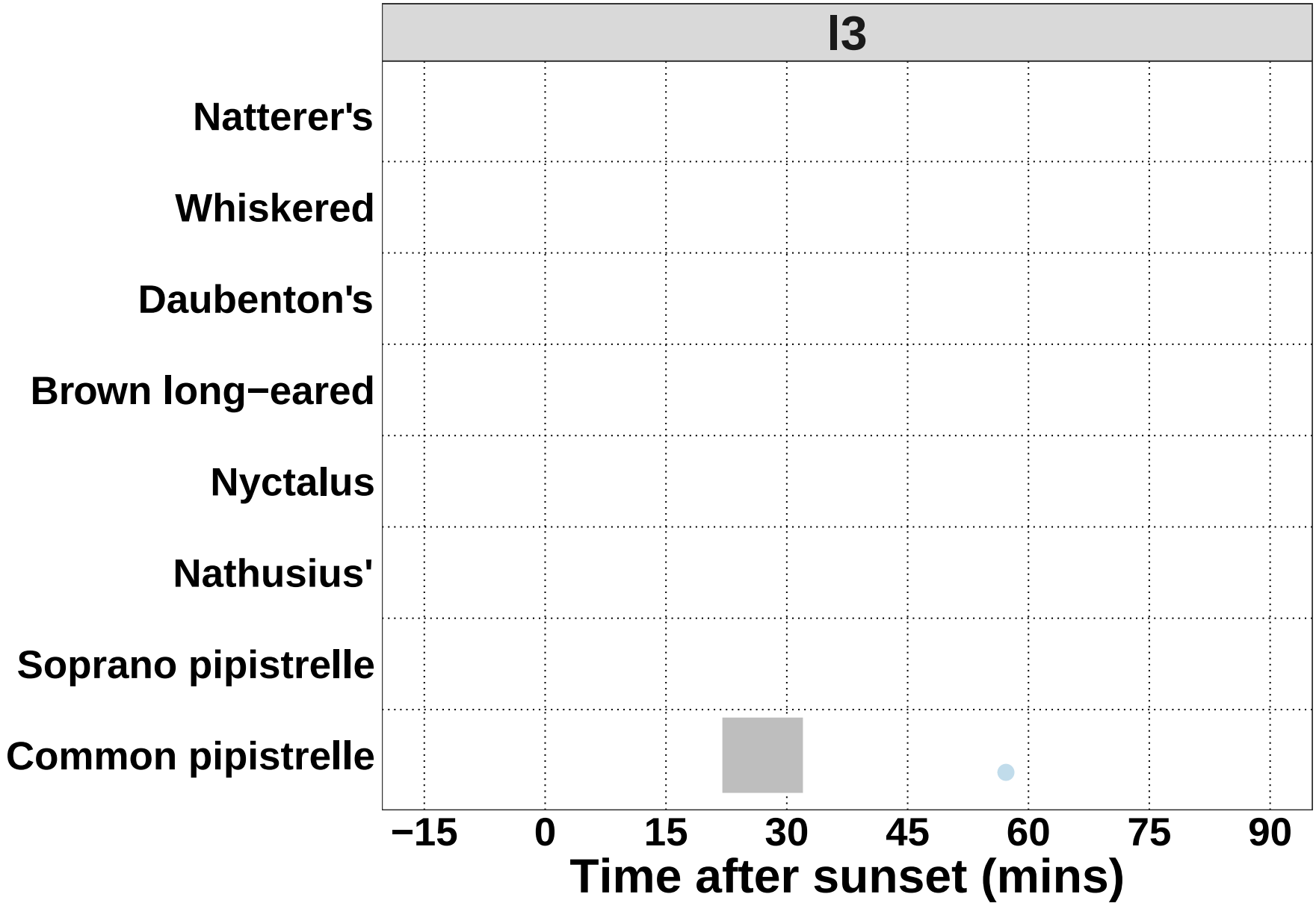
Figure 8. Time from 15 minutes before to 90 minutes after sunset. Species-specific emergence time ranges are shown as grey bars. Bat passes overlapping species-specific grey bars, or occuring earlier than this time range, may potentially indicate the presence of a nearby roost.

