Technical Appendix 7.3

Bat Technical Report

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1 Bat Technical Report

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1 Bat Technical Report

1.1 Introduction

Background

1.1.1 RPS Consulting Services Ltd. (RPS) was commissioned by Spirebush Ltd to undertake an assessment of the potential impacts of construction and operation of the Hagshaw Energy Cluster - Western Expansion (Phase 1); hereafter referred as the 'Proposed Development' to bat species in the area. The Proposed Development location is shown in **Annex A Figure 1**.

1.1.2 The Proposed Development site is split into two main development areas connected by the B743 public highway, as illustrated on **Annex A Figure 2** and briefly described below:

- Northern development area – proposed wind turbines and associated infrastructure are located within the western and southern part of Dungavel Forest, to the south of Strathaven in South Lanarkshire.
- Southern development area – proposed solar development and battery energy storage systems (BESS) and associated infrastructure are located on the Netherwood landholding, to the north of Muirkirk in East Ayrshire

1.1.3 The Proposed Development comprises of the following principal components as shown in **Annex A Figure 2**:

- Eighteen wind turbines – 130 MW;
- Solar development area - 60 MW;
- Short Duration Battery Energy Storage (BESS) – 25 MW;
- Long Duration BESS – 200 MW; and
- Associated infrastructure: access roads, borrow pits, temporary construction compounds, substation compounds, electrical cabling, inverters and substations (see **Environmental Impact Assessment** (**EIA) Report Chapter 3** for more details).

Purpose of this Appendix

1.1.4 This appendix details the methodology, results, conclusions, and recommendations of the desk study and bat surveys undertaken for the Proposed Development. All this information has been used to inform the Environmental Impact Assessment (EIA). The aims of this appendix are outlined below:

- identify the bat species present within the Proposed Development;
- assess bat activity levels within the Proposed Development;
- locate roosts at significant risk of disturbance; and
- investigate the potential risk level to each species.

Landscape Context

1.1.5 As noted above, the Proposed Development is situated in South Lanarkshire and East Ayrshire (approximate central grid reference NS 68837 31590), approximately 1.4 km north of Muirkirk. The habitats within the Proposed Development mainly comprise conifer plantation in the northern development area. In the southern development area is agricultural land, shelterbelt plantations, and farm dwellings with Greenock Water running along the southern boundary. The B743 connects the two development areas of the Proposed Development. Further afield are several wind farms including Bankend Rig directly to the south and west of the northern development area,

Cumberhead West and the Hagshaw Energy Cluster to the east, and Dungavel and Kype Muir to the north and north-east.

Terminology

1.1.6 The following definitions are used in this report and are delineated in **Figure 1** in **Annex A**.

- Proposed Development: refers to the area containing the site as outlined in red by the site boundary.
- Survey Area: the 2022 site boundary.

Relevant Legislation

1.1.7 The section below details relevant European and UK legislation which has been taken into consideration for the purposes of the bat surveys and this associated report.

The Conservation of Habitat and Species Regulations 2019

1.1.8 All UK bat species are European Protected Species (EPS) and are protected under the Conservations (Natural Habitats, &c.) Regulations 1994 (as amended) which implements the EC Habitats Directive 92/43/EEC in the United Kingdom. In relation to EPS, the 2019 Regulations make it an offence to deliberately or recklessly disturb an EPS. Their places of shelter are fully protected, and it is an offence to damage, destroy or obstruct access to or otherwise deny the animal use of a breeding site or resting site, whether deliberately or not. It is also an offence to disturb in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species, disturb in a manner, or circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young.

1981 Wildlife and Countryside Act (as amended)

1.1.9 All UK bats are protected under the 1981 Wildlife and Countryside Act (as amended). All species are listed on Schedule 5 of the Act and are subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:

- intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; and
- intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat.

1.1.10 If works are planned that are likely to constitute an offence under the current legislation, an application for a derogation licence should be made to NatureScot.

1.2 Methodology

Desk Study

1.2.1 A desk study was undertaken in 2024 to support the Proposed Development. The following data was looked at:

- There are no statutory designated sites in Scotland with bats as a qualifying feature, as such a search for these was not undertaken for the purpose of this report.
- South West Scotland Environmental Information Centre (SWSEIC) was contacted for records for all bat species within 2 km of the Proposed Development. Glasgow Museum biological Record Centre (GMBRC) was closed at the time of writing.
- Nearby wind farm planning applications were reviewed with regard to the bat surveys completed and the species and bat activity levels recorded. This information provides a comprehensive overview of bat activity across the wider landscape.

- Aerial imagery (Google Earth Pro) and Ordnance Survey maps were studied to determine topographic and landscape features which might affect how bats use of the Proposed Development and surrounding area prior to the field surveys to guide the field-based assessments.

Field Surveys

Habitat Assessment

1.2.2 A habitat assessment was undertaken in 2024 to identify habitats and areas likely to be of value for bats within the Proposed Development. Key habitat areas, including likely commuting routes, foraging areas and roosting locations were identified and categorised using criteria based on current guidelines (Collins, 2023) and detailed in **Table 1** below.

Table 1 - Guidelines for assessing the suitability of habitats for bats based on Collins (2023)

Potential Suitability	Description of Roosting Habitats	Foraging and Commuting Habitats
None	No habitat features within the Proposed Development likely to be used by any roosting bats at any time of the year.	No habitat features within the Proposed Development likely to be used by any commuting or foraging bats at any time of the year.
Negligible	No obvious habitat features within the Proposed Development likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features within the Proposed Development likely to be used as flightpaths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
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 and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.	Habitat that could be used by small numbers of bats as flightpaths such as a gappy hedgerow or unvegetated stream, but isolated. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for flightpaths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland, or water.
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 and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g., maternity, or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flightpaths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses, and grazed parkland. The Proposed Development is close to and connected to known roosts.

Preliminary Roost Assessment

1.2.3 A Preliminary Roost Assessment (PRA) was undertaken within the Proposed Development in September 2024 by RPS. Previous data from MacArthur Green collected in September 2023 was re-identified and the assessment was updated, where possible.

1.2.4 Surveys were undertaken during daylight hours to determine whether the buildings had Bat Roost Potential (BRP). The buildings were assessed externally for Potential Roost Features (PRFs) and any evidence of bats. This was done from ground level using binoculars to identify any PRFs that otherwise would be difficult to assess. The buildings were then categorised for their BRP as per the current guidelines (Collins, 2023) as detailed in **Table 1**.

1.2.5 A description of the building including location and current use was recorded, along with notes taken on any PRFs observed. These include but are not limited to; lifted or missing roofing slates, holes in structures, gaps within woodwork, broken windows or doors, or cracks within brickwork. Any evidence of bats was also noted (*i.e.*, droppings, urine staining, feeding remains and dead or live bats).

Ground Level Tree Assessment

1.2.6 A Ground Level Tree Assessment (GLTA) was undertaken of the Proposed Development in September 2024 by RPS to identify if any trees have BRP. Previous data from MacArthur Green collected in September 2023 was re-surveyed and the assessment was updated, were possible. The survey was carried out during daylight hours.

1.2.7 A detailed inspection of the trees from ground level was carried out to identify any PRFs suitable for bats (Collins, 2023). At this stage, the PRFs are not inspected in any detail and therefore is only an estimate of the potential for supporting roosting bats. Trees were assessed from ground level using binoculars and a high-powered torch to illuminate any hollows and darker areas that otherwise would be difficult to assess.

1.2.8 A description of the tree including species and location was recorded, along with notes taken on any PRFs observed. These include any cavities or crevices that would provide suitable access points for bats, including but not limited to, lifted bark, hollows, cracks and splits, rot, and woodpecker holes. Any evidence of bats was also noted (*i.e.*, droppings, urine staining, feeding remains and dead or live bats). The trees were then classified for their potential to support roosting bats using criteria as per current guidance (Collins, 2023) and detailed in **Table 2**.

Table 2 – Guidelines for assessing the suitability of trees for bats based on Collins (2023)

Suitability	Description
None	Either no PRFs in the tree or highly unlikely to be any.
FAR	Further assessment required to establish if PRFs are present in the tree.
PRF	A tree with at least one PRF present.
PRF- I	PRF is only suitable for individual bats or very small number of bats either due to size or lack of suitable surrounding habitat.
PRF- M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

***FAR** – Further Assessment Required; **PRF** – Potential Roost Features*

Static Bat Activity Surveys

1.2.9 MacArthur Green undertook bat activity surveys in 2022 across the Survey Area.

1.2.10 Thirty-four static detectors were deployed between 13 May 2022 and 22 September 2022. Bat calls were recorded on Anabat detectors in full spectrum and zero crossing. The data was then analysed and assigned to species. The location and broad habitat of the static detectors are detailed in **Annex D** and presented in **Annex A Figure 3**. The sampling strategy followed NatureScot guidance (NatureScot, 2021). The guidance states that ten static detector locations are needed for the first ten turbines and then one detector per three additional turbines over and above the first ten, with the additional detectors to be positioned using a stratified sampling strategy for large

developments. The detector locations were based upon earlier iterations of the Proposed Development layout, as such, 18 of the 34 static detectors are located outwith the current Proposed Development site.

1.2.11 Thirteen static detectors were within the northern development area of the Proposed Development site. A further single location (loc4) is ~300 m outside of the northern development area however data from this detector is included in the assessment of activity in the northern development area due to proximity of the location and the similarity in habitats.

1.2.12 Data collected from four of the static detectors lies just outside of the Proposed Development to the north of the southern development area has been used to inform consideration of overall bat activity across the southern development area as the large amount of data collected provides insights into bat activity across the wider landscape. In this regard, it is noted that current advice for bats around solar farms does not require activity surveys therefore this is not considered to be a significant limitation to the assessment (NatureScot, 2024).

Ecobat Analysis

1.2.13 Current guidance (NatureScot, 2021) recommends that at activity data collected from static detectors have a measure of relative activity obtained using the online tool Ecobat. 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.

1.2.14 The Ecobat report which details the output from the survey can be found in **Annex G** with summary outputs available in **Annex E**.

1.2.15 Percentile levels produced from the Ecobat analysis are interpreted according to the parameters in **Table 3**.

Table 3 – Percentile Score and Categorised Level of Bat Activity

Percentile	Bat Activity
81 to 100	High
61 to 80	Moderate to High
41 to 60	Moderate
21 to 40	Low to Moderate
0 to 20	Low

Risk Assessment

1.2.16 The risk to bats from wind turbines is from death either by direct collision or death through injury (including barotrauma). The impact of a single bat death is unlikely to be significant on any scale, but cumulative losses of individual bats could potentially threaten the viability of local or even national populations.

1.2.17 The risk assessment carried out within this report follows that outlined in the current guidance (NatureScot, 2021). **Table 4** and **Table 5** below present the factors to consider when assessing potential risk to bats. **Table 4** gives an indication of potential site risk based on a consideration of habitat and development related features. Project Size and Habitat Risk criteria are outlined in **Annex Table 5** and **Annex Table 6 (Annex F).**

Table 4 – Initial Site Risk Assessment

Site Risk Level (1-5)	Project Size			
		Small	Medium	Large
Habitat Risk	Low	1	2	3
	Moderate	2	3	4
	High	3	4	5

Table adapted from NatureScot (2021). Green (1-2) - low/lowest site risk; Amber (3) - medium site risk; Red (4-5) - high/highest site risk.

1.2.18 Where:

- Small - small scale development (≤10 turbines). No other wind energy developments within 10km. Comprising turbines <50m in height.
- Medium – larger developments (between 10 and 40 turbines). May have some other wind developments within 5km. Comprising turbines 50-100m in height.
- Large – largest developments (>40 turbines) with other wind energy developments within 5km. Comprising turbines >100m in height.

1.2.19 An overall assessment of risk can then be made by considering the site assessment in relation to the bat activity which considers the relative vulnerability of each species of bat present, at the population level (**Table 5**). The scores in **Table 5** are a product of multiplying the site risk level and the Ecobat activity category.

Table 5 – Overall Risk Assessment

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

1.2.20 The scores are categorised as:

- 0-4 – low
- 5-21- medium
- 15-25 high

1.3 Limitations

Desk Study

1.3.1 The desk study data is third party controlled data, purchased for the purposes of this report only. RPS cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.

Field Surveys

1.3.2 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment.

1.3.3 The GLTA was undertaken during a suboptimal period, due to foliage obscuring parts of the trees. However, it is considered that sufficient information was obtained to enable an accurate assessment of the Proposed Development to be carried out.

1.3.4 MG1, MG2, and MG3 were assessed in 2022, therefore, were assessed based on the previous BCT guidelines. The 2024 survey did not locate the trees therefore it was not possible to update suitability based on current guidelines (Collins, 2023). It is considered likely that the trees may have fallen due to winds and therefore are unlikely to still be present based on the 2024 but are included for reference.

1.3.5 For bat activity surveys, static detector locations for bat activity surveys were based on the 2022 Site Boundary and associated buffer area (the Survey area) and the 2022 turbine layout. Eighteen of the thirty four static detectors are now located outwith the Proposed Development site. For completeness, data recorded is included in the results section. Sufficient data for the northern development area was collected according to guidance and therefore this is not considered to be a limitation, however, it is noted that there is a slight imbalance in the distribution of detectors across the north of the northern development area. This is not considered to be a significant constraint due to the homogenous nature of the landscape within the northern development area (coniferous plantation) as the data collected provides good coverage of how bat species used representative habitats in the northern development area in proximity to the proposed turbines. Additionally, data was collected from neighbouring wind farms to supplement the assessment. This provided further insight into the levels of bat activity in these types of habitats in the wider landscape, which was used to inform the assessment.

1.3.6 As noted above, static detector locations were based on the 2022 Site Boundary and associated buffer area (the Survey area) and the 2022 turbine layout. Therefore, data was collected for habitats now located outside of the southern development area (to the north of the southern development area) (**Annex A Figure 3**), in similar but more elevated habitats. A precautionary approach has therefore been taken to assessing bat activity within the southern development area due to the lower elevation and presence of Greenock Water adjacent to the site boundary. Current advice for bats around solar farms does not require activity surveys therefore this is not considered to be a significant limitation to the assessment (NatureScot, 2024).

1.4 Results

Desk Study

Data Search

1.4.1 A soprano pipistrelle (*Pipistrellus pygmaeus*) roost with more than 200 individuals was identified within 2 km of the Proposed Development. The precise location is confidential, but it is located over 6 km from the northern development area and over 1.5 km from the southern development area.

Nearby Wind Farms

1.4.2 Seven species of bat and three genus groups were recorded. The full details of the bat data collected from wind farms within 10 km of the Proposed Development is detailed in **Table 6**.

1.4.3 Of note, Nathusius pipistrelle (*Pipistrellus nathusii*), Leisler's bat (*Nyctalus leisleri*) and *Nyctalus* sp. were recorded; however, low bat activity levels were observed, except for *Nyctalus* sp. at Kennoxhead Extension and Douglas West Extension. In addition, common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle were mostly detected at low activity levels except at Douglas West Extension, Kennoxhead Extension and Ladehead Farm Wind Cluster.

1.4.4 Three bat roosts and one potential bat roost were noted within 10 km of the Proposed Development site.

Table 6 - A Summary of Bat Activity at Wind Farms within 10 km of the Proposed Development

Site Name	Approx. Distance and Direction	Number of Turbines	Bat Survey results
Dungavel Hill	On boundary (north)	13	No surveys undertaken for bats.
Bankend Rig III	On boundary (south)	10	Surveys in 2022 detected low bat activity levels and recorded three species and two genus groups: common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auratus*), *myotis* and *Nyctalus sp*. No bat roosts were identified.
Kype Muir	2.8 km north	26	Surveys in 2010 detected six species of bat: common pipistrelle, soprano pipistrelle, Nathusius pipistrelle, Daubenton's bat (*Myotis daubentonii*), brown long-eared bat and Leisler's bat. It was not possible to place a value on the site for bats due to lack of records. No roosts were confirmed on site.
Kype Muir Extension	On boundary (north)	15	Surveys in 2013 and 2017 detected low activity levels with at least four species of bat recorded including common pipistrelle, soprano pipistrelle, Leisler's bat, Daubenton's bat, and *Myotis* sp.
Bankend Rig	1.2 km west	11	No bat data available on planning portal
Galawhistle	2.8 km east	22	Surveys undertaken in 2008 and 2009 detected low activity levels from common pipistrelle, soprano pipistrelle, brown long-eared bat; Daubenton's and myotis. One common pipistrelle roost was identified on site.
Bankend Rig II	3 km west	3	Surveys undertaken in 2013, 2014 and 2019 detected low bat activity levels and recorded common pipistrelle, soprano pipistrelle, *Myotis* sp. and *Nyctalus sp.*. No evidence of roosting bats was noted, however, there was a potential roost site located adjacent to Glengavel reservoir.
Auchrobert	3.4 km north-east	12	Surveys undertaken in 2012 identified three species: (common pipistrelle, soprano pipistrelle and Nathusius' pipistrelle), three genus groups (*Nyctalus, Myotis* and *Pipistrellus*) and a small number of were identified as *Plecotus/Myotis*.
Nutberry	4 km east	6	No bat data available on planning portal
Cumberhead	4 km east	14	Surveys undertaken in 2014 recorded low levels of bat activity. Two species: common pipistrelle and soprano pipistrelle, and three genus groups: *Pipistrellus*, *Myotis* and *Nyctalus* were recorded. No evidence of roosting bats.
Cumberhead West	3 km east	21	Activity surveys undertaken in 2019 and 2020 identified four species: soprano pipistrelle,

Site Name	Approx. Distance and Direction	Number of Turbines	Bat Survey results
			common pipistrelle, Daubenton's bat, and brown long-eared bat. Two genus classifications were also recorded *Myotis* spp, and *Nyctalus* spp.
Calder Water	4.5 km north	14	Two dusk surveys undertaken in 2008 identified a low number of pipistrelle bats. No roosts were located.
Penbreck/Carmacoup Forest	6 km south	9	Bat surveys undertaken in 2008 identified no evidence of bats. However. there is potential to provide foraging habitats for bats but of low value.
Drum	6.2 km south-west	8	Surveys undertaken in 2021 considered the site low risk to bats. Two confirmed species of bats were identified: common pipistrelle and soprano pipistrelle, and two genus groups *Myotis* and *Nyctalus*. The site had a very low Bat Activity Index (BAI) and was classed within the very low activity/risk category. No roosts were located.
Kennoxhead	6.6 km south-east	19	Static detectors deployed before 2014 revealed that bat activity across the site was generally low. Common pipistrelle, soprano, pipistrelle, Daubenton's bat and Leisler's bat were recorded.
Kennoxhead extension	6 km south-east	8	Surveys undertaken in 2018 and 2019 categorised the site as medium site risk to bats. Five species and two genus were recorded: common pipistrelle, soprano pipistrelle, Daubenton's bat, brown long-eared bat and Natterer's bat (*Myotis nattereri*). Two genus were recorded *Nyctalus* and *Myotis.* Low bat activity levels were noted except for *Nyctalus* which had low-moderate in both years; and common pipistrelle and soprano pipistrelle were moderate in 2018 and moderate-high in 2019. One common pipistrelle bat roost was identified.
Kennoxhead extension II	6 km south-east	8	Surveys undertaken in 2020 categorised the site as medium site risk to bats. soprano pipistrelle, *Nyctalus* sp., common pipistrelle, natterer's, *Myotis* and Daubenton's bat were recorded. Based on the median percentile bat activity was low, except for Natterer's bat which was low-moderate. No roosts were identified within the study area.
West Browncastle	6.7 km north	12	Surveys were undertaken in 2010. The bat appendix was not available on the planning portal. However, the site was considered to be of local value only.
Dalquhandy and Douglas West	7 km and 9.2 km east	15	Surveys were undertaken between 2014 and 2015. Five bat species were recorded soprano pipistrelle, common pipistrelle, *Myotis*, brown long-eared bat and *Nyctalus*. The BAI was considered to be low. A bat roost was confirmed within a derelict building.
Whitelee (Eaglesham Moor)	7.5 km north	140	No bat data available on planning portal

Site Name	Approx. Distance and Direction	Number of Turbines	Bat Survey results
Hagshaw Hill Wind Farm Repowering	8 km east	14	Static detectors were deployed in 2018. Three bat species (common pipistrelle, soprano pipistrelle and Daubenton's bat) and two genus groups (*Nyctalus* and *Myotis*) were recorded. Low activity levels were recorded for medium and low collision risk species. Relatively low activity levels of *Nyctalus* sp. were recorded.
Douglas West Extension	8.3 km east	13	Surveys undertaken in 2018 identified four bat species (common pipistrelle, soprano pipistrelle, Daubenton's bat and brown long-eared bat) and two genus groups (*Nyctalus* and *Myotis*). For *Nyctalus sp.*, an average registration per survey period of >1.0 BAI/night bat passes per night (bppn) was reached at three locations and moderate activity levels were recorded for common and soprano pipistrelle bats in June at two locations. A mean BAI of 5.37 bppn was recorded. No bat roosts were located.
Ladehead Farm Wind Cluster	9 km north-east	3	Surveys were undertaken between 2012. Seven species: common pipistrelle, soprano pipistrelle, Daubenton's bat, brown long-eared bat, Leisler's bat and Nathusius' pipistrelle and three genus groups: *Pipistrellus*, *Myotis* and *Nyctalus* were recorded. Activity across most of the site was low for most species, apart from the two locations that had high levels of pipistrelle activity.
Whitelee Phase 1 and Phase 2 Extension	9.6 km north	36 and 39	No bat data available on planning portal

1.5 Field Surveys

Habitat Assessment

1.5.1 The Proposed Development is dominated by conifer plantation, grassland, agricultural land, small pockets of woodland, riparian habitat, heath and blanket bog. There are farm dwellings and scattered trees. Linear features including but not limited to woodland edges, forestry rides, watercourses, and the B743 links the two parts of the Proposed Development. The current layout includes linear features that could be used as commuting corridors. Further afield is Glengavel Reservoir to the west of the northern development area, and open moorland and several windfarms as discussed in **Section 1.4**.

1.5.2 The habitats within the Proposed Development were assessed as moderate suitability to support commuting foraging and roosting bats with good connectivity to the wider environment.

Preliminary Roost Assessment (PRA)

1.5.3 The PRA identified eleven buildings and structures with BRP in 2024. All features previously found in 2023 were reidentified. The buildings and structures were categorised as the following: one high, four moderate, three low and three negligible to low. The full results of the PRA are detailed in **Annex B** and presented in **Annex A Figure 4**.

1.5.4 A single structure with negligible-low BRP was identified at the southern point of the northern development area. All other structures with BRP identified were either located on the B743 or in the southern development area.

Ground Level Tree Assessment (GLTA)

1.5.5 The GLTA identified fifty-five trees with BRP in September 2024. These trees were categorised as the following: fourteen as PRF-M, Twenty as PRF-I and twenty-one as PRF. A further three trees previously identified by MacArthur Green in September 2023, were not re-identified during the survey (MG1-MG3). There is potential for these trees to have fallen or have become unsuitable for bats. The full results of GLTA are detailed in **Annex C** and presented in **Annex A Figure 4**.

1.5.6 The majority of the features identified are located in the southern development area. In the northern development area, there were five trees with low or PRF-I identified as the level of roost potential. These trees do not require further survey beyond a pre-felling check by a licenced bat ecologist.

Static Bat Activity Surveys

1.5.7 Bat activity data from surveys was uploaded and analysed by Ecobat by MacArthur Green. Pertinent points and interpretation are set out below and additional analysis is presented in **Annex E**.

1.5.8 Bats were detected on forty nights with a total of 9658 bat passes collected. Five bat species and one genus were recorded: common pipistrelle; soprano pipistrelle; *Nyctalus* sp.; brown long-eared bat; Daubenton's bat and Natterer's bat.

1.5.9 Overall, low bat activity levels for common pipistrelle, soprano pipistrelle and *Nyctalus* sp. were recorded, with low to moderate levels for Daubenton's bat and Natterer's bat, and moderate levels for brown long-eared bat. A summary of the key metrics recorded for each species is given in **Table 7**.

Species at Risk of Collision with Wind Turbines

1.5.10 An assessment of risk from can be made using parameters outlined in the most recent industry standard guidance (NatureScot, 2021); see **Table 4** and **Table 5**. The project is large in scale (turbines over 100 m). The value of the habitats and features present for foraging, commuting and roosting bats was assessed, using the criteria from current guidance (Collins, 2024). Although the coniferous forestry plantation offers limited quality foraging habitat that could be used by small numbers of foraging bats, there are several watercourses offering good foraging and commuting habitat and connectivity within the northern development area. The habitat therefore provides moderate suitability for bats and the initial site risk assessment score for the northern development area is high (according to the parameters presented in **Table 5**).

1.5.11 The levels of activity of each species and each location have been compared within similar sites by the Ecobat tool and is presented in **Annex E**. Of the species recorded across the 34 detectors:

- Common pipistrelle was recorded at low median activity levels across all the detector locations except at Loc 15a (northern development area) where moderate to high levels were recorded in September, and at Loc 13 (northern development area) where low to moderate levels were also recorded in September. The highest maximum level of activity recorded was at Loc 30 (outside of the Proposed Development) where activity was moderate to high in September.
- Soprano pipistrelle was recorded in low median activity levels across 31 detector locations except at Loc 15a (northern development area) where median moderate to high levels of activity were recorded. When considering maximum percentiles, moderate levels were recorded at Loc 15a, and low to moderate activity was recorded at Loc 12, and Loc 30. All other activity was at low levels.
- Daubenton's bat was detected at 32 detector locations with median activity levels ranging from low to moderate to high. Moderate to high levels of activity were recorded at Loc 4 and 15a (in the northern development area) in September. Within the maximum percentile data there are more periods of moder to high activity, which were recorded at Loc 3, Loc 4, Loc6, Loc5, Loc11, and Loc15a in September.