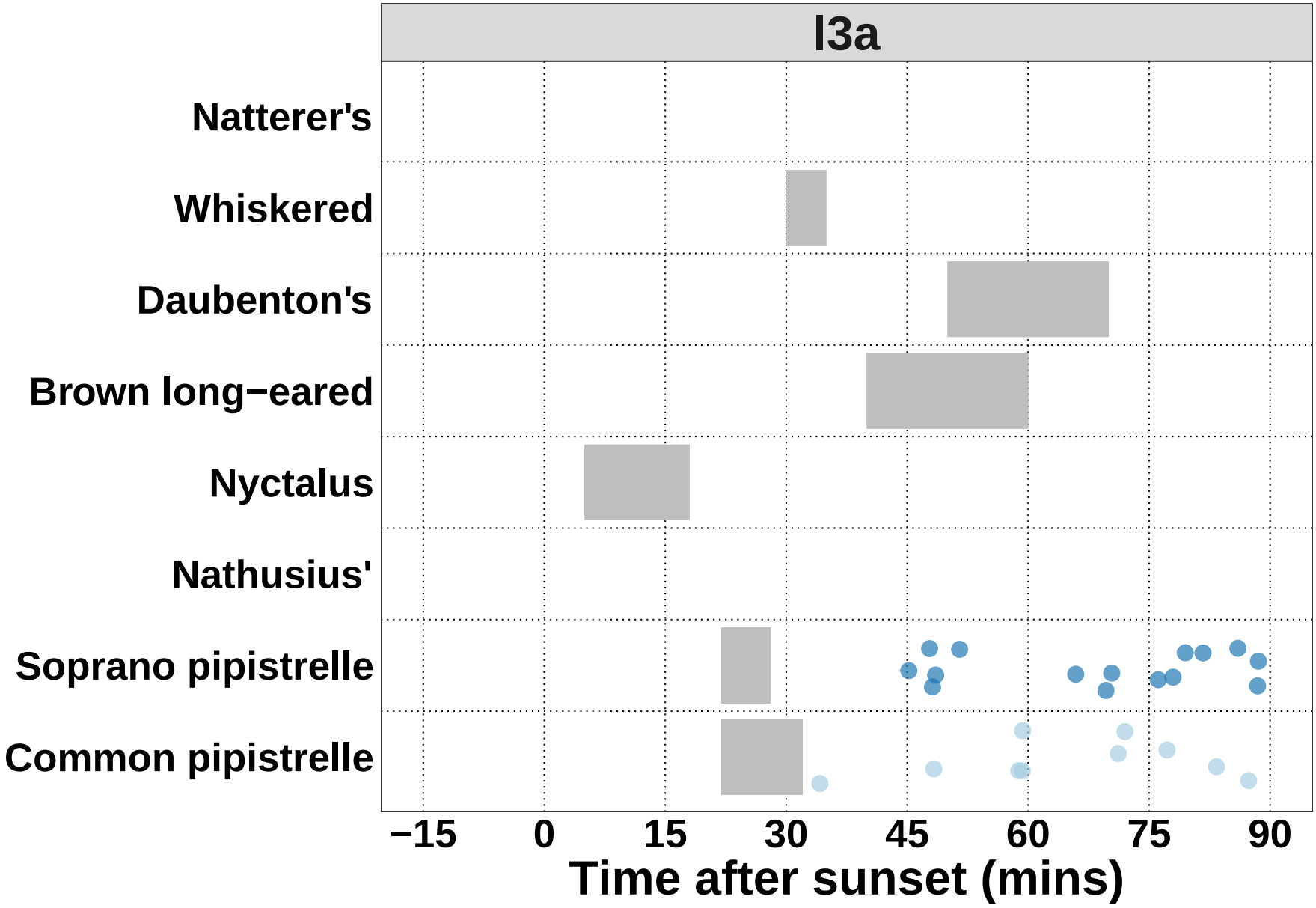

l1
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

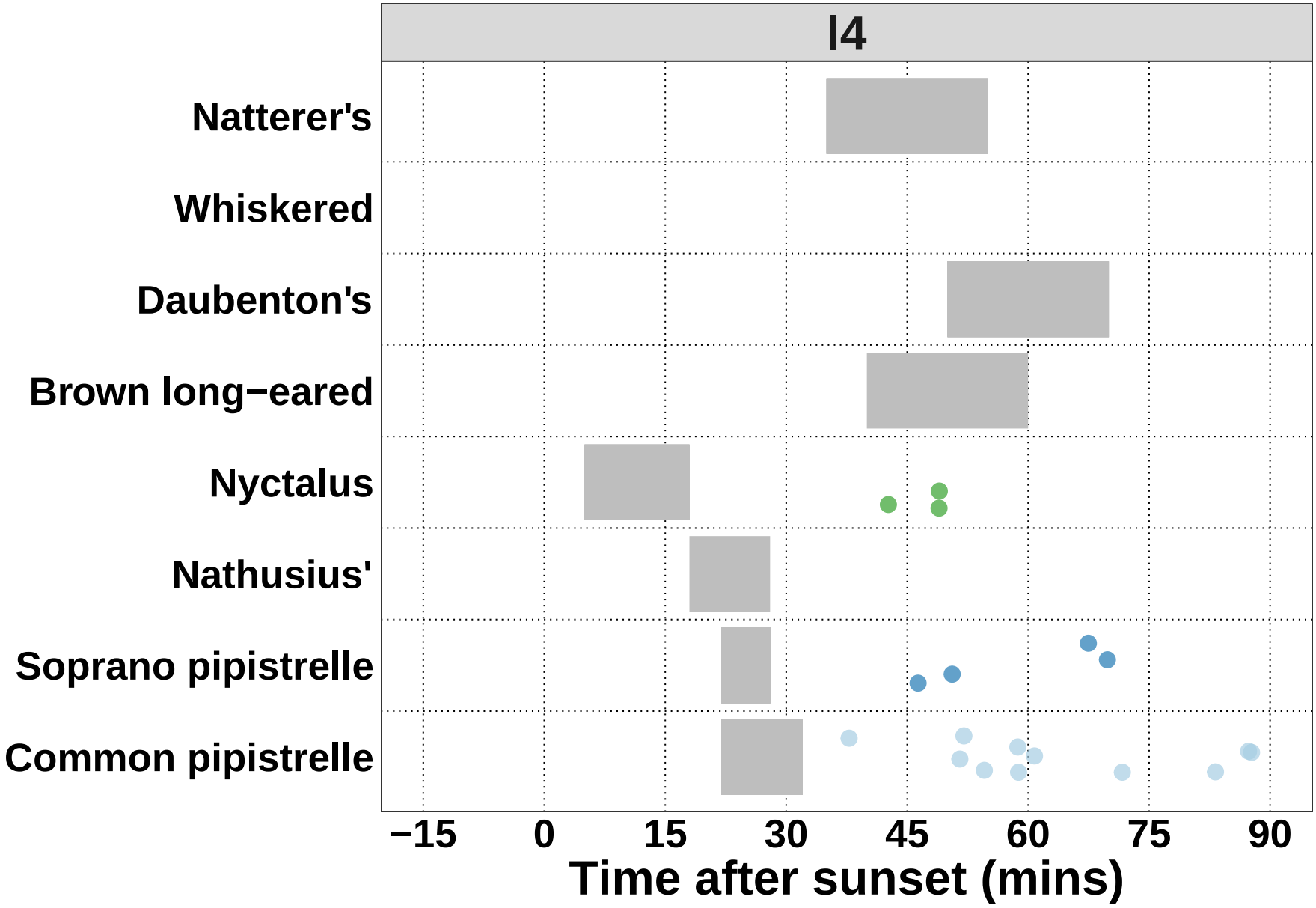

I10
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

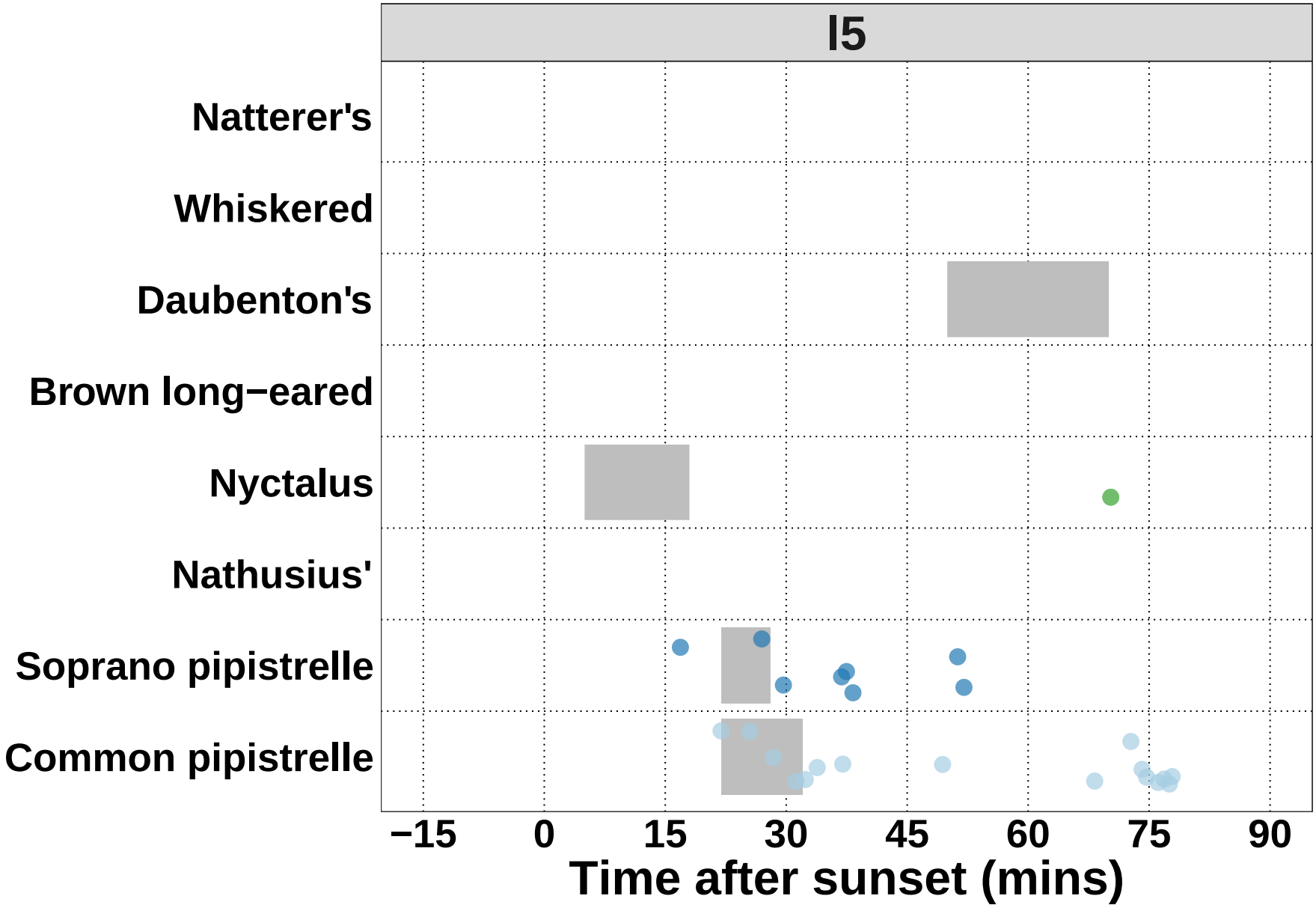

I1a
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

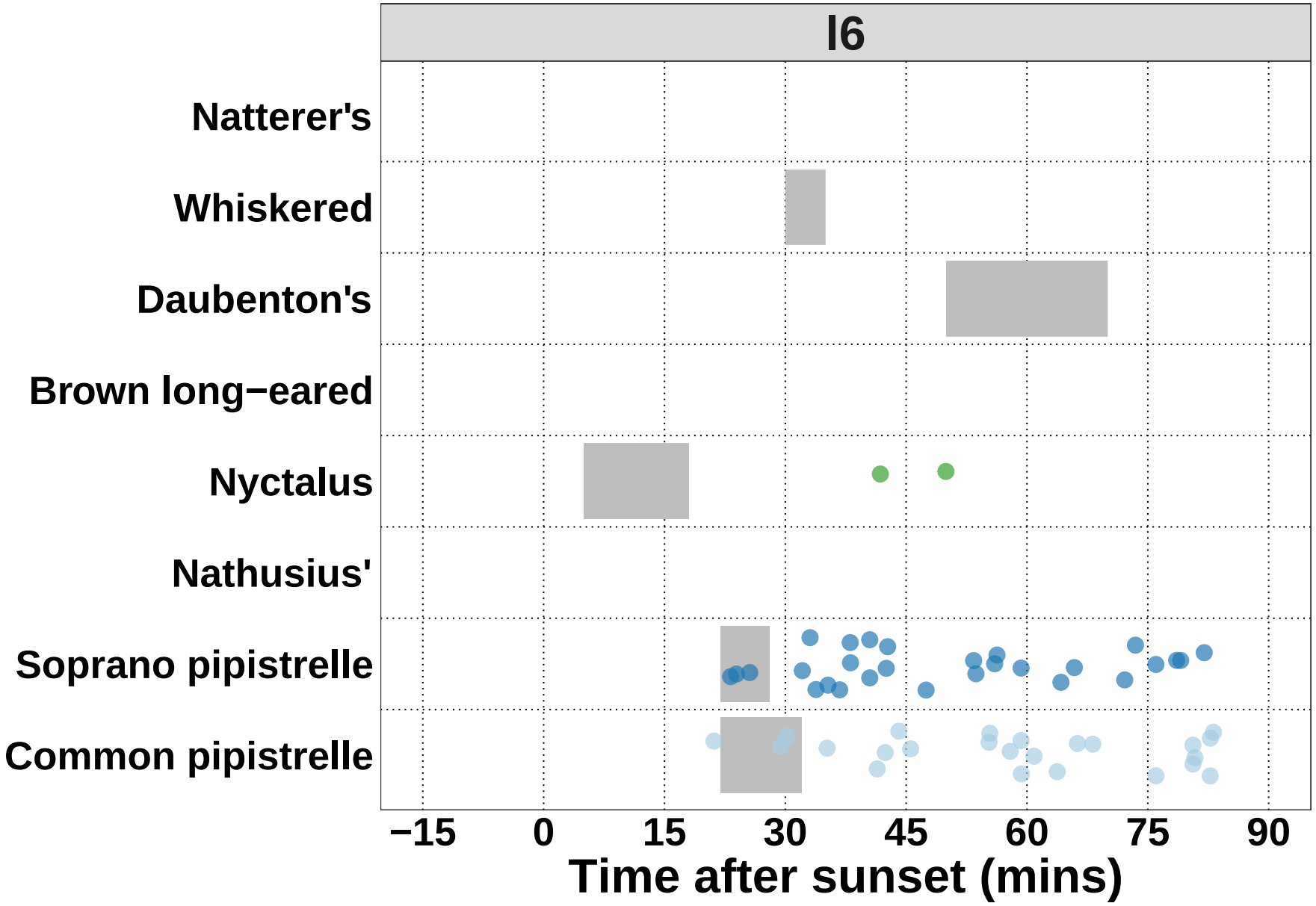

I2a
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

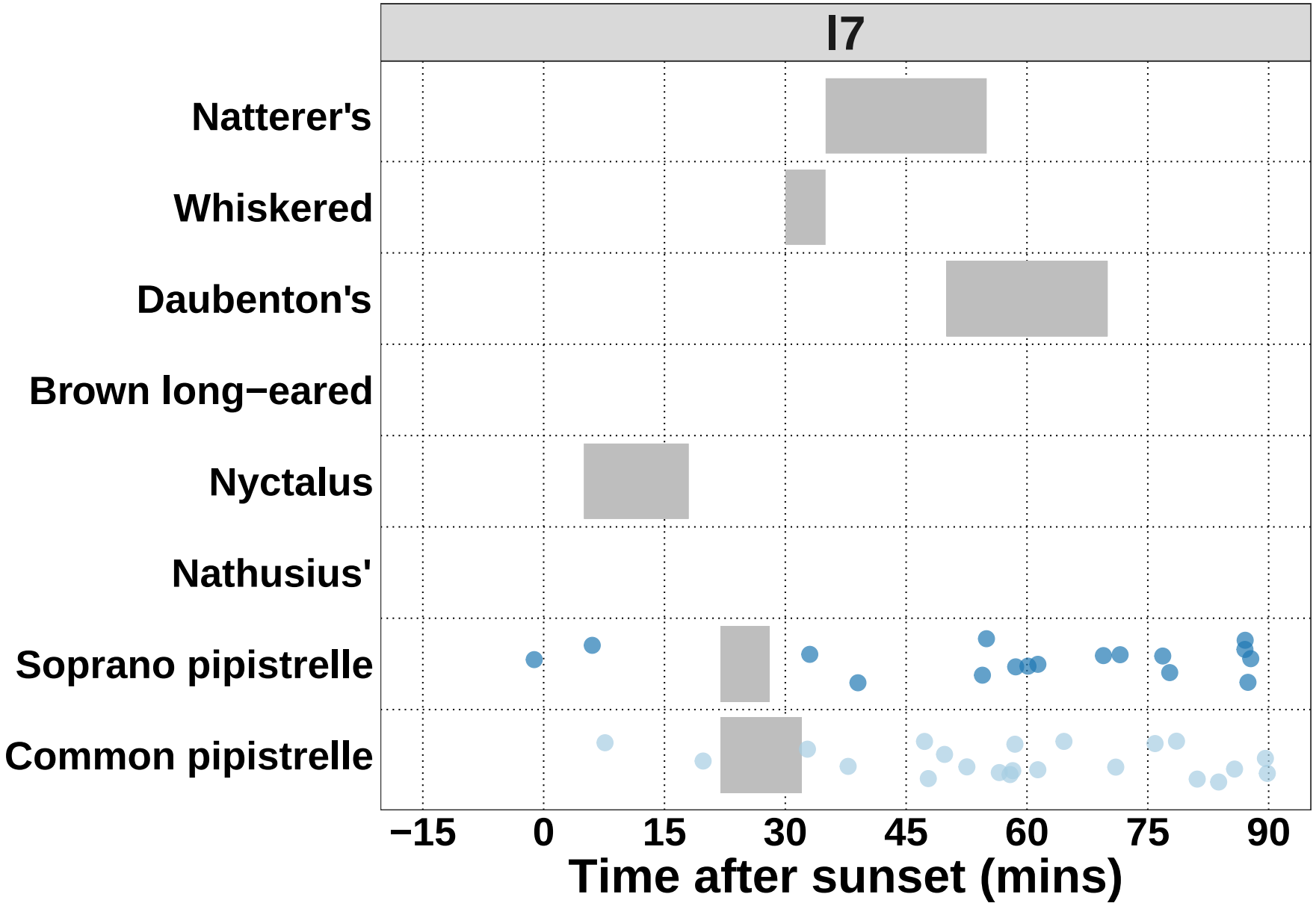

I3
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

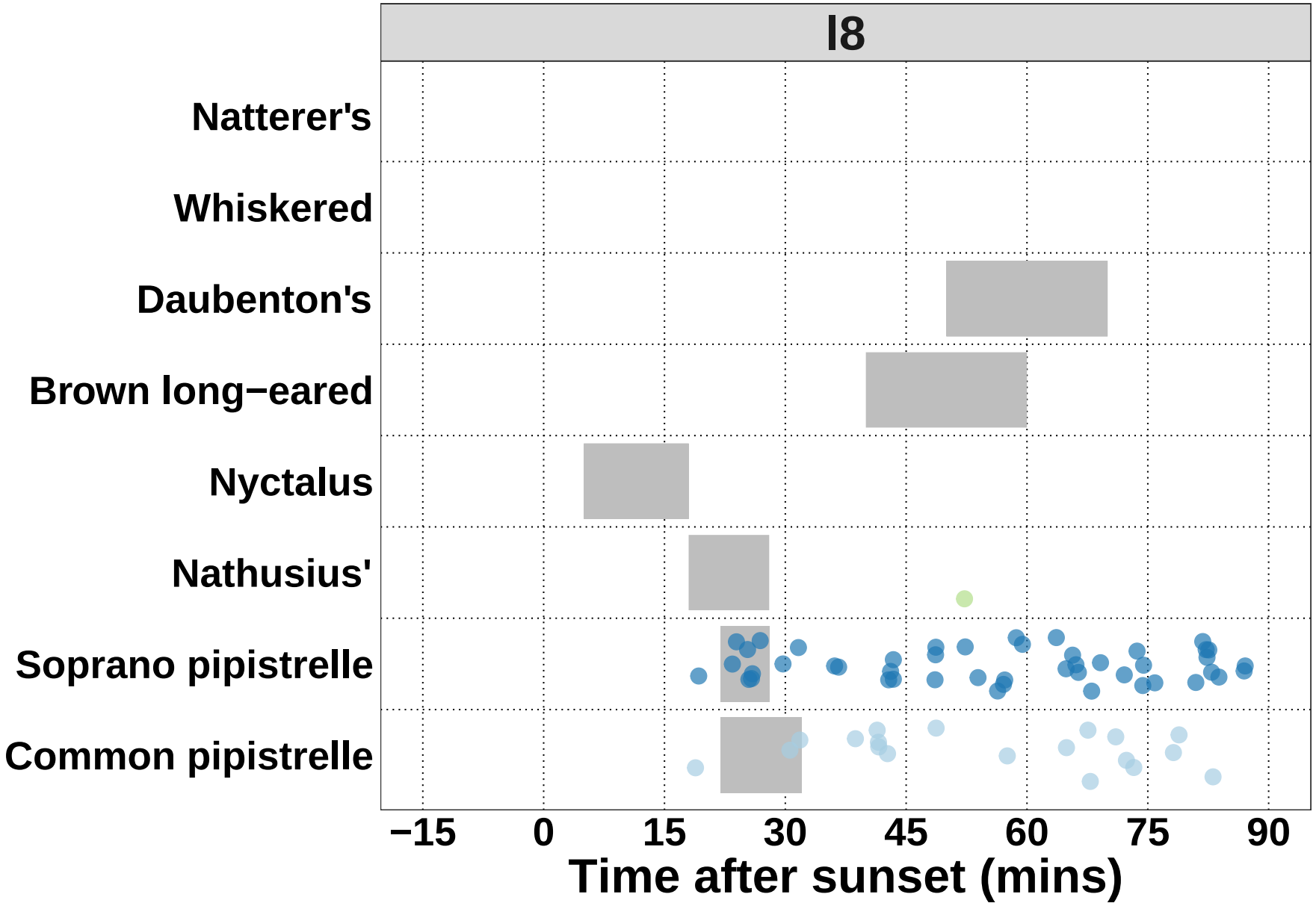

l3a
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

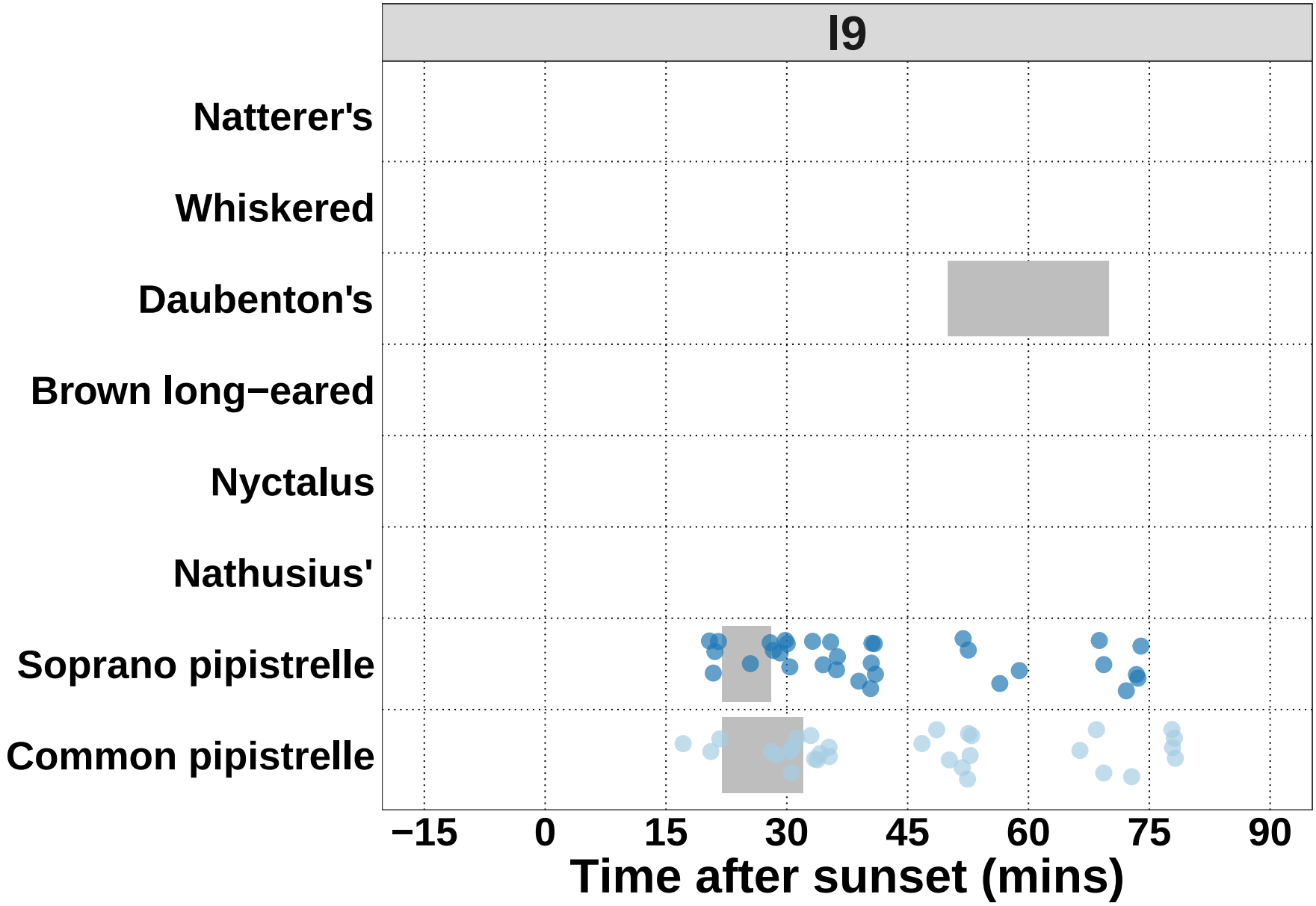

I4
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

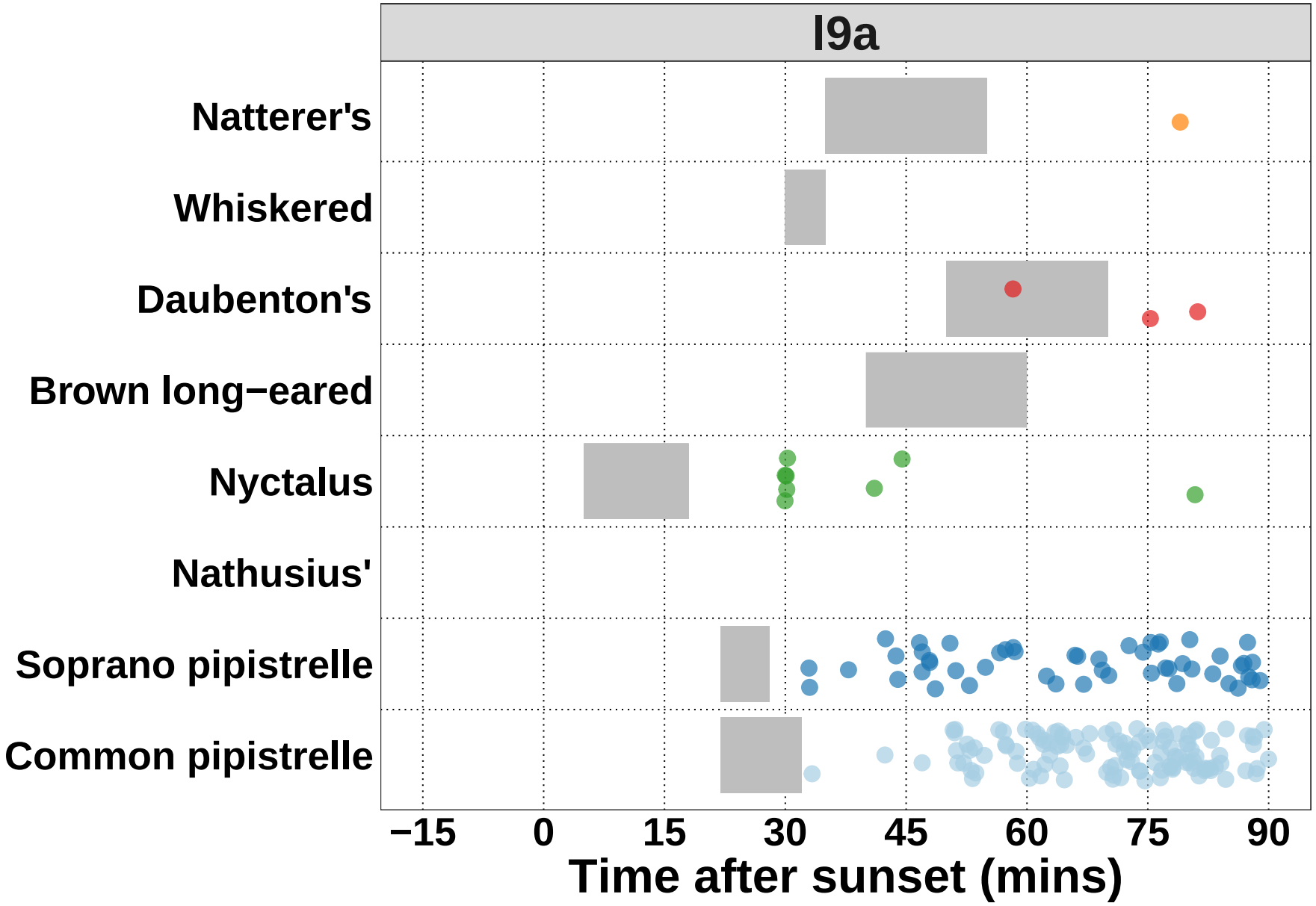

I5
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


I6
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


I7
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


I8
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

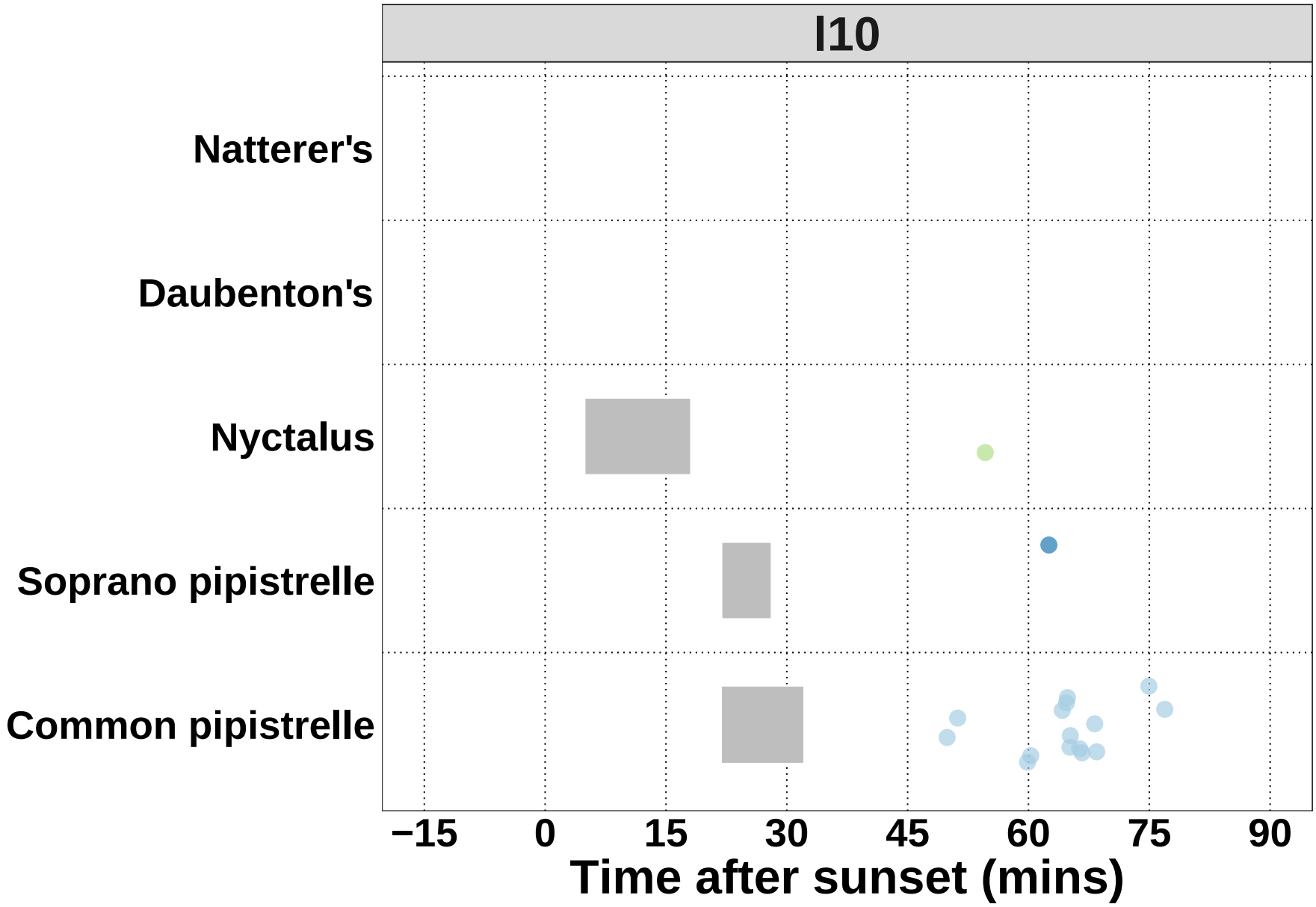

I9
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

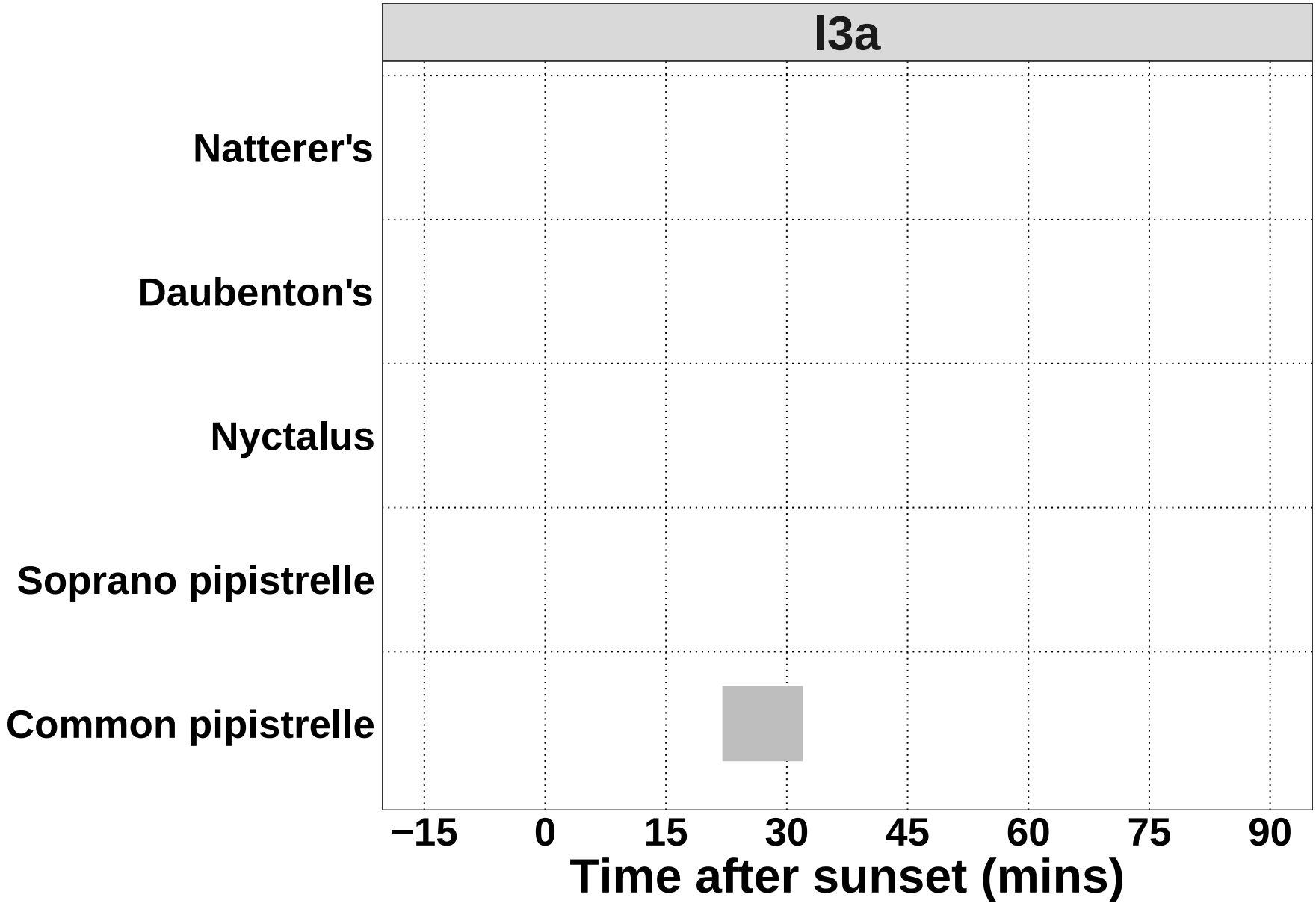

I9a
Natterer's
Whiskered
Daubenton's
Brown long−eared
Nyctalus
Nathusius'
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

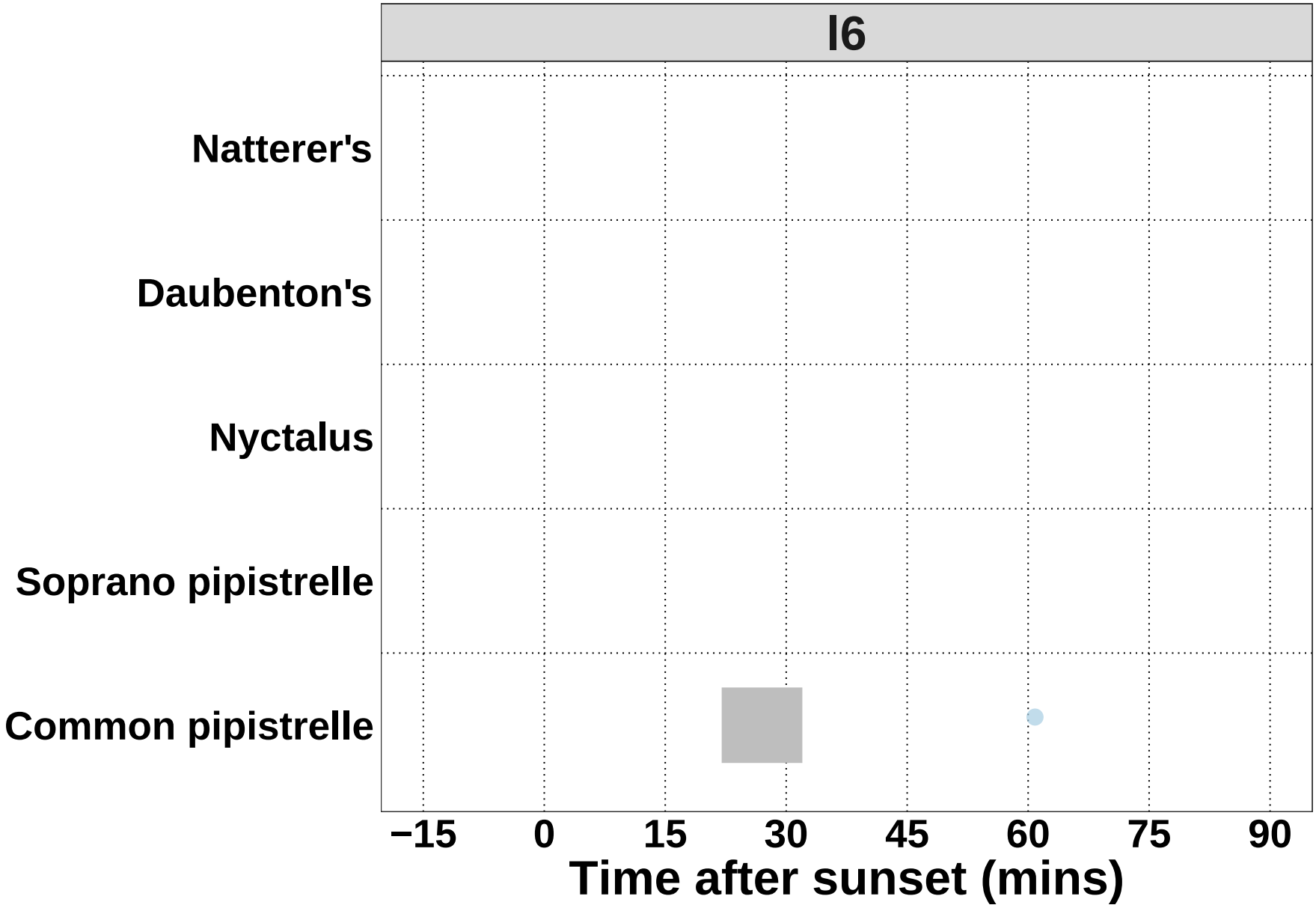
Bat Passes Potentially Indicating Close Proximity to a Roost (Maternity Period Only) - *Maternity period defined as 15th June - 30th July.

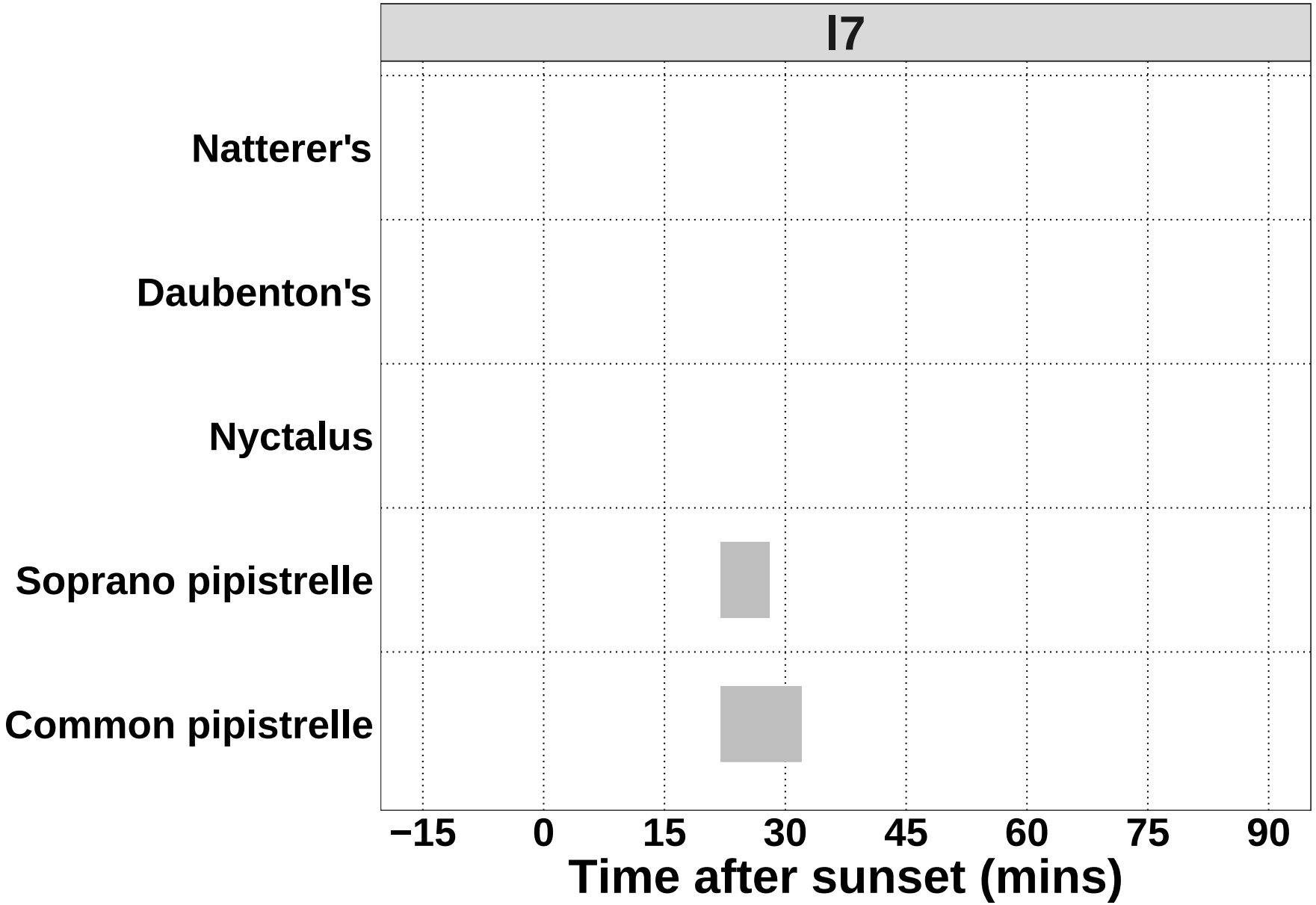
Species	Detector ID

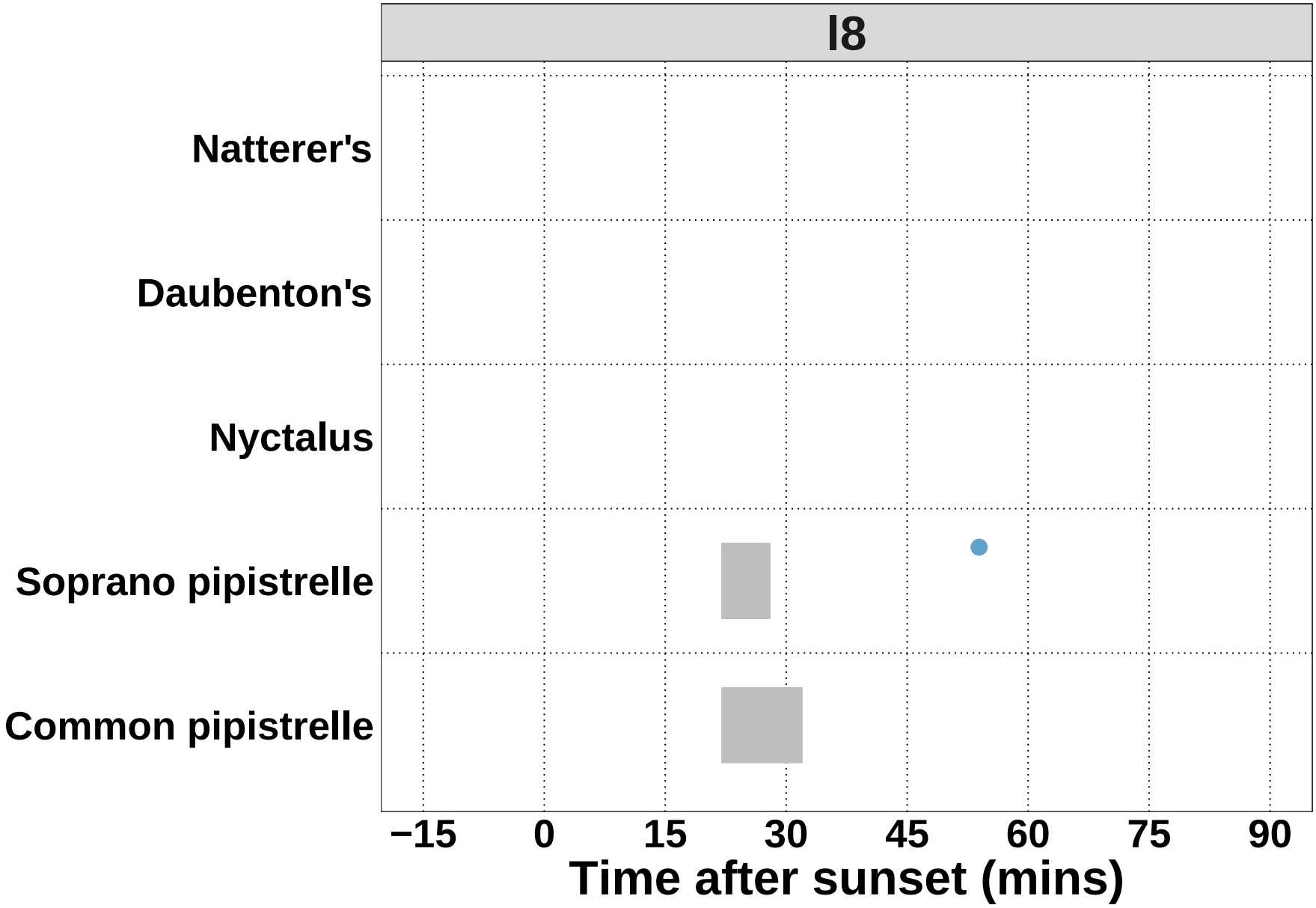
Bat Passes Potentially Indicating Close Proximity to a Roost (Maternity Period Only) - Maternity period defined as 15th June - 30th July.

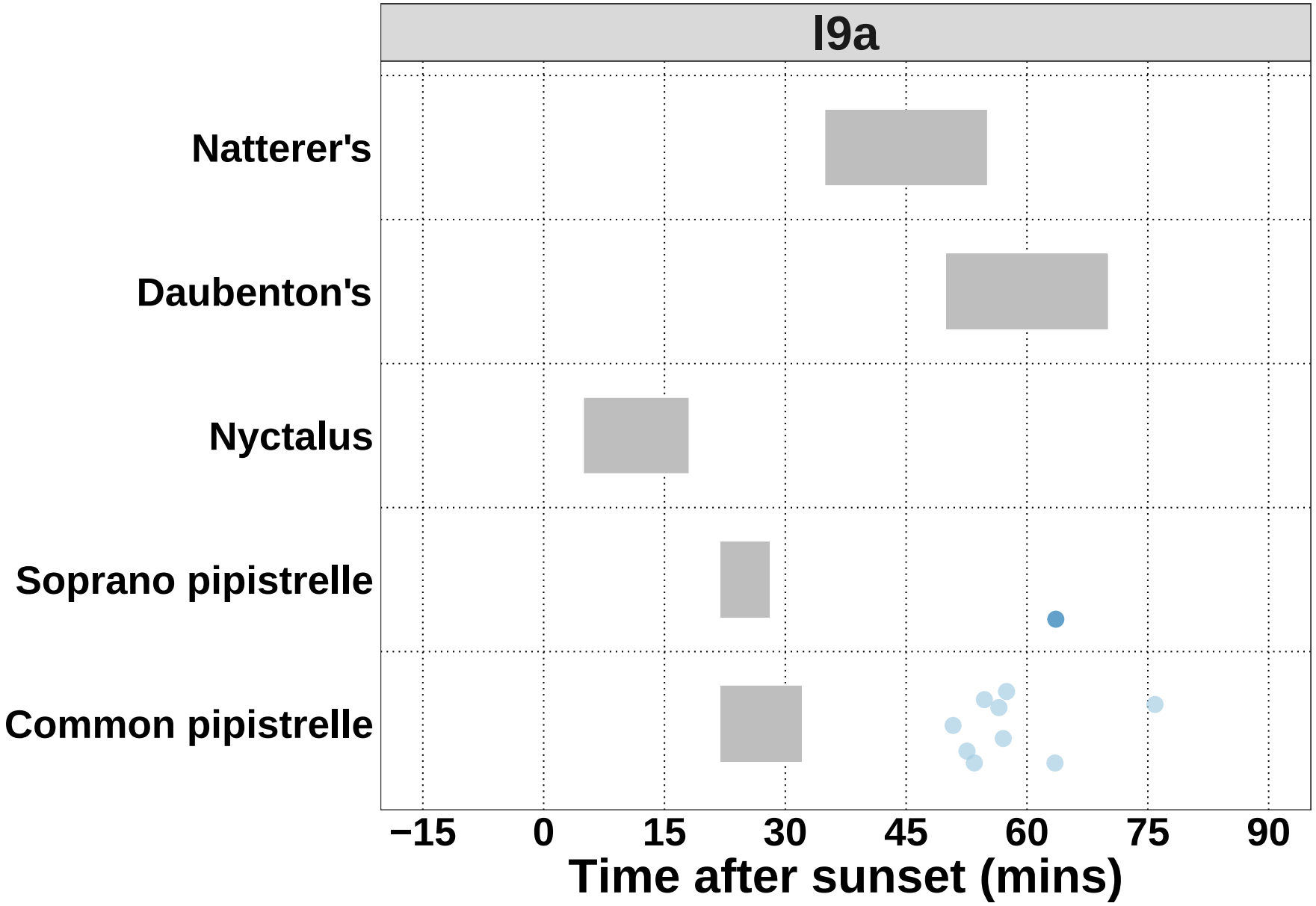

I10
Natterer's
Daubenton's
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


I3a
Natterer's
Daubenton's
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


I6
Natterer's
Daubenton's
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


I7
Natterer's
Daubenton's
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


I8
Natterer's
Daubenton's
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


I9a
Natterer's
Daubenton's
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

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 daubentonii	144	5.9
Myotis mystacinus	18	0.7
Myotis nattereri	29	1.2
Nyctalus	125	5.1
Pipistrellus nathusii	4	0.2
Pipistrellus pipistrellus	1176	47.8
Pipistrellus pygmaeus	952	38.7
Plecotus auritus	11	0.4
Total	2459	100.0

Per Detector

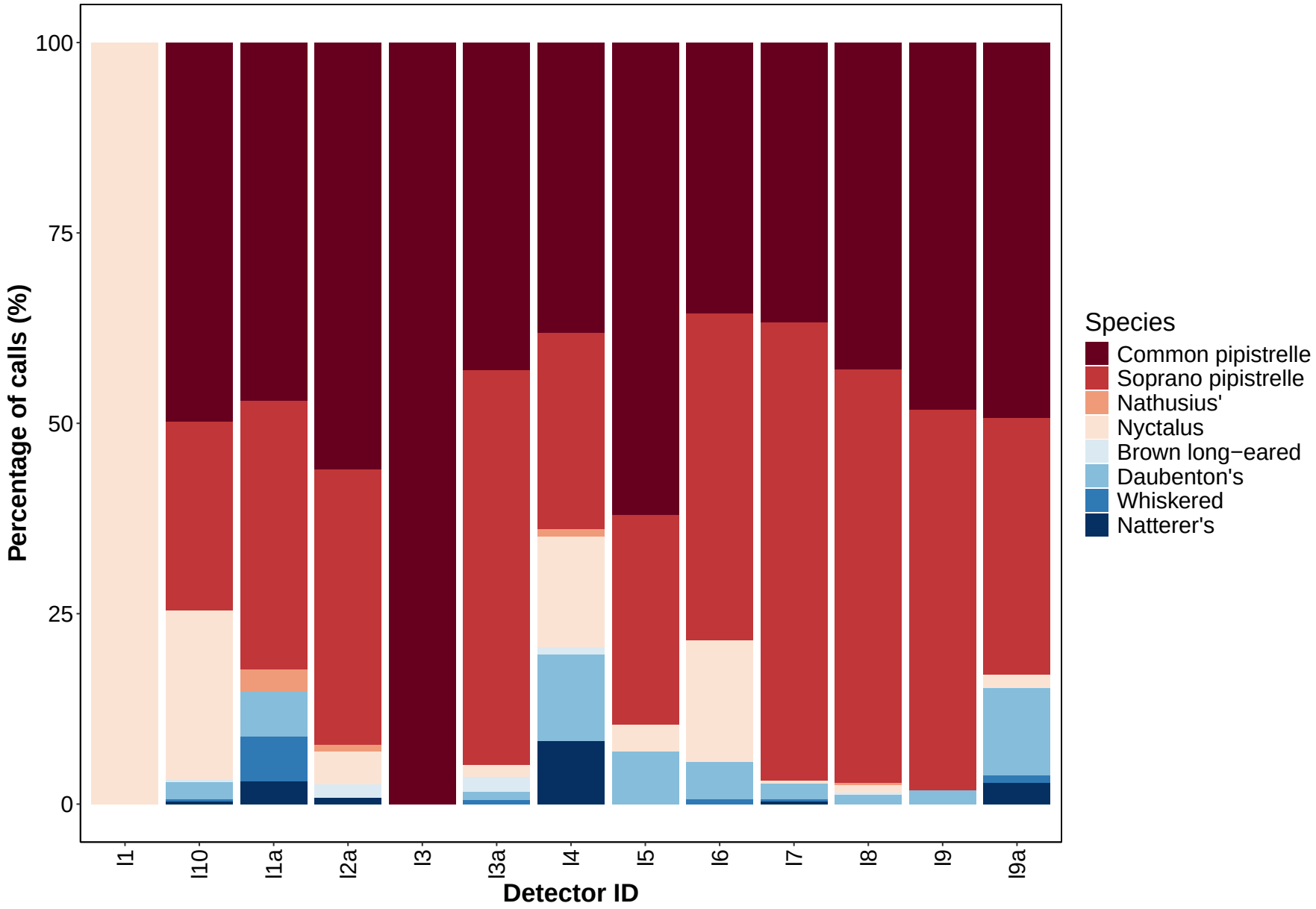
The number of passes recorded for each species at each detector.

Species	Detector ID	Count (no.)	Percentage by Detector (%)
Common pipistrelle	l10	148	51.3888889
Common pipistrelle	l1a	19	51.3513514
Common pipistrelle	l2a	49	52.6881720
Common pipistrelle	l3	1	100.0000000
Common pipistrelle	l3a	56	40.2877698
Common pipistrelle	l4	37	43.0232558
Common pipistrelle	l5	18	60.0000000
Common pipistrelle	l6	51	36.1702128
Common pipistrelle	l7	99	36.5313653
Common pipistrelle	l8	133	40.6727829
Common pipistrelle	l9	57	50.0000000
Common pipistrelle	l9a	508	54.5649839
Soprano pipistrelle	l10	70	24.3055556
Soprano pipistrelle	l1a	12	32.4324324
Soprano pipistrelle	l2a	34	36.5591398
Soprano pipistrelle	l3a	73	52.5179856
Soprano pipistrelle	l4	21	24.4186047
Soprano pipistrelle	l5	8	26.6666667
Soprano pipistrelle	l6	60	42.5531915
Soprano pipistrelle	l7	159	58.6715867
Soprano pipistrelle	l8	181	55.3516820
Soprano pipistrelle	l9	55	48.2456140
Soprano pipistrelle	l9a	279	29.9677766
Nathusius'	l1a	1	2.7027027
Nathusius'	l2a	1	1.0752688
Nathusius'	l4	1	1.1627907
Nathusius'	l8	1	0.3058104
Nyctalus	l1	1	100.0000000
Nyctalus	l10	60	20.8333333
Nyctalus	l2a	5	5.3763441
Nyctalus	l3a	3	2.1582734
Nyctalus	l4	11	12.7906977

Species	Detector ID	Count (no.)	Percentage by Detector (%)
Nyctalus	l5	1	3.3333333
Nyctalus	l6	20	14.1843972
Nyctalus	l7	2	0.7380074
Nyctalus	l8	5	1.5290520
Nyctalus	l9a	17	1.8259936
Brown long-eared	l10	1	0.3472222
Brown long-eared	l2a	3	3.2258065
Brown long-eared	l3a	4	2.8776978
Brown long-eared	l4	1	1.1627907
Brown long-eared	l8	1	0.3058104
Brown long-eared	l9a	1	0.1074114
Daubenton's	l10	7	2.4305556
Daubenton's	l1a	2	5.4054054
Daubenton's	l3a	2	1.4388489
Daubenton's	l4	9	10.4651163
Daubenton's	l5	3	10.0000000
Daubenton's	l6	9	6.3829787
Daubenton's	l7	9	3.3210332
Daubenton's	l8	6	1.8348624
Daubenton's	l9	2	1.7543860
Daubenton's	l9a	95	10.2040816
Whiskered	l10	1	0.3472222
Whiskered	l1a	2	5.4054054
Whiskered	l3a	1	0.7194245
Whiskered	l6	1	0.7092199
Whiskered	l7	1	0.3690037
Whiskered	l9a	12	1.2889366
Natterer's	l10	1	0.3472222
Natterer's	l1a	1	2.7027027
Natterer's	l2a	1	1.0752688
Natterer's	l4	6	6.9767442
Natterer's	l7	1	0.3690037
Natterer's	l9a	19	2.0408163

Species Composition

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


100
75
50
25
0
Percentage of calls (%)
l1
l10
l1a
l2a
l3
l3a
l4
l5
l6
l7
l8
l9
l9a
Detector ID
Species
Common pipistrelle
Soprano pipistrelle
Nathusius'
Nyctalus
Brown long−eared
Daubenton's
Whiskered
Natterer's

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.

Nighlty 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	l10	0.6
Common pipistrelle	l1a	0.3
Common pipistrelle	l2a	0.2
Common pipistrelle	l3	0.1
Common pipistrelle	l3a	0.2
Common pipistrelle	l4	0.6
Common pipistrelle	l5	0.1
Common pipistrelle	l6	0.3
Common pipistrelle	l7	0.6
Common pipistrelle	l8	0.6
Common pipistrelle	l9	0.4
Common pipistrelle	l9a	4.9
Soprano pipistrelle	l10	0.4
Soprano pipistrelle	l1a	0.2
Soprano pipistrelle	l2a	0.2
Soprano pipistrelle	l3a	0.3
Soprano pipistrelle	l4	0.2
Soprano pipistrelle	l5	0.2
Soprano pipistrelle	l6	0.4
Soprano pipistrelle	l7	0.6
Soprano pipistrelle	l8	1.1
Soprano pipistrelle	l9	0.6
Soprano pipistrelle	l9a	2.7
Nathusius'	l1a	0.1
Nathusius'	l2a	0.1
Nathusius'	l4	0.1
Nathusius'	l8	0.1
Nyctalus	l1	0.1
Nyctalus	l10	0.3
Nyctalus	l2a	0.2
Nyctalus	l3a	0.1
Nyctalus	l4	0.5
Nyctalus	l5	0.1
Nyctalus	l6	0.4
Nyctalus	l7	0.1
Nyctalus	l8	0.2

Species	Detector ID	Median Pass Rate
Nyctalus	I9a	0.1
Brown long-eared	I10	0.1
Brown long-eared	I2a	0.1
Brown long-eared	I3a	0.2
Brown long-eared	I4	0.1
Brown long-eared	I8	0.1
Brown long-eared	I9a	0.1
Daubenton's	I10	0.1
Daubenton's	I1a	0.1
Daubenton's	I3a	0.1
Daubenton's	I4	0.1
Daubenton's	I5	0.2
Daubenton's	I6	0.1
Daubenton's	I7	0.1
Daubenton's	I8	0.1
Daubenton's	I9	0.1
Daubenton's	I9a	0.9
Whiskered	I10	0.1
Whiskered	I1a	0.2
Whiskered	I3a	0.1
Whiskered	I6	0.1
Whiskered	I7	0.1
Whiskered	I9a	0.1
Natterer's	I10	0.1
Natterer's	I1a	0.1
Natterer's	I2a	0.1
Natterer's	I4	0.2
Natterer's	I7	0.1
Natterer's	I9a	0.2

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.

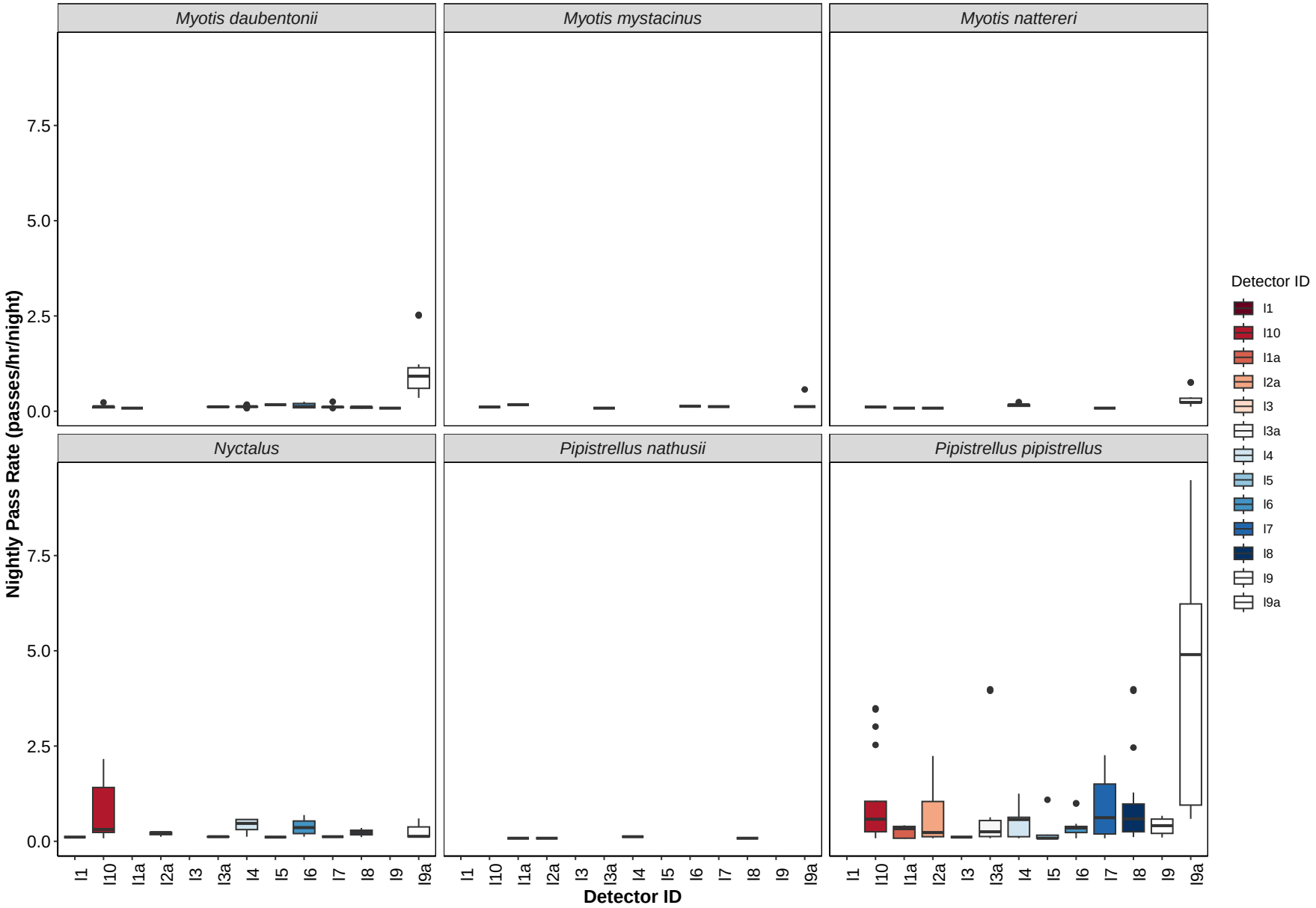
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

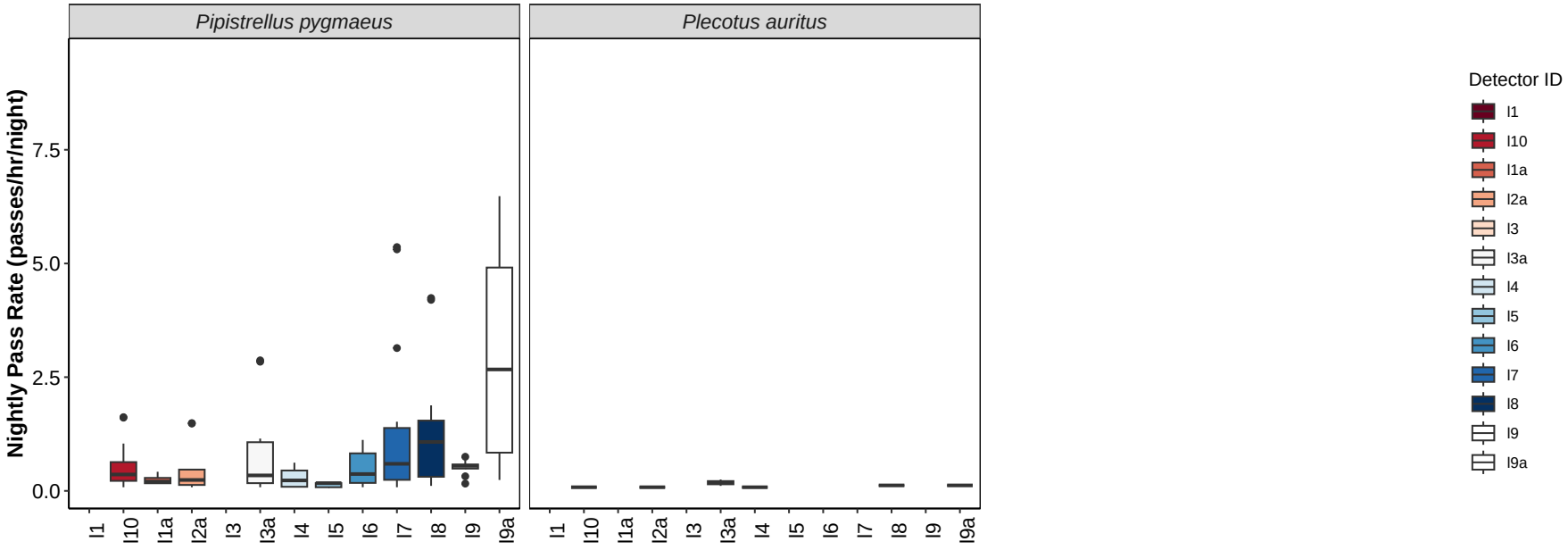
Species	Detector ID	Mean Pass Rate
Common pipistrelle	l10	1.1
Common pipistrelle	l1a	0.3
Common pipistrelle	l2a	0.7
Common pipistrelle	l3	0.1
Common pipistrelle	l3a	0.9
Common pipistrelle	l4	0.5
Common pipistrelle	l5	0.3
Common pipistrelle	l6	0.4
Common pipistrelle	l7	0.9
Common pipistrelle	l8	1.0
Common pipistrelle	l9	0.4
Common pipistrelle	l9a	4.5
Soprano pipistrelle	l10	0.5
Soprano pipistrelle	l1a	0.2
Soprano pipistrelle	l2a	0.5
Soprano pipistrelle	l3a	0.8
Soprano pipistrelle	l4	0.3
Soprano pipistrelle	l5	0.1
Soprano pipistrelle	l6	0.5
Soprano pipistrelle	l7	1.2
Soprano pipistrelle	l8	1.2
Soprano pipistrelle	l9	0.5
Soprano pipistrelle	l9a	3.1
Nathusius'	l1a	0.1
Nathusius'	l2a	0.1
Nathusius'	l4	0.1
Nathusius'	l8	0.1
Nyctalus	l1	0.1
Nyctalus	l10	0.8
Nyctalus	l2a	0.2

Species	Detector ID	Mean Pass Rate
Nyctalus	I3a	0.1
Nyctalus	I4	0.4
Nyctalus	I5	0.1
Nyctalus	I6	0.4
Nyctalus	I7	0.1
Nyctalus	I8	0.2
Nyctalus	I9a	0.3
Brown long-eared	I10	0.1
Brown long-eared	I2a	0.1
Brown long-eared	I3a	0.2
Brown long-eared	I4	0.1
Brown long-eared	I8	0.1
Brown long-eared	I9a	0.1
Daubenton's	I10	0.1
Daubenton's	I1a	0.1
Daubenton's	I3a	0.1
Daubenton's	I4	0.1
Daubenton's	I5	0.2
Daubenton's	I6	0.1
Daubenton's	I7	0.1
Daubenton's	I8	0.1
Daubenton's	I9	0.1
Daubenton's	I9a	1.0
Whiskered	I10	0.1
Whiskered	I1a	0.2
Whiskered	I3a	0.1
Whiskered	I6	0.1
Whiskered	I7	0.1
Whiskered	I9a	0.2
Natterer's	I10	0.1
Natterer's	I1a	0.1
Natterer's	I2a	0.1
Natterer's	I4	0.2
Natterer's	I7	0.1
Natterer's	I9a	0.3

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.


Myotis daubentonii
Myotis mystacinus
Myotis nattereri
Nyctalus
Pipistrellus nathusii
Pipistrellus pipistrellus
Nightly Pass Rate (passes/hr/night)
0.0
2.5
5.0
7.5
Detector ID
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a


Pipistrellus pygmaeus
Plecotus auritus
Nightly Pass Rate (passes/hr/night)
0.0
2.5
5.0
7.5
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID

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	Apr	Jul	Aug	Sep	Oct
Common pipistrelle	l10	0	44	94	13	4
Common pipistrelle	l1a	0	0	0	11	5
Common pipistrelle	l2a	0	4	57	4	0
Common pipistrelle	l3	1	0	0	0	0
Common pipistrelle	l3a	0	6	77	1	0
Common pipistrelle	l4	0	5	30	2	0
Common pipistrelle	l5	0	0	0	18	0
Common pipistrelle	l6	0	4	32	17	5
Common pipistrelle	l7	5	23	88	7	0
Common pipistrelle	l8	2	12	133	27	0
Common pipistrelle	l9	6	0	0	45	3
Common pipistrelle	l9a	0	57	428	0	0
Soprano pipistrelle	l10	1	5	56	15	0
Soprano pipistrelle	l1a	0	0	0	10	2
Soprano pipistrelle	l2a	0	0	36	6	0
Soprano pipistrelle	l3a	0	8	80	13	0
Soprano pipistrelle	l4	0	3	19	2	1
Soprano pipistrelle	l5	0	0	0	8	0
Soprano pipistrelle	l6	2	0	44	16	8
Soprano pipistrelle	l7	4	36	149	12	0
Soprano pipistrelle	l8	1	22	142	52	3
Soprano pipistrelle	l9	0	0	0	47	9
Soprano pipistrelle	l9a	0	49	282	0	0
Nathusius'	l1a	0	0	0	1	0
Nathusius'	l2a	0	0	0	1	0
Nathusius'	l4	0	0	1	0	0
Nathusius'	l8	0	0	0	1	0
Nyctalus	l1	1	0	0	0	0
Nyctalus	l10	0	3	62	1	3
Nyctalus	l2a	0	0	5	0	0
Nyctalus	l3a	0	0	3	0	0
Nyctalus	l4	0	0	14	0	0
Nyctalus	l5	1	0	0	0	0
Nyctalus	l6	0	0	26	0	0
Nyctalus	l7	0	0	1	0	0
Nyctalus	l8	0	0	4	0	0

Species	Detector ID	Apr	Jul	Aug	Sep	Oct
Nyctalus	l9a	0	2	15	0	0
Brown long-eared	l10	0	0	0	1	0
Brown long-eared	l2a	0	0	0	2	0
Brown long-eared	l3a	0	0	1	3	0
Brown long-eared	l4	0	0	0	1	0
Brown long-eared	l8	0	0	1	0	0
Brown long-eared	l9a	0	0	1	0	0
Daubenton's	l10	0	0	5	1	1
Daubenton's	l1a	0	0	0	1	1
Daubenton's	l3a	0	0	2	0	0
Daubenton's	l4	1	0	4	6	0
Daubenton's	l5	0	0	0	2	0
Daubenton's	l6	0	0	6	2	0
Daubenton's	l7	3	0	0	4	0
Daubenton's	l8	1	0	2	2	0
Daubenton's	l9	0	0	0	2	0
Daubenton's	l9a	0	40	72	0	0
Whiskered	l10	0	0	1	0	0
Whiskered	l1a	0	0	0	2	0
Whiskered	l3a	0	0	0	1	0
Whiskered	l6	0	1	0	0	0
Whiskered	l7	0	0	1	0	0
Whiskered	l9a	0	0	10	0	0
Natterer's	l10	1	0	0	0	0
Natterer's	l1a	0	0	0	1	0
Natterer's	l2a	0	0	0	1	0
Natterer's	l4	0	1	3	4	0
Natterer's	l7	0	0	0	1	0
Natterer's	l9a	0	12	15	0	0

Survey Effort

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

month	Detector ID	No. of Survey Nights
Apr	I1	1
Apr	I10	2
Apr	I3	1
Apr	I4	1
Apr	I5	1
Apr	I6	2
Apr	I7	6
Apr	I8	3
Apr	I9	4
Jul	I10	2
Jul	I2a	1
Jul	I3a	2
Jul	I4	1
Jul	I6	2
Jul	I7	2
Jul	I8	2
Jul	I9a	2
Aug	I10	11
Aug	I2a	9
Aug	I3a	9
Aug	I4	7
Aug	I6	11
Aug	I7	10
Aug	I8	10
Aug	I9a	12
Sep	I10	5
Sep	I1a	5
Sep	I2a	5
Sep	I3a	6
Sep	I4	6
Sep	I5	6
Sep	I6	7

month	Detector ID	No. of Survey Nights
Sep	I7	5
Sep	I8	7
Sep	I9	7
Oct	I10	4
Oct	I1a	1
Oct	I4	1
Oct	I6	1
Oct	I8	1
Oct	I9	2

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	Apr	Jul	Aug	Sep	Oct
Common pipistrelle	l10	NA	2.8	0.6	0.2	0.2
Common pipistrelle	l1a	NA	NA	NA	0.2	0.4
Common pipistrelle	l2a	NA	0.5	0.5	0.1	NA
Common pipistrelle	l3	0.1	NA	NA	NA	NA
Common pipistrelle	l3a	NA	0.4	0.3	0.1	NA
Common pipistrelle	l4	NA	0.6	0.6	0.1	NA
Common pipistrelle	l5	NA	NA	NA	0.1	NA
Common pipistrelle	l6	NA	0.3	0.4	0.2	0.4
Common pipistrelle	l7	0.1	1.4	1.4	0.3	NA
Common pipistrelle	l8	0.1	0.8	1.1	0.2	NA
Common pipistrelle	l9	0.1	NA	NA	0.6	0.2
Common pipistrelle	l9a	NA	3.6	5.4	NA	NA
Soprano pipistrelle	l10	0.1	0.3	0.8	0.2	NA
Soprano pipistrelle	l1a	NA	NA	NA	0.2	0.2
Soprano pipistrelle	l2a	NA	NA	0.5	0.2	NA
Soprano pipistrelle	l3a	NA	1.0	0.9	0.2	NA
Soprano pipistrelle	l4	NA	0.4	0.4	0.1	0.1
Soprano pipistrelle	l5	NA	NA	NA	0.2	NA
Soprano pipistrelle	l6	0.1	NA	0.7	0.4	0.6
Soprano pipistrelle	l7	0.1	2.3	1.1	0.2	NA
Soprano pipistrelle	l8	0.1	1.4	1.5	0.3	0.2
Soprano pipistrelle	l9	NA	NA	NA	0.6	0.4
Soprano pipistrelle	l9a	NA	3.1	2.7	NA	NA
Nathusius'	l1a	NA	NA	NA	0.1	NA
Nathusius'	l2a	NA	NA	NA	0.1	NA
Nathusius'	l4	NA	NA	0.1	NA	NA
Nathusius'	l8	NA	NA	NA	0.1	NA
Nyctalus	l1	0.1	NA	NA	NA	NA
Nyctalus	l10	NA	0.2	1.2	0.1	0.2
Nyctalus	l2a	NA	NA	0.2	NA	NA
Nyctalus	l3a	NA	NA	0.1	NA	NA
Nyctalus	l4	NA	NA	0.5	NA	NA
Nyctalus	l5	0.1	NA	NA	NA	NA
Nyctalus	l6	NA	NA	0.4	NA	NA
Nyctalus	l7	NA	NA	0.1	NA	NA
Nyctalus	l8	NA	NA	0.2	NA	NA

Species	Detector ID	Apr	Jul	Aug	Sep	Oct
Nyctalus	l9a	NA	0.1	0.2	NA	NA
Brown long-eared	l10	NA	NA	NA	0.1	NA
Brown long-eared	l2a	NA	NA	NA	0.1	NA
Brown long-eared	l3a	NA	NA	0.1	0.2	NA
Brown long-eared	l4	NA	NA	NA	0.1	NA
Brown long-eared	l8	NA	NA	0.1	NA	NA
Brown long-eared	l9a	NA	NA	0.1	NA	NA
Daubenton's	l10	NA	NA	0.1	0.1	0.1
Daubenton's	l1a	NA	NA	NA	0.1	0.1
Daubenton's	l3a	NA	NA	0.1	NA	NA
Daubenton's	l4	0.1	NA	0.1	0.1	NA
Daubenton's	l5	NA	NA	NA	0.2	NA
Daubenton's	l6	NA	NA	0.2	0.1	NA
Daubenton's	l7	0.1	NA	NA	0.2	NA
Daubenton's	l8	0.1	NA	0.1	0.1	NA
Daubenton's	l9	NA	NA	NA	0.1	NA
Daubenton's	l9a	NA	2.5	0.6	NA	NA
Whiskered	l10	NA	NA	0.1	NA	NA
Whiskered	l1a	NA	NA	NA	0.2	NA
Whiskered	l3a	NA	NA	NA	0.1	NA
Whiskered	l6	NA	0.1	NA	NA	NA
Whiskered	l7	NA	NA	0.1	NA	NA
Whiskered	l9a	NA	NA	0.1	NA	NA
Natterer's	l10	0.1	NA	NA	NA	NA
Natterer's	l1a	NA	NA	NA	0.1	NA
Natterer's	l2a	NA	NA	NA	0.1	NA
Natterer's	l4	NA	0.1	0.2	0.2	NA
Natterer's	l7	NA	NA	NA	0.1	NA
Natterer's	l9a	NA	0.8	0.2	NA	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.