- Natterer's bat was detected at 23 detector locations, activity levels were generally low to moderate except at Loc 26 (outside of Proposed Development) in June and July where median levels of moderate activity were observed.
- Brown-long eared bat was detected on 12 detectors with median moderate, moderate to high, and high levels of activity recorded. High levels of activity were recorded at Loc 10 (northern development area) and Loc 30, Loc31 (outside of Proposed Development). While these are the relative levels of activity, the species was generally only recorded on a small number of nights (maximum 6 nights) and therefore caution should be taken when interpreting the relative activity level due to the small data set: levels of activity may appear overly high.
- *Nyctalus* sp. was detected at 23 detectors with mostly low activity except for low to moderate median levels of activity recorded at Loc9 (northern development area) in June. The maximum percentile levels of activity recorded moderate to high levels of activity at Loc 9 in June and Loc27 (outside of Proposed Development) in June.

1.5.12 Ecobat provides summary statics from across the whole data set (**Table 7**), including locations outside of the northern development area therefore the data has also been examined for just the static detector locations within or close proximity to the northern development area, however this is only available at the monthly level (**Annex E Table 4**). Within the northern development area, for species at high risk of collision with turbines (as per **Annex F Table 7**), moderate levels of soprano pipistrelle activity were recorded at Loc15a in September only. Low to moderate levels of common pipistrelle activity were recorded at Loc13 in September, and for *Nyctalus* sp. at Loc9 in June. Activity levels for high risk species at all other location and months were low.

1.5.13 Therefore, while **Table 7** shows the maximum risk level as high for *Pipistrellus pipistrellus, Pipistrellus pygmaeus* and *Nyctalus sp.* this is an overestimation of the levels of activity in the northern development area, and the median risk level of low is considered more accurate for the northern development area.

1.5.14 There appeared to be a seasonal peak in activity for the majority of species recorded in September.

Table 7 - Summary Table Showing Key Metrics for each Species Recorded

Species/Species Group	Median Percentile	Overall Median Risk Assessment Category	95% CIs	Max Percentile	Overall Maximum Risk Assessment Category	Nights Recorded	Risk Level (Median)	Risk Level (Maximum)
Myotis daubentonii	31	Low to Moderate	54 - 96	100	High	186	8 Medium	18 High
Myotis nattereri	21	Low to Moderate	28 - 28	50	Moderate	50	8 Medium	12 Medium
Nyctalus sp.	0	Low	5.5 - 5.5	67	Moderate to High	63	4 Low	15 High
Pipistrellus pipistrellus	0	Low	6.5 - 6.5	74	Moderate to High	195	4 Low	15 High
Pipistrellus pygmaeus	0	Low	9 - 9	70	Moderate to high	213	4 Low	15 High
Plecotus auritus	54	Moderate	82 - 82	100	High	29	12 Medium	18 High

1.6 Discussion

1.6.1 The desk study identified seven species of bat, and three genus groups were recorded, including Nathusius' pipistrelle and *Nyctalus* sp. In addition, four bat roosts and one potential bat roost was noted within 10 km of the Proposed Development including a soprano pipistrelle (*Pipistrellus pygmaeus*) roost with more than 200 individuals within 2 km of the Proposed Development

1.6.2 The habitats within the Proposed Development and Survey Area have moderate potential to support commuting, foraging and roosting bats. Linear features, including but not limited to, woodland edges and forestry rides are an important resource for bats, as they are used for navigation and protection from predators and wind (Walsh and Harris, 1996).

1.6.3 The static bat activity surveys undertaken throughout 2022 identified the presence of five bat species and one genus. These are common pipistrelle; soprano pipistrelle; Nyctalus sp.; brown long-eared bat; Daubenton's bat, and Natterer's bat.

1.6.4 Based on the bat activity surveys it is considered that the Proposed Development, particularly the northern development area has in general low bat activity levels for common pipistrelle, soprano pipistrelle and Nyctalus sp.; low to moderate levels for Daubenton's bat and Natterer's bat and moderate levels for brown long-eared bat, though it is noted that there may be a seasonal peak of activity in September.

Activity Levels within the Northern Development Area

1.6.5 Looking at the species composition across the static locations helped compare relative bat activity within representative habitats and at the proposed turbine locations.

1.6.6 Common pipistrelle and soprano pipistrelle were observed at low levels across the proposed turbine locations, except for moderate levels at T9 and low to moderate levels of common pipistrelle at T10.

1.6.7 *Nyctalus* sp. were observed at low activity levels at eight turbine locations (T7, T10, T12, T14, T15, T16, T17 and T18).

1.6.8 Daubenton's bat were at ten turbine locations with low or low to moderate levels (T6, T7, T9, T10, T12, T15, T17 and T18). Higher activity levels were observed at T14 and T16 with moderate activity levels.

1.6.9 Natterer's bat had low to moderate activity levels at eight turbine locations (T6, T7, T9, T10, T14, T15, T16, T17 and T18).

1.6.10 Brown long-eared bat was observed at moderate levels at T10 and T17.

Activity Levels within the Southern Development Area

1.6.11 No static detectors were deployed directly within the solar area of the Proposed Development. The habitats within the area mostly consist of open grassland, small pockets of woodland, scattered trees and several dwellings. Greenock Water runs along the southern border. Static detectors Loc 20 to Loc 31 were deployed within similar surrounding habitat and as such are considered representative of the habitats within the solar area of the Proposed Development. Higher activity levels and a larger species assemblage were recorded near watercourses, with high levels of Daubenton's bat detected at Loc 27, and high levels of brown long-eared bat at Loc 30 and Loc 31. Low levels of common pipistrelle, soprano pipistrelle and *Nyctalus* sp. were generally recorded.

Recommendations

Pre-Construction Surveys

1.6.12 The PRA identified eleven building and structures and the GLTA identified fifty-eight trees with bat roost potential. As such, there is potential for roosting opportunities to be present for bats within the Proposed Development and Survey Area.

1.6.13 The features identified in the northern development area are likely to only support individual or small numbers of bats, and current guidance does not require further survey of these. A pre-works inspection by a licenced bat ecologist or precautionary method of works should be in place when the trees assessed as low or PRF-I are felled.

1.6.14 In the southern development area, the features identified with roosting potential are outside of the footprint of work and it is anticipated that all will be retained. As works are not proposed within a 15 m disturbance buffer, further surveys are not currently considered to be required. In the event of changes in the design, further pre-commencement surveys would be required to determine the presence/absence of bats within these features closer to the point of construction starting. Impacts to be considered should include: if they are to be directly impacted (*i.e.* felled or demolished), or indirectly impacted (*i.e. through noise, lighting or vibration*) (indirect impacts considered possible in a 15 m buffer around the feature). Notwithstanding the above, if works do not start within 18 months of the 2024 ground level PRA survey then an update PRA survey should be carried out.

Mitigation

1.6.15 The surveys have highlighted the presence of five species of bats in the Survey Area, some of which are deemed to be relatively vulnerable due to their rarity and collision risk.

1.6.16 However, from the analysis these species were given an overall assessment of low risk. Nonetheless, to minimise potential adverse effects to bat populations in the northern development area, a number of best practice mitigation measures are recommended including the implementation of a bat buffer between the wind turbines and plantation edges as explained below, alongside the production of a Bat Species Protection Plan incorporating a monitoring regime and steps for introducing additional mitigation measures if required, such as blade feathering (see below).

Turbine Location

1.6.17 Current NatureScot (NatureScot, 2021) guidance recommends that wind turbine blade tips should be more than 50 m away from features likely to be used by foraging and commuting bats, such as trees, watercourses and waterbodies.

1.6.18 Buffer distance should be factored into the iterative layout design process to maintain separation of turbines and bat habitat. It is particularly important this is also used when woodland edges are created after key-holing and during any further micro-siting exercises which may follow design freeze. Buffer distance can be estimated using the following formula:

$$b = \sqrt{(50+bl)^2 - (hh - fh)^2}$$

1.6.19 Where bl = blade length; hh = hub height; fh = feature height (all in metres).

Habitat Management

1.6.20 Due to the nature of the habitat in the northern development area i.e. commercial woodland, it is likely that the felling of plantation woodland may cause bats to utilise the area in different ways than the current survey shows.

1.6.21 To maintain low collision risk, the Applicant should seek to maintain the habitats within 50 m of the turbine blade rotor sweep radius in a state which offers poor foraging for bats.

1.6.22 Habitats around the margins of the southern development area include areas that are likely to promote insect activity. Areas of woodland and watercourses have buffers around them so that infrastructure in the southern development areas does not impinge on these areas which will maintain these areas as suitable for foraging bats.

Monitoring

1.6.23 To assess the success of the above activities, monitoring of turbine locations for bat corpses caused through collision with or barotrauma from turbines should be completed through the first two years of the operational phase of the Proposed Development. Checks should be completed on a monthly basis between May and September by trained operations staff. If in the unlikely event bat mortality is recorded during the bat activity period at turbine locations, management activities should be considered to further reduce the interaction of bats and turbines at the Proposed Development such as blade feathering.

Blade Feathering

1.6.24 The current guidance states there is evidence that bat casualties at wind farms is reduced by pitching the blades out of the wind ("feathering") to reduce rotation speeds below 2 rpm while idling, and in some cases increasing the cut-in speed during high-risk periods (i.e. warm evenings in summer with low wind speeds) (NatureScot, 2020). It has been found that the reduction in speed resulting from feathering compared with normal idling may reduce fatality rates by up to 50%.

1.7 References

Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). 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. Version 1.1. Chartered Institute of Ecology and Environmental Management, Ampfield.

Walsh, A.L. and Harris, S. (1996). Foraging habitat preferences of vespertilionid bats in Britain. Journal of Applied Ecology, pp.508-518.

Annex A: Figures

Figure 1: Development Location and survey areas

Figure 2: Development Location and Layout

Figure 3: Static Detector Locations

Figure 4: Bat Survey Results

Annex B: Preliminary Roost Assessment Results

Annex Table 1: Preliminary Roost Assessment Results

ID	Grid Reference	BRP	Notes
BS1	NS6817633043	Low	Culvert with three small sections c.0.5 m tall. B743 across top. PRFs - Crack in mortar on eastern bank but appears very shallow.
BS2	NS6775233623	Negligible-Low	Bridge - B743 on top. Concrete ends. Metal beams reinforcing road level. No PRFs visible from bank. Hall's burn running under. Commuting corridor for bats/foraging likely.
BB1	NS6959229884	Moderate	House currently in use. Two storeys. Stone wall, slate roof. Detached house surrounded by farm buildings. Lead flashing along tile ridge. PVC windows. Chimneys present. Gable ends. Hipped Dormer window. PRFs - Loose tiles, loose flashing.
BB2	NS6958129868	Moderate	Three farm buildings. Stone walls slate roof. A frame. Gable end. Wooden barge boards. One door closed, other two open ended with wooden beams, used for storage of materials.
BB3	NS6961129849	Negligible-Low	Three metal/wooden cladding farm buildings used for storage/livestock. Door open/access points but unlikely to be used by bats.
BS3	NS6904029852	Moderate	Bridge over small watercourse - Lamon Burn. Stone bridge with tunnel c.2.5 m by 1.5 m. PRFs - Missing mortar, potential cracks.
BS4	NS6767629380	Moderate	Bridge over small watercourse - Hardwood Burn. Stone bridge with tunnel c. 3 m by 1.5 m. PRFs - Missing mortar, potential cracks.
BB4	NS6820328900	Negligible-Low	Old stone ruin with no roof, single storey. PRFs - Gaps between stones.
BB5	NS6819729442	Low	Farm building - A framed roof, metal cladding top half. Assessed from distance. Previously identified in 2023.
BB6	NS6819629406	High	Four farm buildings/residential houses. Pitched roof, wooden barge boards on cable ends, slate roof with dormers, stone walls. Assessed from distance. PRFs - Gaps in slate, gaps between stones and wooden barge board. Previously identified in 2023.
BB7	NS 68217 29530	Low	Old farm shed along stone wall boundary. Open with no doors. Previously identified in 2023.

Annex C: Ground Level Tree Assessment Results

Annex Table 2: Ground Level Tree Assessment Results

ID	Grid Reference	Species	Age	Height (m)	PRF/Evidence	BRP
BT1	NS6637327950	*Picea sitchensis*	Dead	15	Woodpecker holes c.10 and 12 m high. Northeast side of tree.	PRF-M
BT2	NS6846734303	*Nothofagus* sp.	Mature	12	Two trees with peeling bark. One with dead limb c.3 m.	PRF-I
BT3	NS6847034302	*Nothofagus* sp.	Mature	7	Tree is partly dead. Western limb lifted bark c.1 m, wound up limb creating collar and wound c.2 m on limb. Other features peeling bark and snapped limbs.	PRF-I
BT4	NS6996534929	*Picea sitchensis*	Dead	20	Dead lifted barked.	PRF-I
BT5	NS6828932198	Unknown	Dead	14	Dead tree. Lifted bark on southwestern side of trunk c.5 m up trunk. Dead limb	PRF-I
BT6	NS6950229366	*Salix sp.*	Mature	8	Multi-stemmed willow tree. At least three hazard beam/splits on branches approx. c.2, 4 m and 6 m	PRF
BT7	NS6904429680	*Fraxinus excelsior*	Mature	10	Partially dead - large hollow with lifted inner bark, length of eastern side. Knot hole and hazard beam c.2 and 4 m.	PRF
BT8	NS6904429680	*Fraxinus excelsior*	Mature	12	partially dead - but rott at bottom c.50 cm of ground creating cavity but doesn't lead up into trunk. Potential hole where limb has snapped/tear out on northern side c.3 m. Hollow limb c.3-4 m high on southern side	PRF-M
BT9	NS6908029714	*Fraxinus excelsior*	Dead	2	Small root cavity potentially leading both ways into trunk. c.1.5 m from ground level over stream. Small cavity on snap branch leading into brunch and peeling bark.	PRF-I
BT10	NS6907729693	*Fraxinus excelsior/ Sorbus aucuparia*	Semi-Mature	12	Two trees - rowan and ash tree. Ash tree small knot hole c.4 m above watercourse c.4 cm wide. Rowan branches intertwined creating small PRF between them c.3 m	PRF
BT11	NS6776828970	*Salix sp.*	Mature	10	Two PRF-I's near watercourse on multi-	PRF-I

ID	Grid Reference	Species	Age	Height (m)	PRF/Evidence	BRP
					stemmed willow sp. Feature c.1.5/2 m from ground level	
BT12	NS6776128964	*Sorbus aucuparia*	Mature	8	On slope multi-stemmed with five main branches. Rot hole leading into trunk cavity c.1.5-2 m high. Peeling bark. Knot hole c.3 m leads into branch potentially c.5 cm wide. Dead limb c.3 m that might have holes leading into truck on western side of tree.	PRF
BT13	NS6776028967	*Sorbus aucuparia*	Semi-Mature	7	Two stemmed both with cavity holes leading into hollow steam c. 1.5 m on slope	PRF
BT14	NS6775928976	*Sorbus aucuparia*	Semi-Mature	7	On steep bank. Hazard beam c.1.2 m tall, two knot holes at c.1 m and c.2 m. Additional dead limb.	PRF
BT15	NS6777728954	*Sorbus aucuparia*	Semi-Mature	7	Multi-stemmed rowan tree, twisted trunk at bottom creating small cavity c.50cm, dead limb with peeling/lifted bark c.1m and 2m, cavity/hallow leading into branch/trunk.	PRF
BT16	NS6777628949	*Sorbus aucuparia*	Mature	8	Two entrances leading into branch. c.1.6m tall and one large cavity c.15cm wide leading into trunk c1.5m tall.	PRF-M
BT17	NS6778528835	Pinus sylvestris	Mature	12	Cavity/tear out on northern side 3/4 up the tree	PRF
BT18	NS6821129360	*Fagus sylvatica*	Mature	18	Two cavity holes c.2-3m and fluting on trunk, appear to be shallow from ground level. Potentially other feature further up in trunk but obscured by foliage	PRF
BT19	NS6821429071	Fraxinus excelsior	Mature	15	Mostly dead feature is a hole c.7cm wide leading down into trunk on northeastern limb, c.2m tall above small burn. Other dead limbs and collar on trunk	PRF-M
BT20	NS6821629075	*Alnus glutinosa*	Mature	15	Multi stemmed. Torn limbs left hole c.1.7m and 2.5m height, slightly lifting of bark around edges - partly dead	PRF
BT21	NS6821129067	*Alnus glutinosa*	Mature	12	Feature c.1m heigh c.15cm wide on northern side of tree leads to ground level inside trunk. Lifted bark c.1.8m.	PRF-M

ID	Grid Reference	Species	Age	Height (m)	PRF/Evidence	BRP
					Cavity hole c.4m c.10-15cm wide on south side.	
BT22	NS6820929043	*Alnus glutinosa*	Mature	12	Hollow trunk N c.2-10m long pot. Not watertight. Tear out south side. Peeling bark. Snapped limbs with potential cavity c.5m Northern side. Fluted trunks.	PRF-M
BT23	NS6820229033	*Alnus glutinosa*	Mature	15	Multiple PRF-Is. Feature c.1.8m leads into trunk south side. Tear out c. 6m on southern side. Other small knot hole c.1-2cm, lifted bark.	PRF-I
BT24	NS6819829033	*Alnus glutinosa*	Mature	12	Snapped limb at c.5m above burn. Tearout northwest side c.10cm long potential leads up into trunk and Tearout south side c.5m	PRF-I
BT25	NS6820229020	*Alnus glutinosa*	Mature	15	Hollow trunk c.2-7m long above burn on southwest side. Small knot hole c.8m. Snapped limb could lead into trunk c.2.5m. Tearout c.5m and c.7m	PRF
BT26	NS6819929006	*Alnus glutinosa*	Mature	15	Tearout/cavity c.1m long and c.3m heigh on northern side. Tear out at c. 5m. Dead limb with c.4m collar. Hollow trunk c.0.5m-1m from ground level which could lead up into trunk southwest side	PRF-M
BT27	NS6819629004	*Alnus glutinosa*	Mature	15	Hazard beam c.4m on southeastern side 50cm wide. Hazard beam 3m leads into trunk. Two cavities on southwest side lead into trunk. Dead hollow limbs and multiple tearouts	PRF
BT28	NS6818828987	*Alnus glutinosa*	Mature	12	Cavity c.10cm wide 2.5m north east side of tree. Dead limb with collar.	PRF-M
BT29	NS6819028979	*Alnus glutinosa*	Mature	15	Knot hole c.3m heigh. Hole c.7cm wide	PRF-I
BT30	NS6819228981	*Alnus glutinosa*	Mature	12	Cavity hole c.6m tall. Not sure if watertight.	PRF
BT31	NS6819028951	*Fraxinus excelsior*	Dead	18	3 small holes, 2 at c.1.8m and one at c.4m - One likely from dead limb, collar remaining	PRF-I
BT32	NS6829128988	Fraxinus excelsior	Mature	18	Potential knot hole c.9m up tree	PRF-I

ID	Grid Reference	Species	Age	Height (m)	PRF/Evidence	BRP
BT33	NS6860829142	Fraxinus excelsior	Mature	20	Tearout/cavity c.7m potential other PRFs due to age and size covered by foliage	PRF
BT34	NS6860429145	Betula sp.	Mature	18	Tearout potentially creating cavity on eastern side	PRF
BT35	NS6861429136	Betula sp.	Mature	18	Cavity c.3m heigh. Holes c.1m heigh leads into hollow trunk. Snapped branch c.4m. Potential for other PRFs	PRF-M
BT36	NS6867129176	Betula sp.	Mature	16	Old tearout, potential cavity c.2.5m heigh	PRF-M
BT37	NS6825828944	Fraxinus excelsior	Mature	20	Tearout c.6m heigh that could have cavity extending into trunk	PRF
BT38	NS6720128718	*Fagus sylvatica*	Mature	20	Trunk with collar and dead wood on NE side on main trunk and branch. Hollow behind	PRF-M
BT39	NS6720028723	*Fagus sylvatica*	Mature	18	Knot hole above snapped limb that could lead into branch/trunk	PRF
BT40	NS6720628742	*Fagus sylvatica*	Dead	18	Old tearout that could lead into branch c.3m	PRF
BT41	NS6721628774	*Fagus sylvatica*	Mature	20	Knot hole and snapped limb with dead branch still present c.3m heigh	PRF-I
BT42	NS6721928782	*Fagus sylvatica*	Mature	20	Knot hole small gaps behind on southeastern side c.2m. Knot hole of northwest side has no gaps	PRF-I
BT43	NS6722328790	*Fagus sylvatica*	Mature	20	Small knot hole c.3-4cm on west side of trunk 4m heigh	PRF-I
BT44	NS6722828805	*Fagus sylvatica*	Mature	20	Pruning cut. Potentially cavity to the top of hole but appears shallow	PRF-I
BT45	NS6722728807	*Fagus sylvatica*	Mature	20	Knot hole c.7cm 4m tall	PRF
BT46	NS6722828824	*Fagus sylvatica*	Mature	20	Knot hole 4m on west side	PRF-I
BT47	NS6722828804	*Fagus sylvatica*	Mature	20	Hazard beam c.6m 50cm wide	PRF-I

ID	Grid Reference	Species	Age	Height (m)	PRF/Evidence	BRP
BT48	NS6717328688	*Fagus sylvatica*	Mature	20	Hollow trunk from ground to c.7-8m heigh. Dead wood potential for PRFs within further up	PRF
BT49	NS6717028683	*Fagus sylvatica*	Mature	20	Hollow trunk potential leading up into trunk, hazard beam c.5m	PRF-M
BT50	NS6708628647	*Fagus sylvatica*	Mature	20	Knot hole and another potential small cavity above c.4-5m	PRF-I
BT51	NS6708028644	*Fagus sylvatica*	Mature	20	Two wounds on trunk 3.5 and 4m on N side	PRF
BT52	NS6705428630	*Fagus sylvatica*	Mature	20	Wound around 1.8m tall leading partially into trunk, rotten/dead wood inside	PRF-I
BT53	NS6703428619	*Fagus sylvatica*	Mature	20	Hollow trunk, and hazard beams 2.5 and 3.5m	PRF-I
BT54	NS6702728617	*Fagus sylvatica*	Mature	20	Hollow trunk could lead into cavity and hazard beams c.4-5m. Knot hole and tearout appear to go nowhere	PRF-M
BT55	NS6637727952	*Picea sitchensis*	Dead	14	Woodpecker holes c.10 and 12m high. Northeastern side of tree. Not sure if watertight	PRF-M
MG1	NS6821228971	N/A	N/A	N/A	Single Tree	Moderate
MG2	NS6773834958	N/A	N/A	N/A	Group of Trees	Low
MG3	NS7058035112	N/A	N/A	N/A	Single Tree	Low

Annex D: Static Detector Locations

Annex Table 3: Static Detector Locations

Detector ID	Grid Reference	Broad Habitat	Nearest Turbines	Distance (m) to Turbine base
Loc1	NS6729135719	Access track through conifer plantation	T2	481.45
Loc1a	NS6726435692	Access track through conifer plantation	T2	446.67
Loc2	NS6774335618	Open habitat surrounded by conifer plantation	T6	441.36
Loc3	NS7065735408	In between drains in open moorland	T17	291.52
Loc4	NS7108035418	On edge of conifer plantation	T18	429.68
Loc5	NS7018534992	At end of conifer plantation ride c.40m from watercourse	T17 T16 T15	461.58 464.16 482.94
Loc6	NS7067635053	On edge of conifer plantation in wide ride	T17	80.01
Loc7	NS6958334946	Conifer plantation ride	T15	246.73
Loc8	NS6830634845	On corner of conifer plantation where multiple rides intersect	T7	97.42
Loc9	NS6886934614	On edge of conifer plantation or clearfell	T11	510.37
Loc10	NS6970634544	On edge of conifer plantation	T12	514.54
Loc11	NS7019834552	Edge of young conifer plantation	T14	380.52
Loc12	NS7062534491	Edge of young conifer plantation	T14	122.68
Loc13	NS6836834309	Near access track on edge of plantation or clearfell	T10	60.10
Loc14	NS6956034005	Conifer plantation ride	T12	128.77
Loc15	NS6788233884	Conifer plantation ride	T9	47.42
Loc15a	NS6790833821	Grassland near watercourse	T9	113.21
Loc16	NS7314633114	Grassland/degraded bog	Outside Proposed Development	-
Loc17	NS7257632905	Watercourse (Dippal burn/Greenock Water) in grassland/degraded bog	Outside Proposed Development	-
Loc18	NS7347432760	Grassland/degraded bog	Outside Proposed Development east of southern	-