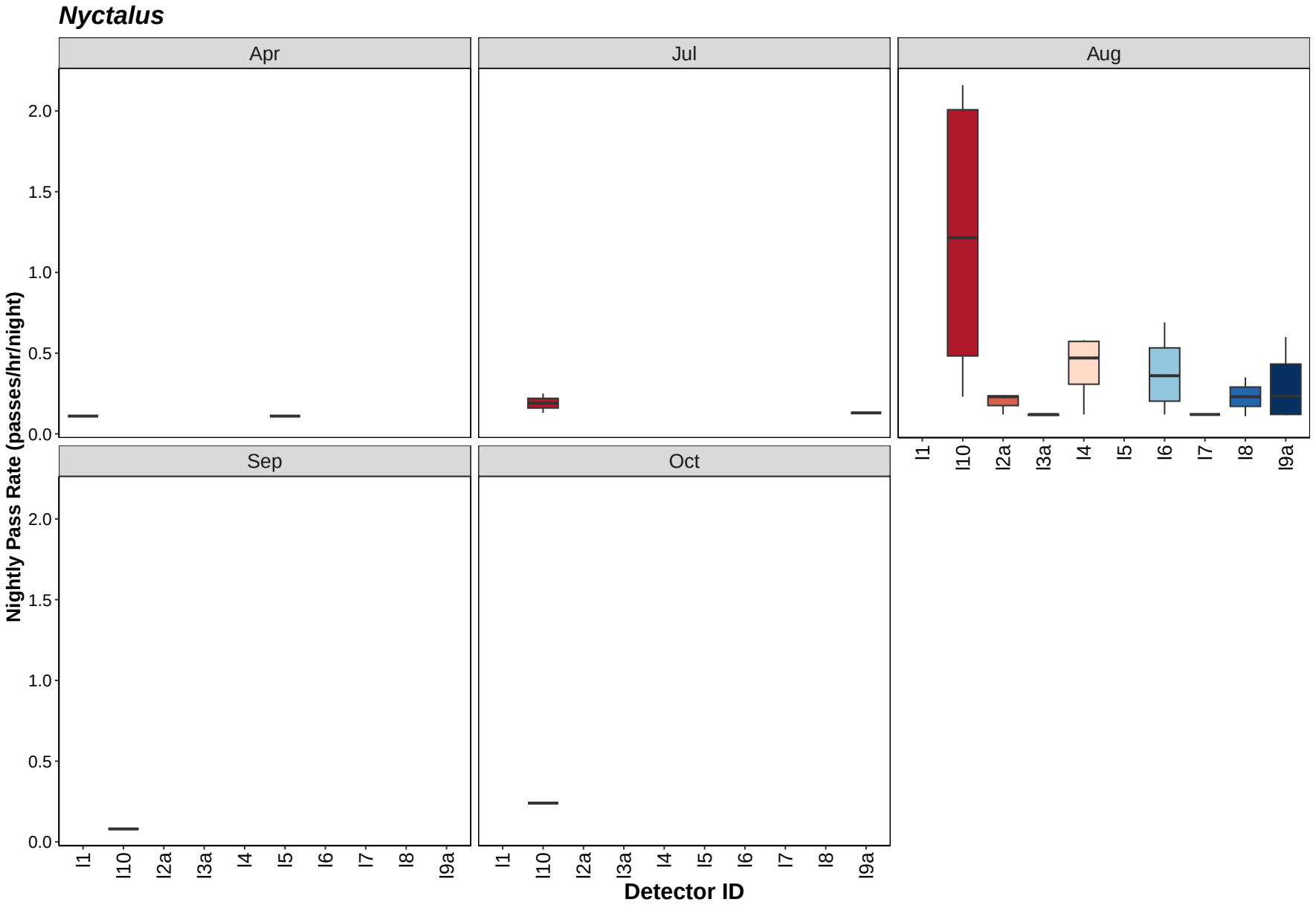
We recommend using the median values given above, for the reasons stated above, but provide the mean values in the table below.

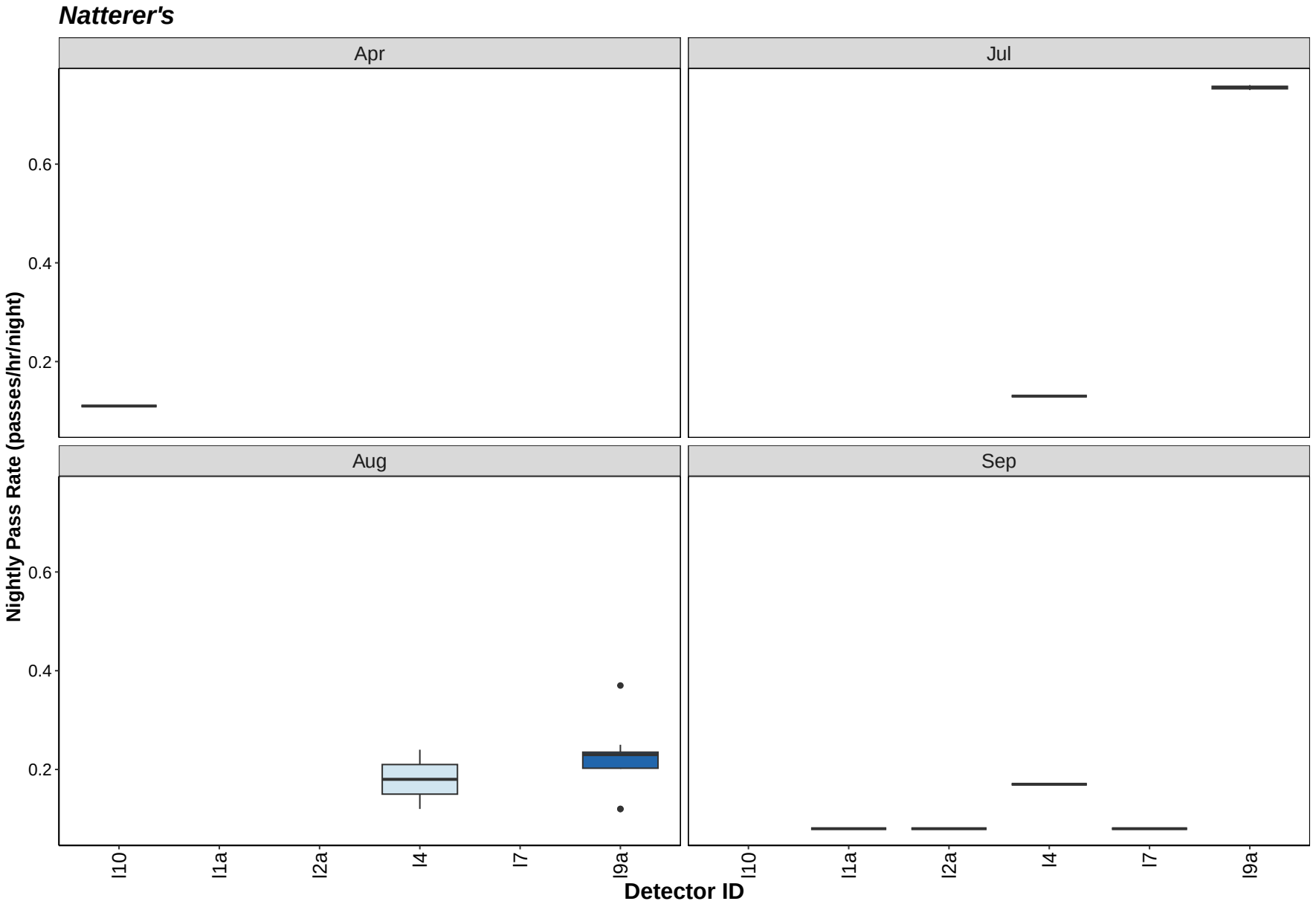
Species	Detector ID	Apr	Jul	Aug	Sep	Oct
Common pipistrelle	l10	NA	2.8	1.3	0.3	0.2
Common pipistrelle	l1a	NA	NA	NA	0.2	0.4
Common pipistrelle	l2a	NA	0.5	1.0	0.1	NA
Common pipistrelle	l3	0.1	NA	NA	NA	NA
Common pipistrelle	l3a	NA	0.4	1.2	0.1	NA
Common pipistrelle	l4	NA	0.6	0.6	0.1	NA
Common pipistrelle	l5	NA	NA	NA	0.3	NA
Common pipistrelle	l6	NA	0.3	0.5	0.2	0.4
Common pipistrelle	l7	0.1	1.4	1.3	0.3	NA
Common pipistrelle	l8	0.1	0.8	1.6	0.3	NA
Common pipistrelle	l9	0.2	NA	NA	0.5	0.2
Common pipistrelle	l9a	NA	3.6	4.6	NA	NA
Soprano pipistrelle	l10	0.1	0.3	0.8	0.2	NA
Soprano pipistrelle	l1a	NA	NA	NA	0.3	0.2
Soprano pipistrelle	l2a	NA	NA	0.6	0.2	NA
Soprano pipistrelle	l3a	NA	1.0	1.2	0.2	NA
Soprano pipistrelle	l4	NA	0.4	0.4	0.1	0.1
Soprano pipistrelle	l5	NA	NA	NA	0.1	NA
Soprano pipistrelle	l6	0.1	NA	0.7	0.3	0.6
Soprano pipistrelle	l7	0.1	2.3	1.8	0.2	NA
Soprano pipistrelle	l8	0.1	1.4	1.9	0.6	0.2
Soprano pipistrelle	l9	NA	NA	NA	0.6	0.4
Soprano pipistrelle	l9a	NA	3.1	3.1	NA	NA
Nathusius'	l1a	NA	NA	NA	0.1	NA
Nathusius'	l2a	NA	NA	NA	0.1	NA
Nathusius'	l4	NA	NA	0.1	NA	NA
Nathusius'	l8	NA	NA	NA	0.1	NA
Nyctalus	l1	0.1	NA	NA	NA	NA
Nyctalus	l10	NA	0.2	1.2	0.1	0.2
Nyctalus	l2a	NA	NA	0.2	NA	NA

Species	Detector ID	Apr	Jul	Aug	Sep	Oct
Nyctalus	l3a	NA	NA	0.1	NA	NA
Nyctalus	l4	NA	NA	0.4	NA	NA
Nyctalus	l5	0.1	NA	NA	NA	NA
Nyctalus	l6	NA	NA	0.4	NA	NA
Nyctalus	l7	NA	NA	0.1	NA	NA
Nyctalus	l8	NA	NA	0.2	NA	NA
Nyctalus	l9a	NA	0.1	0.3	NA	NA
Brown long-eared	l10	NA	NA	NA	0.1	NA
Brown long-eared	l2a	NA	NA	NA	0.1	NA
Brown long-eared	l3a	NA	NA	0.1	0.2	NA
Brown long-eared	l4	NA	NA	NA	0.1	NA
Brown long-eared	l8	NA	NA	0.1	NA	NA
Brown long-eared	l9a	NA	NA	0.1	NA	NA
Daubenton's	l10	NA	NA	0.1	0.1	0.1
Daubenton's	l1a	NA	NA	NA	0.1	0.1
Daubenton's	l3a	NA	NA	0.1	NA	NA
Daubenton's	l4	0.1	NA	0.1	0.1	NA
Daubenton's	l5	NA	NA	NA	0.2	NA
Daubenton's	l6	NA	NA	0.2	0.1	NA
Daubenton's	l7	0.1	NA	NA	0.2	NA
Daubenton's	l8	0.1	NA	0.1	0.1	NA
Daubenton's	l9	NA	NA	NA	0.1	NA
Daubenton's	l9a	NA	2.5	0.8	NA	NA
Whiskered	l10	NA	NA	0.1	NA	NA
Whiskered	l1a	NA	NA	NA	0.2	NA
Whiskered	l3a	NA	NA	NA	0.1	NA
Whiskered	l6	NA	0.1	NA	NA	NA
Whiskered	l7	NA	NA	0.1	NA	NA
Whiskered	l9a	NA	NA	0.2	NA	NA
Natterer's	l10	0.1	NA	NA	NA	NA
Natterer's	l1a	NA	NA	NA	0.1	NA
Natterer's	l2a	NA	NA	NA	0.1	NA
Natterer's	l4	NA	0.1	0.2	0.2	NA
Natterer's	l7	NA	NA	NA	0.1	NA
Natterer's	l9a	NA	0.8	0.2	NA	NA

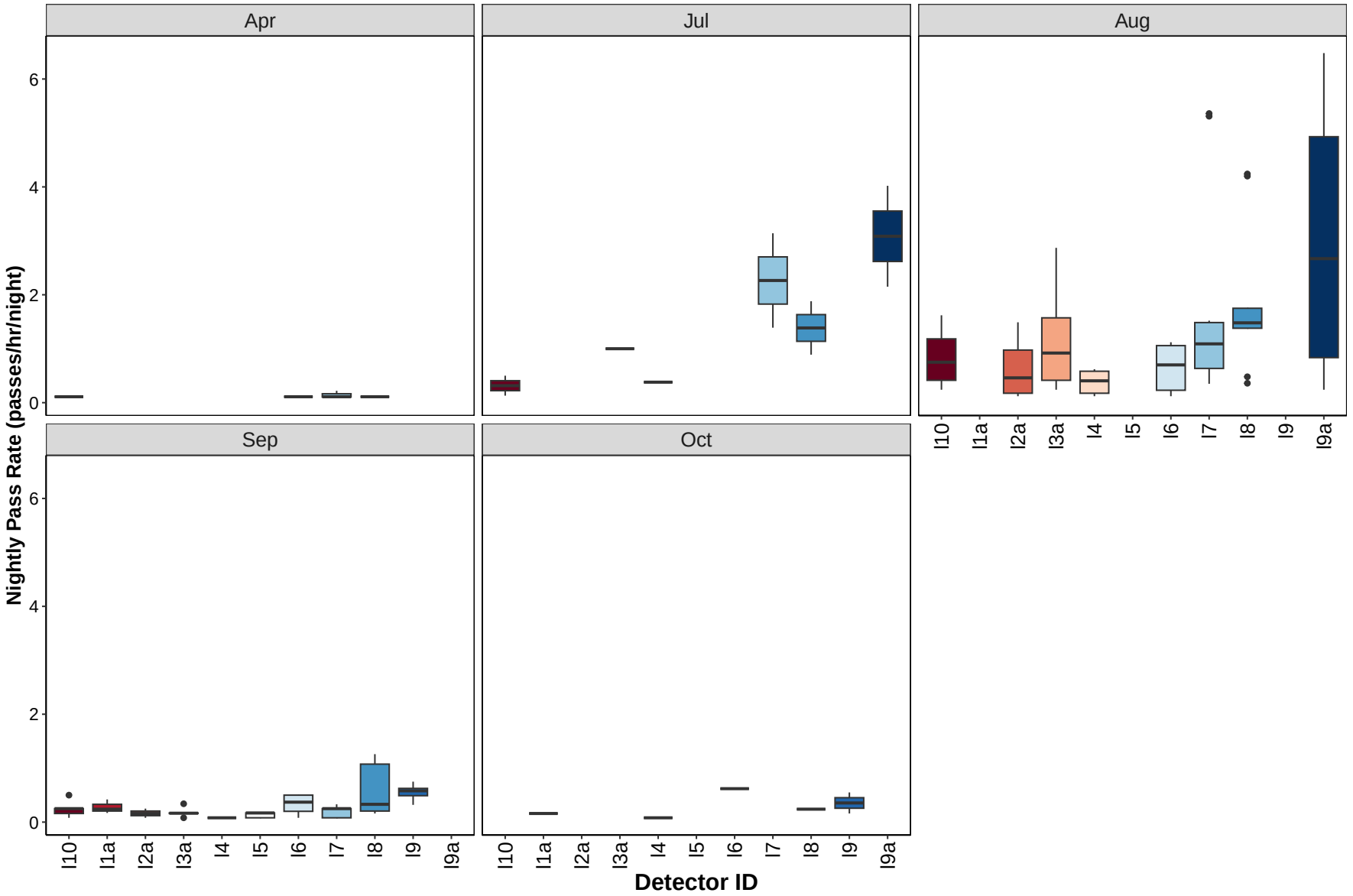
Per Detector

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.

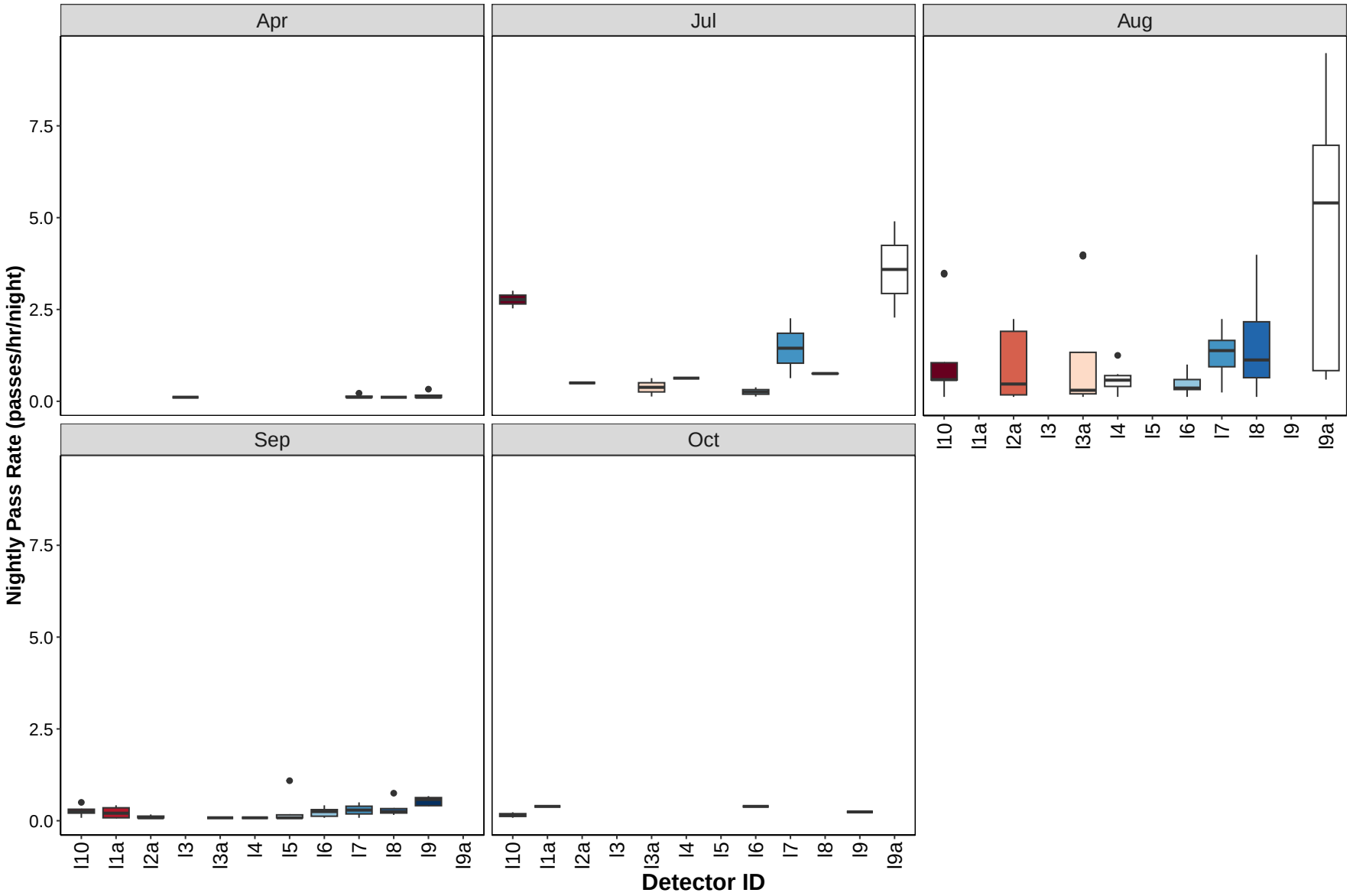

Nyctalus
Apr
Jul
Aug
Sep
Oct
Nightly Pass Rate (passes/hr/night)
0.0
0.5
1.0
1.5
2.0
I1
I10
I2a
I3a
I4
I5
I6
I7
I8
I9a
Detector ID


Natterer's
Apr
Jul
Aug
Sep
Nightly Pass Rate (passes/hr/night)
0.2
0.4
0.6
I10
I1a
I2a
I4
I7
I9a
Detector ID