Detector ID	Grid Reference	Broad Habitat	Nearest Turbines	Distance (m) to Turbine base
			development area and south of northern development area	
Loc19	NS7308332223	Grassland/degraded bog	Outside Proposed Development east of southern development area and south of northern development area	-
Loc20	NS7272231725	Grassland near watercourse (Ponesk Burn)	Outside Proposed Development east of southern development area and south of northern development area	-
Loc21	NS7220331306	Grassland	Outside Proposed Development east of southern development area and south of northern development area	-
Loc22	NS7130730940	Grassland along field boundary	Outside Proposed Development east of southern development area and south of northern development area	-
Loc23	NS7233230918	Grassland c.60m from watercourse	Outside Proposed Development east of southern development area and south of northern development area	-
Loc24	NS7171930805	Grassland next to single track road	Outside Proposed Development east of southern development area and south of northern development area	-
Loc25	NS7106130468	Grassland	Outside Proposed Development east of southern development area and south of northern development area	-
Loc25a	NS7103030617	Grassland	Outside Proposed Development east of southern development area and south of northern development area	-
Loc26	NS7243930417	Grassland	Outside Proposed Development east of southern development area and south of northern development area	-
Loc27	NS7179730346	Grassland/heathland near watercourse	Outside Proposed Development east of southern development area and south of northern development area	-
Loc28	NS6869730217	Grassland	Outside Proposed Development – north of southern development area	-
Loc29	NS6748930185	Grassland	Outside Proposed Development – north of southern development area	-
Loc30	NS6661129572	Grassland near scrub and watercourse	Outside Proposed Development – north of southern development area	-

Detector ID	Grid Reference	Broad Habitat	Nearest Turbines	Distance (m) to Turbine base
Loc31	NS6713229259	Grassland near scrub and watercourse	Outside Proposed Development – north of southern development area	-

Annex E: ECOBAT Analysis

Annex Table 4: ECOBAT Analysis

Detector ID	Species/Species Group	Median Percentile	Relative activity level	95% CIs	Max Percentile	Nights Recorded	Reference Range
Northern Development Area							
Loc1	*Pipistrellus pipistrellus*	1	Low	0	1	1	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	1	4	30502
Loc1a	*Myotis daubentonii*	15	Low	15 - 15	31	4	686
	Nyctalus	2	Low	1.5 - 1.5	3	4	4589
	Pipistrellus pipistrellus	1	Low	1 - 2.5	4	8	25318
	Pipistrellus pygmaeus	0	Low	2 - 4.5	6	16	30502
Loc2	*Myotis daubentonii*	31	Low to moderate	15 - 36.5	42	7	686
	Myotis nattereri	21	Low to moderate	21 - 21	21	4	194
	Pipistrellus pipistrellus	0	Low	0 - 0	0	4	25318
	Pipistrellus pygmaeus	0	Low	4-8	8	10	30502
Loc3	*Myotis daubentonii*	42	Moderate	15 - 65	65	3	686
	Myotis nattereri	21	Low to moderate	21 - 21	21	2	194
	Nyctalus	0	Low	0	0	1	4589
	Pipistrellus pipistrellus	0	Low	0 - 0	0	2	25318
	Pipistrellus pygmaeus	0	Low	0	0	1	30502
Loc4	*Myotis daubentonii*	40	Low to moderate	40 - 40	65	2	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Nyctalus	0	Low	0	0	1	4589
	Pipistrellus pipistrellus	0	Low	6.5 - 6.5	12	6	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	8	5	30502

Detector ID	Species/Species Group	Median Percentile	Relative activity level	95% CIs	Max Percentile	Nights Recorded	Reference Range
Loc5	*Myotis daubentonii*	48	Moderate	31 - 65	65	4	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Nyctalus	0	Low	0 - 0	0	2	4589
	Pipistrellus pipistrellus	0	Low	0	0	1	25318
	Pipistrellus pygmaeus	2	Low	2-6	6	5	30502
	Plecotus auritus	54	Moderate	54 - 54	54	4	144
Loc6	*Myotis daubentonii*	15	Low	15 - 37.5	62	9	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Nyctalus	0	Low	0	0	1	4589
	Pipistrellus pipistrellus	0	Low	0	0	1	25318
	Pipistrellus pygmaeus	2	Low	2-2	2	4	30502
	Plecotus auritus	54	Moderate	0	54	1	144
Loc7	*Myotis daubentonii*	23	Low to moderate	15 - 42	60	6	686
	Myotis nattereri	21	Low to moderate	21 - 21	21	2	194
	Nyctalus	0	Low	0	0	1	4589
	Pipistrellus pipistrellus	1	Low	0.5 - 0.5	1	2	25318
	Pipistrellus pygmaeus	4	Low	4-4	4	2	30502
Loc8	*Myotis daubentonii*	15	Low	15 - 15	31	6	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Nyctalus	0	Low	0	0	1	4589
	Pipistrellus pipistrellus	1	Low	1-1	1	6	25318
	Pipistrellus pygmaeus	0	Low	2-2	2	9	30502
Loc9	*Myotis daubentonii*	15	Low	15 - 15	31	5	686

Detector ID	Species/Species Group	Median Percentile	Relative activity level	95% CIs	Max Percentile	Nights Recorded	Reference Range
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Nyctalus	31	Low to moderate	30.5 - 30.5	61	4	4589
	Pipistrellus pipistrellus	0	Low	0 - 0	1	3	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	1	6	30502
Loc10	*Myotis daubentonii*	31	Low to moderate	15 - 45.5	60	9	686
	Pipistrellus pipistrellus	1	Low	0.5 - 0.5	1	2	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	4	4	30502
	Plecotus auritus	82	High	0	82	1	144
Loc11	*Myotis daubentonii*	60	Moderate	31 - 65	65	3	686
	Nyctalus	0	Low	0 - 0	0	2	4589
	Pipistrellus pipistrellus	0	Low	0	0	1	25318
	Pipistrellus pygmaeus	1	Low	1-1	2	2	30502
Loc12	*Myotis daubentonii*	15	Low	15 - 15	60	3	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Pipistrellus pipistrellus	1	Low	0	1	1	25318
	Pipistrellus pygmaeus	1	Low	1.5 - 1.5	2	4	30502
Loc13	*Myotis daubentonii*	31	Low to moderate	31 - 31	31	4	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Nyctalus	2	Low	2-2	2	3	4589
	Pipistrellus pipistrellus	20	Low	15 - 39.5	55	14	25318
	Pipistrellus pygmaeus	13	Low	9 - 21.5	33	12	30502
	Plecotus auritus	54	Moderate	0	54	1	144

Detector ID	Species/Species Group	Median Percentile	Relative activity level	95% CIs	Max Percentile	Nights Recorded	Reference Range
Loc14	*Myotis daubentonii*	15	Low	15 - 15	31	8	686
	Nyctalus	0	Low	0	0	1	4589
	Pipistrellus pipistrellus	0	Low	0 - 0	0	3	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	2	4	30502
Loc15	*Myotis daubentonii*	15	Low	15 - 15	15	3	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Pipistrellus pipistrellus	0	Low	0 - 0	1	3	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	0	8	30502
Loc15a	*Myotis daubentonii*	61	Moderate to high	45.5 - 64	66	8	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Nyctalus	2	Low	2-2	2	2	4589
	Pipistrellus pipistrellus	60	Moderate	31 - 61.5	63	11	25318
	Pipistrellus pygmaeus	54	Moderate	40 - 62	70	12	30502
	Plecotus auritus	68	Moderate to high	54 - 82	82	4	144
Outside of Proposed Development							
Loc16	*Myotis daubentonii*	15	Low	15 - 15	31	6	686
	Myotis nattereri	21	Low to moderate	21 - 21	21	3	194
	Nyctalus	2	Low	2-2	2	2	4589
	Pipistrellus pipistrellus	0	Low	0 - 0	1	3	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	0	2	30502
Loc17	*Myotis daubentonii*	31	Low to moderate	15 - 42.5	54	7	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Nyctalus	0	Low	0 - 0	2	4	4589

Detector ID	Species/Species Group	Median Percentile	Relative activity level	95% CIs	Max Percentile	Nights Recorded	Reference Range
	Pipistrellus pipistrellus	0	Low	0 - 0	0	3	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	1	7	30502
	Plecotus auritus	54	Moderate	0	54	1	144
Loc18	*Nyctalus*	0	Low	0 - 0	0	2	4589
	Pipistrellus pipistrellus	0	Low	0 - 0	0	2	25318
Loc19	*Myotis daubentonii*	15	Low	0	15	1	686
	Myotis nattereri	21	Low to moderate	0	21	1	194
	Pipistrellus pipistrellus	0	Low	0	0	1	25318
Loc20	*Myotis daubentonii*	31	Low to moderate	31 - 31	31	2	686
	Pipistrellus pipistrellus	0	Low	0 - 0	0	2	25318
	Pipistrellus pygmaeus	0	Low	0	0	1	30502
Loc21	*Myotis daubentonii*	31	Low to moderate	15 - 54	54	5	686
	Myotis nattereri	35	Low to moderate	0	35	1	194
	Pipistrellus pipistrellus	1	Low	1-1	2	3	25318
	Pipistrellus pygmaeus	5	Low	9-9	9	4	30502
Loc22	*Myotis daubentonii*	31	Low to moderate	31 - 31	31	4	686
	Nyctalus	2	Low	2-2	2	3	4589
	Pipistrellus pipistrellus	0	Low	0 - 0	0	4	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	0	5	30502
Loc23	*Myotis daubentonii*	31	Low to moderate	23 - 45.5	60	10	686
	Myotis nattereri	28	Low to moderate	28 - 28	35	2	194
	Nyctalus	6	Low	5.5 - 5.5	9	2	4589

Detector ID	Species/Species Group	Median Percentile	Relative activity level	95% CIs	Max Percentile	Nights Recorded	Reference Range
	Pipistrellus pipistrellus	1	Low	1-12	12	12	25318
	Pipistrellus pygmaeus	0	Low	1-1	9	10	30502
Loc24	*Myotis daubentonii*	31	Low to moderate	15 - 31	42	12	686
	Myotis nattereri	21	Low to moderate	21 - 21	21	3	194
	Nyctalus	1	Low	3-3	3	6	4589
	Pipistrellus pipistrellus	0	Low	0 - 0	1	14	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	1	8	30502
	Plecotus auritus	54	Moderate	54 - 54	54	2	144
Loc25	*Myotis daubentonii*	31	Low to moderate	0	31	1	686
	Pipistrellus pipistrellus	0	Low	0 - 0	1	3	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	1	5	30502
Loc25a	*Myotis daubentonii*	31	Low to moderate	15 - 54	83	8	686
	Myotis nattereri	36	Low to moderate	21 - 50	50	4	194
	Pipistrellus pipistrellus	0	Low	0 - 0	0	11	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	1	6	30502
	Plecotus auritus	54	Moderate	0	54	1	144
Loc26	*Myotis daubentonii*	31	Low to moderate	15 - 36.5	54	13	686
	Myotis nattereri	28	Low to moderate	21 - 41	47	6	194
	Nyctalus	1	Low	1-1	2	4	4589
	Pipistrellus pipistrellus	0	Low	1 - 3.5	4	16	25318
	Pipistrellus pygmaeus	0	Low	1-1	8	11	30502
Loc27	*Myotis daubentonii*	89	High	54 - 96	100	12	686
	Myotis nattereri	21	Low to moderate	21 - 34	47	8	194

Detector ID	Species/Species Group	Median Percentile	Relative activity level	95% CIs	Max Percentile	Nights Recorded	Reference Range
	Nyctalus	2	Low	2-13	67	7	4589
	Pipistrellus pipistrellus	1	Low	1-4	11	19	25318
	Pipistrellus pygmaeus	1	Low	1 - 8.5	16	17	30502
	Plecotus auritus	54	Moderate	54 - 54	82	3	144
Outside of Proposed Development – North of Southern Development Area							
Loc28	*Myotis daubentonii*	15	Low	15 - 15	15	3	686
	Myotis nattereri	28	Low to moderate	28 - 28	35	2	194
	Nyctalus	0	Low	0 - 0	2	4	4589
	Pipistrellus pipistrellus	0	Low	0 - 0	0	2	25318
	Pipistrellus pygmaeus	0	Low	0 - 0	0	2	30502
Loc29	*Myotis daubentonii*	15	Low	15 - 15	15	3	686
	Pipistrellus pipistrellus	0	Low	0	0	1	25318
	Plecotus auritus	68	Moderate to high	68 - 68	82	2	144
Loc30	*Myotis daubentonii*	37	Low to moderate	15 - 48	54	10	686
	Nyctalus	1	Low	1-1	2	2	4589
	Pipistrellus pipistrellus	4	Low	3-39	74	18	25318
	Pipistrellus pygmaeus	1	Low	1.5 - 15	21	14	30502
	Plecotus auritus	82	High	54 - 100	100	6	144
Loc31	*Myotis daubentonii*	15	Low	15 - 23	31	5	686
	Myotis nattereri	21	Low to moderate	21 - 21	21	2	194
	Nyctalus	1	Low	1-1	2	4	4589
	Pipistrellus pipistrellus	0	Low	0 - 0	1	12	25318
	Pipistrellus pygmaeus	0	Low	2.5 - 4	4	13	30502
	Plecotus auritus	82	High	82 - 82	82	3	144

Annex Table 5: Number of nights recorded bat activity fell into each activity band for each species

Detector ID	Species/Species Group	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
Loc1	*Pipistrellus pipistrellus*	0	0	0	0	0	1
	Pipistrellus pygmaeus	0	0	0	0	0	4
Loc1a	*Myotis daubentonii*	0	0	0	0	1	3
	Nyctalus	0	0	0	0	0	4
	Pipistrellus pipistrellus	0	0	0	0	0	8
	Pipistrellus pygmaeus	0	0	0	0	0	16
Loc2	*Myotis daubentonii*	0	0	0	2	2	3
	Myotis nattereri	0	0	0	0	4	0
	Pipistrellus pipistrellus	0	0	0	0	0	4
	Pipistrellus pygmaeus	0	0	0	0	0	10
Loc3	*Myotis daubentonii*	0	0	1	1	0	1
	Myotis nattereri	0	0	0	0	2	0
	Nyctalus	0	0	0	0	0	1
	Pipistrellus pipistrellus	0	0	0	0	0	2
	Pipistrellus pygmaeus	0	0	0	0	0	1
Loc4	*Myotis daubentonii*	0	0	1	0	0	1
	Myotis nattereri	0	0	0	0	1	0
	Nyctalus	0	0	0	0	0	1
	Pipistrellus pipistrellus	0	0	0	0	0	6
	Pipistrellus pygmaeus	0	0	0	0	0	5
Loc5	*Myotis daubentonii*	0	0	2	0	1	1

Detector ID	Species/Species Group	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
	Myotis nattereri	0	0	0	0	1	0
	Nyctalus	0	0	0	0	0	2
	Pipistrellus pipistrellus	0	0	0	0	0	1
	Pipistrellus pygmaeus	0	0	0	0	0	5
	Plecotus auritus	0	0	0	4	0	0
Loc6	*Myotis daubentonii*	0	0	2	0	1	6
	Myotis nattereri	0	0	0	0	1	0
	Nyctalus	0	0	0	0	0	1
	Pipistrellus pipistrellus	0	0	0	0	0	1
	Pipistrellus pygmaeus	0	0	0	0	0	4
	Plecotus auritus	0	0	0	1	0	0
Loc7	*Myotis daubentonii*	0	0	1	1	1	3
	Myotis nattereri	0	0	0	0	2	0
	Nyctalus	0	0	0	0	0	1
	Pipistrellus pipistrellus	0	0	0	0	0	2
	Pipistrellus pygmaeus	0	0	0	0	0	2
Loc8	*Myotis daubentonii*	0	0	0	0	1	5
	Myotis nattereri	0	0	0	0	1	0
	Nyctalus	0	0	0	0	0	1
	Pipistrellus pipistrellus	0	0	0	0	0	6
	Pipistrellus pygmaeus	0	0	0	0	0	9
Loc9	*Myotis daubentonii*	0	0	0	0	1	4
	Myotis nattereri	0	0	0	0	1	0

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
	Nyctalus	0	0	2	0	0	2
	Pipistrellus pipistrellus	0	0	0	0	0	3
	Pipistrellus pygmaeus	0	0	0	0	0	6
Loc10	*Myotis daubentonii*	0	0	2	1	3	3
	Pipistrellus pipistrellus	0	0	0	0	0	2
	Pipistrellus pygmaeus	0	0	0	0	0	4
	Plecotus auritus	0	1	0	0	0	0
Loc11	*Myotis daubentonii*	0	0	2	0	1	0
	Nyctalus	0	0	0	0	0	2
	Pipistrellus pipistrellus	0	0	0	0	0	1
	Pipistrellus pygmaeus	0	0	0	0	0	2
Loc12	*Myotis daubentonii*	0	0	1	0	0	2
	Myotis nattereri	0	0	0	0	1	0
	Pipistrellus pipistrellus	0	0	0	0	0	1
	Pipistrellus pygmaeus	0	0	0	0	0	4
Loc13	*Myotis daubentonii*	0	0	0	0	4	0
	Myotis nattereri	0	0	0	0	1	0
	Nyctalus	0	0	0	0	0	3
	Pipistrellus pipistrellus	0	0	0	2	5	7
	Pipistrellus pygmaeus	0	0	0	0	4	8
	Plecotus auritus	0	0	0	1	0	0
Loc14	*Myotis daubentonii*	0	0	0	0	1	7
	Nyctalus	0	0	0	0	0	1

Detector ID	Species/Species Group	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
	Pipistrellus pipistrellus	0	0	0	0	0	3
	Pipistrellus pygmaeus	0	0	0	0	0	4
Loc15	*Myotis daubentonii*	0	0	0	0	0	3
	Myotis nattereri	0	0	0	0	1	0
	Pipistrellus pipistrellus	0	0	0	0	0	3
	Pipistrellus pygmaeus	0	0	0	0	0	8
Loc15a	*Myotis daubentonii*	0	0	6	1	1	0
	Myotis nattereri	0	0	0	0	1	0
	Nyctalus	0	0	0	0	0	2
	Pipistrellus pipistrellus	0	0	6	2	1	2
	Pipistrellus pygmaeus	0	0	5	5	1	1
	Plecotus auritus	0	2	0	2	0	0
Loc16	*Myotis daubentonii*	0	0	0	0	1	5
	Myotis nattereri	0	0	0	0	3	0
	Nyctalus	0	0	0	0	0	2
	Pipistrellus pipistrellus	0	0	0	0	0	3
	Pipistrellus pygmaeus	0	0	0	0	0	2
Loc17	*Myotis daubentonii*	0	0	0	2	2	3
	Myotis nattereri	0	0	0	0	1	0
	Nyctalus	0	0	0	0	0	4
	Pipistrellus pipistrellus	0	0	0	0	0	3
	Pipistrellus pygmaeus	0	0	0	0	0	7
	Plecotus auritus	0	0	0	1	0	0

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
Loc18	*Nyctalus*	0	0	0	0	0	2
	Pipistrellus pipistrellus	0	0	0	0	0	2
Loc19	*Myotis daubentonii*	0	0	0	0	0	1
	Myotis nattereri	0	0	0	0	1	0
	Pipistrellus pipistrellus	0	0	0	0	0	1
Loc20	*Myotis daubentonii*	0	0	0	0	2	0
	Pipistrellus pipistrellus	0	0	0	0	0	2
	Pipistrellus pygmaeus	0	0	0	0	0	1
Loc21	*Myotis daubentonii*	0	0	0	2	2	1
	Myotis nattereri	0	0	0	0	1	0
	Pipistrellus pipistrellus	0	0	0	0	0	3
	Pipistrellus pygmaeus	0	0	0	0	0	4
Loc22	*Myotis daubentonii*	0	0	0	0	3	1
	Nyctalus	0	0	0	0	0	3
	Pipistrellus pipistrellus	0	0	0	0	0	4
	Pipistrellus pygmaeus	0	0	0	0	0	5
Loc23	*Myotis daubentonii*	0	0	1	3	4	2
	Myotis nattereri	0	0	0	0	2	0
	Nyctalus	0	0	0	0	0	2
	Pipistrellus pipistrellus	0	0	0	0	0	12
	Pipistrellus pygmaeus	0	0	0	0	0	10
Loc24	*Myotis daubentonii*	0	0	0	2	5	5
	Myotis nattereri	0	0	0	0	3	0

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
	Nyctalus	0	0	0	0	0	6
	Pipistrellus pipistrellus	0	0	0	0	0	14
	Pipistrellus pygmaeus	0	0	0	0	0	8
	Plecotus auritus	0	0	0	2	0	0
Loc25	*Myotis daubentonii*	0	0	0	0	1	0
	Pipistrellus pipistrellus	0	0	0	0	0	3
	Pipistrellus pygmaeus	0	0	0	0	0	5
Loc25a	*Myotis daubentonii*	0	1	0	2	2	3
	Myotis nattereri	0	0	0	2	2	0
	Pipistrellus pipistrellus	0	0	0	0	0	11
	Pipistrellus pygmaeus	0	0	0	0	0	6
	Plecotus auritus	0	0	0	1	0	0
Loc26	*Myotis daubentonii*	0	0	0	4	3	6
	Myotis nattereri	0	0	0	2	4	0
	Nyctalus	0	0	0	0	0	4
	Pipistrellus pipistrellus	0	0	0	0	0	16
	Pipistrellus pygmaeus	0	0	0	0	0	11
Loc27	*Myotis daubentonii*	4	3	1	2	0	2
	Myotis nattereri	0	0	0	1	7	0
	Nyctalus	0	0	1	0	0	6
	Pipistrellus pipistrellus	0	0	0	0	0	19
	Pipistrellus pygmaeus	0	0	0	0	0	17
	Plecotus auritus	0	1	0	2	0	0

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
Loc28	*Myotis daubentonii*	0	0	0	0	0	3
	Myotis nattereri	0	0	0	0	2	0
	Nyctalus	0	0	0	0	0	4
	Pipistrellus pipistrellus	0	0	0	0	0	2
	Pipistrellus pygmaeus	0	0	0	0	0	2
Loc29	*Myotis daubentonii*	0	0	0	0	0	3
	Pipistrellus pipistrellus	0	0	0	0	0	1
	Plecotus auritus	0	1	0	1	0	0
Loc30	*Myotis daubentonii*	0	0	0	5	1	4
	Nyctalus	0	0	0	0	0	2
	Pipistrellus pipistrellus	0	0	2	0	1	15
	Pipistrellus pygmaeus	0	0	0	0	2	12
	Plecotus auritus	1	4	0	1	0	0
Loc31	*Myotis daubentonii*	0	0	0	0	2	3
	Myotis nattereri	0	0	0	0	2	0
	Nyctalus	0	0	0	0	0	4
	Pipistrellus pipistrellus	0	0	0	0	0	12
	Pipistrellus pygmaeus	0	0	0	0	0	13

Annex F: Wind Farms and Bats

Bats are at risk of mortality not only by direct collision with wind turbines, but also by barotrauma due to the very low air pressure in the wake of rotating turbine blades (Baerwald *et al*., 2009). Barotrauma causes damage to soft tissues such as the lungs resulting in fatal internal bleeding. Bats will travel long distances to and from roosting sites, often via preferential commuting routes. The potential mortality risk from wind turbines can be significant if these intersect preferential commuting routes or include areas of high foraging activity. In order to assess the potential impact of a proposed wind energy development on bats, the guidance concerning bats and onshore wind turbines (NatureScot, 2021) recommends study and assessment of bat activity within the proposed wind energy development site and the surrounding landscape.

British bat species have slow reproduction cycles, mostly with only one young being born per year. Therefore, populations are vulnerable to even small losses of individual adult bats. Female bats spend the summer in maternity roosts, in which they give birth and rear their young. The same individual bats may return to the same maternity roost sites every year. Cumulative losses of individual bats from a particular roost site could potentially threaten the viability of a local breeding population.

Studies in the United States and mainland Europe have identified the autumn migration period (commuting to hibernating sites) as the peak risk period for bat mortality at wind turbines in these countries, accounting for about three-quarters of all bat deaths. The species affected make mass migrations on narrow routes, which have resulted in high mortality where these intersect with wind energy sites. The remaining quarter of deaths are of local resident species. High mortality rates have also been found throughout the year where wind turbines are positioned close to bat roosts, commuting or foraging routes.

In the UK there is a lack of data regarding the behaviour of bats during the migratory season and UK bats are believed to migrate to a lesser degree than individuals of the same species in mainland Europe. In the UK, there is no evidence of the narrow-front mass migrations mentioned above. However, there is growing evidence of short distance migrations even up to 100km (between summer sites, autumn swarming or mating sites, and winter sites) for some UK species. There is also a lack of data on bat activity or bat mortality at operational UK wind farm sites. Therefore, any assessment of the potential impacts on bats must take regard of the potential similarities with foreign observations and can only be approximate.

During the main bat activity season, from approximately April to October (although the duration of the activity period at any location is dependent on the climate conditions) bats commute from their roosts to their feeding sites. Flight activity habits vary between species with some making regular flights at ‘rotor swept height’ (RSH); noctules usually commute along distinct routes, high over treetops and also feed high, often within RSH. Most species stay low during commuting and make use of landscape features such as hedges or trees but may still forage at higher altitudes and reach the RSH. European studies have shown the highest number of deaths in the following species: noctules, common pipistrelles and Nathusius’ pipistrelles. The very few UK records that have been collated show deaths of common pipistrelle, soprano pipistrelle, Natterer’s bat, and noctule. These records are mostly incidental observations during other studies.

Different species have different flight patterns, flight heights, foraging strategies and echolocation calls and therefore have different risk of collision with wind turbines. Table 6 categorises which bat species are potentially most vulnerable to collision based on physical and behavioural characteristics.

Annex Table 6: Collision Vulnerability of Different Bat Species

Factor	Risk of Turbine Impact		
	Low Risk	Medium Risk	High Risk
Habitat preference	Bats preferring cluttered habitat	Bats able to exploit background cluttered space	Bats preferring to use open habitat
Echolocation characteristics	Short range High frequency Low intensity Detection distance ~15m	Intermediate – more plastic in their echolocation	Long range Low frequency High intensity Detection distance ~80m
Wing shape	Low wing loading Low aspect ratio Broadest wings	Intermediate	High wing loading High aspect ratio Narrow wings
Flight speed	Slow	Intermediate	Fast
Flight behaviour and use of landscape	Manoeuvre well Will travel in cluttered habitat Keeps close to vegetation Gaps may be avoided	Some flexibility	Flight behaviour and use of landscape May avoid cluttered habitat Can get away from unsuitable habitat quickly Commute across open landscape
Hunting techniques	Hunt close to vegetation Exploit richer food sources in cluttered habitat Gleaners	Hunt in edge and gap habitat Aerial hawkers	Less able to exploit insect abundance in cluttered habitat Aerial hawker Feed in open
Migration	Local or regional movements.	Regional migrant in some parts of range	Long-range migrant in some parts of range
Conclusion	Myotis spp. Long eared-bats Horseshoe bats	Serotine Barbastelle	Common pipistrelle Soprano pipistrelle Noctule Leisler's bat Nathusius' pipistrelle

Table adapted from SNH (2019).

When assessing the impact of a proposed wind farm on bat mortality, it is important to consider not only the bat activity recorded on site and the collision vulnerability of different bat species but also the level of potential vulnerability of populations of British bat species. In this way, negative impacts on the Favourable Conservation Status (FCS) at both the local and national level of rare or vulnerable species can be avoided. This comprehensive assessment can help to inform the assessment of potential risk and guide the decision-making process in relation to the mitigation options considered for the wind farm development. Table 7 presents the level of potential vulnerability of populations of Scottish bat species.

Annex Table 7: Potential Vulnerability of Scottish Bat Populations

Relative Abundance	Collision Risk		
	Low Collision Risk	Medium Collision Risk	High Collision Risk
Widespread 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

Table adapted from Wray *et al*. (2010). Yellow – low population vulnerability; Orange – medium population vulnerability; Red – high population vulnerability.

Annex G: ECOBAT Report

Bat Activity Analysis

Site Name: Hagshaw Western Expansion

Author: Flora Gillies

2022-11-24 14:33:21

Summary

The geographic filter was: **Region** The time filter was: **+/- 1 month from survey start date**

Bats were detected on **40** nights between **2022-05-13** and **2022-09-22**, using **34** static bat detectors. Throughout this period **6** species were recorded. **Table 1.** Detectors were placed at the following locations:

latlon	date	Detector ID	Latitude	Longitude
55.6_-4.11	13/05/2022	loc1	55.60	-4.11
55.6_-4.11	14/05/2022	loc1	55.60	-4.11
55.6_-4.11	15/05/2022	loc1	55.60	-4.11
55.6_-4.11	19/05/2022	loc1	55.60	-4.11
55.6_-4.11	20/05/2022	loc1	55.60	-4.11
55.59_-4.05	15/05/2022	loc12	55.59	-4.05
55.58_-4.07	17/05/2022	loc14	55.58	-4.07
55.58_-4.1	14/05/2022	loc15	55.58	-4.10
55.58_-4.1	15/05/2022	loc15	55.58	-4.10
55.58_-4.1	16/05/2022	loc15	55.58	-4.10
55.58_-4.1	21/05/2022	loc15	55.58	-4.10
55.56_-4.03	14/05/2022	loc21	55.56	-4.03
55.56_-4.03	16/05/2022	loc23	55.56	-4.03
55.55_-4.04	14/05/2022	loc24	55.55	-4.04
55.55_-4.04	16/05/2022	loc24	55.55	-4.04
55.55_-4.04	17/05/2022	loc24	55.55	-4.04
55.55_-4.05	14/05/2022	loc25	55.55	-4.05
55.55_-4.05	15/05/2022	loc25	55.55	-4.05
55.55_-4.05	16/05/2022	loc25	55.55	-4.05
55.55_-4.05	17/05/2022	loc25	55.55	-4.05
55.55_-4.05	22/05/2022	loc25	55.55	-4.05
55.55_-4.02	14/05/2022	loc26	55.55	-4.02
55.55_-4.02	15/05/2022	loc26	55.55	-4.02
55.55_-4.02	17/05/2022	loc26	55.55	-4.02
55.55_-4.03	14/05/2022	loc27	55.55	-4.03
55.55_-4.03	15/05/2022	loc27	55.55	-4.03
55.55_-4.03	16/05/2022	loc27	55.55	-4.03
55.55_-4.03	17/05/2022	loc27	55.55	-4.03
55.55_-4.08	20/05/2022	loc28	55.55	-4.08
55.54_-4.12	16/05/2022	loc30	55.54	-4.12
55.54_-4.12	22/05/2022	loc30	55.54	-4.12
55.54_-4.12	25/05/2022	loc30	55.54	-4.12
55.54_-4.11	14/05/2022	loc31	55.54	-4.11
55.54_-4.11	15/05/2022	loc31	55.54	-4.11
55.54_-4.11	25/05/2022	loc31	55.54	-4.11

latlon	date	Detector ID	Latitude	Longitude
55.6_-4.05	14/05/2022	loc4	55.60	-4.05
55.6_-4.05	16/05/2022	loc4	55.60	-4.05
55.59_-4.06	14/05/2022	loc5	55.59	-4.06
55.59_-4.09	14/05/2022	loc8	55.59	-4.09
55.59_-4.07	01/07/2022	loc10	55.59	-4.07
55.59_-4.05	01/07/2022	loc12	55.59	-4.05
55.58_-4.09	24/06/2022	loc13	55.58	-4.09
55.58_-4.1	30/06/2022	loc15	55.58	-4.10
55.58_-4.1	01/07/2022	loc15	55.58	-4.10
55.58_-4.1	03/07/2022	loc15	55.58	-4.10
55.57_-4.02	24/06/2022	loc17	55.57	-4.02
55.57_-4.02	30/06/2022	loc17	55.57	-4.02
55.6_-4.11	01/07/2022	loc1a	55.60	-4.11
55.6_-4.11	25/06/2022	loc1a	55.60	-4.11
55.6_-4.11	29/06/2022	loc1a	55.60	-4.11
55.6_-4.11	30/06/2022	loc1a	55.60	-4.11
55.6_-4.11	02/07/2022	loc1a	55.60	-4.11
55.56_-4.04	30/06/2022	loc22	55.56	-4.04
55.56_-4.03	30/06/2022	loc23	55.56	-4.03
55.56_-4.03	23/06/2022	loc23	55.56	-4.03
55.55_-4.03	04/07/2022	loc27	55.55	-4.03
55.55_-4.08	02/07/2022	loc28	55.55	-4.08
55.54_-4.12	01/07/2022	loc30	55.54	-4.12
55.54_-4.12	02/07/2022	loc30	55.54	-4.12
55.54_-4.11	30/06/2022	loc31	55.54	-4.11
55.59_-4.07	30/06/2022	loc10	55.59	-4.07
55.59_-4.07	02/07/2022	loc10	55.59	-4.07
55.59_-4.07	10/09/2022	loc10	55.59	-4.07
55.59_-4.07	13/09/2022	loc10	55.59	-4.07
55.59_-4.06	19/09/2022	loc11	55.59	-4.06
55.59_-4.06	20/09/2022	loc11	55.59	-4.06
55.59_-4.06	09/09/2022	loc11	55.59	-4.06
55.59_-4.05	20/09/2022	loc12	55.59	-4.05
55.59_-4.05	09/09/2022	loc12	55.59	-4.05
55.58_-4.09	09/09/2022	loc13	55.58	-4.09
55.58_-4.09	10/09/2022	loc13	55.58	-4.09
55.58_-4.09	11/09/2022	loc13	55.58	-4.09
55.58_-4.09	12/09/2022	loc13	55.58	-4.09
55.58_-4.09	13/09/2022	loc13	55.58	-4.09
55.58_-4.09	14/09/2022	loc13	55.58	-4.09
55.58_-4.09	15/09/2022	loc13	55.58	-4.09
55.58_-4.09	17/09/2022	loc13	55.58	-4.09
55.58_-4.09	18/09/2022	loc13	55.58	-4.09
55.58_-4.09	19/09/2022	loc13	55.58	-4.09
55.58_-4.09	20/09/2022	loc13	55.58	-4.09
55.58_-4.09	21/09/2022	loc13	55.58	-4.09
55.58_-4.07	21/09/2022	loc14	55.58	-4.07
55.58_-4.07	10/09/2022	loc14	55.58	-4.07
55.58_-4.07	15/09/2022	loc14	55.58	-4.07
55.58_-4.1	19/09/2022	loc15a	55.58	-4.10
55.58_-4.1	20/09/2022	loc15a	55.58	-4.10
55.58_-4.1	09/09/2022	loc15a	55.58	-4.10
55.58_-4.1	10/09/2022	loc15a	55.58	-4.10
55.58_-4.1	11/09/2022	loc15a	55.58	-4.10
55.58_-4.1	12/09/2022	loc15a	55.58	-4.10
55.58_-4.1	13/09/2022	loc15a	55.58	-4.10
55.58_-4.1	14/09/2022	loc15a	55.58	-4.10

latlon	date	Detector ID	Latitude	Longitude
55.58_-4.1	15/09/2022	loc15a	55.58	-4.10
55.58_-4.1	16/09/2022	loc15a	55.58	-4.10
55.58_-4.1	17/09/2022	loc15a	55.58	-4.10
55.58_-4.1	18/09/2022	loc15a	55.58	-4.10
55.58_-4.1	21/09/2022	loc15a	55.58	-4.10
55.58_-4.01	21/09/2022	loc16	55.58	-4.01
55.58_-4.01	16/09/2022	loc16	55.58	-4.01
55.57_-4.02	20/09/2022	loc17	55.57	-4.02
55.57_-4.02	21/09/2022	loc17	55.57	-4.02
55.57_-4.02	09/09/2022	loc17	55.57	-4.02
55.57_-4.02	10/09/2022	loc17	55.57	-4.02
55.57_-4.02	15/09/2022	loc17	55.57	-4.02
55.57_-4.02	19/09/2022	loc17	55.57	-4.02
55.6_-4.11	20/09/2022	loc1a	55.60	-4.11
55.6_-4.11	22/09/2022	loc1a	55.60	-4.11
55.6_-4.11	09/09/2022	loc1a	55.60	-4.11
55.6_-4.11	10/09/2022	loc1a	55.60	-4.11
55.6_-4.11	11/09/2022	loc1a	55.60	-4.11
55.6_-4.11	12/09/2022	loc1a	55.60	-4.11
55.6_-4.11	13/09/2022	loc1a	55.60	-4.11
55.6_-4.11	14/09/2022	loc1a	55.60	-4.11
55.6_-4.11	16/09/2022	loc1a	55.60	-4.11
55.6_-4.11	17/09/2022	loc1a	55.60	-4.11
55.6_-4.11	18/09/2022	loc1a	55.60	-4.11
55.6_-4.11	19/09/2022	loc1a	55.60	-4.11
55.6_-4.1	20/09/2022	loc2	55.60	-4.10
55.6_-4.1	09/09/2022	loc2	55.60	-4.10
55.6_-4.1	10/09/2022	loc2	55.60	-4.10
55.6_-4.1	11/09/2022	loc2	55.60	-4.10
55.6_-4.1	13/09/2022	loc2	55.60	-4.10
55.6_-4.1	14/09/2022	loc2	55.60	-4.10
55.6_-4.1	15/09/2022	loc2	55.60	-4.10
55.6_-4.1	16/09/2022	loc2	55.60	-4.10
55.6_-4.1	17/09/2022	loc2	55.60	-4.10
55.6_-4.1	18/09/2022	loc2	55.60	-4.10
55.6_-4.1	19/09/2022	loc2	55.60	-4.10
55.56_-4.02	20/09/2022	loc20	55.56	-4.02
55.56_-4.03	19/09/2022	loc21	55.56	-4.03
55.56_-4.03	10/09/2022	loc21	55.56	-4.03
55.56_-4.03	11/09/2022	loc21	55.56	-4.03
55.56_-4.04	21/09/2022	loc22	55.56	-4.04
55.56_-4.04	10/09/2022	loc22	55.56	-4.04
55.56_-4.04	15/09/2022	loc22	55.56	-4.04
55.56_-4.03	18/09/2022	loc23	55.56	-4.03
55.56_-4.03	23/09/2022	loc23	55.56	-4.03
55.56_-4.03	09/09/2022	loc23	55.56	-4.03
55.56_-4.03	10/09/2022	loc23	55.56	-4.03
55.56_-4.03	11/09/2022	loc23	55.56	-4.03
55.56_-4.03	12/09/2022	loc23	55.56	-4.03
55.56_-4.03	19/09/2022	loc23	55.56	-4.03
55.56_-4.03	20/09/2022	loc23	55.56	-4.03
55.55_-4.04	11/09/2022	loc24	55.55	-4.04
55.55_-4.04	14/09/2022	loc24	55.55	-4.04
55.55_-4.04	16/09/2022	loc24	55.55	-4.04
55.55_-4.04	18/09/2022	loc24	55.55	-4.04
55.55_-4.04	19/09/2022	loc24	55.55	-4.04
55.55_-4.05	09/09/2022	loc25a	55.55	-4.05

latlon	date	Detector ID	Latitude	Longitude
55.55_-4.05	10/09/2022	loc25a	55.55	-4.05
55.55_-4.05	18/09/2022	loc25a	55.55	-4.05
55.55_-4.05	19/09/2022	loc25a	55.55	-4.05
55.55_-4.05	20/09/2022	loc25a	55.55	-4.05
55.55_-4.05	22/09/2022	loc25a	55.55	-4.05
55.55_-4.02	22/09/2022	loc26	55.55	-4.02
55.55_-4.02	09/09/2022	loc26	55.55	-4.02
55.55_-4.02	10/09/2022	loc26	55.55	-4.02
55.55_-4.02	11/09/2022	loc26	55.55	-4.02
55.55_-4.02	17/09/2022	loc26	55.55	-4.02
55.55_-4.02	18/09/2022	loc26	55.55	-4.02
55.55_-4.02	20/09/2022	loc26	55.55	-4.02
55.55_-4.03	22/09/2022	loc27	55.55	-4.03
55.55_-4.03	09/09/2022	loc27	55.55	-4.03
55.55_-4.03	10/09/2022	loc27	55.55	-4.03
55.55_-4.03	11/09/2022	loc27	55.55	-4.03
55.55_-4.03	13/09/2022	loc27	55.55	-4.03
55.55_-4.03	14/09/2022	loc27	55.55	-4.03
55.55_-4.03	16/09/2022	loc27	55.55	-4.03
55.55_-4.03	17/09/2022	loc27	55.55	-4.03
55.55_-4.03	18/09/2022	loc27	55.55	-4.03
55.55_-4.03	19/09/2022	loc27	55.55	-4.03
55.55_-4.03	20/09/2022	loc27	55.55	-4.03
55.55_-4.03	21/09/2022	loc27	55.55	-4.03
55.6_-4.05	15/09/2022	loc3	55.60	-4.05
55.54_-4.12	16/09/2022	loc30	55.54	-4.12
55.54_-4.12	10/09/2022	loc30	55.54	-4.12
55.54_-4.12	11/09/2022	loc30	55.54	-4.12
55.54_-4.12	14/09/2022	loc30	55.54	-4.12
55.54_-4.12	17/09/2022	loc30	55.54	-4.12
55.54_-4.12	18/09/2022	loc30	55.54	-4.12
55.54_-4.12	19/09/2022	loc30	55.54	-4.12
55.54_-4.12	20/09/2022	loc30	55.54	-4.12
55.54_-4.12	21/09/2022	loc30	55.54	-4.12
55.54_-4.12	22/09/2022	loc30	55.54	-4.12
55.54_-4.11	22/09/2022	loc31	55.54	-4.11
55.54_-4.11	23/09/2022	loc31	55.54	-4.11
55.54_-4.11	10/09/2022	loc31	55.54	-4.11
55.54_-4.11	11/09/2022	loc31	55.54	-4.11
55.54_-4.11	12/09/2022	loc31	55.54	-4.11
55.54_-4.11	14/09/2022	loc31	55.54	-4.11
55.54_-4.11	17/09/2022	loc31	55.54	-4.11
55.54_-4.11	18/09/2022	loc31	55.54	-4.11
55.54_-4.11	19/09/2022	loc31	55.54	-4.11
55.54_-4.11	20/09/2022	loc31	55.54	-4.11
55.54_-4.11	21/09/2022	loc31	55.54	-4.11
55.6_-4.05	21/09/2022	loc4	55.60	-4.05
55.6_-4.05	09/09/2022	loc4	55.60	-4.05
55.6_-4.05	10/09/2022	loc4	55.60	-4.05
55.6_-4.05	11/09/2022	loc4	55.60	-4.05
55.59_-4.06	11/09/2022	loc5	55.59	-4.06
55.59_-4.06	15/09/2022	loc5	55.59	-4.06
55.59_-4.06	09/09/2022	loc5	55.59	-4.06
55.59_-4.06	10/09/2022	loc5	55.59	-4.06
55.59_-4.06	13/09/2022	loc5	55.59	-4.06
55.59_-4.05	16/09/2022	loc6	55.59	-4.05
55.59_-4.05	20/09/2022	loc6	55.59	-4.05

latlon	date	Detector ID	Latitude	Longitude
55.59_-4.05	09/09/2022	loc6	55.59	-4.05
55.59_-4.05	10/09/2022	loc6	55.59	-4.05
55.59_-4.07	10/09/2022	loc7	55.59	-4.07
55.59_-4.09	18/09/2022	loc8	55.59	-4.09
55.59_-4.09	09/09/2022	loc8	55.59	-4.09
55.59_-4.09	10/09/2022	loc8	55.59	-4.09
55.59_-4.09	12/09/2022	loc8	55.59	-4.09
55.59_-4.09	13/09/2022	loc8	55.59	-4.09
55.59_-4.09	15/09/2022	loc8	55.59	-4.09
55.59_-4.09	16/09/2022	loc8	55.59	-4.09
55.59_-4.09	17/09/2022	loc8	55.59	-4.09
55.59_-4.08	18/09/2022	loc9	55.59	-4.08
55.59_-4.08	19/09/2022	loc9	55.59	-4.08
55.59_-4.08	21/09/2022	loc9	55.59	-4.08
55.59_-4.08	10/09/2022	loc9	55.59	-4.08
55.59_-4.08	12/09/2022	loc9	55.59	-4.08
55.59_-4.08	13/09/2022	loc9	55.59	-4.08
55.59_-4.08	15/09/2022	loc9	55.59	-4.08
55.59_-4.08	17/09/2022	loc9	55.59	-4.08
55.58_-4.09	17/05/2022	loc13	55.58	-4.09
55.6_-4.1	15/05/2022	loc2	55.60	-4.10
55.56_-4.02	14/05/2022	loc20	55.56	-4.02
55.56_-4.04	15/05/2022	loc22	55.56	-4.04
55.56_-4.03	17/05/2022	loc23	55.56	-4.03
55.55_-4.05	20/05/2022	loc25	55.55	-4.05
55.55_-4.02	22/05/2022	loc26	55.55	-4.02
55.55_-4.02	25/05/2022	loc26	55.55	-4.02
55.55_-4.03	20/05/2022	loc27	55.55	-4.03
55.54_-4.12	17/05/2022	loc30	55.54	-4.12
55.54_-4.12	19/05/2022	loc30	55.54	-4.12
55.54_-4.11	16/05/2022	loc31	55.54	-4.11
55.6_-4.05	23/05/2022	loc4	55.60	-4.05
55.59_-4.09	15/05/2022	loc8	55.59	-4.09
55.59_-4.06	01/07/2022	loc11	55.59	-4.06
55.59_-4.05	30/06/2022	loc12	55.59	-4.05
55.58_-4.1	24/06/2022	loc15	55.58	-4.10
55.58_-4.1	27/06/2022	loc15	55.58	-4.10
55.58_-4.01	03/07/2022	loc16	55.58	-4.01
55.58_-4.01	30/06/2022	loc16	55.58	-4.01
55.57_-4.01	01/07/2022	loc18	55.57	-4.01
55.57_-4.01	02/07/2022	loc18	55.57	-4.01
55.57_-4.01	24/06/2022	loc18	55.57	-4.01
55.6_-4.1	07/07/2022	loc2	55.60	-4.10
55.6_-4.1	26/06/2022	loc2	55.60	-4.10
55.56_-4.02	30/06/2022	loc20	55.56	-4.02
55.56_-4.03	01/07/2022	loc23	55.56	-4.03
55.56_-4.03	24/06/2022	loc23	55.56	-4.03
55.55_-4.04	30/06/2022	loc24	55.55	-4.04
55.55_-4.04	23/06/2022	loc24	55.55	-4.04
55.55_-4.02	01/07/2022	loc26	55.55	-4.02
55.55_-4.02	23/06/2022	loc26	55.55	-4.02
55.55_-4.02	27/06/2022	loc26	55.55	-4.02
55.55_-4.02	28/06/2022	loc26	55.55	-4.02
55.55_-4.02	29/06/2022	loc26	55.55	-4.02
55.55_-4.02	30/06/2022	loc26	55.55	-4.02
55.55_-4.03	01/07/2022	loc27	55.55	-4.03
55.55_-4.03	24/06/2022	loc27	55.55	-4.03

latlon	date	Detector ID	Latitude	Longitude
55.55_-4.03	27/06/2022	loc27	55.55	-4.03
55.55_-4.03	30/06/2022	loc27	55.55	-4.03
55.6_-4.05	01/07/2022	loc3	55.60	-4.05
55.54_-4.12	30/06/2022	loc30	55.54	-4.12
55.54_-4.12	23/06/2022	loc30	55.54	-4.12
55.54_-4.12	24/06/2022	loc30	55.54	-4.12
55.54_-4.12	28/06/2022	loc30	55.54	-4.12
55.54_-4.12	29/06/2022	loc30	55.54	-4.12
55.54_-4.11	02/07/2022	loc31	55.54	-4.11
55.54_-4.11	23/06/2022	loc31	55.54	-4.11
55.54_-4.11	24/06/2022	loc31	55.54	-4.11
55.54_-4.11	26/06/2022	loc31	55.54	-4.11
55.54_-4.11	29/06/2022	loc31	55.54	-4.11
55.6_-4.05	02/07/2022	loc4	55.60	-4.05
55.6_-4.05	06/07/2022	loc4	55.60	-4.05
55.6_-4.05	30/06/2022	loc4	55.60	-4.05
55.59_-4.08	01/07/2022	loc9	55.59	-4.08
55.59_-4.07	09/09/2022	loc10	55.59	-4.07
55.58_-4.09	16/09/2022	loc13	55.58	-4.09
55.57_-4.02	11/09/2022	loc17	55.57	-4.02
55.57_-4.01	20/09/2022	loc19	55.57	-4.01
55.57_-4.01	21/09/2022	loc19	55.57	-4.01
55.56_-4.03	12/09/2022	loc21	55.56	-4.03
55.56_-4.03	20/09/2022	loc21	55.56	-4.03
55.56_-4.04	13/09/2022	loc22	55.56	-4.04
55.56_-4.03	21/09/2022	loc23	55.56	-4.03
55.56_-4.03	14/09/2022	loc23	55.56	-4.03
55.56_-4.03	15/09/2022	loc23	55.56	-4.03
55.56_-4.03	16/09/2022	loc23	55.56	-4.03
55.55_-4.04	22/09/2022	loc24	55.55	-4.04
55.55_-4.04	23/09/2022	loc24	55.55	-4.04
55.55_-4.04	09/09/2022	loc24	55.55	-4.04
55.55_-4.04	10/09/2022	loc24	55.55	-4.04
55.55_-4.04	13/09/2022	loc24	55.55	-4.04
55.55_-4.04	17/09/2022	loc24	55.55	-4.04
55.55_-4.04	20/09/2022	loc24	55.55	-4.04
55.55_-4.05	11/09/2022	loc25a	55.55	-4.05
55.55_-4.05	13/09/2022	loc25a	55.55	-4.05
55.55_-4.05	14/09/2022	loc25a	55.55	-4.05
55.55_-4.05	16/09/2022	loc25a	55.55	-4.05
55.55_-4.05	17/09/2022	loc25a	55.55	-4.05
55.55_-4.05	21/09/2022	loc25a	55.55	-4.05
55.55_-4.02	13/09/2022	loc26	55.55	-4.02
55.55_-4.02	15/09/2022	loc26	55.55	-4.02
55.55_-4.03	12/09/2022	loc27	55.55	-4.03
55.55_-4.03	15/09/2022	loc27	55.55	-4.03
55.55_-4.08	10/09/2022	loc28	55.55	-4.08
55.55_-4.1	21/09/2022	loc29	55.55	-4.10
55.6_-4.05	20/09/2022	loc3	55.60	-4.05
55.54_-4.12	12/09/2022	loc30	55.54	-4.12
55.6_-4.05	22/09/2022	loc4	55.60	-4.05
55.59_-4.05	11/09/2022	loc6	55.59	-4.05
55.59_-4.07	15/09/2022	loc7	55.59	-4.07
55.59_-4.09	11/09/2022	loc8	55.59	-4.09
55.59_-4.09	14/09/2022	loc8	55.59	-4.09
55.59_-4.08	09/09/2022	loc9	55.59	-4.08
55.59_-4.07	15/05/2022	loc10	55.59	-4.07