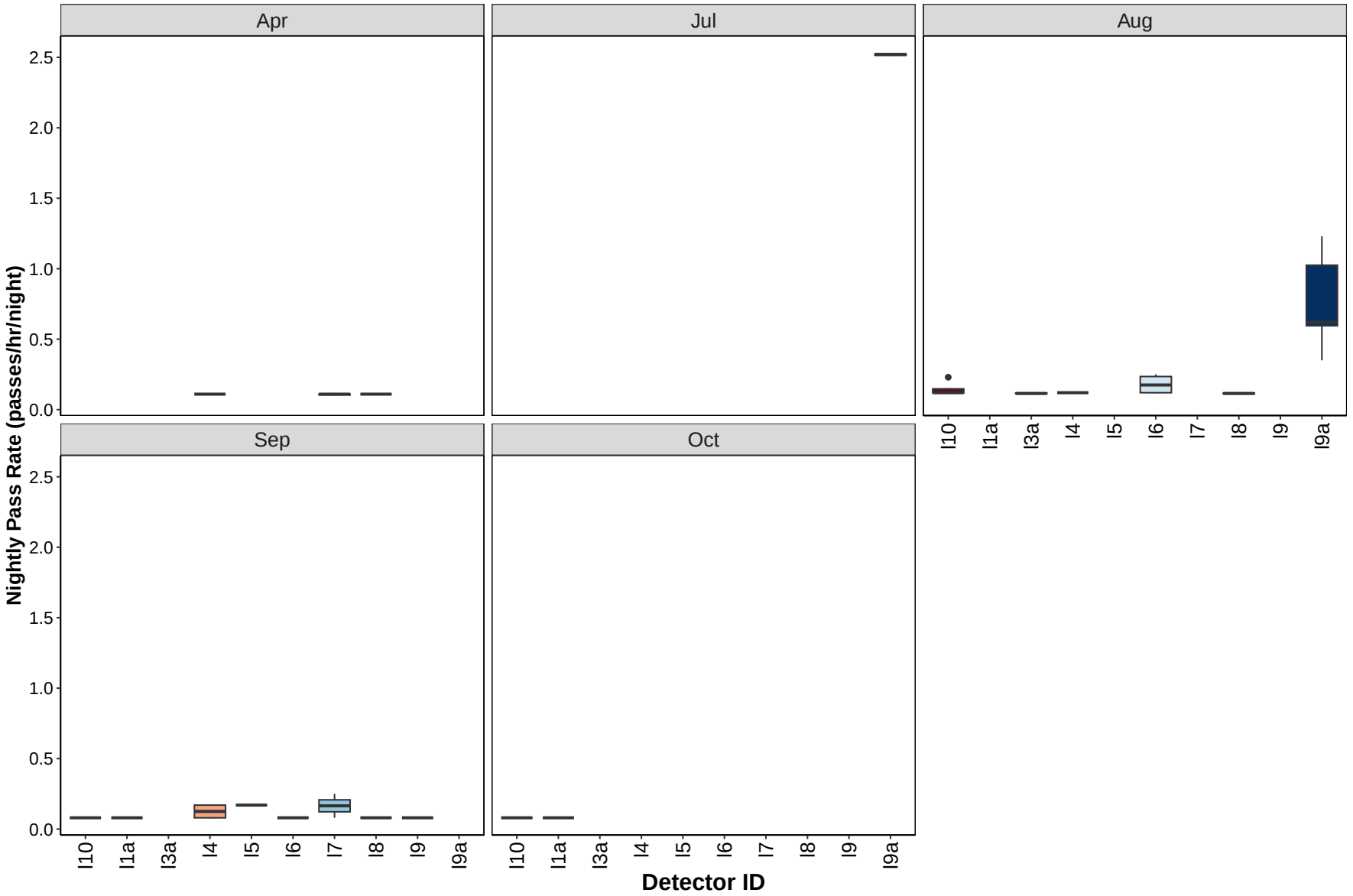
Soprano pipistrelle

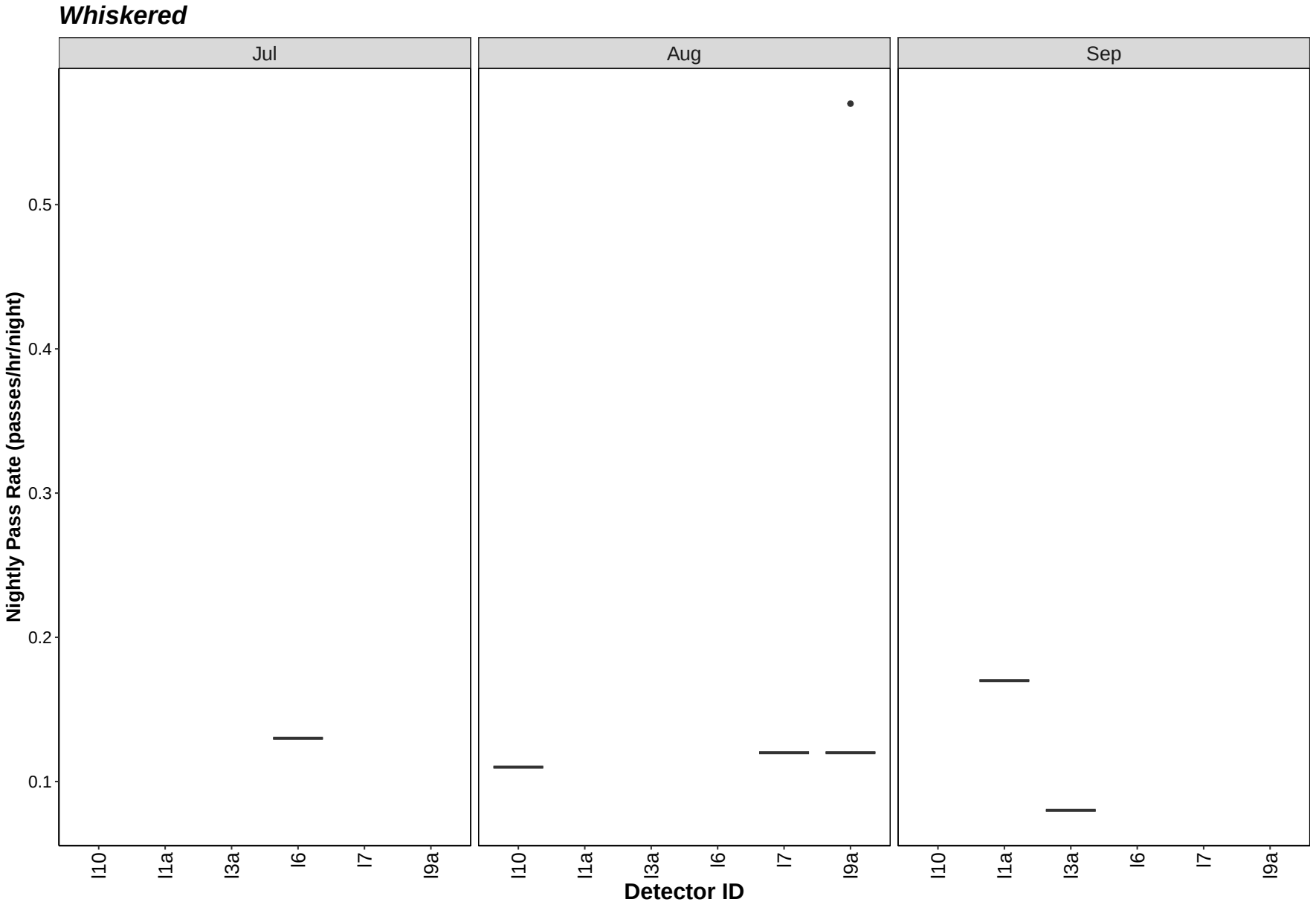


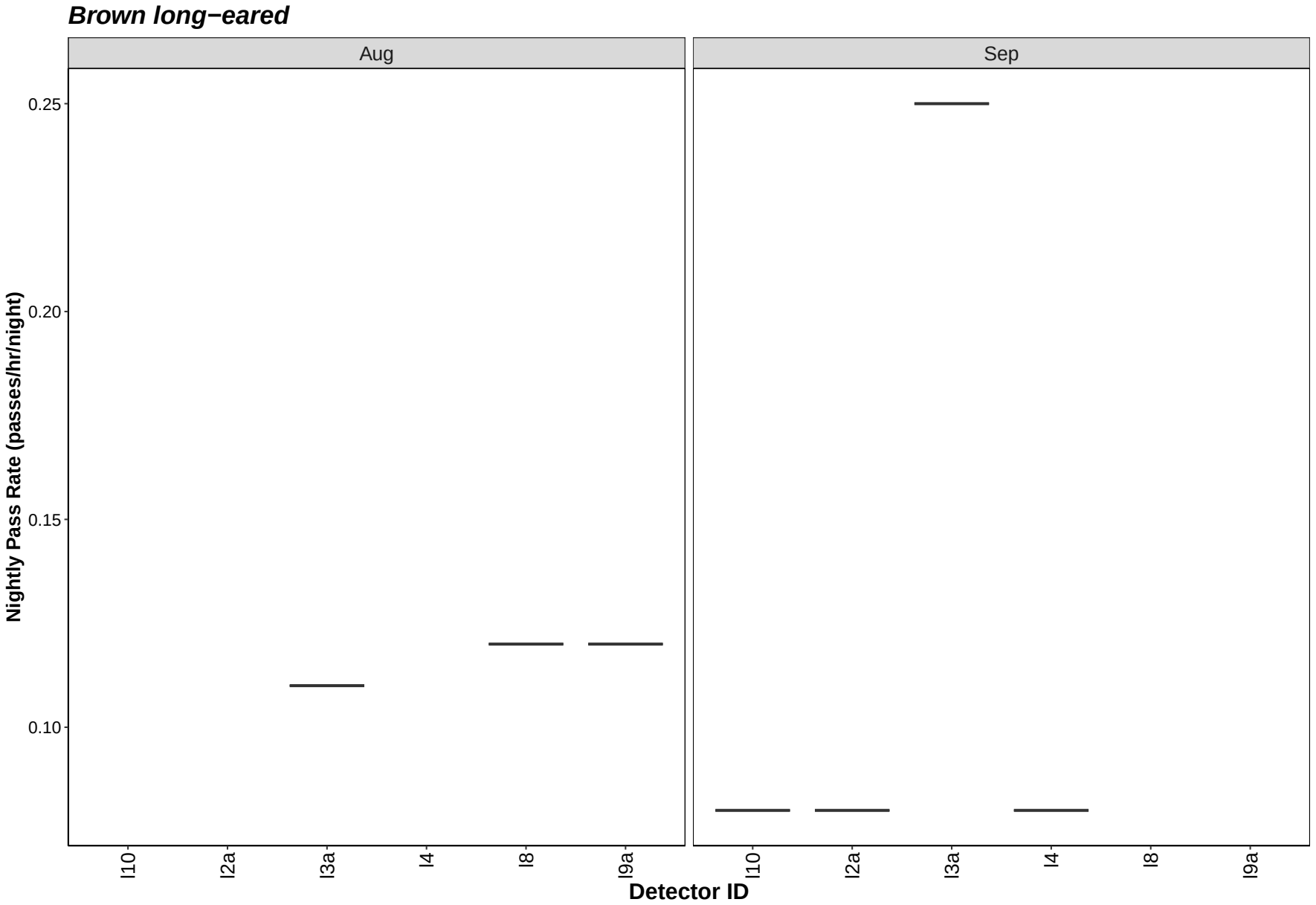
Common pipistrelle



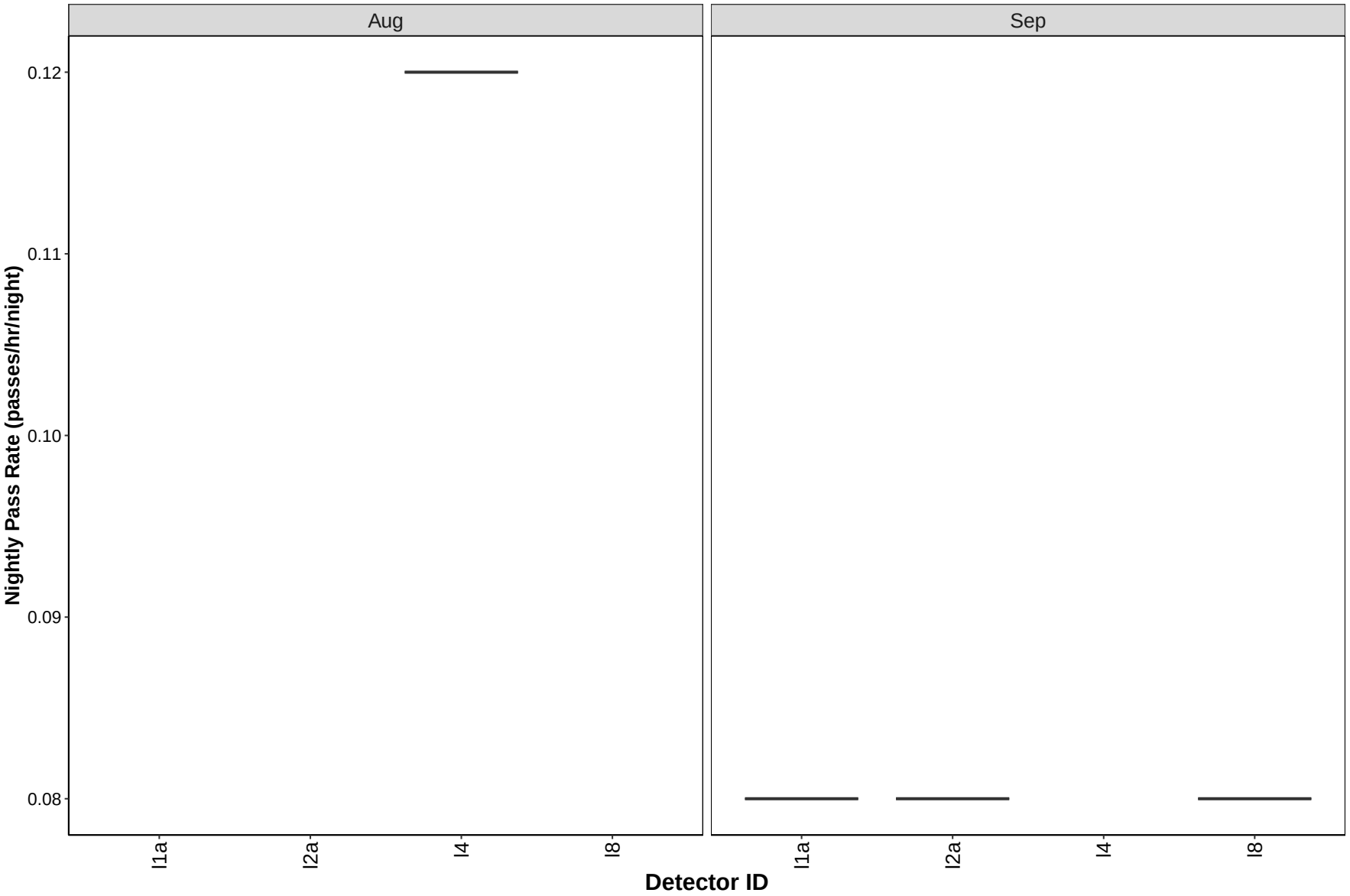
Daubenton's


Apr
Jul
Aug
Sep
Oct
Nightly Pass Rate (passes/hr/night)
0.0
0.5
1.0
1.5
2.0
2.5
I10
I1a
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID


Whiskered
Jul
Aug
Sep
Nightly Pass Rate (passes/hr/night)
0.5
0.4
0.3
0.2
0.1
I10
I1a
I3a
I6
I7
I9a
Detector ID


Brown long−eared
Aug
Sep
Nightly Pass Rate (passes/hr/night)
0.25
0.20
0.15
0.10
I10
I2a
I3a
I4
I8
I9a
Detector ID

Nathusius'


Aug
Sep
0.12
0.11
0.10
0.09
0.08
Nightly Pass Rate (passes/hr/night)
I1a
I2a
I4
I8
Detector ID

Bat Activity per Detector Location

Figure 13. Detector ID reference:

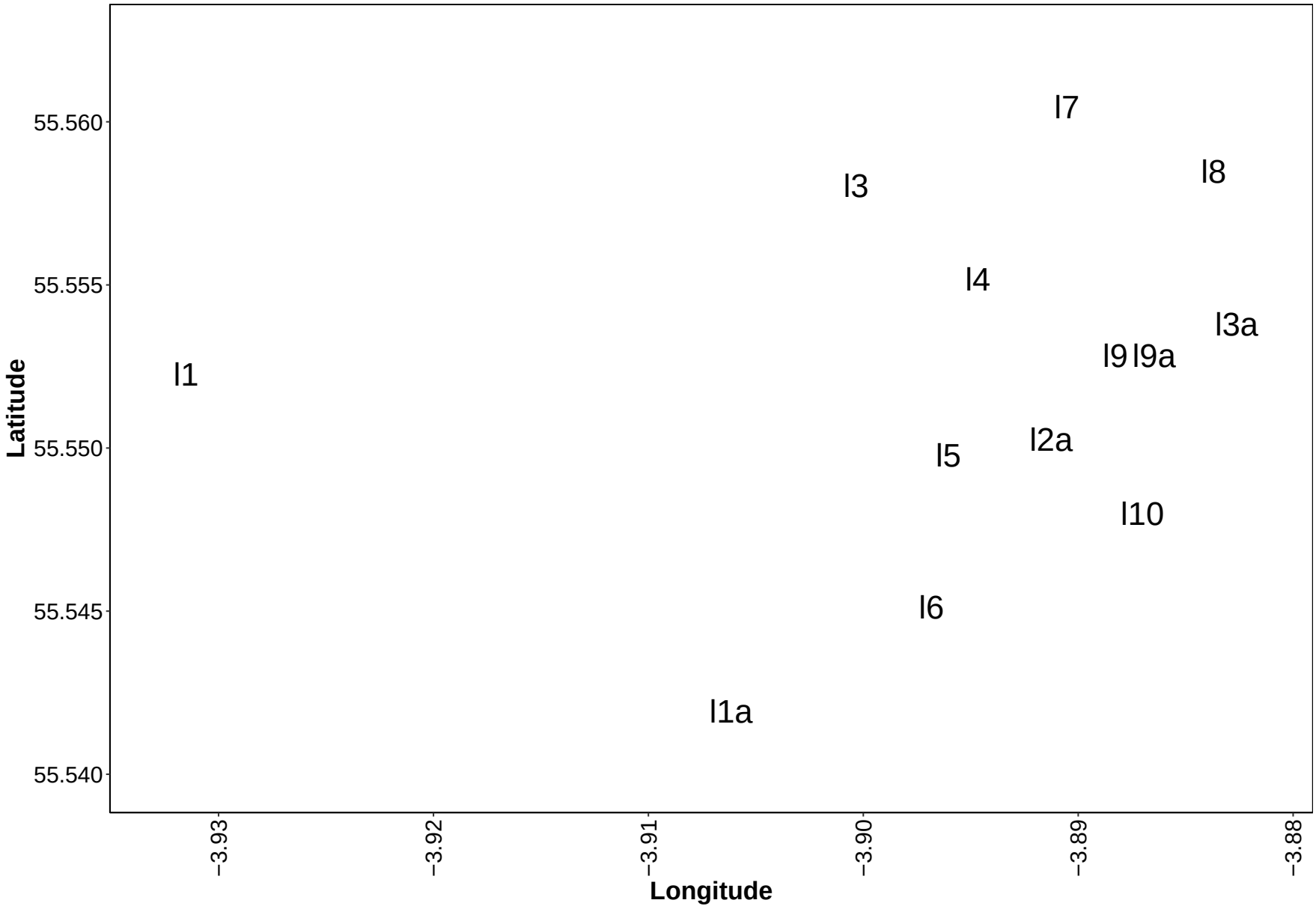
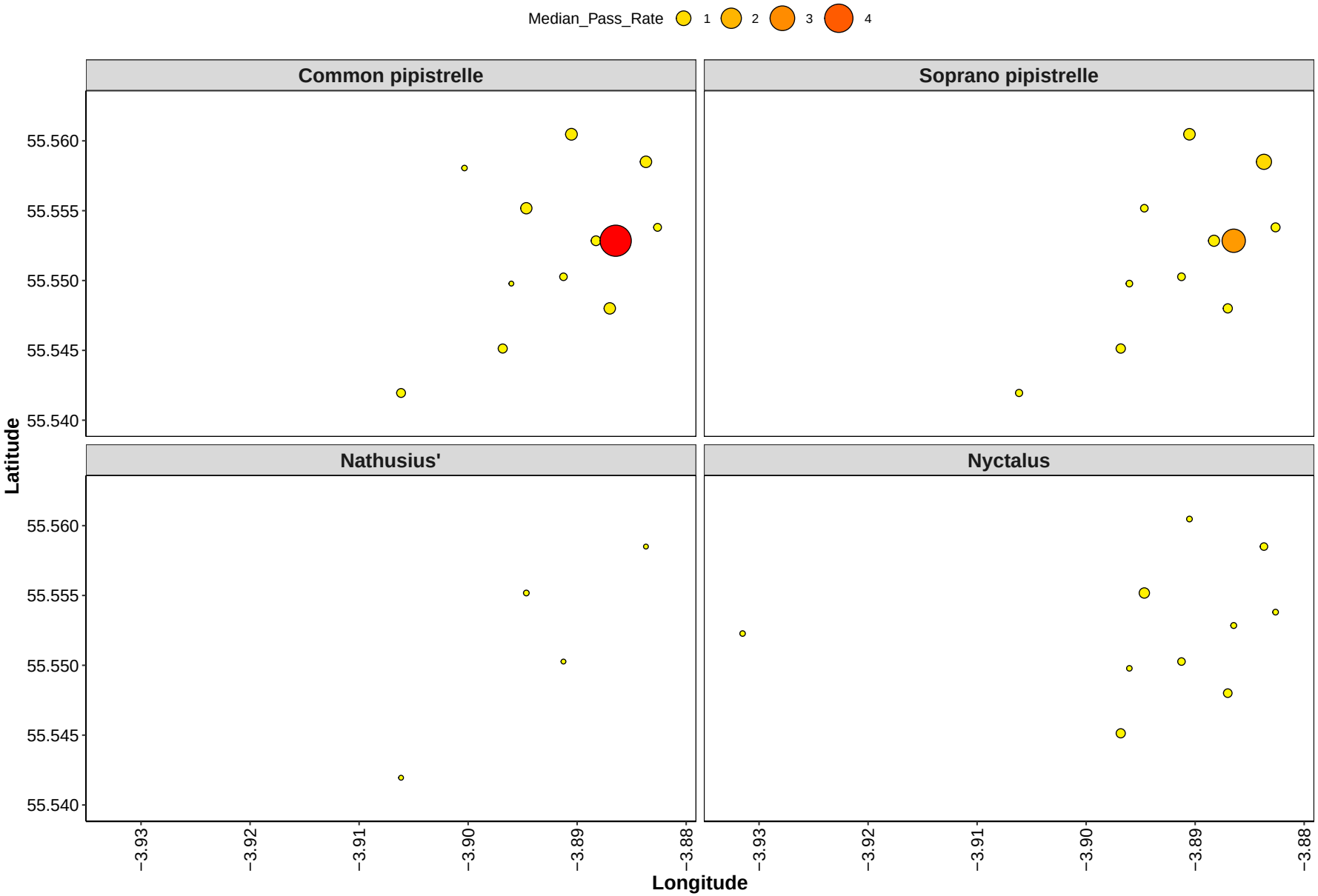

l7
l8
l3
l4
l3a
l9
l9a
l1
l2a
l5
l10
l6
l1a
55.560
55.555
55.550
55.545
55.540
Latitude
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude

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


Median_Pass_Rate
1
2
3
4
Common pipistrelle
Soprano pipistrelle
Nathusius'
Nyctalus
Latitude
55.560
55.555
55.550
55.545
55.540
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude

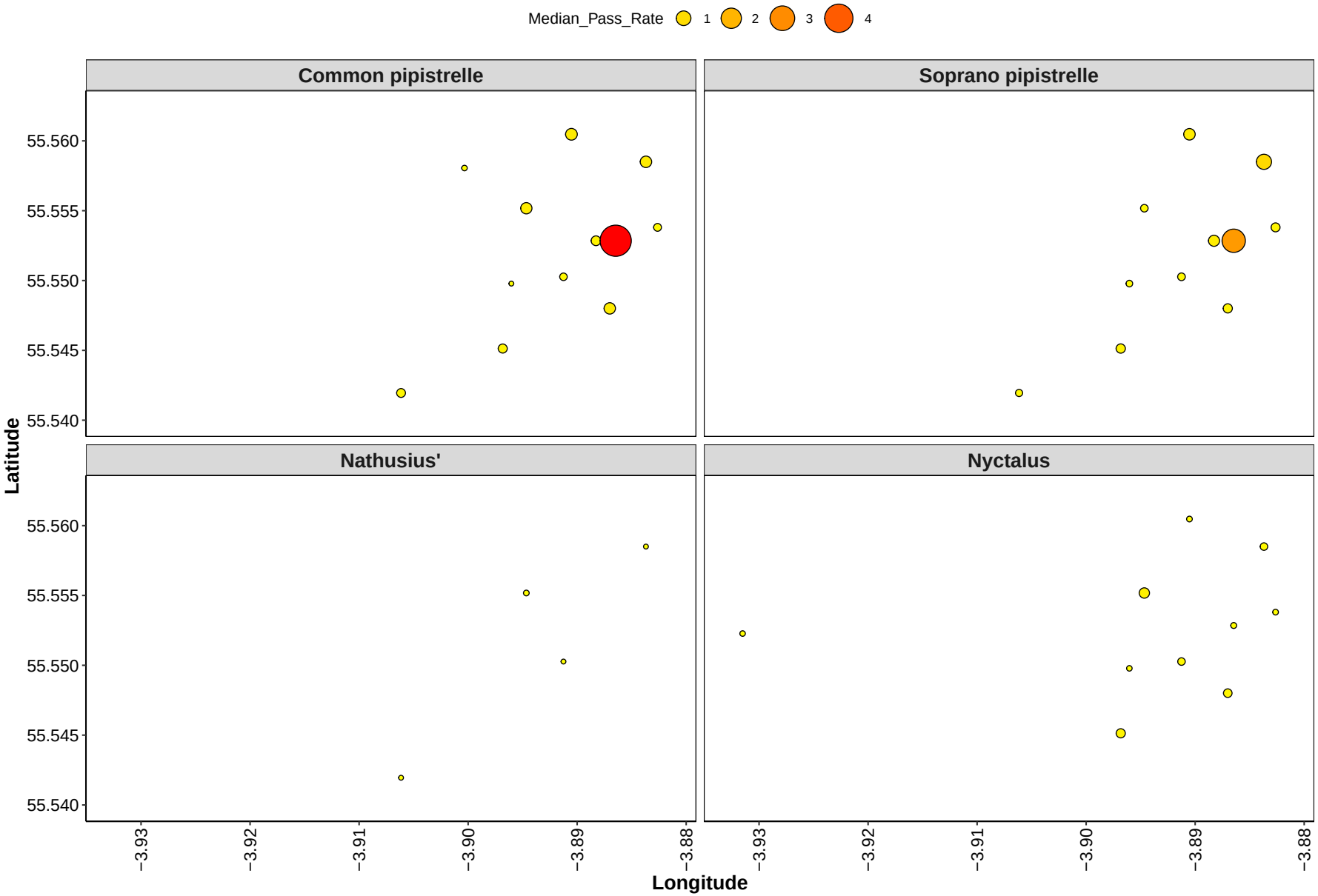
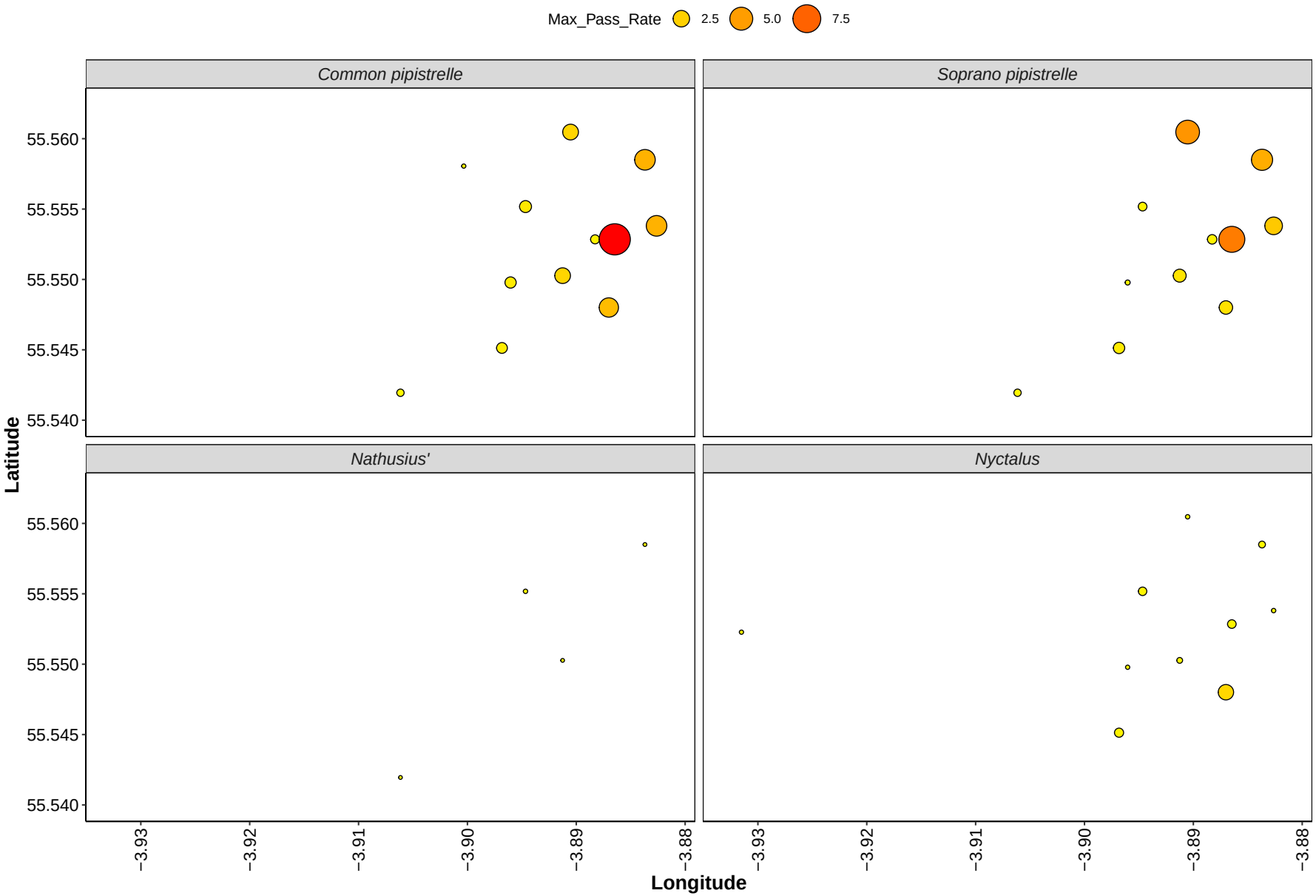
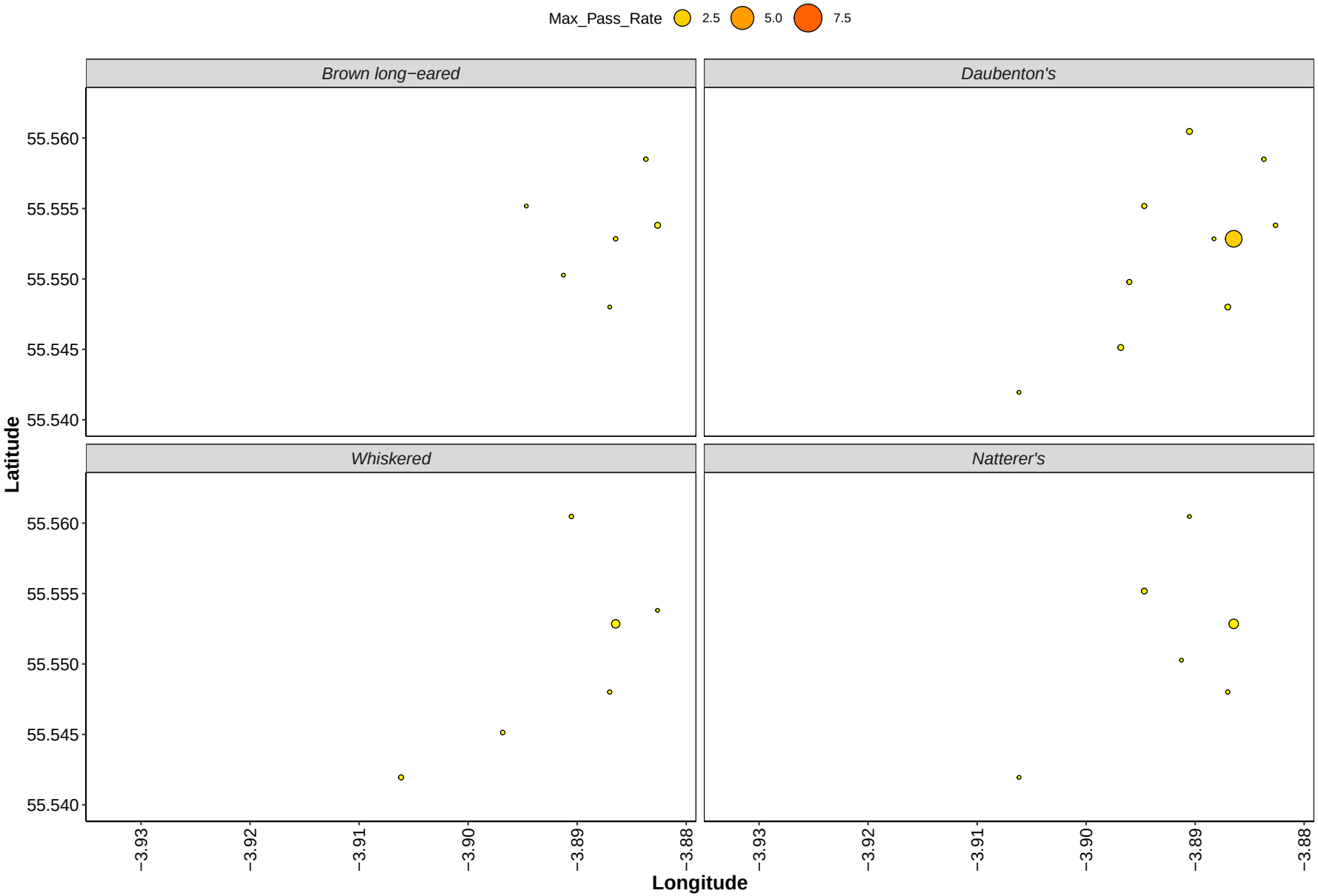