latlon	date	Detector ID	Latitude	Longitude
55.59_-4.07	24/05/2022	loc10	55.59	-4.07
55.58_-4.07	15/05/2022	loc14	55.58	-4.07
55.58_-4.1	25/05/2022	loc15	55.58	-4.10
55.6_-4.1	20/05/2022	loc2	55.60	-4.10
55.56_-4.03	24/05/2022	loc23	55.56	-4.03
55.56_-4.03	25/05/2022	loc23	55.56	-4.03
55.56_-4.03	26/05/2022	loc23	55.56	-4.03
55.55_-4.04	23/05/2022	loc24	55.55	-4.04
55.55_-4.04	25/05/2022	loc24	55.55	-4.04
55.55_-4.02	20/05/2022	loc26	55.55	-4.02
55.55_-4.02	23/05/2022	loc26	55.55	-4.02
55.55_-4.08	24/05/2022	loc28	55.55	-4.08
55.6_-4.05	15/05/2022	loc4	55.60	-4.05
55.59_-4.05	15/05/2022	loc6	55.59	-4.05
55.59_-4.05	16/05/2022	loc6	55.59	-4.05
55.59_-4.07	15/05/2022	loc7	55.59	-4.07
55.59_-4.09	20/05/2022	loc8	55.59	-4.09
55.59_-4.07	29/06/2022	loc10	55.59	-4.07
55.58_-4.09	01/07/2022	loc13	55.58	-4.09
55.58_-4.07	30/06/2022	loc14	55.58	-4.07
55.57_-4.02	23/06/2022	loc17	55.57	-4.02
55.55_-4.04	01/07/2022	loc24	55.55	-4.04
55.55_-4.02	07/07/2022	loc26	55.55	-4.02
55.55_-4.03	23/06/2022	loc27	55.55	-4.03
55.55_-4.1	30/06/2022	loc29	55.55	-4.10
55.59_-4.08	30/06/2022	loc9	55.59	-4.08
55.59_-4.07	03/07/2022	loc10	55.59	-4.07
55.59_-4.07	11/09/2022	loc10	55.59	-4.07
55.59_-4.07	14/09/2022	loc10	55.59	-4.07
55.59_-4.07	15/09/2022	loc10	55.59	-4.07
55.59_-4.06	10/09/2022	loc11	55.59	-4.06
55.59_-4.06	11/09/2022	loc11	55.59	-4.06
55.59_-4.06	14/09/2022	loc11	55.59	-4.06
55.59_-4.06	15/09/2022	loc11	55.59	-4.06
55.59_-4.05	21/09/2022	loc12	55.59	-4.05
55.59_-4.05	10/09/2022	loc12	55.59	-4.05
55.59_-4.05	11/09/2022	loc12	55.59	-4.05
55.58_-4.07	11/09/2022	loc14	55.58	-4.07
55.58_-4.07	12/09/2022	loc14	55.58	-4.07
55.58_-4.07	14/09/2022	loc14	55.58	-4.07
55.58_-4.07	16/09/2022	loc14	55.58	-4.07
55.58_-4.07	19/09/2022	loc14	55.58	-4.07
55.58_-4.01	09/09/2022	loc16	55.58	-4.01
55.58_-4.01	10/09/2022	loc16	55.58	-4.01
55.58_-4.01	11/09/2022	loc16	55.58	-4.01
55.58_-4.01	14/09/2022	loc16	55.58	-4.01
55.58_-4.01	19/09/2022	loc16	55.58	-4.01
55.57_-4.02	13/09/2022	loc17	55.57	-4.02
55.57_-4.02	14/09/2022	loc17	55.57	-4.02
55.57_-4.02	16/09/2022	loc17	55.57	-4.02
55.56_-4.02	21/09/2022	loc20	55.56	-4.02
55.56_-4.03	14/09/2022	loc21	55.56	-4.03
55.56_-4.03	16/09/2022	loc21	55.56	-4.03
55.56_-4.03	18/09/2022	loc21	55.56	-4.03
55.56_-4.04	20/09/2022	loc22	55.56	-4.04
55.56_-4.04	11/09/2022	loc22	55.56	-4.04
55.56_-4.04	18/09/2022	loc22	55.56	-4.04

latlon	date	Detector ID	Latitude	Longitude
55.56_-4.03	13/09/2022	loc23	55.56	-4.03
55.55_-4.04	15/09/2022	loc24	55.55	-4.04
55.55_-4.05	12/09/2022	loc25a	55.55	-4.05
55.55_-4.05	15/09/2022	loc25a	55.55	-4.05
55.55_-4.02	14/09/2022	loc26	55.55	-4.02
55.55_-4.02	19/09/2022	loc26	55.55	-4.02
55.55_-4.03	23/09/2022	loc27	55.55	-4.03
55.55_-4.08	23/09/2022	loc28	55.55	-4.08
55.55_-4.08	18/09/2022	loc28	55.55	-4.08
55.55_-4.1	23/09/2022	loc29	55.55	-4.10
55.55_-4.1	10/09/2022	loc29	55.55	-4.10
55.55_-4.1	11/09/2022	loc29	55.55	-4.10
55.6_-4.05	21/09/2022	loc3	55.60	-4.05
55.6_-4.05	10/09/2022	loc3	55.60	-4.05
55.6_-4.05	11/09/2022	loc3	55.60	-4.05
55.54_-4.11	09/09/2022	loc31	55.54	-4.11
55.59_-4.06	14/09/2022	loc5	55.59	-4.06
55.59_-4.05	12/09/2022	loc6	55.59	-4.05
55.59_-4.05	13/09/2022	loc6	55.59	-4.05
55.59_-4.05	15/09/2022	loc6	55.59	-4.05
55.59_-4.05	19/09/2022	loc6	55.59	-4.05
55.59_-4.07	20/09/2022	loc7	55.59	-4.07
55.59_-4.07	09/09/2022	loc7	55.59	-4.07
55.59_-4.07	11/09/2022	loc7	55.59	-4.07
55.59_-4.07	13/09/2022	loc7	55.59	-4.07
55.59_-4.07	14/09/2022	loc7	55.59	-4.07
55.59_-4.07	17/09/2022	loc7	55.59	-4.07
55.59_-4.08	16/09/2022	loc9	55.59	-4.08
55.58_-4.09	24/05/2022	loc13	55.58	-4.09
55.58_-4.09	23/06/2022	loc13	55.58	-4.09
55.58_-4.09	30/06/2022	loc13	55.58	-4.09
55.58_-4.07	02/07/2022	loc14	55.58	-4.07
55.57_-4.02	29/06/2022	loc17	55.57	-4.02
55.57_-4.01	30/06/2022	loc18	55.57	-4.01
55.6_-4.11	07/07/2022	loc1a	55.60	-4.11
55.56_-4.04	24/06/2022	loc22	55.56	-4.04
55.56_-4.04	23/06/2022	loc22	55.56	-4.04
55.56_-4.04	29/06/2022	loc22	55.56	-4.04
55.56_-4.03	29/06/2022	loc23	55.56	-4.03
55.55_-4.04	24/06/2022	loc24	55.55	-4.04
55.55_-4.02	02/07/2022	loc26	55.55	-4.02
55.55_-4.03	28/06/2022	loc27	55.55	-4.03
55.55_-4.03	29/06/2022	loc27	55.55	-4.03
55.55_-4.03	02/07/2022	loc27	55.55	-4.03
55.55_-4.08	23/06/2022	loc28	55.55	-4.08
55.55_-4.08	24/06/2022	loc28	55.55	-4.08
55.55_-4.08	30/06/2022	loc28	55.55	-4.08
55.54_-4.11	01/07/2022	loc31	55.54	-4.11
55.59_-4.08	24/06/2022	loc9	55.59	-4.08
55.59_-4.08	27/06/2022	loc9	55.59	-4.08
55.59_-4.06	21/09/2022	loc11	55.59	-4.06
55.59_-4.06	16/09/2022	loc11	55.59	-4.06
55.55_-4.08	14/09/2022	loc28	55.55	-4.08
55.6_-4.05	19/09/2022	loc3	55.60	-4.05
55.54_-4.11	17/05/2022	loc31	55.54	-4.11
55.6_-4.05	25/05/2022	loc4	55.60	-4.05
55.59_-4.05	26/06/2022	loc12	55.59	-4.05

latlon	date	Detector ID	Latitude	Longitude
55.58_-4.01	13/09/2022	loc16	55.58	-4.01
55.58_-4.01	15/09/2022	loc16	55.58	-4.01
55.57_-4.01	10/09/2022	loc19	55.57	-4.01
55.55_-4.04	12/09/2022	loc24	55.55	-4.04
55.55_-4.08	16/09/2022	loc28	55.55	-4.08
55.6_-4.05	16/09/2022	loc3	55.60	-4.05
55.59_-4.09	19/09/2022	loc8	55.59	-4.09
55.59_-4.07	07/07/2022	loc10	55.59	-4.07
55.55_-4.05	23/09/2022	loc25a	55.55	-4.05
55.55_-4.1	15/09/2022	loc29	55.55	-4.10
55.54_-4.12	15/09/2022	loc30	55.54	-4.12

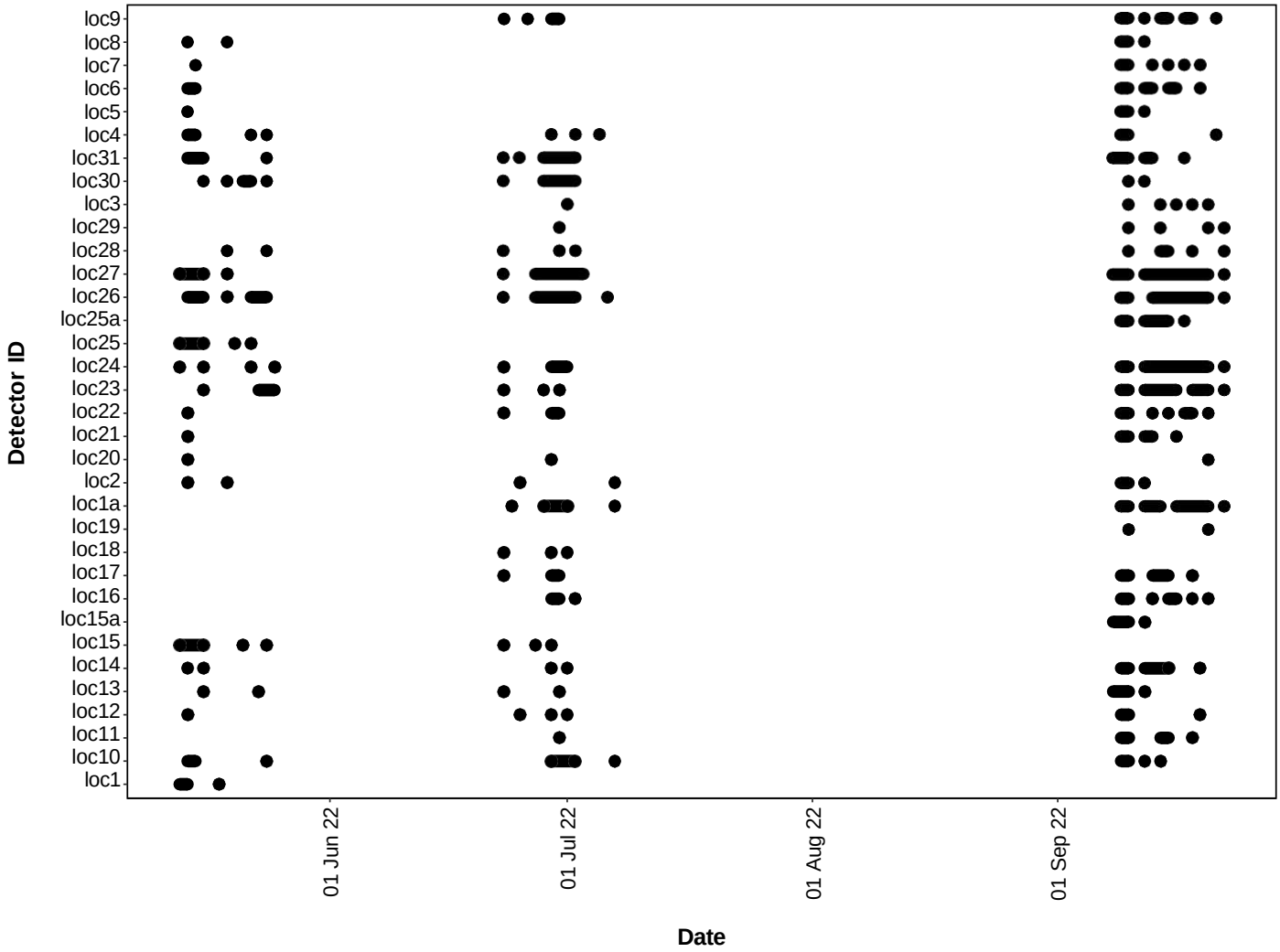
Survey Nights

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

Detector ID	No. of nights
loc1	4
loc10	13
loc11	8
loc12	8
loc13	16
loc14	12
loc15	12
loc15a	12
loc16	10
loc17	11
loc18	3
loc19	3
loc1a	17
loc2	15
loc20	4
loc21	9
loc22	12
loc23	18
loc24	20
loc25	6
loc25a	12
loc26	26
loc27	26
loc28	10
loc29	5
loc3	6
loc30	23
loc31	22
loc4	11
loc5	7
loc6	9
loc7	8
loc8	11
loc9	12

Survey Nights

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



PART 1: Percentiles Analysis

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

The reference range dataset was stratified to include:

PER DETECTOR

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

Detector ID	Species/Species Group	Night.exclu	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc1	*Pipistrellus pipistrellus*	0	0	0	0	0	1
loc1	*Pipistrellus pygmaeus*	0	0	0	0	0	4
loc10	*Myotis daubentonii*	0	0	2	1	3	3
loc10	*Pipistrellus pipistrellus*	0	0	0	0	0	2
loc10	*Pipistrellus pygmaeus*	0	0	0	0	0	4
loc10	*Plecotus auritus*	0	1	0	0	0	0
loc11	*Myotis daubentonii*	0	0	2	0	1	0
loc11	*Nyctalus*	0	0	0	0	0	2
loc11	*Pipistrellus pipistrellus*	0	0	0	0	0	1
loc11	*Pipistrellus pygmaeus*	0	0	0	0	0	2
loc12	*Myotis daubentonii*	0	0	1	0	0	2
loc12	*Myotis nattereri*	0	0	0	0	1	0
loc12	*Pipistrellus pipistrellus*	0	0	0	0	0	1
loc12	*Pipistrellus pygmaeus*	0	0	0	0	0	4
loc13	*Myotis daubentonii*	0	0	0	0	4	0
loc13	*Myotis nattereri*	0	0	0	0	1	0
loc13	*Nyctalus*	0	0	0	0	0	3
loc13	*Pipistrellus pipistrellus*	0	0	0	2	5	7
loc13	*Pipistrellus pygmaeus*	0	0	0	0	4	8
loc13	*Plecotus auritus*	0	0	0	1	0	0
loc14	*Myotis daubentonii*	0	0	0	0	1	7
loc14	*Nyctalus*	0	0	0	0	0	1
loc14	*Pipistrellus pipistrellus*	0	0	0	0	0	3
loc14	*Pipistrellus pygmaeus*	0	0	0	0	0	4
loc15	*Myotis daubentonii*	0	0	0	0	0	3
loc15	*Myotis nattereri*	0	0	0	0	1	0
loc15	*Pipistrellus pipistrellus*	0	0	0	0	0	3

Detector ID	Species/Species Group	Night.exclu	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc15	*Pipistrellus pygmaeus*	0	0	0	0	0	8
loc15a	*Myotis daubentonii*	0	0	6	1	1	0
loc15a	*Myotis nattereri*	0	0	0	0	1	0
loc15a	*Nyctalus*	0	0	0	0	0	2
loc15a	*Pipistrellus pipistrellus*	0	0	6	2	1	2
loc15a	*Pipistrellus pygmaeus*	0	0	5	5	1	1
loc15a	*Plecotus auritus*	0	2	0	2	0	0
loc16	*Myotis daubentonii*	0	0	0	0	1	5
loc16	*Myotis nattereri*	0	0	0	0	3	0
loc16	*Nyctalus*	0	0	0	0	0	2
loc16	*Pipistrellus pipistrellus*	0	0	0	0	0	3
loc16	*Pipistrellus pygmaeus*	0	0	0	0	0	2
loc17	*Myotis daubentonii*	0	0	0	2	2	3
loc17	*Myotis nattereri*	0	0	0	0	1	0
loc17	*Nyctalus*	0	0	0	0	0	4
loc17	*Pipistrellus pipistrellus*	0	0	0	0	0	3
loc17	*Pipistrellus pygmaeus*	0	0	0	0	0	7
loc17	*Plecotus auritus*	0	0	0	1	0	0
loc18	*Nyctalus*	0	0	0	0	0	2
loc18	*Pipistrellus pipistrellus*	0	0	0	0	0	2
loc19	*Myotis daubentonii*	0	0	0	0	0	1
loc19	*Myotis nattereri*	0	0	0	0	1	0
loc19	*Pipistrellus pipistrellus*	0	0	0	0	0	1
loc1a	*Myotis daubentonii*	0	0	0	0	1	3
loc1a	*Nyctalus*	0	0	0	0	0	4
loc1a	*Pipistrellus pipistrellus*	0	0	0	0	0	8
loc1a	*Pipistrellus pygmaeus*	0	0	0	0	0	16
loc2	*Myotis daubentonii*	0	0	0	2	2	3
loc2	*Myotis nattereri*	0	0	0	0	4	0
loc2	*Pipistrellus pipistrellus*	0	0	0	0	0	4

Detector ID	Species/Species Group	Night.exclip	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc2	*Pipistrellus pygmaeus*	0	0	0	0	0	10
loc20	*Myotis daubentonii*	0	0	0	0	2	0
loc20	*Pipistrellus pipistrellus*	0	0	0	0	0	2
loc20	*Pipistrellus pygmaeus*	0	0	0	0	0	1
loc21	*Myotis daubentonii*	0	0	0	2	2	1
loc21	*Myotis nattereri*	0	0	0	0	1	0
loc21	*Pipistrellus pipistrellus*	0	0	0	0	0	3
loc21	*Pipistrellus pygmaeus*	0	0	0	0	0	4
loc22	*Myotis daubentonii*	0	0	0	0	3	1
loc22	*Nyctalus*	0	0	0	0	0	3
loc22	*Pipistrellus pipistrellus*	0	0	0	0	0	4
loc22	*Pipistrellus pygmaeus*	0	0	0	0	0	5
loc23	*Myotis daubentonii*	0	0	1	3	4	2
loc23	*Myotis nattereri*	0	0	0	0	2	0
loc23	*Nyctalus*	0	0	0	0	0	2
loc23	*Pipistrellus pipistrellus*	0	0	0	0	0	12
loc23	*Pipistrellus pygmaeus*	0	0	0	0	0	10
loc24	*Myotis daubentonii*	0	0	0	2	5	5
loc24	*Myotis nattereri*	0	0	0	0	3	0
loc24	*Nyctalus*	0	0	0	0	0	6
loc24	*Pipistrellus pipistrellus*	0	0	0	0	0	14
loc24	*Pipistrellus pygmaeus*	0	0	0	0	0	8
loc24	*Plecotus auritus*	0	0	0	2	0	0
loc25	*Myotis daubentonii*	0	0	0	0	1	0
loc25	*Pipistrellus pipistrellus*	0	0	0	0	0	3
loc25	*Pipistrellus pygmaeus*	0	0	0	0	0	5
loc25a	*Myotis daubentonii*	0	1	0	2	2	3
loc25a	*Myotis nattereri*	0	0	0	2	2	0
loc25a	*Pipistrellus pipistrellus*	0	0	0	0	0	11

Detector ID	Species/Species Group	Night.exclip	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc25a	*Pipistrellus pygmaeus*	0	0	0	0	0	6
loc25a	*Plecotus auritus*	0	0	0	1	0	0
loc26	*Myotis daubentonii*	0	0	0	4	3	6
loc26	*Myotis nattereri*	0	0	0	2	4	0
loc26	*Nyctalus*	0	0	0	0	0	4
loc26	*Pipistrellus pipistrellus*	0	0	0	0	0	16
loc26	*Pipistrellus pygmaeus*	0	0	0	0	0	11
loc27	*Myotis daubentonii*	4	3	1	2	0	2
loc27	*Myotis nattereri*	0	0	0	1	7	0
loc27	*Nyctalus*	0	0	1	0	0	6
loc27	*Pipistrellus pipistrellus*	0	0	0	0	0	19
loc27	*Pipistrellus pygmaeus*	0	0	0	0	0	17
loc27	*Plecotus auritus*	0	1	0	2	0	0
loc28	*Myotis daubentonii*	0	0	0	0	0	3
loc28	*Myotis nattereri*	0	0	0	0	2	0
loc28	*Nyctalus*	0	0	0	0	0	4
loc28	*Pipistrellus pipistrellus*	0	0	0	0	0	2
loc28	*Pipistrellus pygmaeus*	0	0	0	0	0	2
loc29	*Myotis daubentonii*	0	0	0	0	0	3
loc29	*Pipistrellus pipistrellus*	0	0	0	0	0	1
loc29	*Plecotus auritus*	0	1	0	1	0	0
loc3	*Myotis daubentonii*	0	0	1	1	0	1
loc3	*Myotis nattereri*	0	0	0	0	2	0
loc3	*Nyctalus*	0	0	0	0	0	1
loc3	*Pipistrellus pipistrellus*	0	0	0	0	0	2
loc3	*Pipistrellus pygmaeus*	0	0	0	0	0	1
loc30	*Myotis daubentonii*	0	0	0	5	1	4
loc30	*Nyctalus*	0	0	0	0	0	2
loc30	*Pipistrellus pipistrellus*	0	0	2	0	1	15
loc30	*Pipistrellus pygmaeus*	0	0	0	0	2	12

Detector ID	Species/Species Group	Night.exclu	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc30	*Plecotus auritus*	1	4	0	1	0	0
loc31	*Myotis daubentonii*	0	0	0	0	2	3
loc31	*Myotis nattereri*	0	0	0	0	2	0
loc31	*Nyctalus*	0	0	0	0	0	4
loc31	*Pipistrellus pipistrellus*	0	0	0	0	0	12
loc31	*Pipistrellus pygmaeus*	0	0	0	0	0	13
loc31	*Plecotus auritus*	0	2	0	1	0	0
loc4	*Myotis daubentonii*	0	0	1	0	0	1
loc4	*Myotis nattereri*	0	0	0	0	1	0
loc4	*Nyctalus*	0	0	0	0	0	1
loc4	*Pipistrellus pipistrellus*	0	0	0	0	0	6
loc4	*Pipistrellus pygmaeus*	0	0	0	0	0	5
loc5	*Myotis daubentonii*	0	0	2	0	1	1
loc5	*Myotis nattereri*	0	0	0	0	1	0
loc5	*Nyctalus*	0	0	0	0	0	2
loc5	*Pipistrellus pipistrellus*	0	0	0	0	0	1
loc5	*Pipistrellus pygmaeus*	0	0	0	0	0	5
loc5	*Plecotus auritus*	0	0	0	4	0	0
loc6	*Myotis daubentonii*	0	0	2	0	1	6
loc6	*Myotis nattereri*	0	0	0	0	1	0
loc6	*Nyctalus*	0	0	0	0	0	1
loc6	*Pipistrellus pipistrellus*	0	0	0	0	0	1
loc6	*Pipistrellus pygmaeus*	0	0	0	0	0	4
loc6	*Plecotus auritus*	0	0	0	1	0	0
loc7	*Myotis daubentonii*	0	0	1	1	1	3
loc7	*Myotis nattereri*	0	0	0	0	2	0
loc7	*Nyctalus*	0	0	0	0	0	1
loc7	*Pipistrellus pipistrellus*	0	0	0	0	0	2
loc7	*Pipistrellus pygmaeus*	0	0	0	0	0	2
loc8	*Myotis daubentonii*	0	0	0	0	1	5

Detector ID	Species/Species Group	Night.exclu	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc8	*Myotis nattereri*	0	0	0	0	1	0
loc8	*Nyctalus*	0	0	0	0	0	1
loc8	*Pipistrellus pipistrellus*	0	0	0	0	0	6
loc8	*Pipistrellus pygmaeus*	0	0	0	0	0	9
loc9	*Myotis daubentonii*	0	0	0	0	1	4
loc9	*Myotis nattereri*	0	0	0	0	1	0
loc9	*Nyctalus*	0	0	2	0	0	2
loc9	*Pipistrellus pipistrellus*	0	0	0	0	0	3
loc9	*Pipistrellus pygmaeus*	0	0	0	0	0	6

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

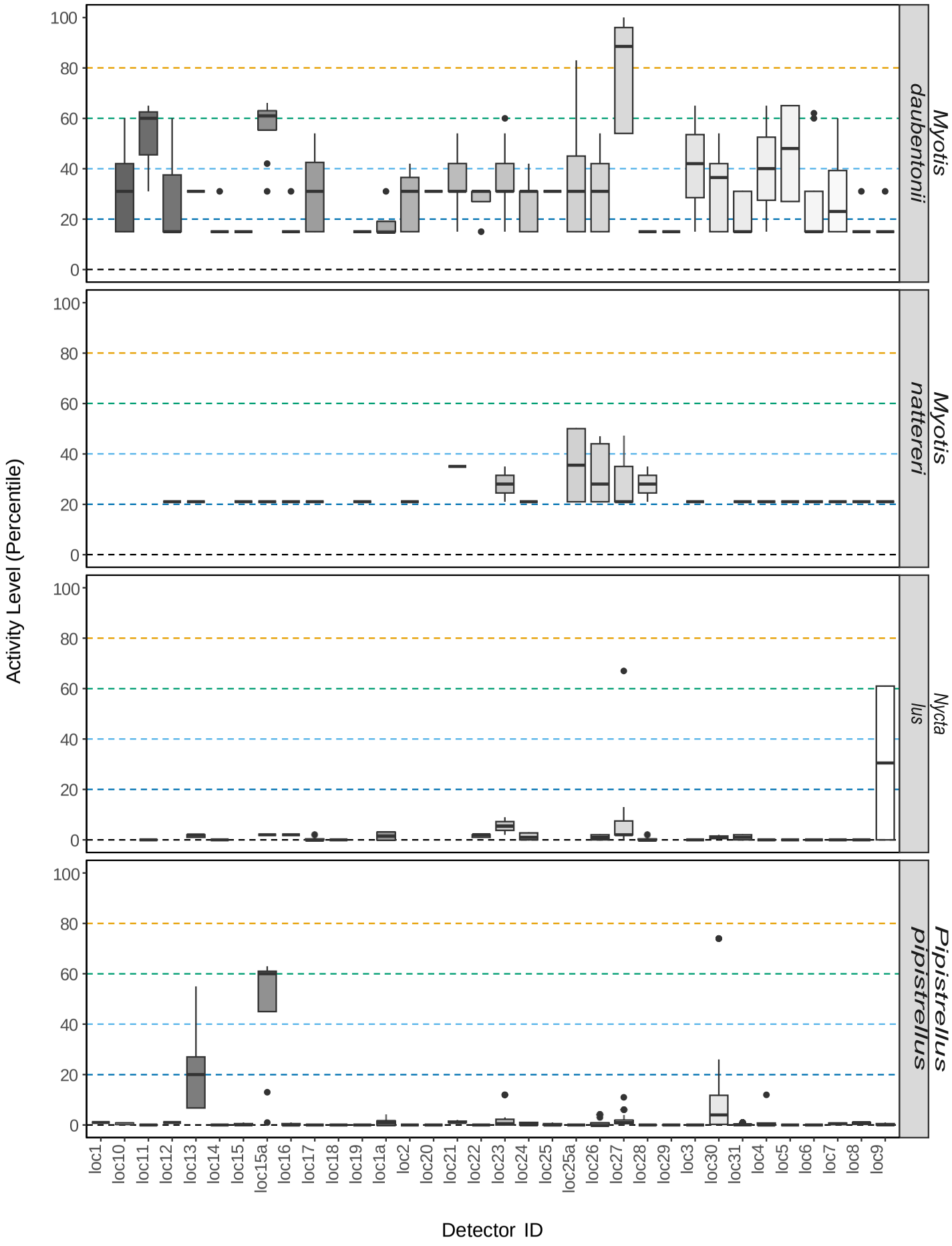
Detector ID	Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded	Reference Range
loc1	*Pipistrellus pipistrellus*	1	0	1	1	25318
loc1	*Pipistrellus pygmaeus*	0	0 - 0	1	4	30502
loc10	*Myotis daubentonii*	31	15 - 45.5	60	9	686
loc10	*Pipistrellus pipistrellus*	1	0.5 - 0.5	1	2	25318
loc10	*Pipistrellus pygmaeus*	0	0 - 0	4	4	30502
loc10	*Plecotus auritus*	82	0	82	1	144
loc11	*Myotis daubentonii*	60	31 - 65	65	3	686
loc11	*Nyctalus*	0	0 - 0	0	2	4589
loc11	*Pipistrellus pipistrellus*	0	0	0	1	25318
loc11	*Pipistrellus pygmaeus*	1	1 - 1	2	2	30502
loc12	*Myotis daubentonii*	15	15 - 15	60	3	686
loc12	*Myotis nattereri*	21	0	21	1	194
loc12	*Pipistrellus pipistrellus*	1	0	1	1	25318
loc12	*Pipistrellus pygmaeus*	1	1.5 - 1.5	2	4	30502
loc13	*Myotis daubentonii*	31	31 - 31	31	4	686
loc13	*Myotis nattereri*	21	0	21	1	194
loc13	*Nyctalus*	2	2 - 2	2	3	4589
loc13	*Pipistrellus pipistrellus*	20	15 - 39.5	55	14	25318
loc13	*Pipistrellus pygmaeus*	13	9 - 21.5	33	12	30502
loc13	*Plecotus auritus*	54	0	54	1	144
loc14	*Myotis daubentonii*	15	15 - 15	31	8	686
loc14	*Nyctalus*	0	0	0	1	4589
loc14	*Pipistrellus pipistrellus*	0	0 - 0	0	3	25318
loc14	*Pipistrellus pygmaeus*	0	0 - 0	2	4	30502
loc15	*Myotis daubentonii*	15	15 - 15	15	3	686
loc15	*Myotis nattereri*	21	0	21	1	194
loc15	*Pipistrellus pipistrellus*	0	0 - 0	1	3	25318
loc15	*Pipistrellus pygmaeus*	0	0 - 0	0	8	30502
loc15a	*Myotis daubentonii*	61	45.5 - 64	66	8	686
loc15a	*Myotis nattereri*	21	0	21	1	194
loc15a	*Nyctalus*	2	2 - 2	2	2	4589
loc15a	*Pipistrellus pipistrellus*	60	31 - 61.5	63	11	25318
loc15a	*Pipistrellus pygmaeus*	54	40 - 62	70	12	30502
loc15a	*Plecotus auritus*	68	54 - 82	82	4	144
loc16	*Myotis daubentonii*	15	15 - 15	31	6	686
loc16	*Myotis nattereri*	21	21 - 21	21	3	194
loc16	*Nyctalus*	2	2 - 2	2	2	4589
loc16	*Pipistrellus pipistrellus*	0	0 - 0	1	3	25318
loc16	*Pipistrellus pygmaeus*	0	0 - 0	0	2	30502
loc17	*Myotis daubentonii*	31	15 - 42.5	54	7	686
loc17	*Myotis nattereri*	21	0	21	1	194
loc17	*Nyctalus*	0	0 - 0	2	4	4589
loc17	*Pipistrellus pipistrellus*	0	0 - 0	0	3	25318
loc17	*Pipistrellus pygmaeus*	0	0 - 0	1	7	30502
loc17	*Plecotus auritus*	54	0	54	1	144
loc18	*Nyctalus*	0	0 - 0	0	2	4589
loc18	*Pipistrellus pipistrellus*	0	0 - 0	0	2	25318
loc19	*Myotis daubentonii*	15	0	15	1	686
loc19	*Myotis nattereri*	21	0	21	1	194
loc19	*Pipistrellus pipistrellus*	0	0	0	1	25318
loc1a	*Myotis daubentonii*	15	15 - 15	31	4	686
loc1a	*Nyctalus*	2	1.5 - 1.5	3	4	4589

Detector ID	Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded	Reference Range
loc1a	*Pipistrellus pipistrellus*	1	1 - 2.5	4	8	25318
loc1a	*Pipistrellus pygmaeus*	0	2 - 4.5	6	16	30502
loc2	*Myotis daubentonii*	31	15 - 36.5	42	7	686
loc2	*Myotis nattereri*	21	21 - 21	21	4	194
loc2	*Pipistrellus pipistrellus*	0	0 - 0	0	4	25318
loc2	*Pipistrellus pygmaeus*	0	4 - 8	8	10	30502
loc20	*Myotis daubentonii*	31	31 - 31	31	2	686
loc20	*Pipistrellus pipistrellus*	0	0 - 0	0	2	25318
loc20	*Pipistrellus pygmaeus*	0	0	0	1	30502
loc21	*Myotis daubentonii*	31	15 - 54	54	5	686
loc21	*Myotis nattereri*	35	0	35	1	194
loc21	*Pipistrellus pipistrellus*	1	1 - 1	2	3	25318
loc21	*Pipistrellus pygmaeus*	5	9 - 9	9	4	30502
loc22	*Myotis daubentonii*	31	31 - 31	31	4	686
loc22	*Nyctalus*	2	2 - 2	2	3	4589
loc22	*Pipistrellus pipistrellus*	0	0 - 0	0	4	25318
loc22	*Pipistrellus pygmaeus*	0	0 - 0	0	5	30502
loc23	*Myotis daubentonii*	31	23 - 45.5	60	10	686
loc23	*Myotis nattereri*	28	28 - 28	35	2	194
loc23	*Nyctalus*	6	5.5 - 5.5	9	2	4589
loc23	*Pipistrellus pipistrellus*	1	1 - 12	12	12	25318
loc23	*Pipistrellus pygmaeus*	0	1 - 1	9	10	30502
loc24	*Myotis daubentonii*	31	15 - 31	42	12	686
loc24	*Myotis nattereri*	21	21 - 21	21	3	194
loc24	*Nyctalus*	1	3 - 3	3	6	4589
loc24	*Pipistrellus pipistrellus*	0	0 - 0	1	14	25318
loc24	*Pipistrellus pygmaeus*	0	0 - 0	1	8	30502
loc24	*Plecotus auritus*	54	54 - 54	54	2	144
loc25	*Myotis daubentonii*	31	0	31	1	686
loc25	*Pipistrellus pipistrellus*	0	0 - 0	1	3	25318
loc25	*Pipistrellus pygmaeus*	0	0 - 0	1	5	30502
loc25a	*Myotis daubentonii*	31	15 - 54	83	8	686
loc25a	*Myotis nattereri*	36	21 - 50	50	4	194
loc25a	*Pipistrellus pipistrellus*	0	0 - 0	0	11	25318
loc25a	*Pipistrellus pygmaeus*	0	0 - 0	1	6	30502
loc25a	*Plecotus auritus*	54	0	54	1	144
loc26	*Myotis daubentonii*	31	15 - 36.5	54	13	686
loc26	*Myotis nattereri*	28	21 - 41	47	6	194
loc26	*Nyctalus*	1	1 - 1	2	4	4589
loc26	*Pipistrellus pipistrellus*	0	1 - 3.5	4	16	25318
loc26	*Pipistrellus pygmaeus*	0	1 - 1	8	11	30502
loc27	*Myotis daubentonii*	89	54 - 96	100	12	686
loc27	*Myotis nattereri*	21	21 - 34	47	8	194
loc27	*Nyctalus*	2	2 - 13	67	7	4589
loc27	*Pipistrellus pipistrellus*	1	1 - 4	11	19	25318
loc27	*Pipistrellus pygmaeus*	1	1 - 8.5	16	17	30502
loc27	*Plecotus auritus*	54	54 - 54	82	3	144
loc28	*Myotis daubentonii*	15	15 - 15	15	3	686
loc28	*Myotis nattereri*	28	28 - 28	35	2	194
loc28	*Nyctalus*	0	0 - 0	2	4	4589
loc28	*Pipistrellus pipistrellus*	0	0 - 0	0	2	25318
loc28	*Pipistrellus pygmaeus*	0	0 - 0	0	2	30502
loc29	*Myotis daubentonii*	15	15 - 15	15	3	686
loc29	*Pipistrellus pipistrellus*	0	0	0	1	25318
loc29	*Plecotus auritus*	68	68 - 68	82	2	144
loc3	*Myotis daubentonii*	42	15 - 65	65	3	686

Detector ID	Species/Species Group	Median Percentile	95% CIs	Max Percentile	Nights Recorded	Reference Range
loc3	*Myotis nattereri*	21	21 - 21	21	2	194
loc3	*Nyctalus*	0	0	0	1	4589
loc3	*Pipistrellus pipistrellus*	0	0 - 0	0	2	25318
loc3	*Pipistrellus pygmaeus*	0	0	0	1	30502
loc30	*Myotis daubentonii*	37	15 - 48	54	10	686
loc30	*Nyctalus*	1	1 - 1	2	2	4589
loc30	*Pipistrellus pipistrellus*	4	3 - 39	74	18	25318
loc30	*Pipistrellus pygmaeus*	1	1.5 - 15	21	14	30502
loc30	*Plecotus auritus*	82	54 - 100	100	6	144
loc31	*Myotis daubentonii*	15	15 - 23	31	5	686
loc31	*Myotis nattereri*	21	21 - 21	21	2	194
loc31	*Nyctalus*	1	1 - 1	2	4	4589
loc31	*Pipistrellus pipistrellus*	0	0 - 0	1	12	25318
loc31	*Pipistrellus pygmaeus*	0	2.5 - 4	4	13	30502
loc31	*Plecotus auritus*	82	82 - 82	82	3	144
loc4	*Myotis daubentonii*	40	40 - 40	65	2	686
loc4	*Myotis nattereri*	21	0	21	1	194
loc4	*Nyctalus*	0	0	0	1	4589
loc4	*Pipistrellus pipistrellus*	0	6.5 - 6.5	12	6	25318
loc4	*Pipistrellus pygmaeus*	0	0 - 0	8	5	30502
loc5	*Myotis daubentonii*	48	31 - 65	65	4	686
loc5	*Myotis nattereri*	21	0	21	1	194
loc5	*Nyctalus*	0	0 - 0	0	2	4589
loc5	*Pipistrellus pipistrellus*	0	0	0	1	25318
loc5	*Pipistrellus pygmaeus*	2	2 - 6	6	5	30502
loc5	*Plecotus auritus*	54	54 - 54	54	4	144
loc6	*Myotis daubentonii*	15	15 - 37.5	62	9	686
loc6	*Myotis nattereri*	21	0	21	1	194
loc6	*Nyctalus*	0	0	0	1	4589
loc6	*Pipistrellus pipistrellus*	0	0	0	1	25318
loc6	*Pipistrellus pygmaeus*	2	2 - 2	2	4	30502
loc6	*Plecotus auritus*	54	0	54	1	144
loc7	*Myotis daubentonii*	23	15 - 42	60	6	686
loc7	*Myotis nattereri*	21	21 - 21	21	2	194
loc7	*Nyctalus*	0	0	0	1	4589
loc7	*Pipistrellus pipistrellus*	1	0.5 - 0.5	1	2	25318
loc7	*Pipistrellus pygmaeus*	4	4 - 4	4	2	30502
loc8	*Myotis daubentonii*	15	15 - 15	31	6	686
loc8	*Myotis nattereri*	21	0	21	1	194
loc8	*Nyctalus*	0	0	0	1	4589
loc8	*Pipistrellus pipistrellus*	1	1 - 1	1	6	25318
loc8	*Pipistrellus pygmaeus*	0	2 - 2	2	9	30502
loc9	*Myotis daubentonii*	15	15 - 15	31	5	686
loc9	*Myotis nattereri*	21	0	21	1	194
loc9	*Nyctalus*	31	30.5 - 30.5	61	4	4589
loc9	*Pipistrellus pipistrellus*	0	0 - 0	1	3	25318
loc9	*Pipistrellus pygmaeus*	0	0 - 0	1	6	30502

Figures

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


Activity Level (Percentile)
100
80
60
40
20
0
Myotis daubentonii
Myotis nattereri
Nyctalus
Pipistrellus pipistrellus
loc1
loc10
loc11
loc12
loc13
loc14
loc15
loc15a
loc16
loc17
loc18
loc19
loc1a
loc2
loc20
loc21
loc22
loc23
loc24
loc25
loc25a
loc26
loc27
loc28
loc29
loc3
loc30
loc31
loc4
loc5
loc6
loc7
loc8
loc9
Detector ID