Median_Pass_Rate
1
2
3
4
Common pipistrelle
Soprano pipistrelle
Nathusius'
Nyctalus
Latitude
55.560
55.555
55.550
55.545
55.540
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude

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


Max_Pass_Rate
2.5
5.0
7.5
Common pipistrelle
Soprano pipistrelle
Nathusius'
Nyctalus
Latitude
55.560
55.555
55.550
55.545
55.540
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude


Max_Pass_Rate
2.5
5.0
7.5
Brown long−eared
Daubenton's
Whiskered
Natterer's
Latitude
55.560
55.555
55.550
55.545
55.540
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude

Part 2b: Includes Absences

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

Nightly Bat Pass Rate

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	l1	0.0
Brown long-eared	l10	0.0
Brown long-eared	l1a	0.0
Brown long-eared	l2a	0.0
Brown long-eared	l3	0.0
Brown long-eared	l3a	0.0
Brown long-eared	l4	0.0
Brown long-eared	l5	0.0
Brown long-eared	l6	0.0
Brown long-eared	l7	0.0
Brown long-eared	l8	0.0
Brown long-eared	l9	0.0
Brown long-eared	l9a	0.0
Common pipistrelle	l1	0.0
Common pipistrelle	l10	0.2
Common pipistrelle	l1a	0.2
Common pipistrelle	l2a	0.1
Common pipistrelle	l3	0.1
Common pipistrelle	l3a	0.1
Common pipistrelle	l4	0.1
Common pipistrelle	l5	0.1
Common pipistrelle	l6	0.2
Common pipistrelle	l7	0.2
Common pipistrelle	l8	0.6
Common pipistrelle	l9	0.4
Common pipistrelle	l9a	4.5
Daubenton's	l1	0.0
Daubenton's	l10	0.0
Daubenton's	l1a	0.0
Daubenton's	l2a	0.0
Daubenton's	l3	0.0
Daubenton's	l3a	0.0
Daubenton's	l4	0.1
Daubenton's	l5	0.0
Daubenton's	l6	0.0
Daubenton's	l7	0.0

Species	Detector ID	Median Pass Rate
Daubenton's	I8	0.0
Daubenton's	I9	0.0
Daubenton's	I9a	0.8
Nathusius'	I1	0.0
Nathusius'	I10	0.0
Nathusius'	I1a	0.0
Nathusius'	I2a	0.0
Nathusius'	I3	0.0
Nathusius'	I3a	0.0
Nathusius'	I4	0.0
Nathusius'	I5	0.0
Nathusius'	I6	0.0
Nathusius'	I7	0.0
Nathusius'	I8	0.0
Nathusius'	I9	0.0
Nathusius'	I9a	0.0
Natterer's	I1	0.0
Natterer's	I10	0.0
Natterer's	I1a	0.0
Natterer's	I2a	0.0
Natterer's	I3	0.0
Natterer's	I3a	0.0
Natterer's	I4	0.0
Natterer's	I5	0.0
Natterer's	I6	0.0
Natterer's	I7	0.0
Natterer's	I8	0.0
Natterer's	I9	0.0
Natterer's	I9a	0.2
Nyctalus	I1	0.1
Nyctalus	I10	0.0
Nyctalus	I1a	0.0
Nyctalus	I2a	0.0
Nyctalus	I3	0.0
Nyctalus	I3a	0.0
Nyctalus	I4	0.0

Species	Detector ID	Median Pass Rate
Nyctalus	l5	0.0
Nyctalus	l6	0.0
Nyctalus	l7	0.0
Nyctalus	l8	0.0
Nyctalus	l9	0.0
Nyctalus	l9a	0.1
Soprano pipistrelle	l1	0.0
Soprano pipistrelle	l10	0.2
Soprano pipistrelle	l1a	0.2
Soprano pipistrelle	l2a	0.1
Soprano pipistrelle	l3	0.0
Soprano pipistrelle	l3a	0.2
Soprano pipistrelle	l4	0.1
Soprano pipistrelle	l5	0.1
Soprano pipistrelle	l6	0.1
Soprano pipistrelle	l7	0.3
Soprano pipistrelle	l8	0.9
Soprano pipistrelle	l9	0.5
Soprano pipistrelle	l9a	2.4
Whiskered	l1	0.0
Whiskered	l10	0.0
Whiskered	l1a	0.0
Whiskered	l2a	0.0
Whiskered	l3	0.0
Whiskered	l3a	0.0
Whiskered	l4	0.0
Whiskered	l5	0.0
Whiskered	l6	0.0
Whiskered	l7	0.0
Whiskered	l8	0.0
Whiskered	l9	0.0
Whiskered	l9a	0.0

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.

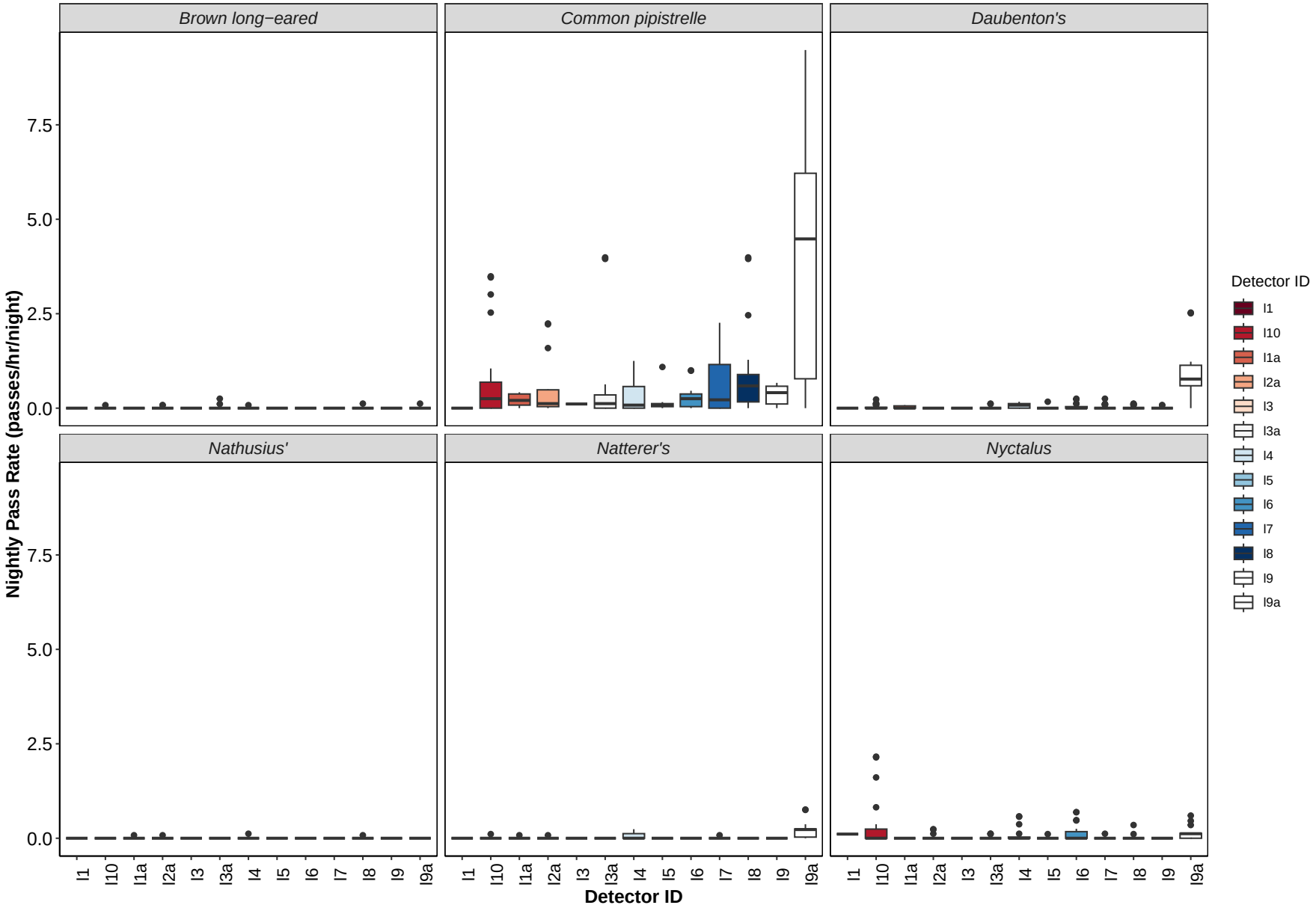
Species	Detector ID	Mean Pass Rate
Brown long-eared	l1	0.0
Brown long-eared	l10	0.0
Brown long-eared	l1a	0.0
Brown long-eared	l2a	0.0
Brown long-eared	l3	0.0
Brown long-eared	l3a	0.0
Brown long-eared	l4	0.0
Brown long-eared	l5	0.0
Brown long-eared	l6	0.0
Brown long-eared	l7	0.0
Brown long-eared	l8	0.0
Brown long-eared	l9	0.0
Brown long-eared	l9a	0.0
Common pipistrelle	l1	0.0
Common pipistrelle	l10	0.8
Common pipistrelle	l1a	0.2
Common pipistrelle	l2a	0.5
Common pipistrelle	l3	0.1
Common pipistrelle	l3a	0.6
Common pipistrelle	l4	0.3
Common pipistrelle	l5	0.2
Common pipistrelle	l6	0.3
Common pipistrelle	l7	0.6
Common pipistrelle	l8	0.9
Common pipistrelle	l9	0.4
Common pipistrelle	l9a	4.1
Daubenton's	l1	0.0
Daubenton's	l10	0.0
Daubenton's	l1a	0.0
Daubenton's	l2a	0.0
Daubenton's	l3	0.0
Daubenton's	l3a	0.0
Daubenton's	l4	0.1
Daubenton's	l5	0.0
Daubenton's	l6	0.0
Daubenton's	l7	0.0

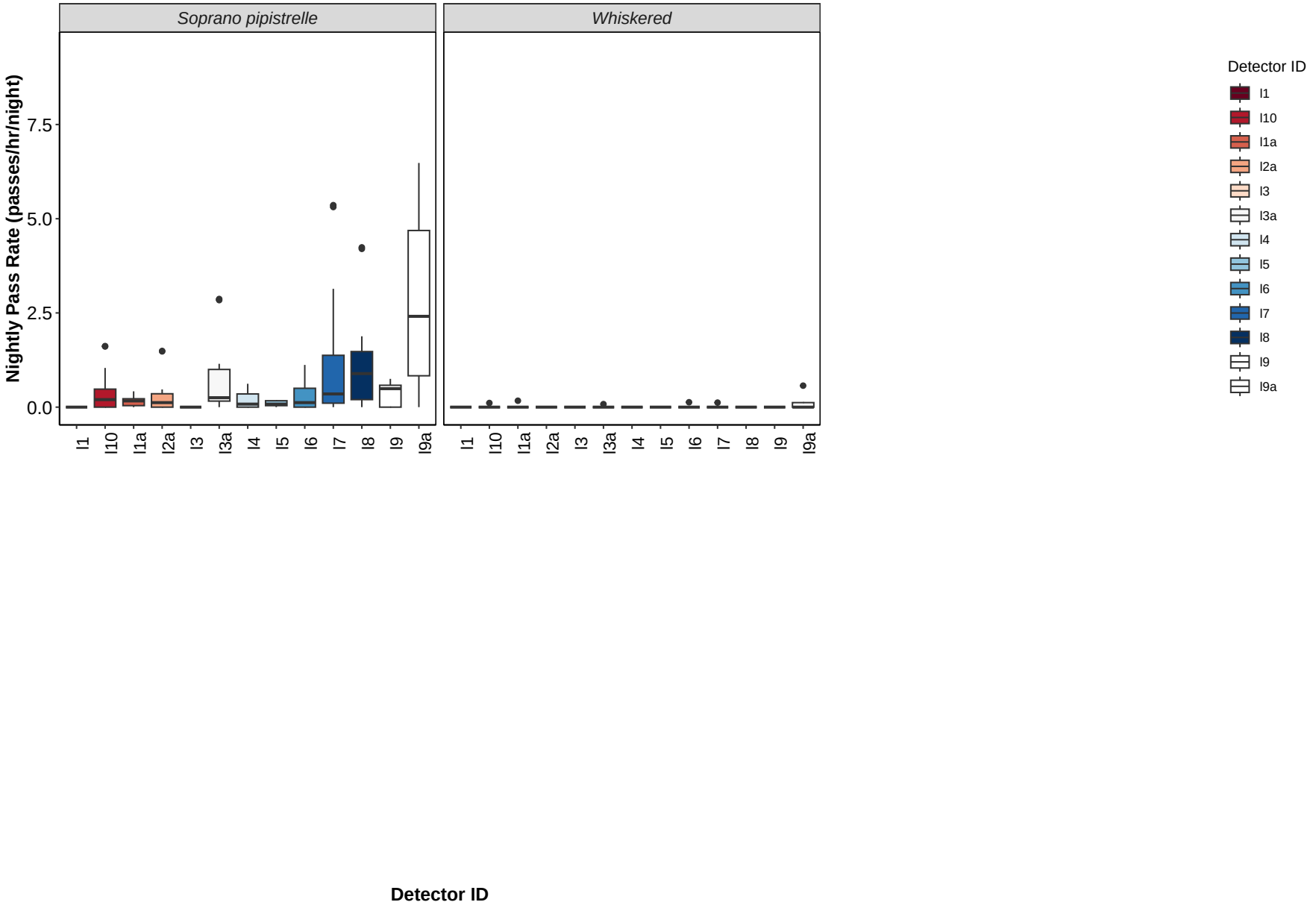
Species	Detector ID	Mean Pass Rate
Daubenton's	I8	0.0
Daubenton's	I9	0.0
Daubenton's	I9a	1.0
Nathusius'	I1	0.0
Nathusius'	I10	0.0
Nathusius'	I1a	0.0
Nathusius'	I2a	0.0
Nathusius'	I3	0.0
Nathusius'	I3a	0.0
Nathusius'	I4	0.0
Nathusius'	I5	0.0
Nathusius'	I6	0.0
Nathusius'	I7	0.0
Nathusius'	I8	0.0
Nathusius'	I9	0.0
Nathusius'	I9a	0.0
Natterer's	I1	0.0
Natterer's	I10	0.0
Natterer's	I1a	0.0
Natterer's	I2a	0.0
Natterer's	I3	0.0
Natterer's	I3a	0.0
Natterer's	I4	0.1
Natterer's	I5	0.0
Natterer's	I6	0.0
Natterer's	I7	0.0
Natterer's	I8	0.0
Natterer's	I9	0.0
Natterer's	I9a	0.2
Nyctalus	I1	0.1
Nyctalus	I10	0.3
Nyctalus	I1a	0.0
Nyctalus	I2a	0.0
Nyctalus	I3	0.0
Nyctalus	I3a	0.0
Nyctalus	I4	0.1

Species	Detector ID	Mean Pass Rate
Nyctalus	l5	0.0
Nyctalus	l6	0.1
Nyctalus	l7	0.0
Nyctalus	l8	0.0
Nyctalus	l9	0.0
Nyctalus	l9a	0.1
Soprano pipistrelle	l1	0.0
Soprano pipistrelle	l10	0.4
Soprano pipistrelle	l1a	0.2
Soprano pipistrelle	l2a	0.3
Soprano pipistrelle	l3	0.0
Soprano pipistrelle	l3a	0.7
Soprano pipistrelle	l4	0.2
Soprano pipistrelle	l5	0.1
Soprano pipistrelle	l6	0.3
Soprano pipistrelle	l7	1.0
Soprano pipistrelle	l8	1.1
Soprano pipistrelle	l9	0.4
Soprano pipistrelle	l9a	2.8
Whiskered	l1	0.0
Whiskered	l10	0.0
Whiskered	l1a	0.0
Whiskered	l2a	0.0
Whiskered	l3	0.0
Whiskered	l3a	0.0
Whiskered	l4	0.0
Whiskered	l5	0.0
Whiskered	l6	0.0
Whiskered	l7	0.0
Whiskered	l8	0.0
Whiskered	l9	0.0
Whiskered	l9a	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.


Brown long−eared
Common pipistrelle
Daubenton's
Nathusius'
Natterer's
Nyctalus
Nightly Pass Rate (passes/hr/night)
0.0
2.5
5.0
7.5
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID
Detector ID


Soprano pipistrelle
Whiskered
Nightly Pass Rate (passes/hr/night)
0.0
2.5
5.0
7.5
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID

Survey Effort

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

month	Detector ID	No. of Survey Nights
Apr	I1	1
Apr	I10	2
Apr	I3	1
Apr	I4	1
Apr	I5	1
Apr	I6	2
Apr	I7	6
Apr	I8	3
Apr	I9	4
Jul	I10	2
Jul	I2a	1
Jul	I3a	2
Jul	I4	1
Jul	I6	2
Jul	I7	2
Jul	I8	2
Jul	I9a	2
Aug	I10	11
Aug	I2a	9
Aug	I3a	9
Aug	I4	7
Aug	I6	11
Aug	I7	10
Aug	I8	10
Aug	I9a	12
Sep	I10	5
Sep	I1a	5
Sep	I2a	5
Sep	I3a	6
Sep	I4	6
Sep	I5	6
Sep	I6	7

month	Detector ID	No. of Survey Nights
Sep	I7	5
Sep	I8	7
Sep	I9	7
Oct	I10	4
Oct	I1a	1
Oct	I4	1
Oct	I6	1
Oct	I8	1
Oct	I9	2

Nighlty 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	Apr	Aug	Jul	Oct	Sep
Brown long-eared	l1	0.0	NA	NA	NA	NA
Brown long-eared	l10	0.0	0.0	0.0	0.0	0.0
Brown long-eared	l1a	NA	NA	NA	0.0	0.0
Brown long-eared	l2a	NA	0.0	0.0	NA	0.0
Brown long-eared	l3	0.0	NA	NA	NA	NA
Brown long-eared	l3a	NA	0.0	0.0	NA	0.0
Brown long-eared	l4	0.0	0.0	0.0	0.0	0.0
Brown long-eared	l5	0.0	NA	NA	NA	0.0
Brown long-eared	l6	0.0	0.0	0.0	0.0	0.0
Brown long-eared	l7	0.0	0.0	0.0	NA	0.0
Brown long-eared	l8	0.0	0.0	0.0	0.0	0.0
Brown long-eared	l9	0.0	NA	NA	0.0	0.0
Brown long-eared	l9a	NA	0.0	0.0	NA	NA
Common pipistrelle	l1	0.0	NA	NA	NA	NA
Common pipistrelle	l10	0.0	0.6	2.8	0.0	0.2
Common pipistrelle	l1a	NA	NA	NA	0.4	0.1
Common pipistrelle	l2a	NA	0.2	0.5	NA	0.1
Common pipistrelle	l3	0.1	NA	NA	NA	NA
Common pipistrelle	l3a	NA	0.2	0.4	NA	0.0
Common pipistrelle	l4	0.0	0.6	0.6	0.0	0.0
Common pipistrelle	l5	0.0	NA	NA	NA	0.1
Common pipistrelle	l6	0.0	0.3	0.3	0.4	0.2
Common pipistrelle	l7	0.1	1.2	1.4	NA	0.0
Common pipistrelle	l8	0.1	1.1	0.8	0.0	0.2
Common pipistrelle	l9	0.1	NA	NA	0.1	0.6
Common pipistrelle	l9a	NA	4.7	3.6	NA	NA
Daubenton's	l1	0.0	NA	NA	NA	NA
Daubenton's	l10	0.0	0.0	0.0	0.0	0.0
Daubenton's	l1a	NA	NA	NA	0.1	0.0
Daubenton's	l2a	NA	0.0	0.0	NA	0.0
Daubenton's	l3	0.0	NA	NA	NA	NA
Daubenton's	l3a	NA	0.0	0.0	NA	0.0
Daubenton's	l4	0.1	0.1	0.0	0.0	0.1
Daubenton's	l5	0.0	NA	NA	NA	0.0
Daubenton's	l6	0.0	0.0	0.0	0.0	0.0
Daubenton's	l7	0.0	0.0	0.0	NA	0.0

Species	Detector ID	Apr	Aug	Jul	Oct	Sep
Daubenton's	l8	0.0	0.0	0.0	0.0	0.0
Daubenton's	l9	0.0	NA	NA	0.0	0.0
Daubenton's	l9a	NA	0.6	2.5	NA	NA
Nathusius'	l1	0.0	NA	NA	NA	NA
Nathusius'	l10	0.0	0.0	0.0	0.0	0.0
Nathusius'	l1a	NA	NA	NA	0.0	0.0
Nathusius'	l2a	NA	0.0	0.0	NA	0.0
Nathusius'	l3	0.0	NA	NA	NA	NA
Nathusius'	l3a	NA	0.0	0.0	NA	0.0
Nathusius'	l4	0.0	0.0	0.0	0.0	0.0
Nathusius'	l5	0.0	NA	NA	NA	0.0
Nathusius'	l6	0.0	0.0	0.0	0.0	0.0
Nathusius'	l7	0.0	0.0	0.0	NA	0.0
Nathusius'	l8	0.0	0.0	0.0	0.0	0.0
Nathusius'	l9	0.0	NA	NA	0.0	0.0
Nathusius'	l9a	NA	0.0	0.0	NA	NA
Natterer's	l1	0.0	NA	NA	NA	NA
Natterer's	l10	0.1	0.0	0.0	0.0	0.0
Natterer's	l1a	NA	NA	NA	0.0	0.0
Natterer's	l2a	NA	0.0	0.0	NA	0.0
Natterer's	l3	0.0	NA	NA	NA	NA
Natterer's	l3a	NA	0.0	0.0	NA	0.0
Natterer's	l4	0.0	0.0	0.1	0.0	0.0
Natterer's	l5	0.0	NA	NA	NA	0.0
Natterer's	l6	0.0	0.0	0.0	0.0	0.0
Natterer's	l7	0.0	0.0	0.0	NA	0.0
Natterer's	l8	0.0	0.0	0.0	0.0	0.0
Natterer's	l9	0.0	NA	NA	0.0	0.0
Natterer's	l9a	NA	0.2	0.8	NA	NA
Nyctalus	l1	0.1	NA	NA	NA	NA
Nyctalus	l10	0.0	0.2	0.2	0.0	0.0
Nyctalus	l1a	NA	NA	NA	0.0	0.0
Nyctalus	l2a	NA	0.0	0.0	NA	0.0
Nyctalus	l3	0.0	NA	NA	NA	NA
Nyctalus	l3a	NA	0.0	0.0	NA	0.0
Nyctalus	l4	0.0	0.1	0.0	0.0	0.0

Species	Detector ID	Apr	Aug	Jul	Oct	Sep
Nyctalus	l5	0.1	NA	NA	NA	0.0
Nyctalus	l6	0.0	0.2	0.0	0.0	0.0
Nyctalus	l7	0.0	0.0	0.0	NA	0.0
Nyctalus	l8	0.0	0.0	0.0	0.0	0.0
Nyctalus	l9	0.0	NA	NA	0.0	0.0
Nyctalus	l9a	NA	0.1	0.1	NA	NA
Soprano pipistrelle	l1	0.0	NA	NA	NA	NA
Soprano pipistrelle	l10	0.1	0.5	0.3	0.0	0.2
Soprano pipistrelle	l1a	NA	NA	NA	0.2	0.2
Soprano pipistrelle	l2a	NA	0.2	0.0	NA	0.1
Soprano pipistrelle	l3	0.0	NA	NA	NA	NA
Soprano pipistrelle	l3a	NA	0.7	0.5	NA	0.2
Soprano pipistrelle	l4	0.0	0.3	0.4	0.1	0.0
Soprano pipistrelle	l5	0.0	NA	NA	NA	0.1
Soprano pipistrelle	l6	0.1	0.2	0.0	0.6	0.1
Soprano pipistrelle	l7	0.0	1.1	2.3	NA	0.2
Soprano pipistrelle	l8	0.0	1.5	1.4	0.2	0.3
Soprano pipistrelle	l9	0.0	NA	NA	0.4	0.6
Soprano pipistrelle	l9a	NA	2.4	3.1	NA	NA
Whiskered	l1	0.0	NA	NA	NA	NA
Whiskered	l10	0.0	0.0	0.0	0.0	0.0
Whiskered	l1a	NA	NA	NA	0.0	0.0
Whiskered	l2a	NA	0.0	0.0	NA	0.0
Whiskered	l3	0.0	NA	NA	NA	NA
Whiskered	l3a	NA	0.0	0.0	NA	0.0
Whiskered	l4	0.0	0.0	0.0	0.0	0.0
Whiskered	l5	0.0	NA	NA	NA	0.0
Whiskered	l6	0.0	0.0	0.1	0.0	0.0
Whiskered	l7	0.0	0.0	0.0	NA	0.0
Whiskered	l8	0.0	0.0	0.0	0.0	0.0
Whiskered	l9	0.0	NA	NA	0.0	0.0
Whiskered	l9a	NA	0.1	0.0	NA	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.