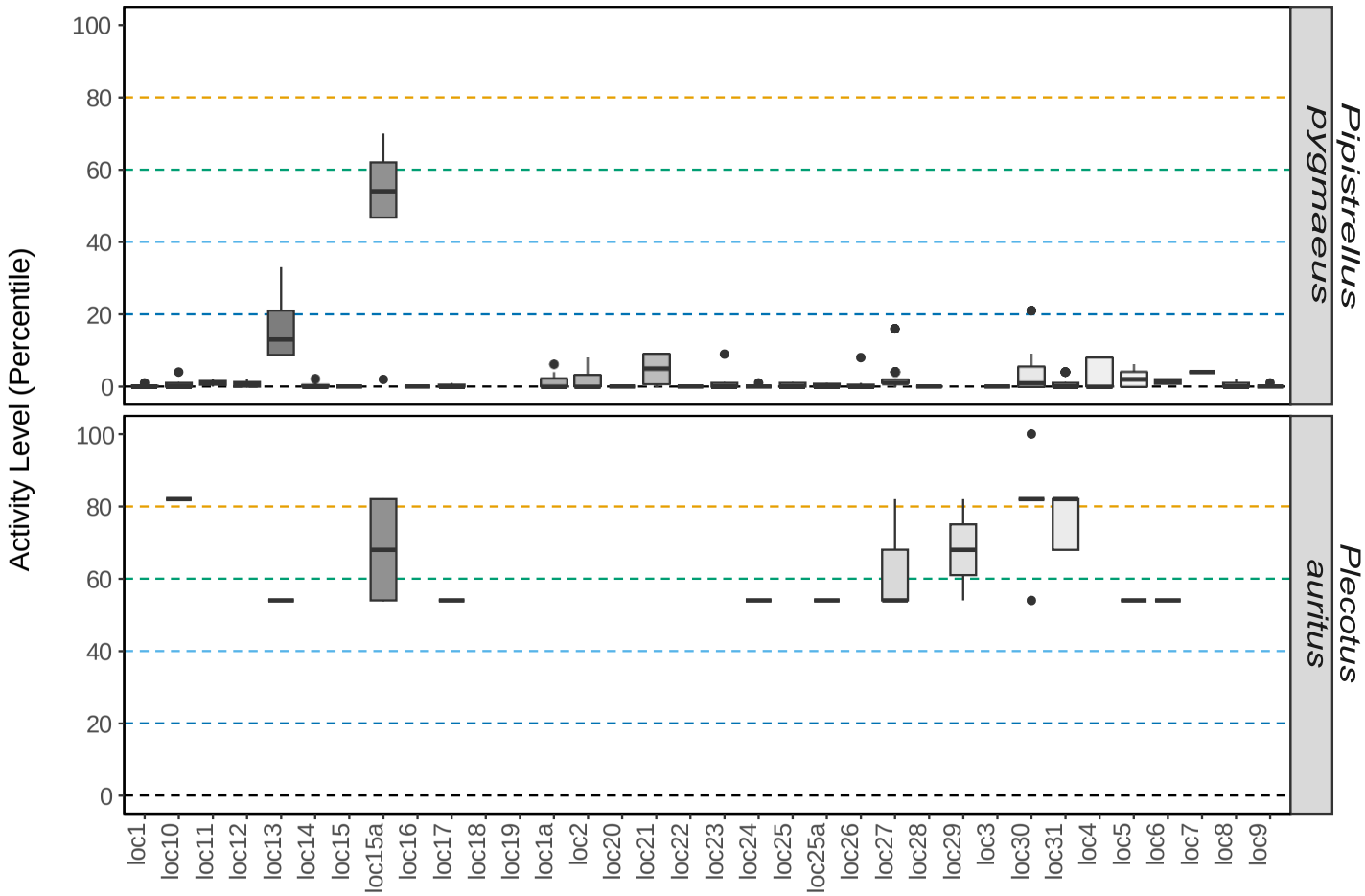
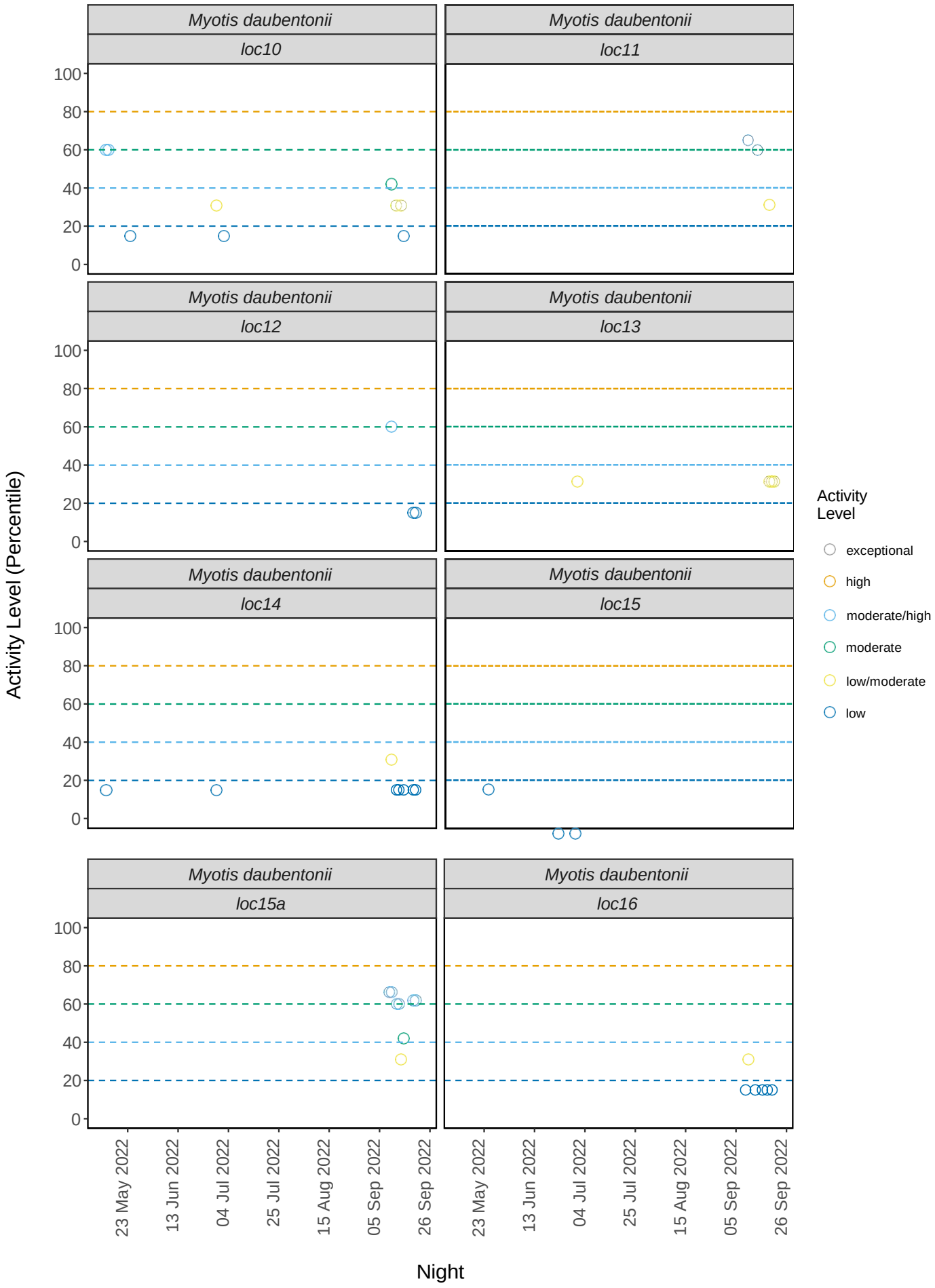
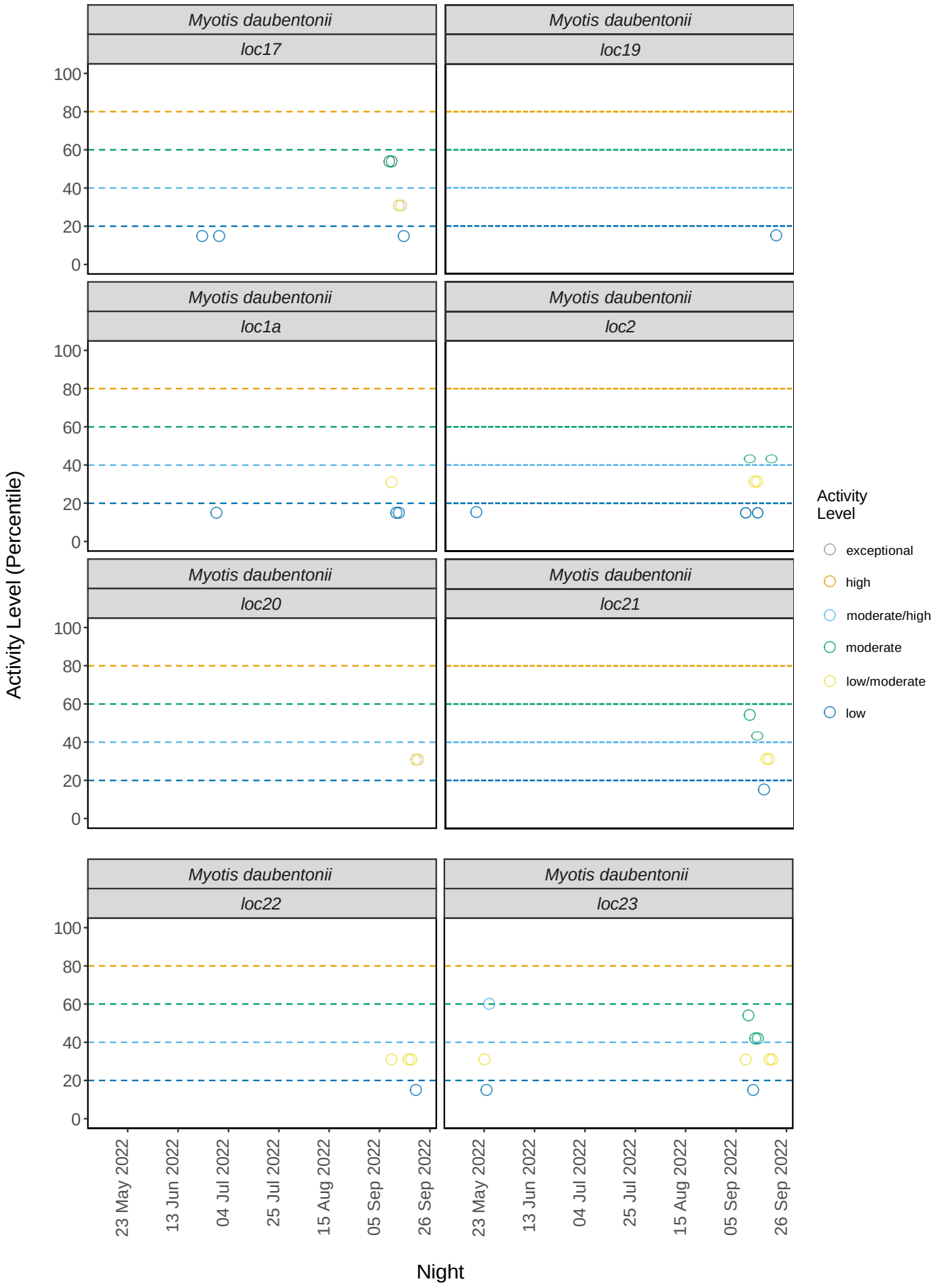
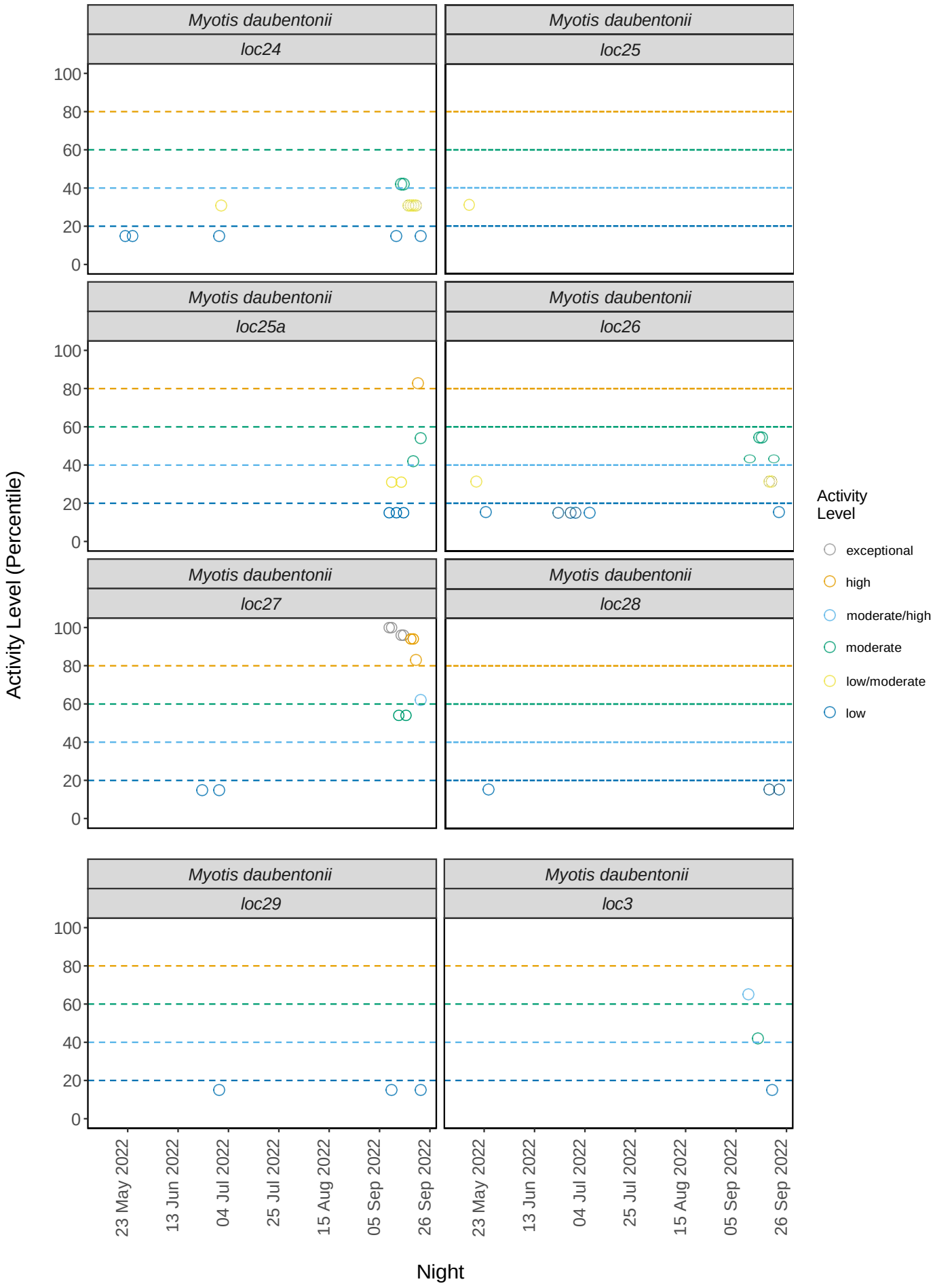
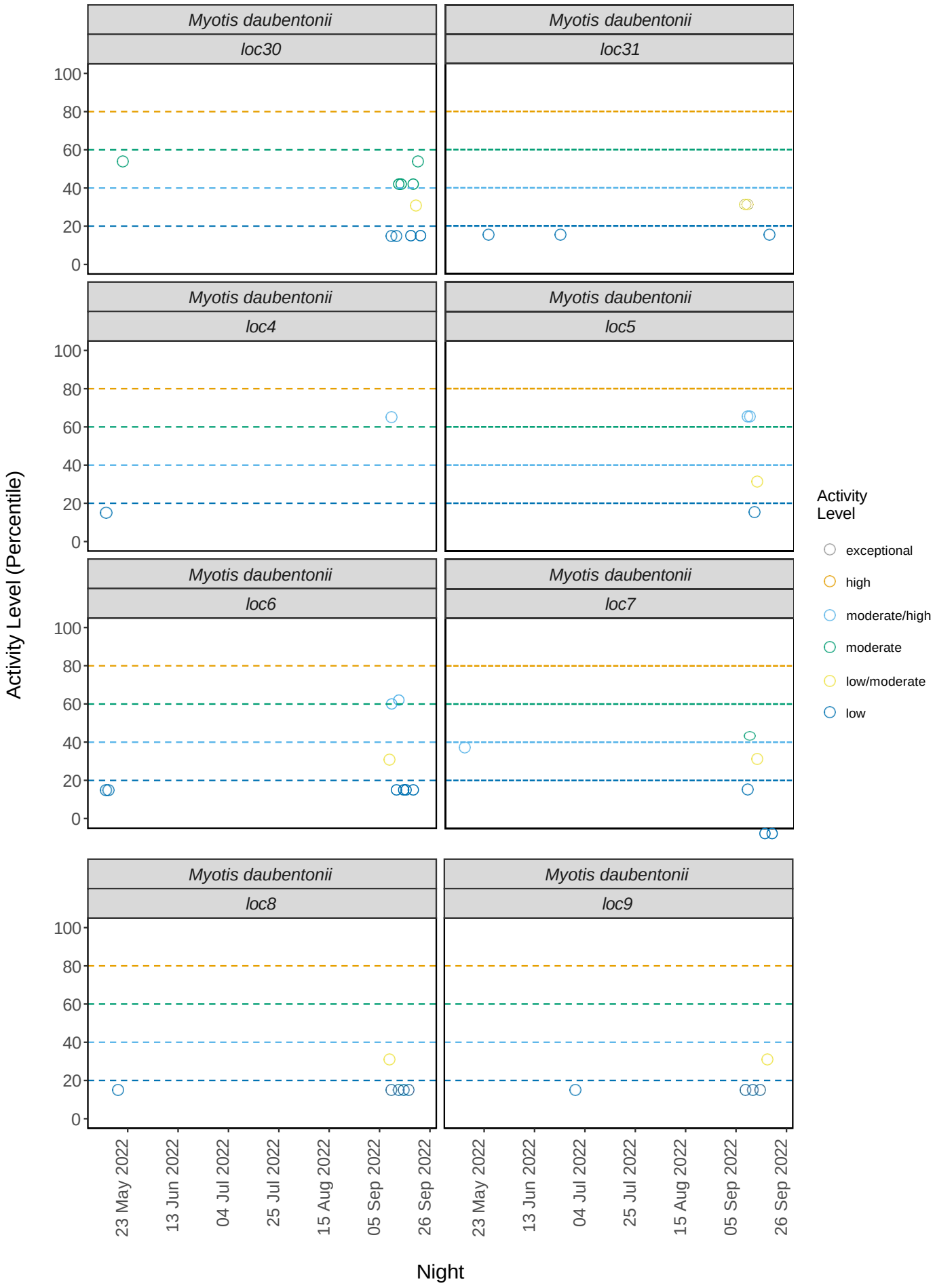

Activity Level (Percentile)
100
80
60
40
20
0
Pipistrellus pygmaeus
Plecotus auritus
loc1
loc10
loc11
loc12
loc13
loc14
loc15
loc15a
loc16
loc17
loc18
loc19
loc1a
loc2
loc20
loc21
loc22
loc23
loc24
loc25
loc25a
loc26
loc27
loc28
loc29
loc3
loc30
loc31
loc4
loc5
loc6
loc7
loc8
loc9
Detector ID

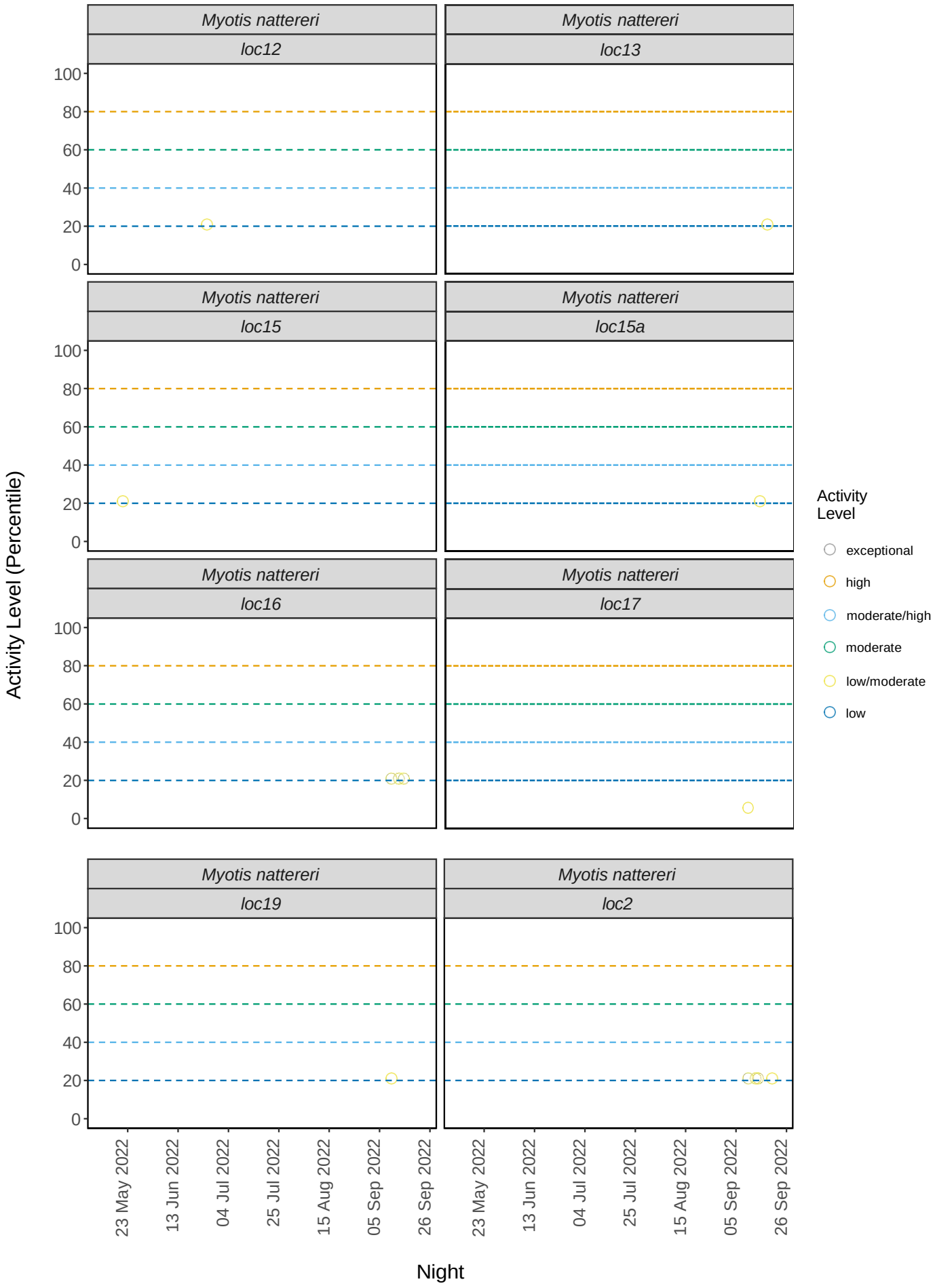
Figure 3. The activity level (percentile) of bats recorded across each night of the bat survey.

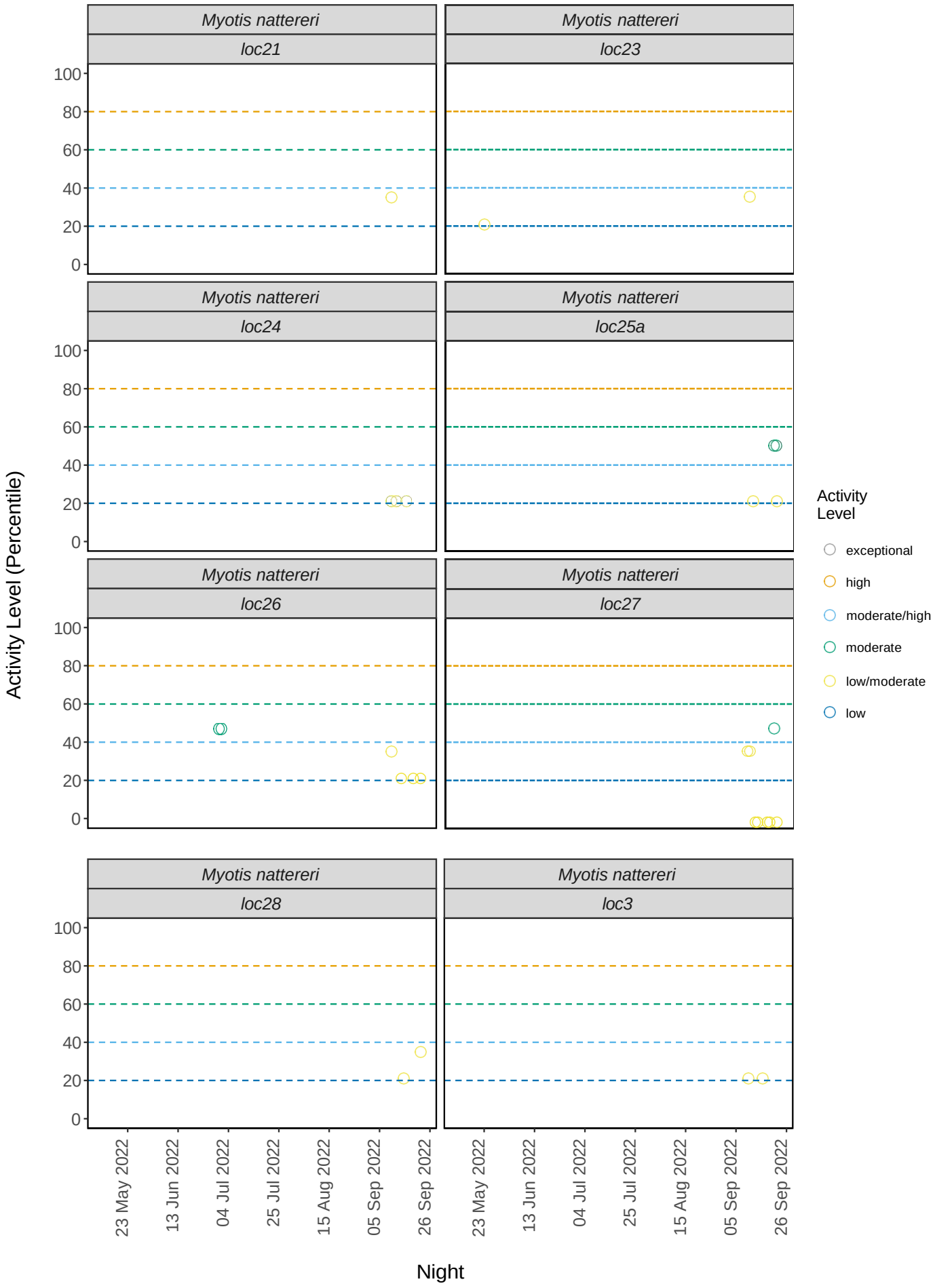

Myotis daubentonii
loc10
Myotis daubentonii
loc11
Myotis daubentonii
loc12
Myotis daubentonii
loc13
Myotis daubentonii
loc14
Myotis daubentonii
loc15
Myotis daubentonii
loc15a
Myotis daubentonii
loc16
Activity Level (Percentile)
0
20
40
60
80
100
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

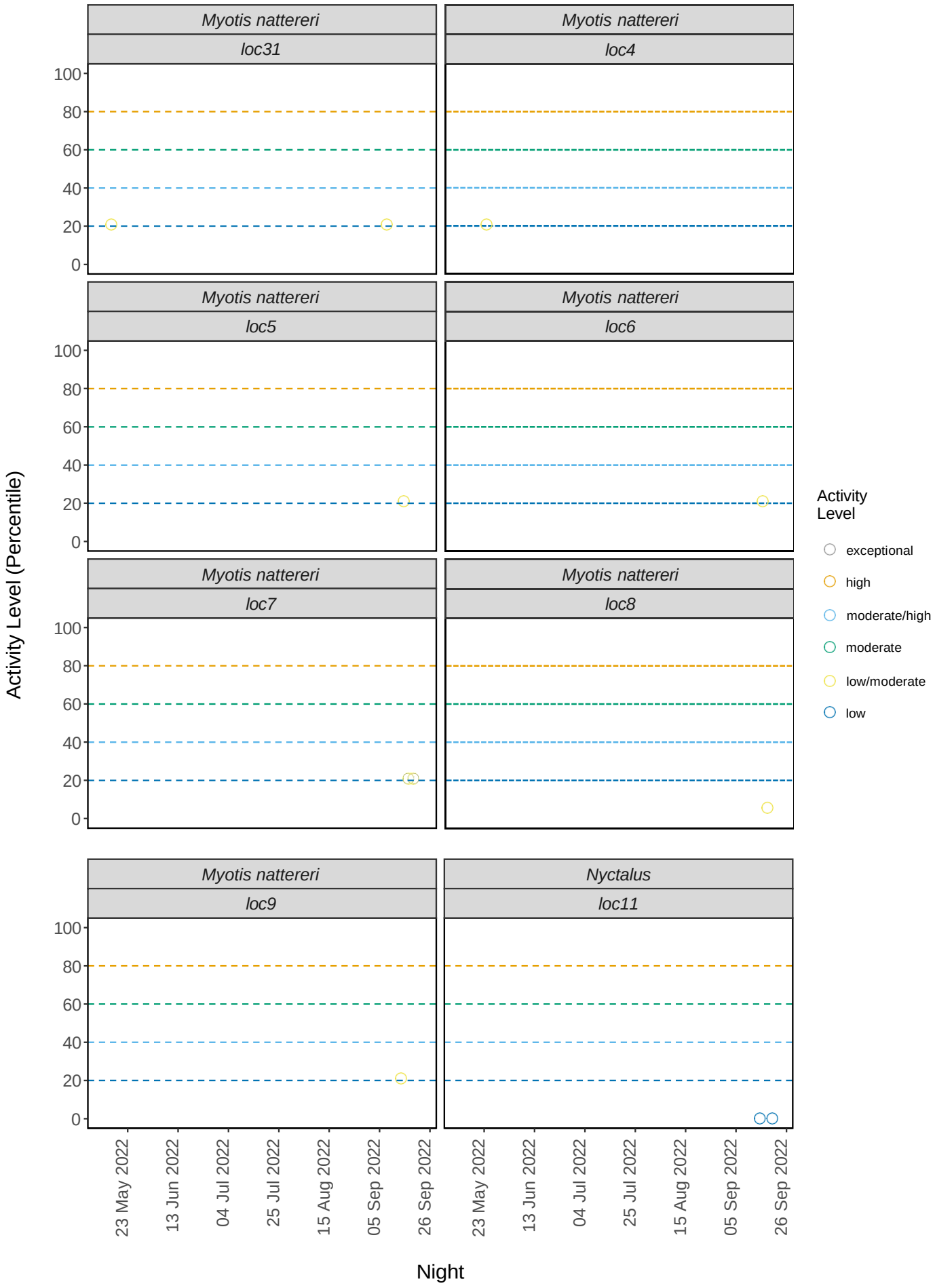

Myotis daubentonii
loc17
Myotis daubentonii
loc19
Myotis daubentonii
loc1a
Myotis daubentonii
loc2
Myotis daubentonii
loc20
Myotis daubentonii
loc21
Myotis daubentonii
loc22
Myotis daubentonii
loc23
Activity Level (Percentile)
0
20
40
60
80
100
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

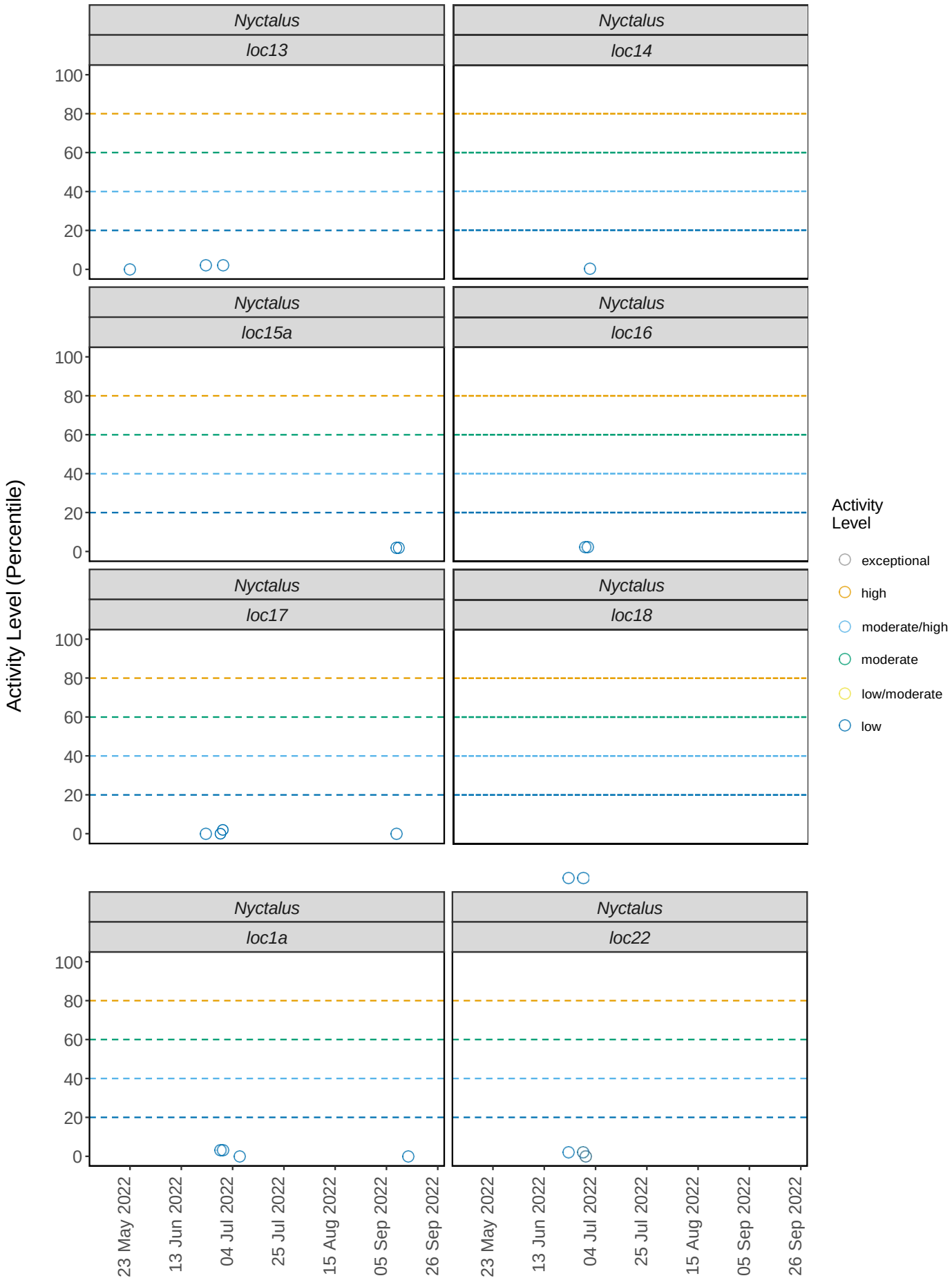

Myotis daubentonii
loc24
Myotis daubentonii
loc25
Myotis daubentonii
loc25a
Myotis daubentonii
loc26
Myotis daubentonii
loc27
Myotis daubentonii
loc28
Myotis daubentonii
loc29
Myotis daubentonii
loc3
Activity Level (Percentile)
0
20
40
60
80
100
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