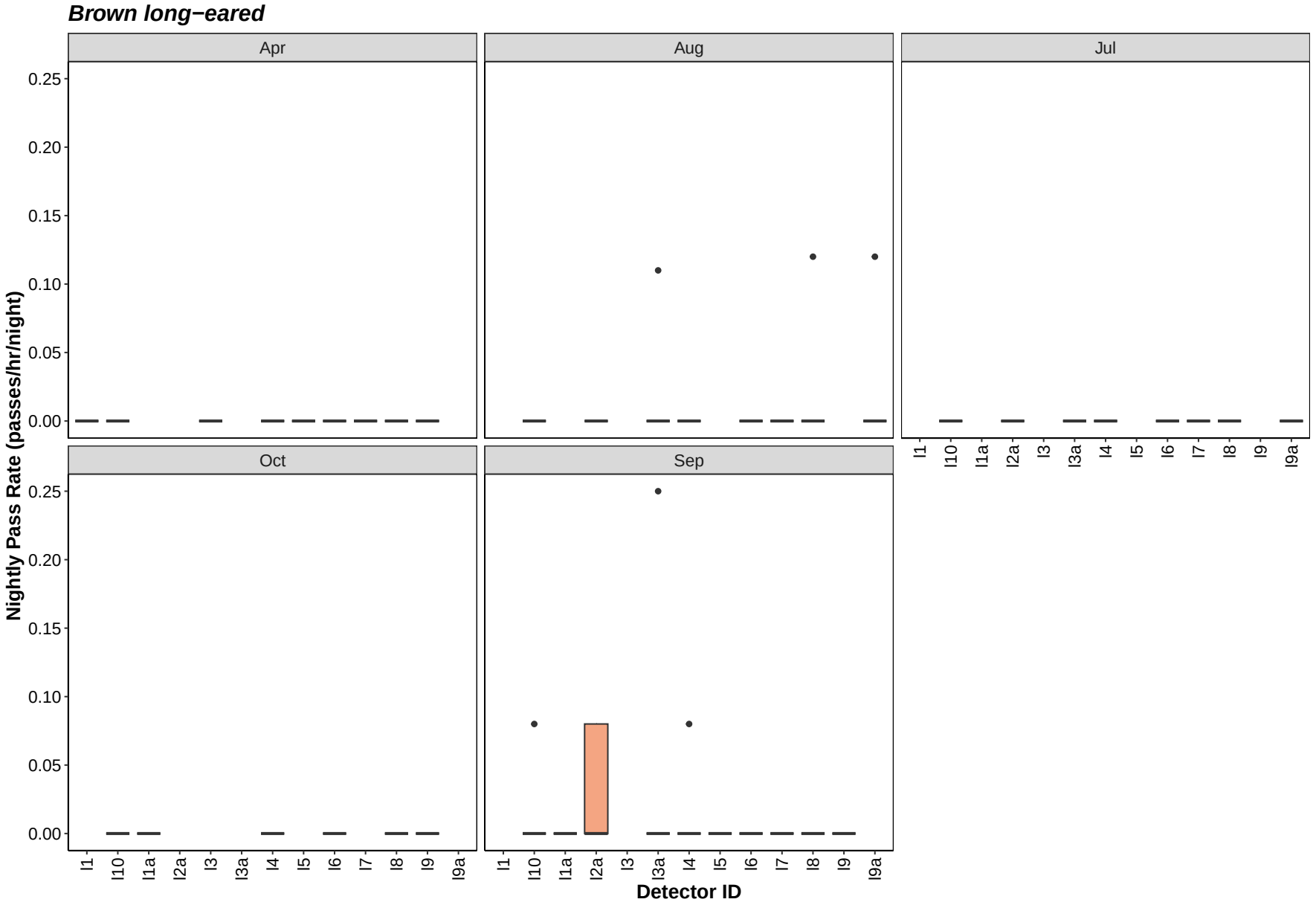
Species	Detector ID	Apr	Aug	Jul	Oct	Sep
Brown long-eared	l1	0.0	NA	NA	NA	NA
Brown long-eared	l10	0.0	0.0	0.0	0.0	0.0
Brown long-eared	l1a	NA	NA	NA	0.0	0.0
Brown long-eared	l2a	NA	0.0	0.0	NA	0.0
Brown long-eared	l3	0.0	NA	NA	NA	NA
Brown long-eared	l3a	NA	0.0	0.0	NA	0.0
Brown long-eared	l4	0.0	0.0	0.0	0.0	0.0
Brown long-eared	l5	0.0	NA	NA	NA	0.0
Brown long-eared	l6	0.0	0.0	0.0	0.0	0.0
Brown long-eared	l7	0.0	0.0	0.0	NA	0.0
Brown long-eared	l8	0.0	0.0	0.0	0.0	0.0
Brown long-eared	l9	0.0	NA	NA	0.0	0.0
Brown long-eared	l9a	NA	0.0	0.0	NA	NA
Common pipistrelle	l1	0.0	NA	NA	NA	NA
Common pipistrelle	l10	0.0	1.0	2.8	0.1	0.2
Common pipistrelle	l1a	NA	NA	NA	0.4	0.2
Common pipistrelle	l2a	NA	0.8	0.5	NA	0.1
Common pipistrelle	l3	0.1	NA	NA	NA	NA
Common pipistrelle	l3a	NA	1.1	0.4	NA	0.0
Common pipistrelle	l4	0.0	0.5	0.6	0.0	0.0
Common pipistrelle	l5	0.0	NA	NA	NA	0.2
Common pipistrelle	l6	0.0	0.4	0.3	0.4	0.2
Common pipistrelle	l7	0.1	1.1	1.4	NA	0.1
Common pipistrelle	l8	0.1	1.6	0.8	0.0	0.3
Common pipistrelle	l9	0.2	NA	NA	0.1	0.5
Common pipistrelle	l9a	NA	4.2	3.6	NA	NA
Daubenton's	l1	0.0	NA	NA	NA	NA
Daubenton's	l10	0.0	0.1	0.0	0.0	0.0
Daubenton's	l1a	NA	NA	NA	0.1	0.0
Daubenton's	l2a	NA	0.0	0.0	NA	0.0
Daubenton's	l3	0.0	NA	NA	NA	NA
Daubenton's	l3a	NA	0.0	0.0	NA	0.0
Daubenton's	l4	0.1	0.1	0.0	0.0	0.1
Daubenton's	l5	0.0	NA	NA	NA	0.0
Daubenton's	l6	0.0	0.1	0.0	0.0	0.0
Daubenton's	l7	0.1	0.0	0.0	NA	0.1

Species	Detector ID	Apr	Aug	Jul	Oct	Sep
Daubenton's	l8	0.0	0.0	0.0	0.0	0.0
Daubenton's	l9	0.0	NA	NA	0.0	0.0
Daubenton's	l9a	NA	0.7	2.5	NA	NA
Nathusius'	l1	0.0	NA	NA	NA	NA
Nathusius'	l10	0.0	0.0	0.0	0.0	0.0
Nathusius'	l1a	NA	NA	NA	0.0	0.0
Nathusius'	l2a	NA	0.0	0.0	NA	0.0
Nathusius'	l3	0.0	NA	NA	NA	NA
Nathusius'	l3a	NA	0.0	0.0	NA	0.0
Nathusius'	l4	0.0	0.0	0.0	0.0	0.0
Nathusius'	l5	0.0	NA	NA	NA	0.0
Nathusius'	l6	0.0	0.0	0.0	0.0	0.0
Nathusius'	l7	0.0	0.0	0.0	NA	0.0
Nathusius'	l8	0.0	0.0	0.0	0.0	0.0
Nathusius'	l9	0.0	NA	NA	0.0	0.0
Nathusius'	l9a	NA	0.0	0.0	NA	NA
Natterer's	l1	0.0	NA	NA	NA	NA
Natterer's	l10	0.1	0.0	0.0	0.0	0.0
Natterer's	l1a	NA	NA	NA	0.0	0.0
Natterer's	l2a	NA	0.0	0.0	NA	0.0
Natterer's	l3	0.0	NA	NA	NA	NA
Natterer's	l3a	NA	0.0	0.0	NA	0.0
Natterer's	l4	0.0	0.1	0.1	0.0	0.1
Natterer's	l5	0.0	NA	NA	NA	0.0
Natterer's	l6	0.0	0.0	0.0	0.0	0.0
Natterer's	l7	0.0	0.0	0.0	NA	0.0
Natterer's	l8	0.0	0.0	0.0	0.0	0.0
Natterer's	l9	0.0	NA	NA	0.0	0.0
Natterer's	l9a	NA	0.1	0.8	NA	NA
Nyctalus	l1	0.1	NA	NA	NA	NA
Nyctalus	l10	0.0	0.7	0.2	0.1	0.0
Nyctalus	l1a	NA	NA	NA	0.0	0.0
Nyctalus	l2a	NA	0.1	0.0	NA	0.0
Nyctalus	l3	0.0	NA	NA	NA	NA
Nyctalus	l3a	NA	0.0	0.0	NA	0.0
Nyctalus	l4	0.0	0.2	0.0	0.0	0.0

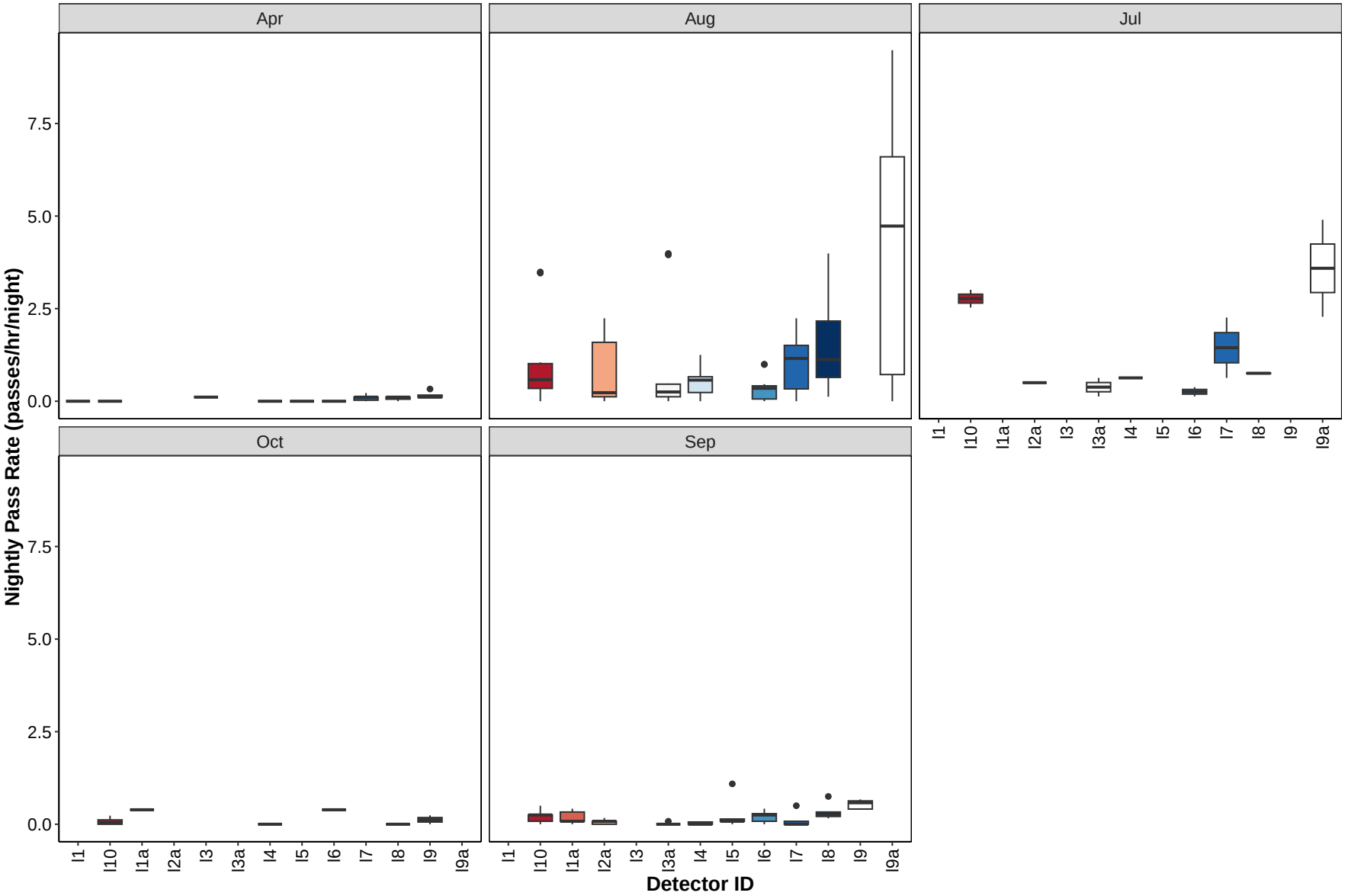
Species	Detector ID	Apr	Aug	Jul	Oct	Sep
Nyctalus	l5	0.1	NA	NA	NA	0.0
Nyctalus	l6	0.0	0.3	0.0	0.0	0.0
Nyctalus	l7	0.0	0.0	0.0	NA	0.0
Nyctalus	l8	0.0	0.0	0.0	0.0	0.0
Nyctalus	l9	0.0	NA	NA	0.0	0.0
Nyctalus	l9a	NA	0.1	0.1	NA	NA
Soprano pipistrelle	l1	0.0	NA	NA	NA	NA
Soprano pipistrelle	l10	0.1	0.6	0.3	0.0	0.2
Soprano pipistrelle	l1a	NA	NA	NA	0.2	0.2
Soprano pipistrelle	l2a	NA	0.5	0.0	NA	0.1
Soprano pipistrelle	l3	0.0	NA	NA	NA	NA
Soprano pipistrelle	l3a	NA	1.1	0.5	NA	0.2
Soprano pipistrelle	l4	0.0	0.3	0.4	0.1	0.0
Soprano pipistrelle	l5	0.0	NA	NA	NA	0.1
Soprano pipistrelle	l6	0.1	0.5	0.0	0.6	0.2
Soprano pipistrelle	l7	0.1	1.8	2.3	NA	0.2
Soprano pipistrelle	l8	0.0	1.7	1.4	0.2	0.6
Soprano pipistrelle	l9	0.0	NA	NA	0.4	0.6
Soprano pipistrelle	l9a	NA	2.8	3.1	NA	NA
Whiskered	l1	0.0	NA	NA	NA	NA
Whiskered	l10	0.0	0.0	0.0	0.0	0.0
Whiskered	l1a	NA	NA	NA	0.0	0.0
Whiskered	l2a	NA	0.0	0.0	NA	0.0
Whiskered	l3	0.0	NA	NA	NA	NA
Whiskered	l3a	NA	0.0	0.0	NA	0.0
Whiskered	l4	0.0	0.0	0.0	0.0	0.0
Whiskered	l5	0.0	NA	NA	NA	0.0
Whiskered	l6	0.0	0.0	0.1	0.0	0.0
Whiskered	l7	0.0	0.0	0.0	NA	0.0
Whiskered	l8	0.0	0.0	0.0	0.0	0.0
Whiskered	l9	0.0	NA	NA	0.0	0.0
Whiskered	l9a	NA	0.1	0.0	NA	NA

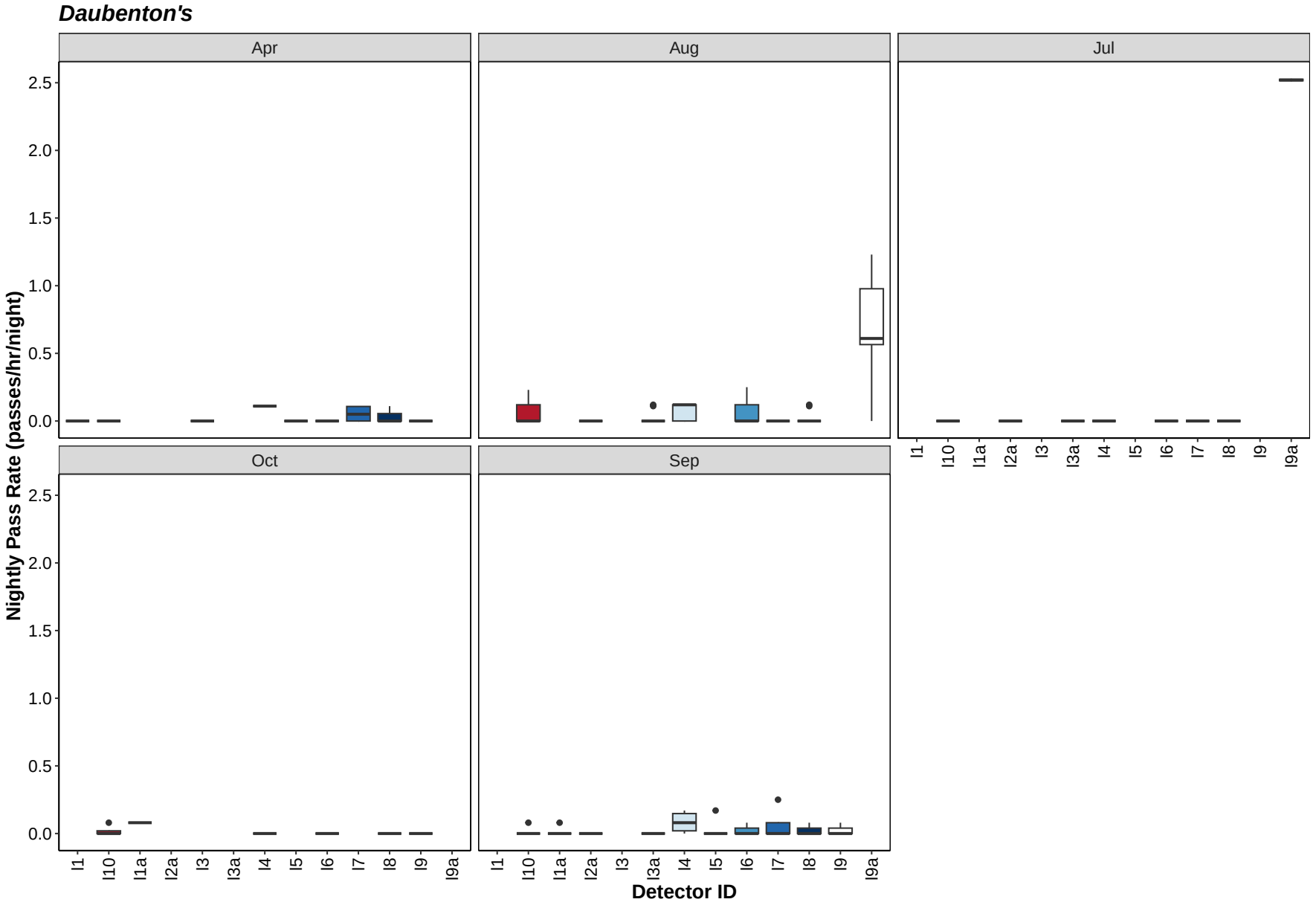
Per Detector

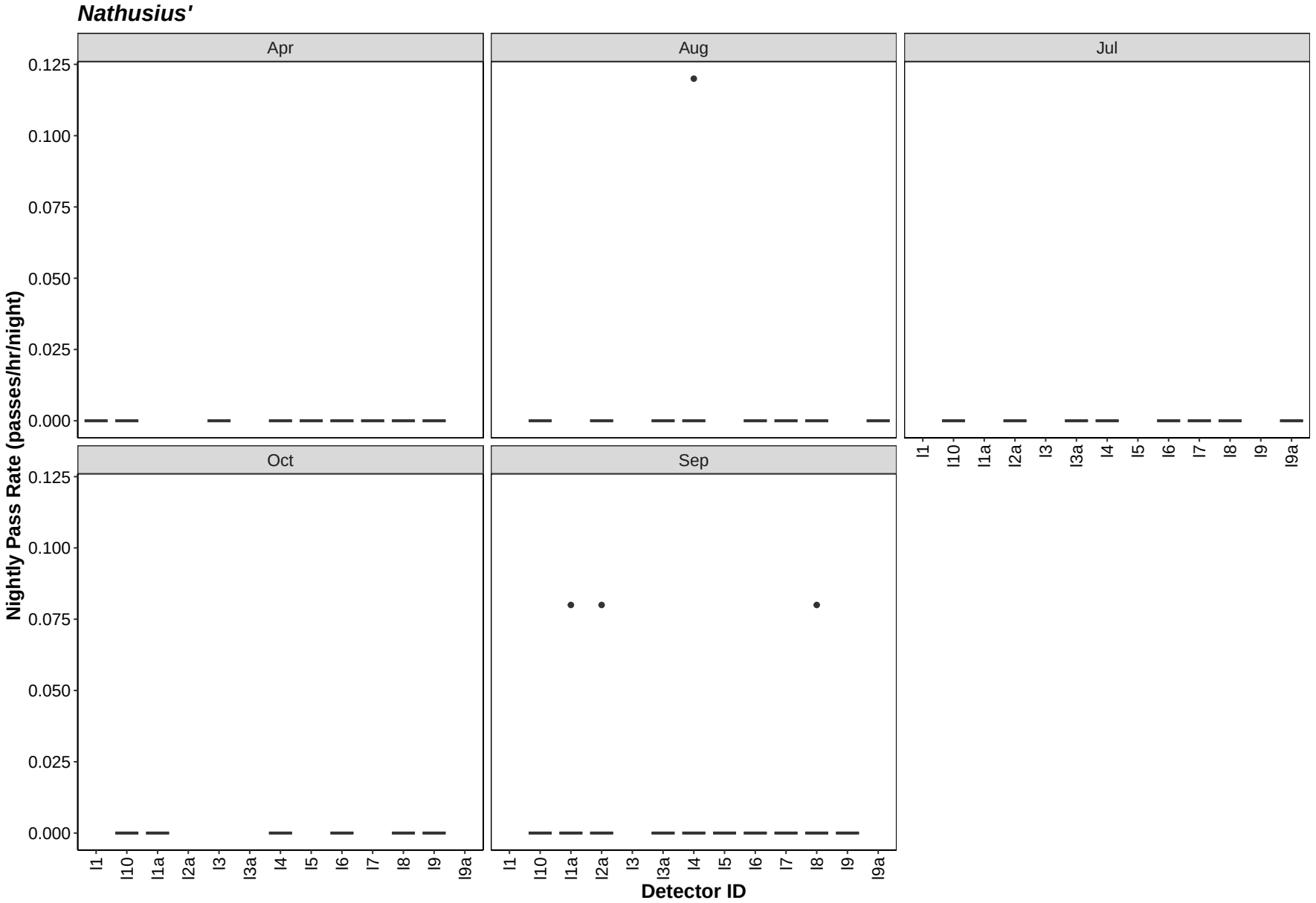
Figure 17. Figures show boxplots for the number of bat passes per hour by detector, for each month. The ‘box’ shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The ‘whiskers’ extend from the box and represent 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.

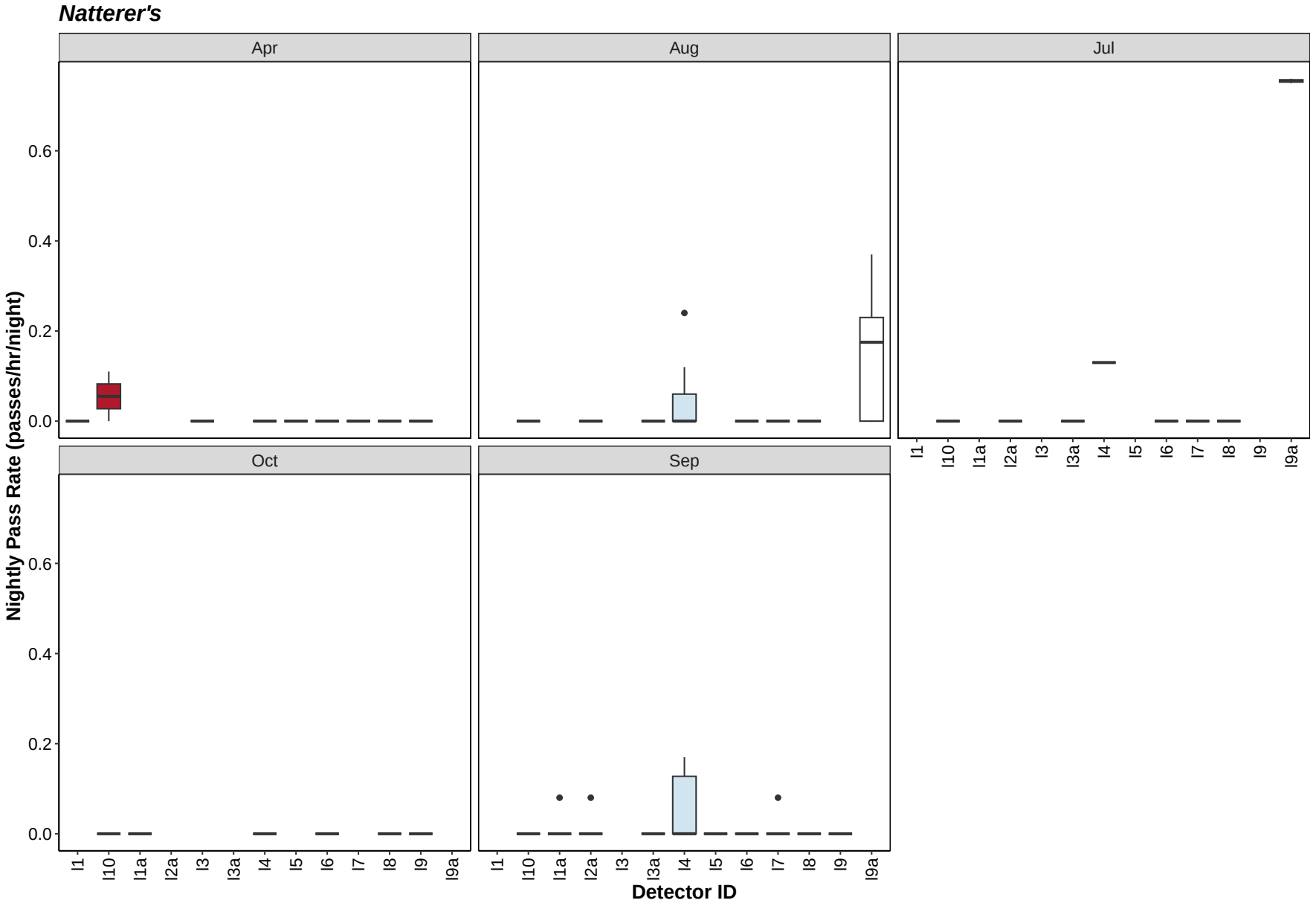

Brown long−eared
Apr
Aug
Jul
Oct
Sep
Nightly Pass Rate (passes/hr/night)
0.25
0.20
0.15
0.10
0.05
0.00
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID

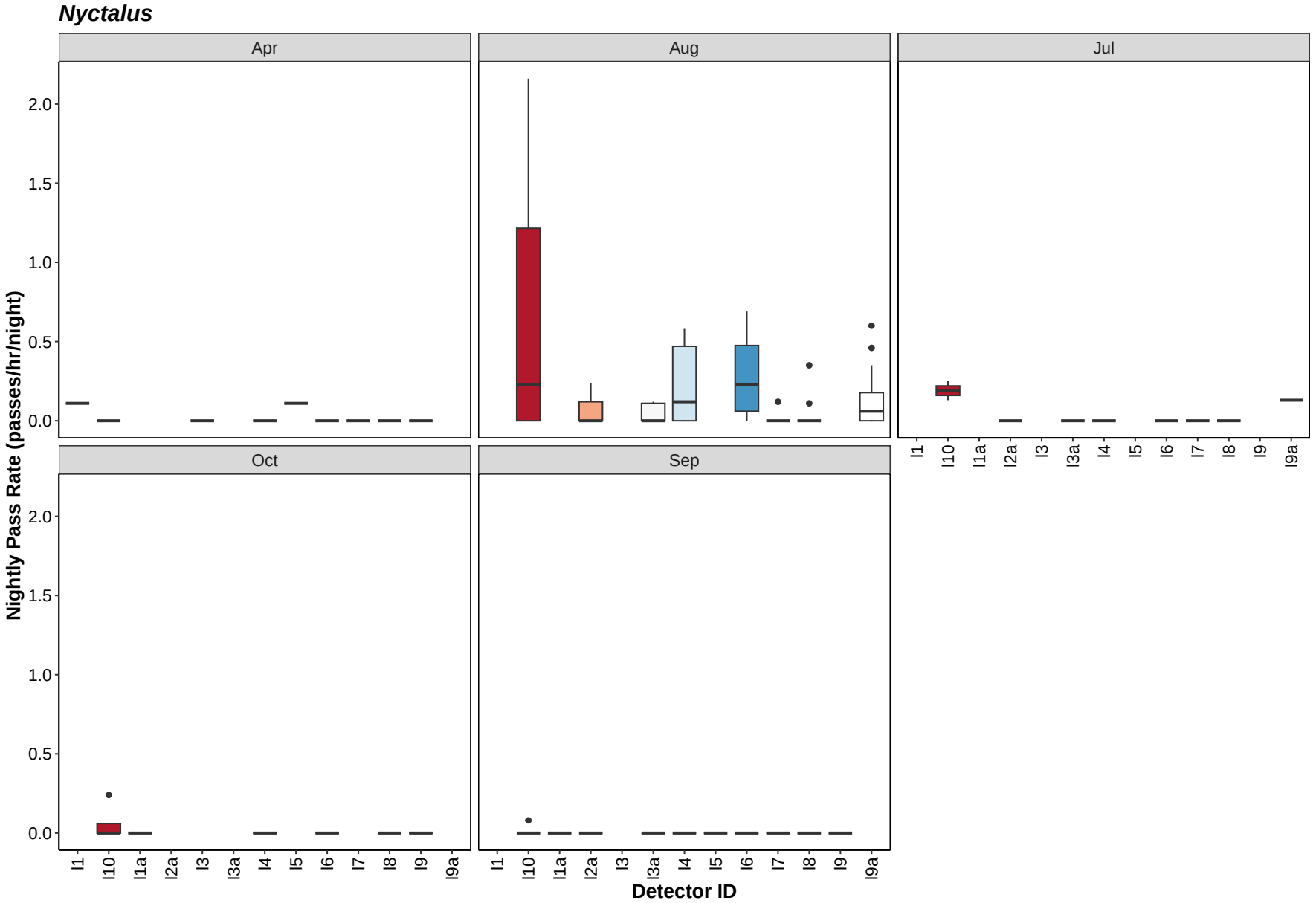
Common pipistrelle



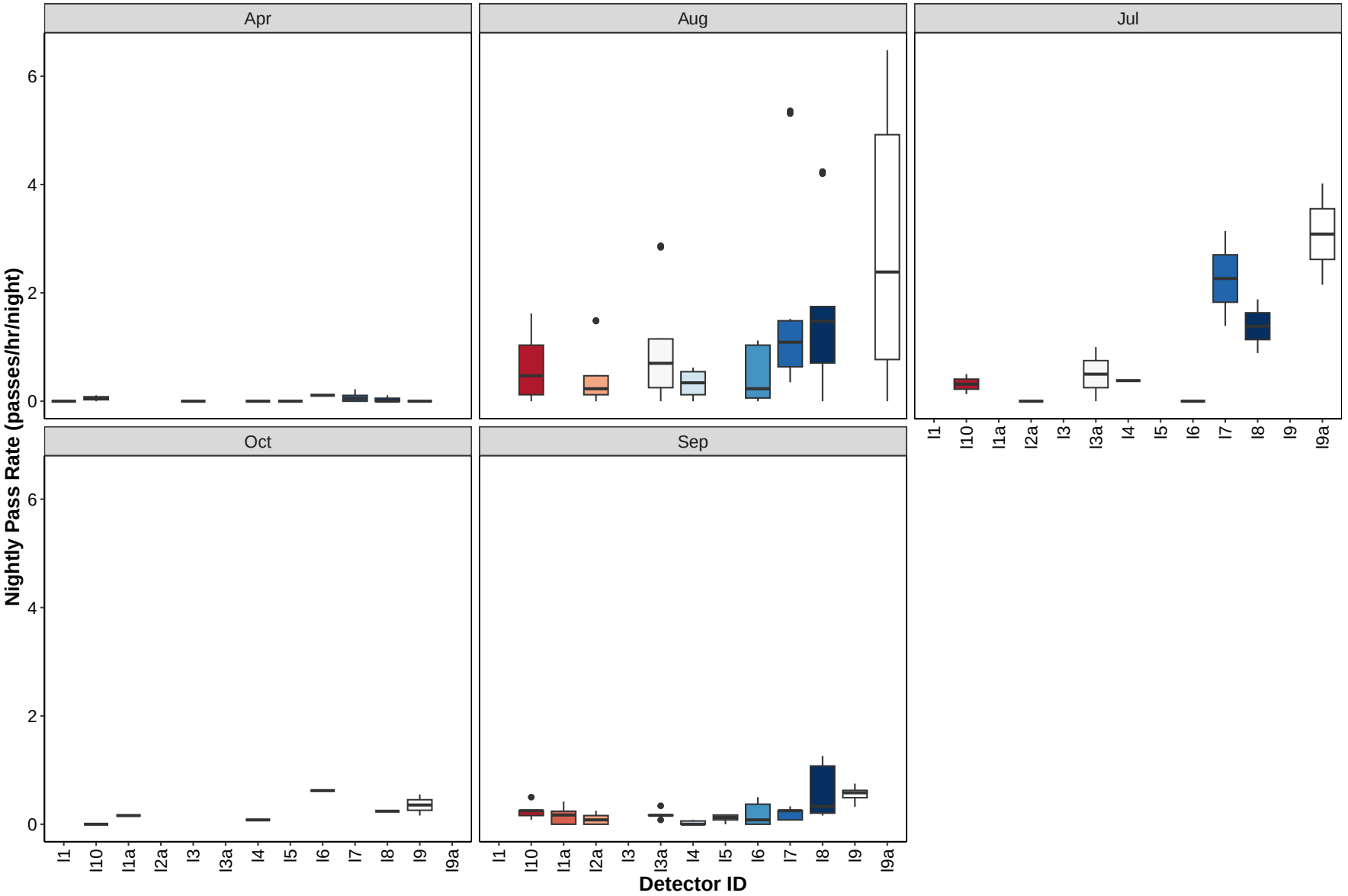

Daubenton's
Apr
Aug
Jul
Oct
Sep
Nightly Pass Rate (passes/hr/night)
0.0
0.5
1.0
1.5
2.0
2.5
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID

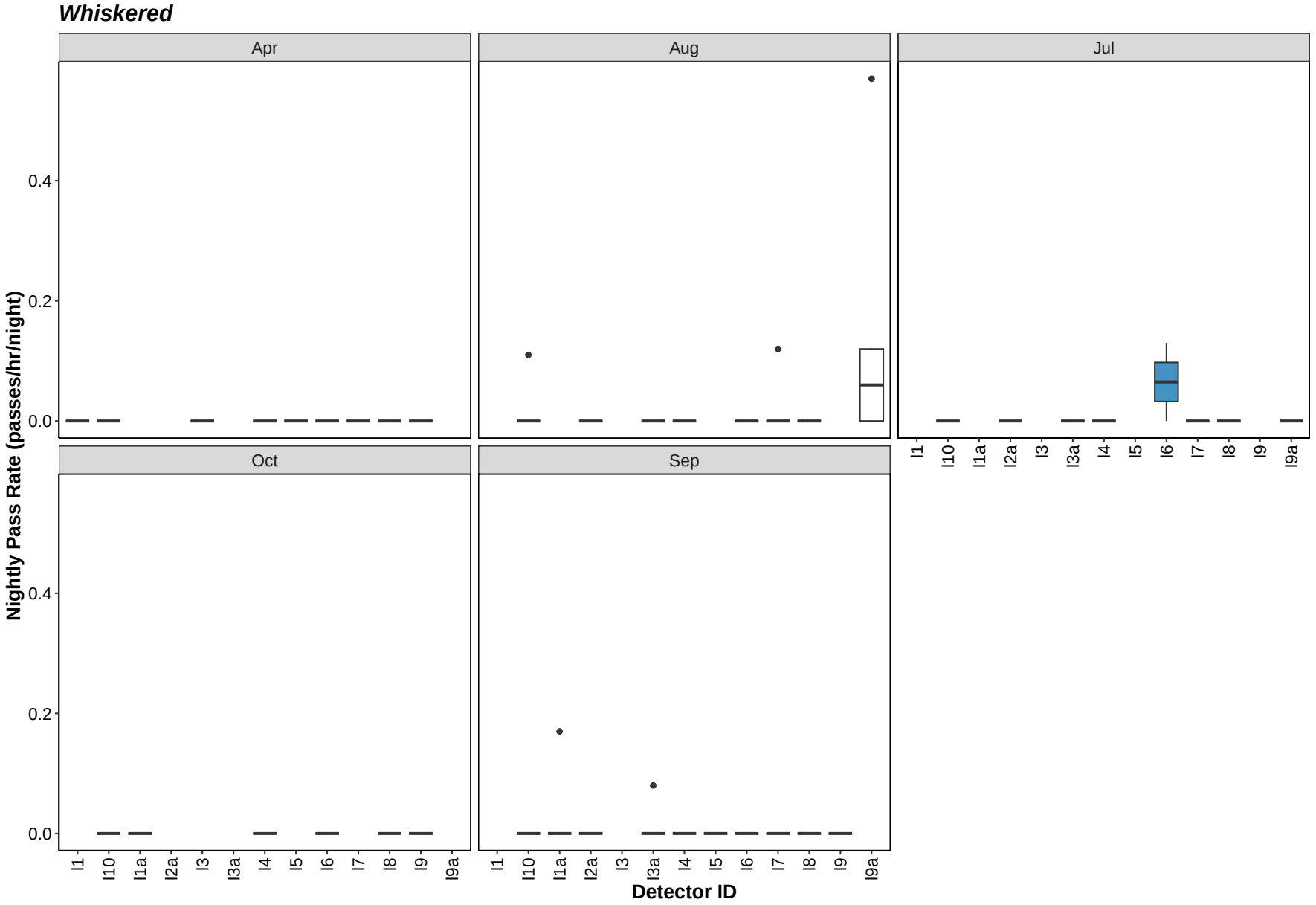

Nathusius'
Apr
Aug
Jul
Oct
Sep
Nightly Pass Rate (passes/hr/night)
0.125
0.100
0.075
0.050
0.025
0.000
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID


Natterer's
Apr
Aug
Jul
Oct
Sep
Nightly Pass Rate (passes/hr/night)
0.0
0.2
0.4
0.6
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID


Nyctalus
Apr
Aug
Jul
Oct
Sep
Nightly Pass Rate (passes/hr/night)
0.0
0.5
1.0
1.5
2.0
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID

Soprano pipistrelle




Whiskered
Apr
Aug
Jul
Oct
Sep
Nightly Pass Rate (passes/hr/night)
0.0
0.2
0.4
I1
I10
I1a
I2a
I3
I3a
I4
I5
I6
I7
I8
I9
I9a
Detector ID

Bat Activity per Detector Location

Figure 18. Detector ID reference:

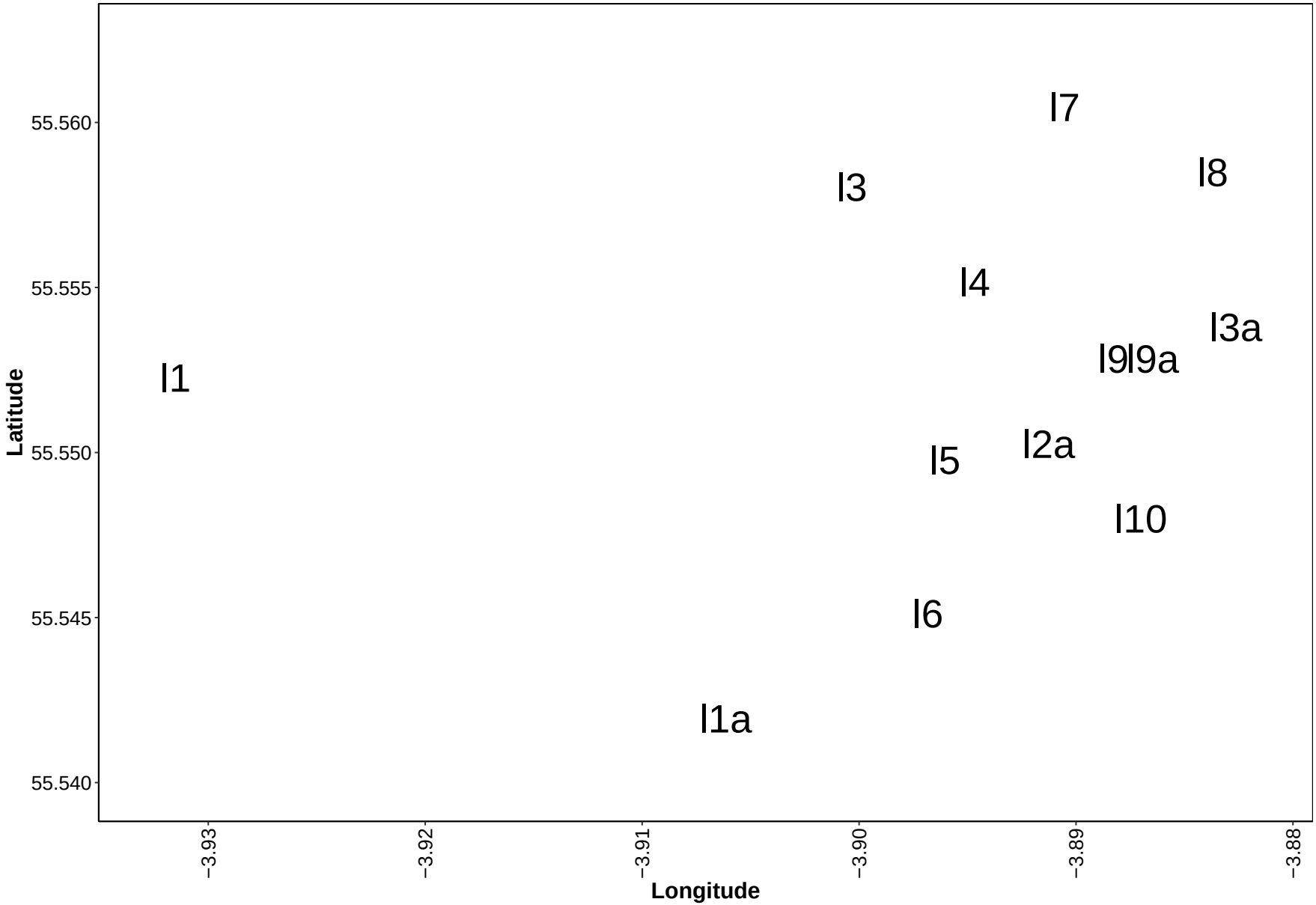
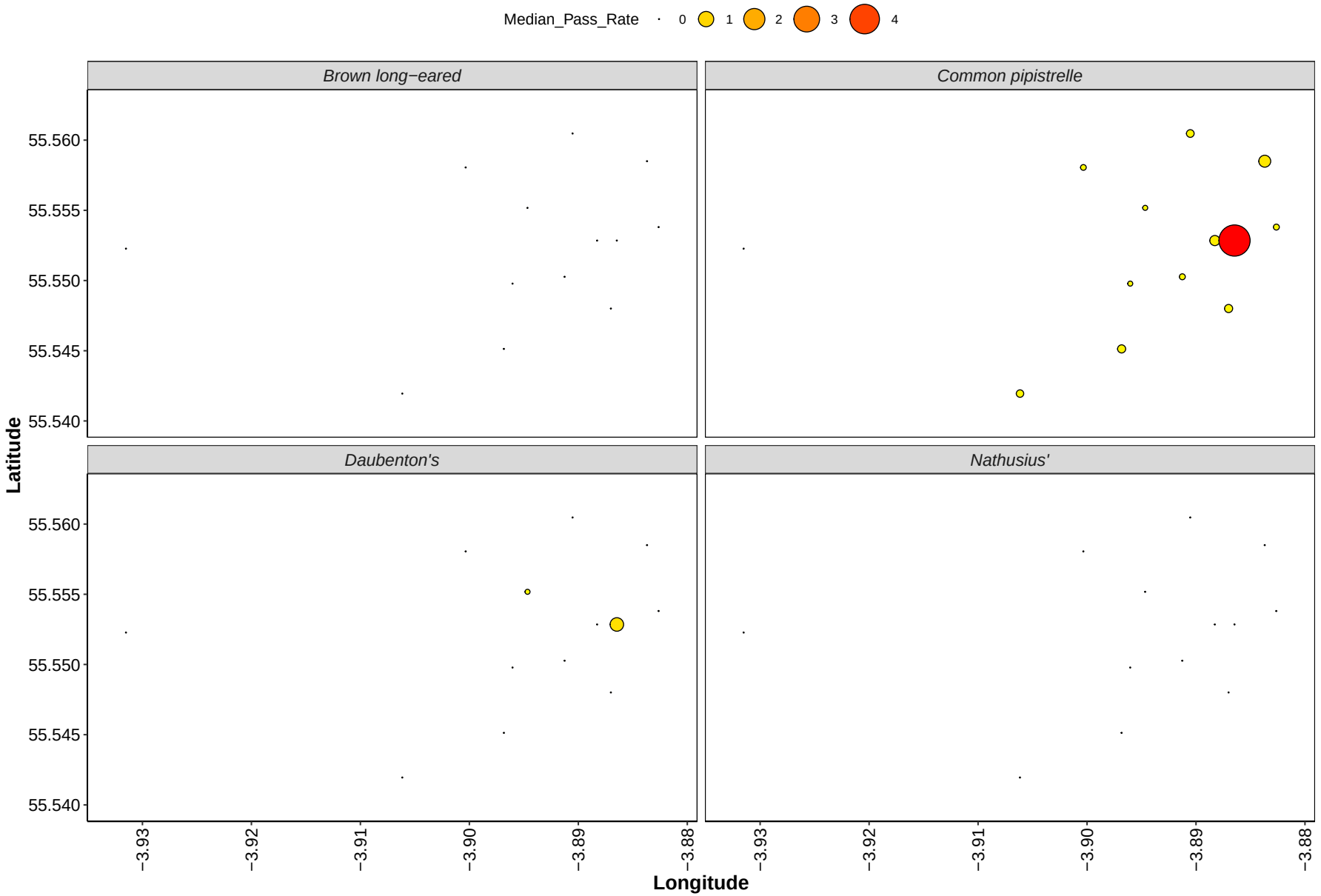

l7
l8
l3
l4
l3a
l9
l9a
l1
l2a
l5
l10
l6
l1a
55.560
55.555
55.550
55.545
55.540
Latitude
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude

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


Median_Pass_Rate
0
1
2
3
4
Brown long−eared
Common pipistrelle
Daubenton's
Nathusius'
Latitude
55.560
55.555
55.550
55.545
55.540
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude

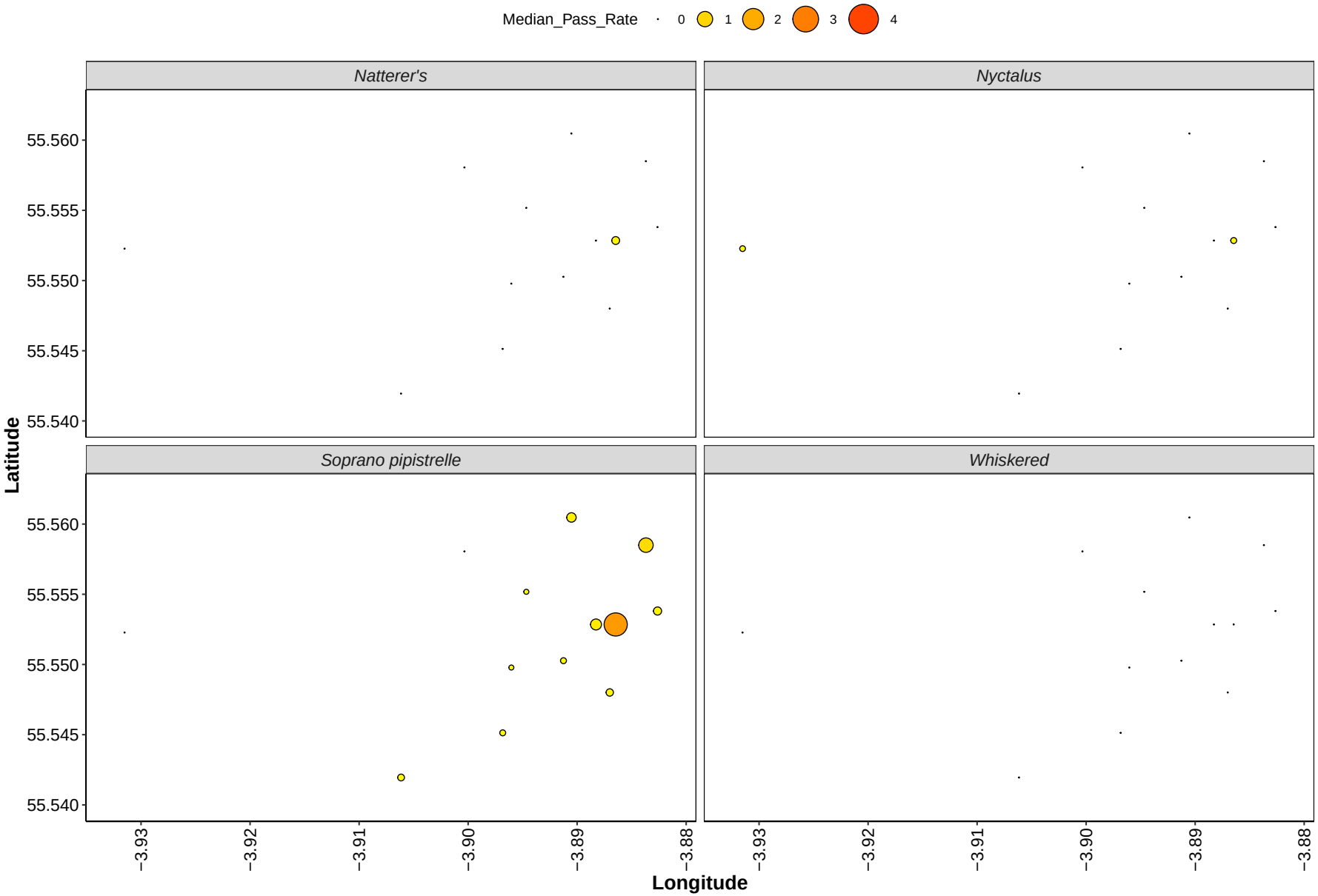
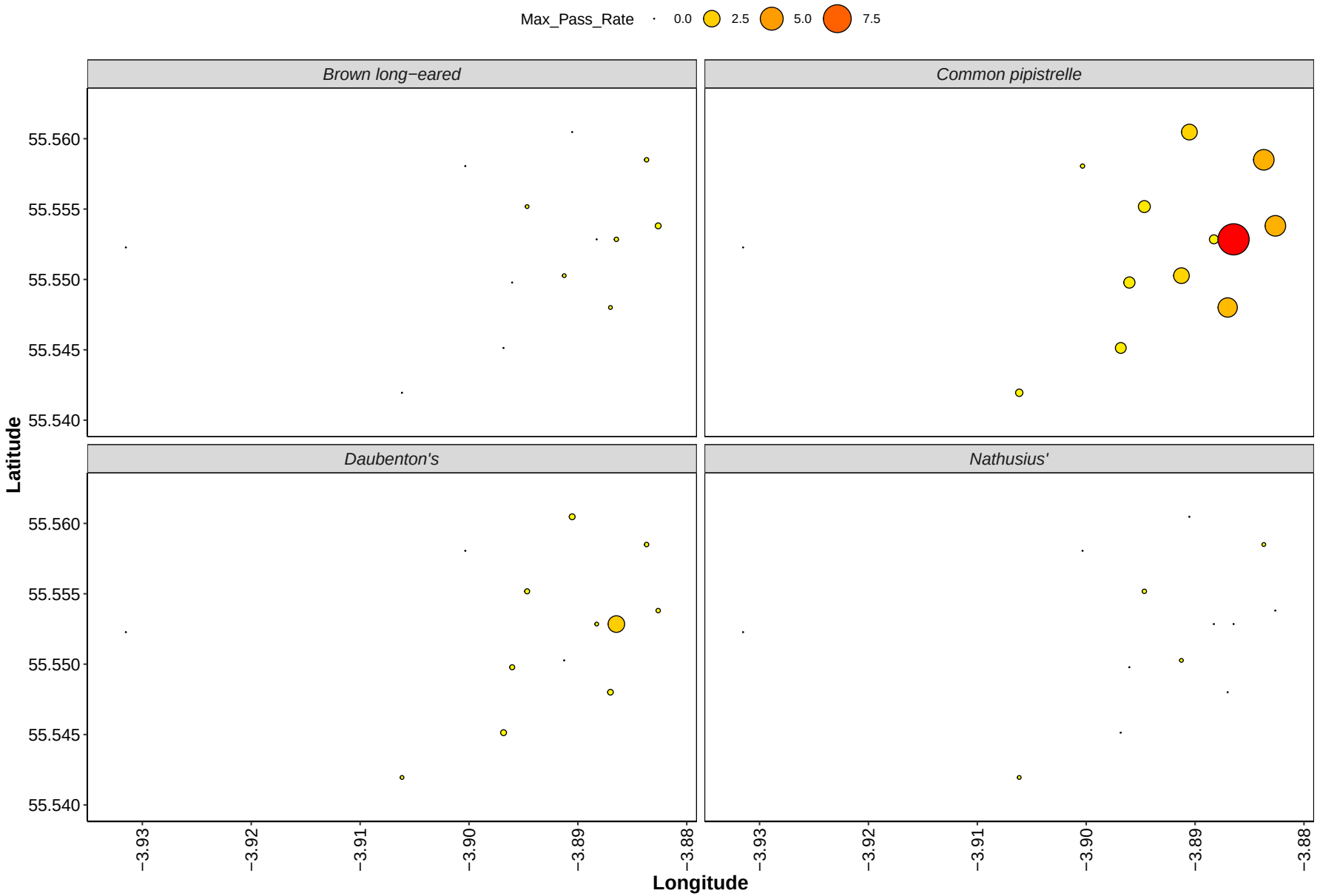
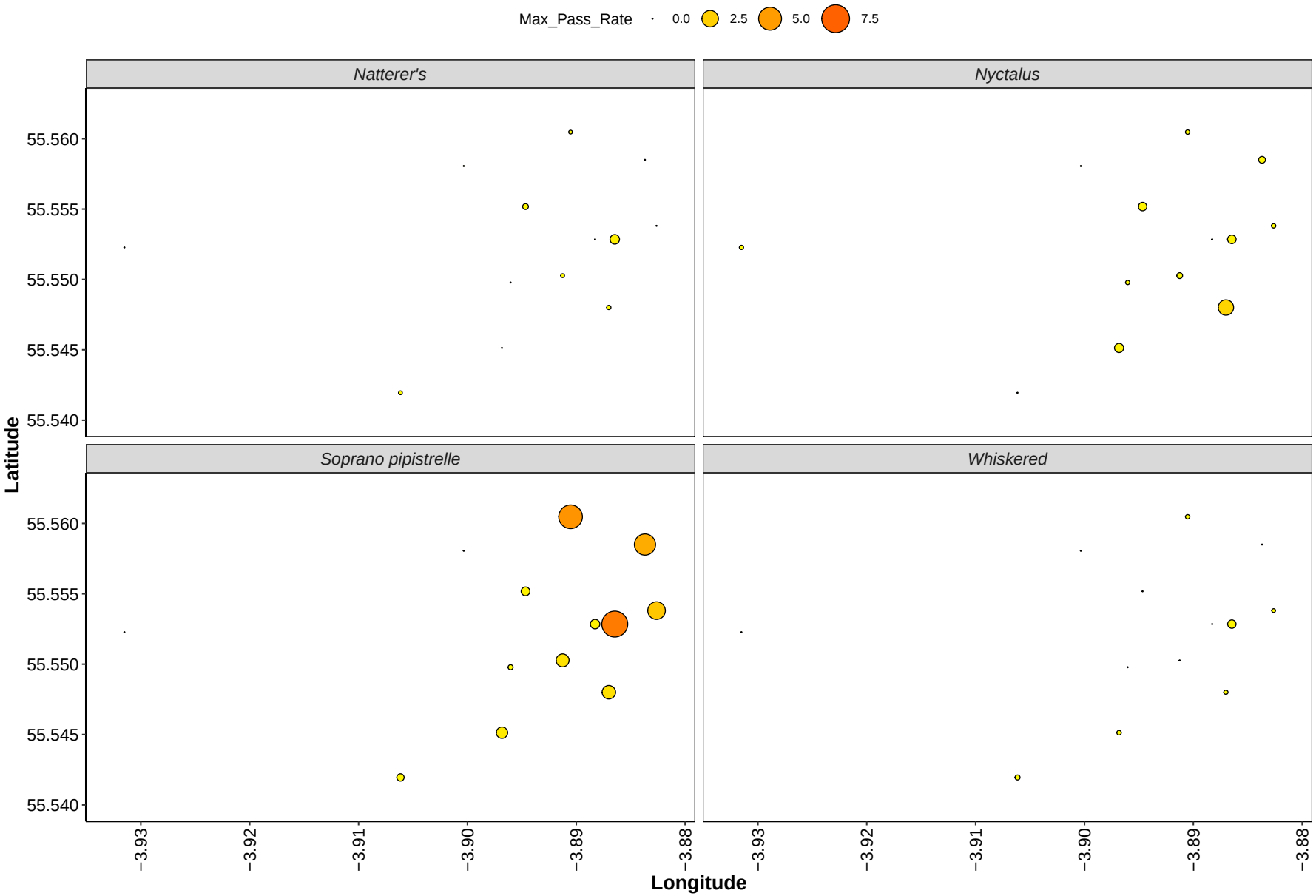

Median_Pass_Rate
0
1
2
3
4
Natterer's
Nyctalus
Soprano pipistrelle
Whiskered
Latitude
55.560
55.555
55.550
55.545
55.540
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude

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


Max_Pass_Rate
0.0
2.5
5.0
7.5
Brown long−eared
Common pipistrelle
Daubenton's
Nathusius'
Latitude
55.560
55.555
55.550
55.545
55.540
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude


Max_Pass_Rate
0.0
2.5
5.0
7.5
Natterer's
Nyctalus
Soprano pipistrelle
Whiskered
Latitude
55.560
55.555
55.550
55.545
55.540
−3.93
−3.92
−3.91
−3.90
−3.89
−3.88
Longitude

Thank you for using Ecobat!