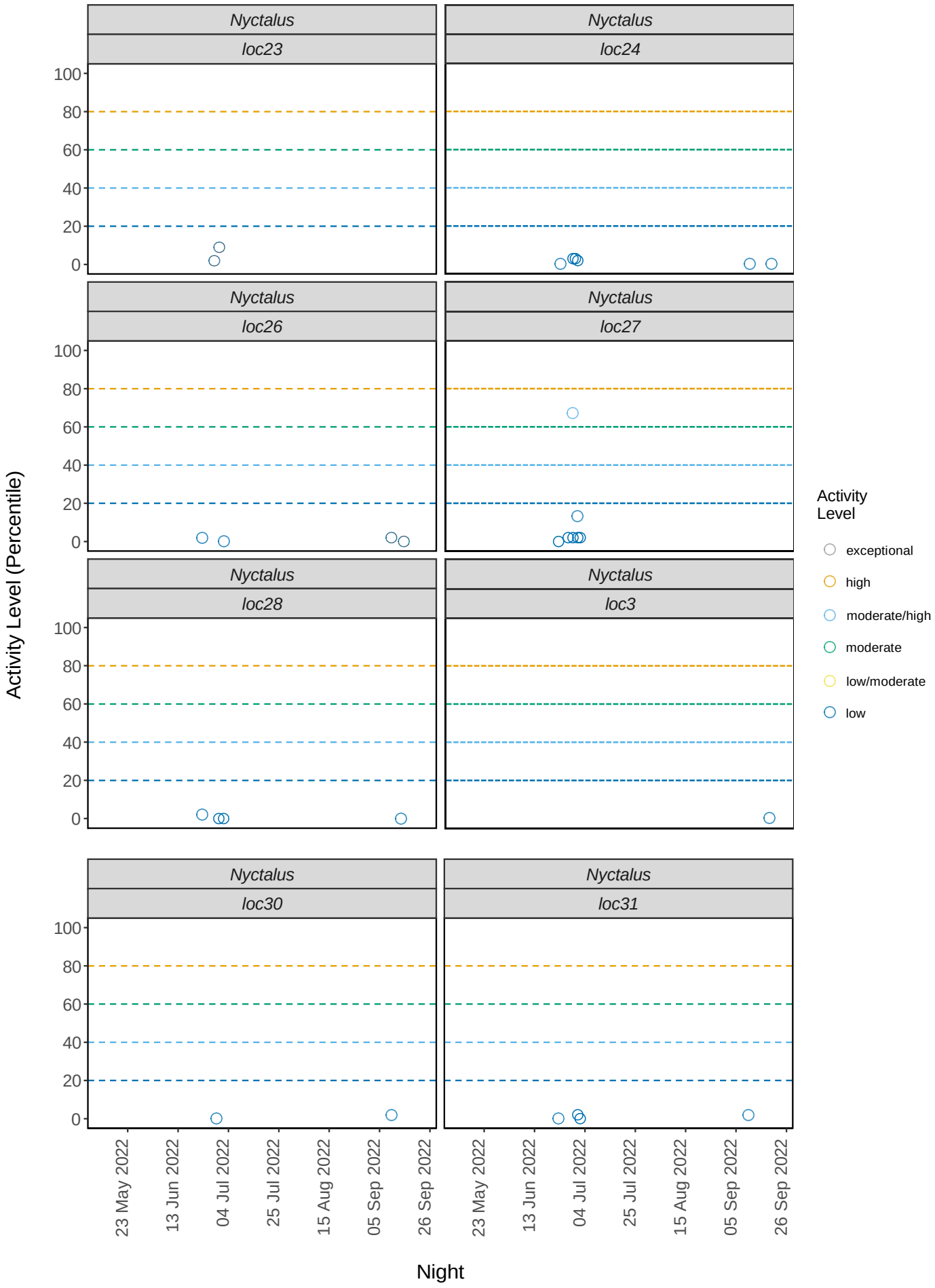

Myotis daubentonii
loc30
Myotis daubentonii
loc31
Myotis daubentonii
loc4
Myotis daubentonii
loc5
Myotis daubentonii
loc6
Myotis daubentonii
loc7
Myotis daubentonii
loc8
Myotis daubentonii
loc9
Activity Level (Percentile)
0
20
40
60
80
100
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

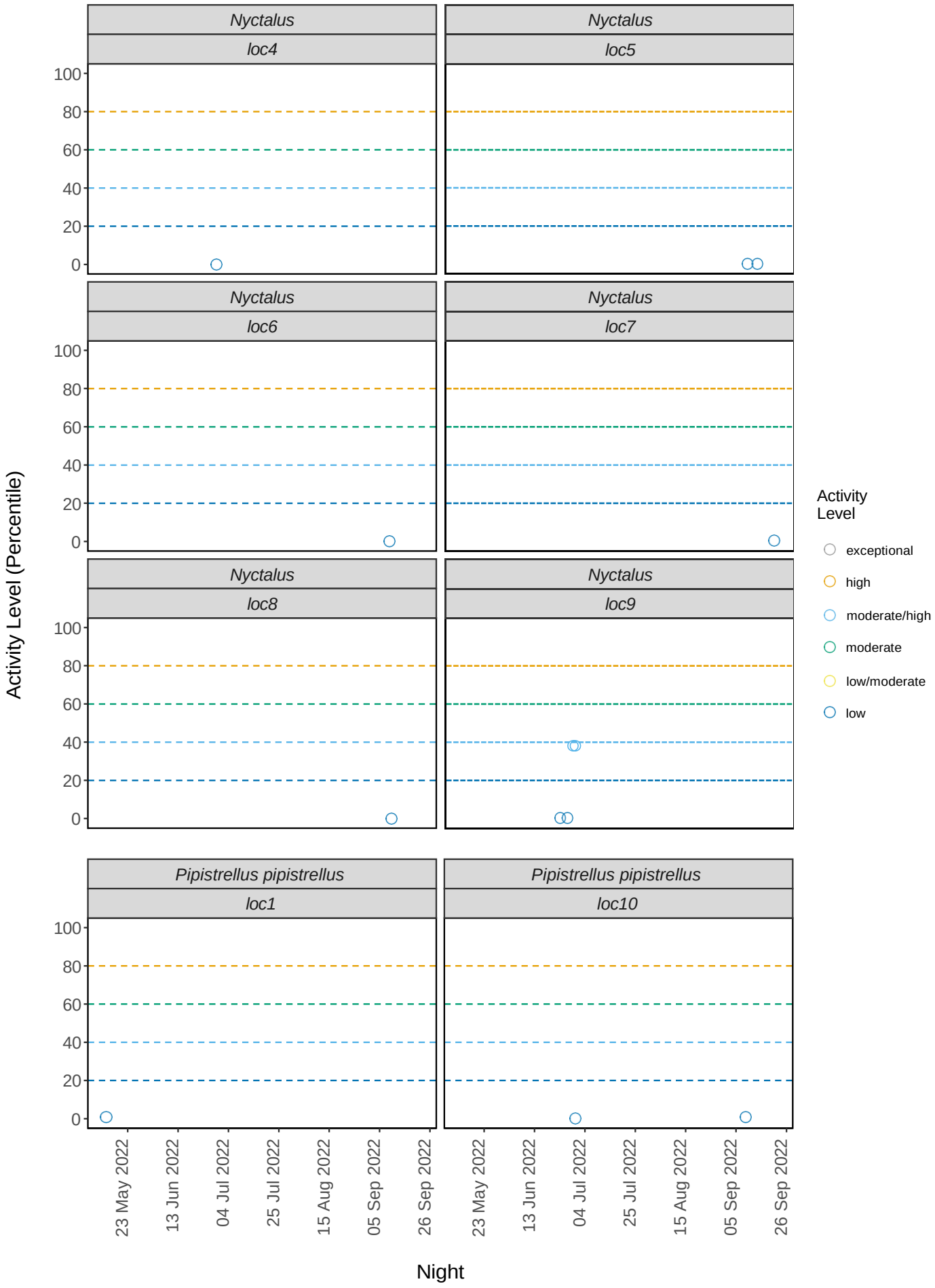

Myotis nattereri
loc12
Myotis nattereri
loc13
Myotis nattereri
loc15
Myotis nattereri
loc15a
Myotis nattereri
loc16
Myotis nattereri
loc17
Myotis nattereri
loc19
Myotis nattereri
loc2
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

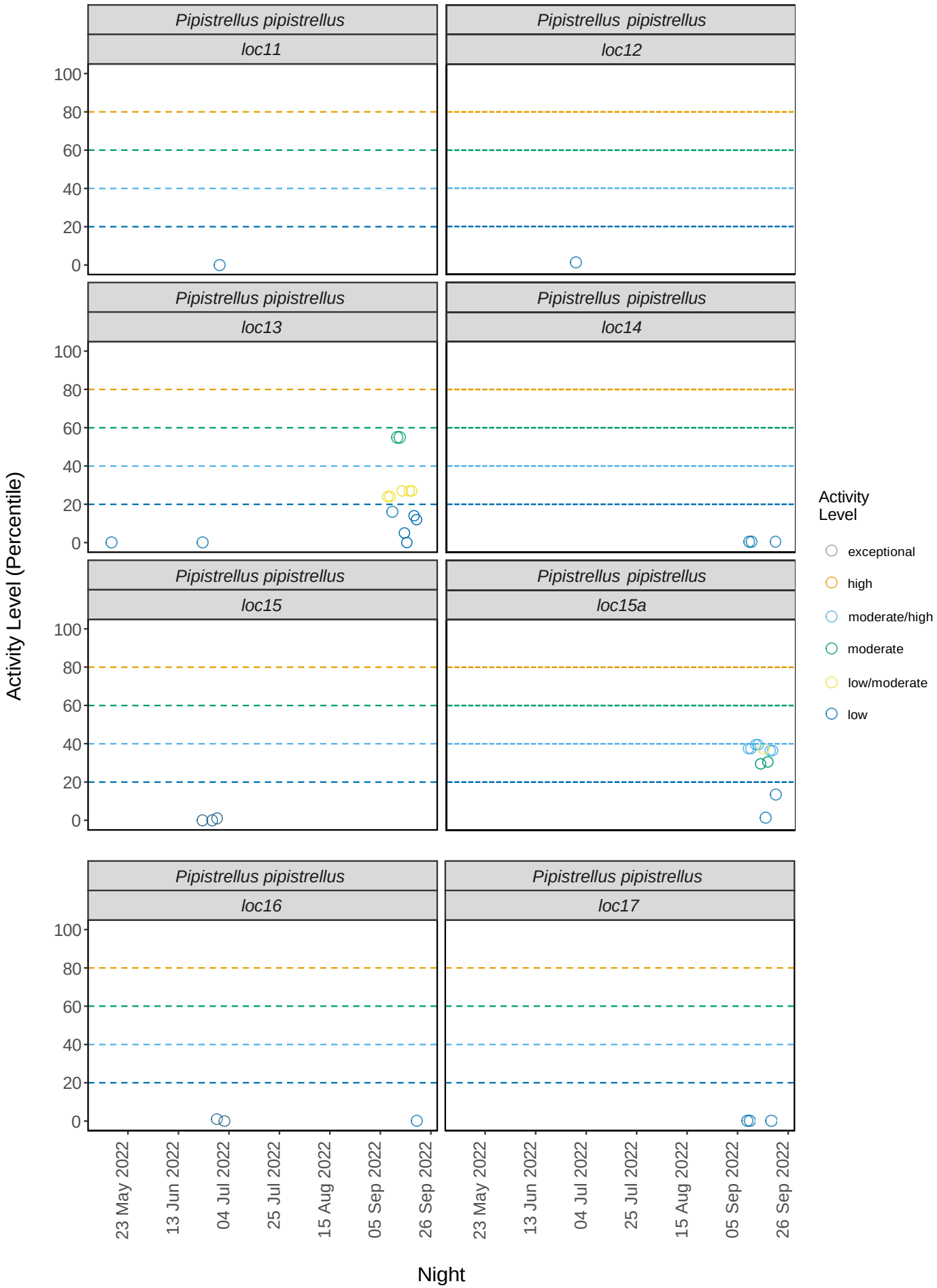

Myotis nattereri
loc21
Myotis nattereri
loc23
Myotis nattereri
loc24
Myotis nattereri
loc25a
Myotis nattereri
loc26
Myotis nattereri
loc27
Myotis nattereri
loc28
Myotis nattereri
loc3
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

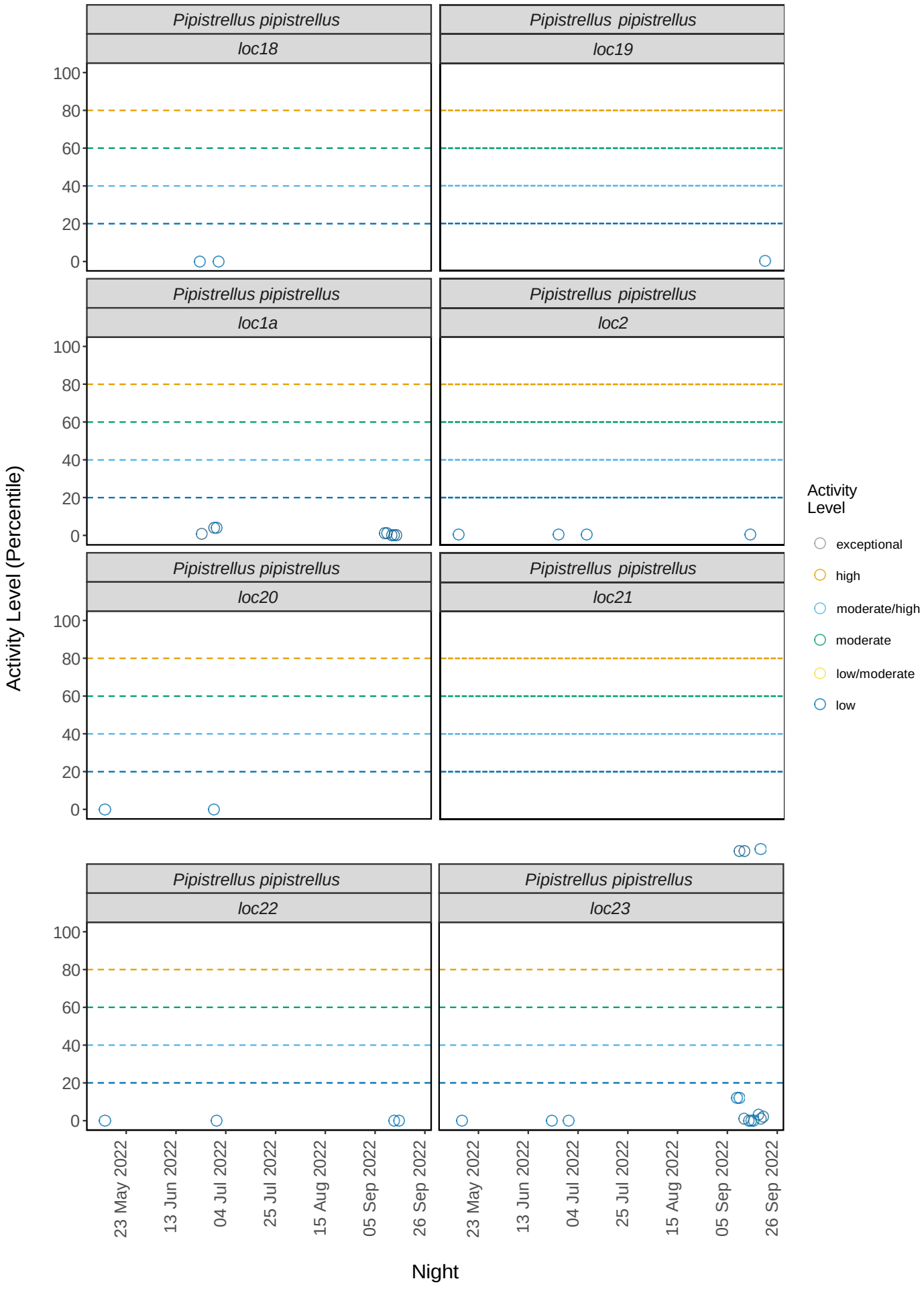

Myotis nattereri
loc31
Myotis nattereri
loc4
Myotis nattereri
loc5
Myotis nattereri
loc6
Myotis nattereri
loc7
Myotis nattereri
loc8
Myotis nattereri
loc9
Nyctalus
loc11
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

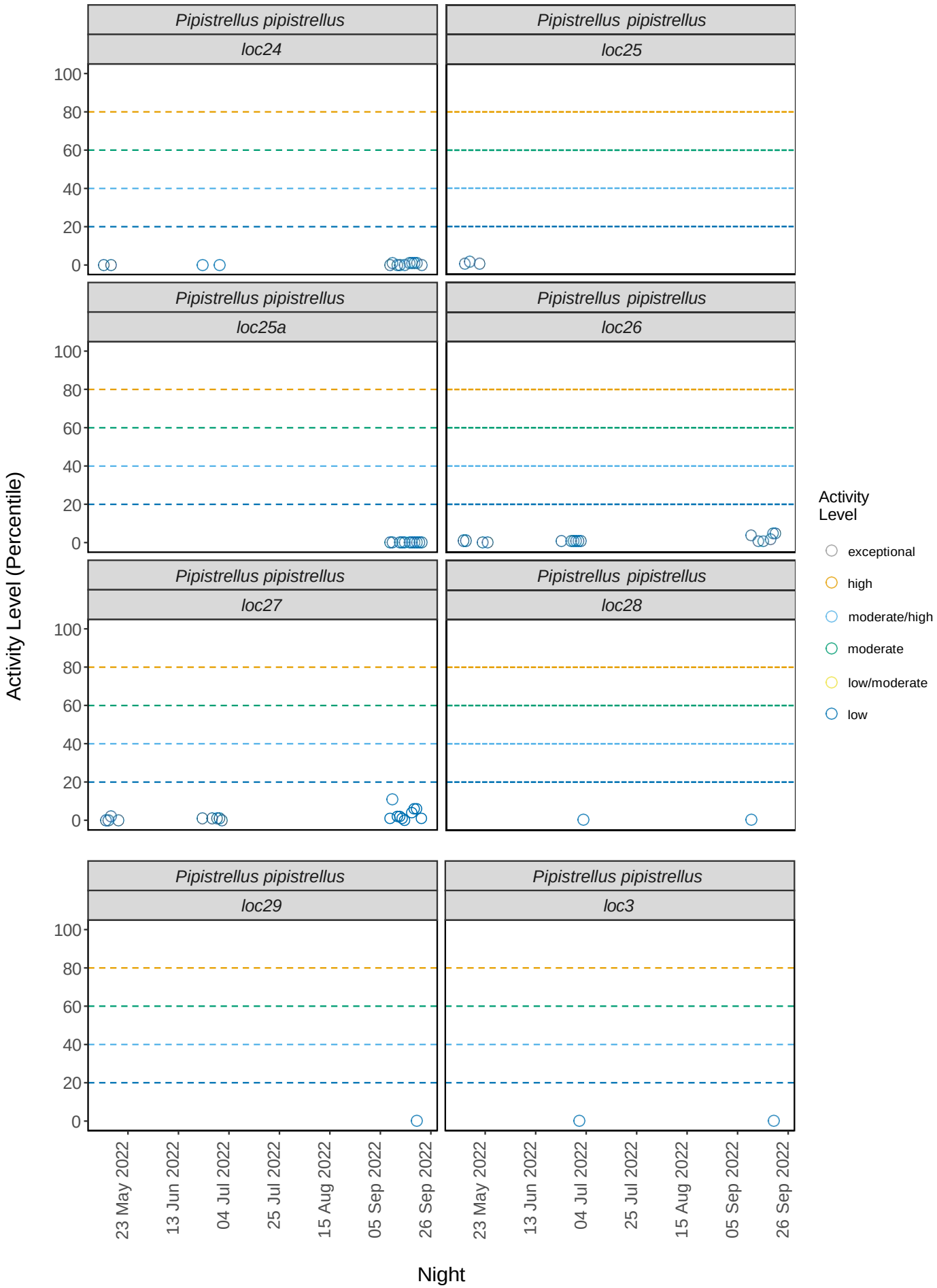

Nyctalus
loc13
Nyctalus
loc14
Nyctalus
loc15a
Nyctalus
loc16
Nyctalus
loc17
Nyctalus
loc18
Nyctalus
loc1a
Nyctalus
loc22
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

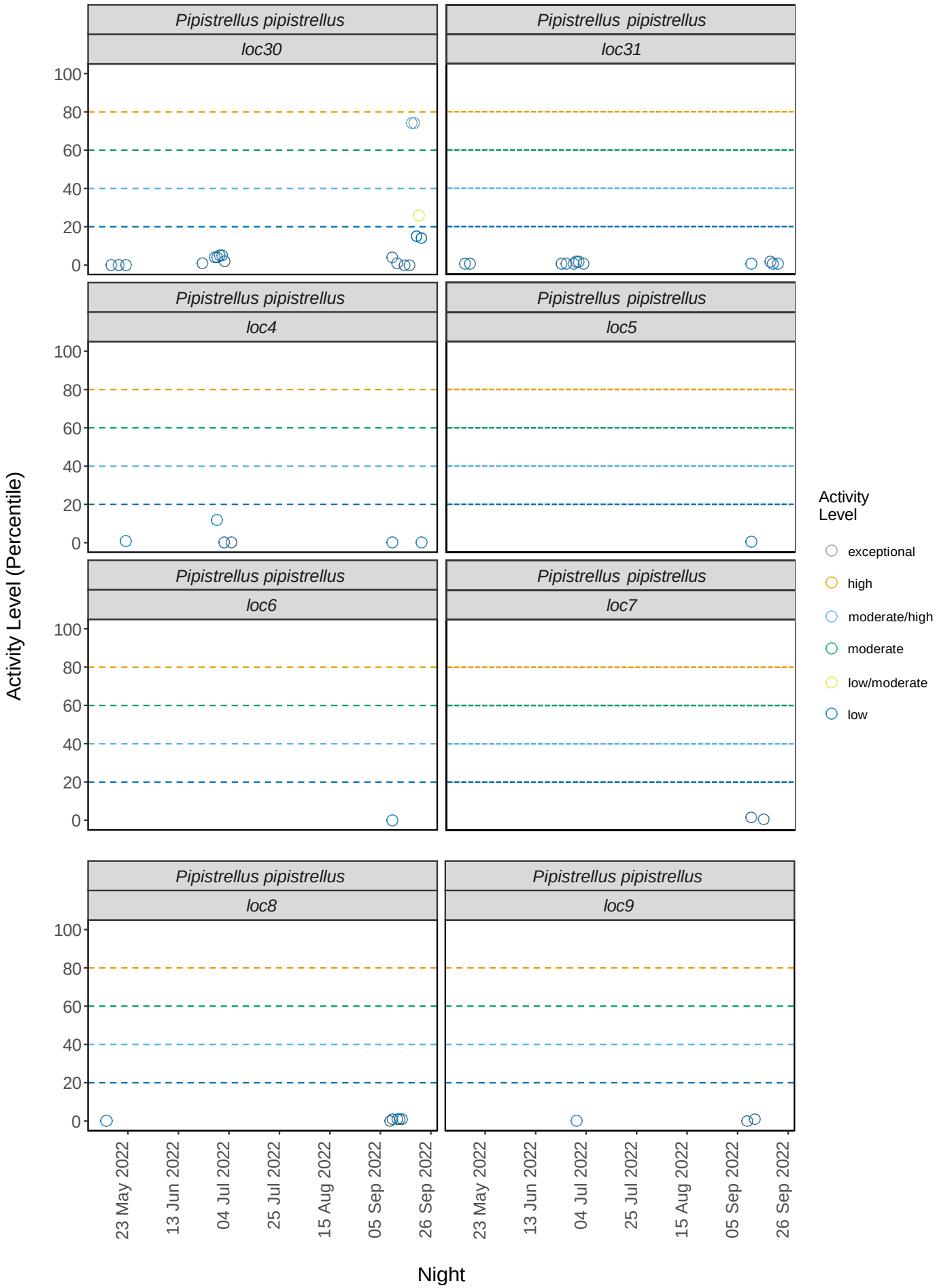

Nyctalus
loc23
Nyctalus
loc24
Nyctalus
loc26
Nyctalus
loc27
Nyctalus
loc28
Nyctalus
loc3
Nyctalus
loc30
Nyctalus
loc31
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

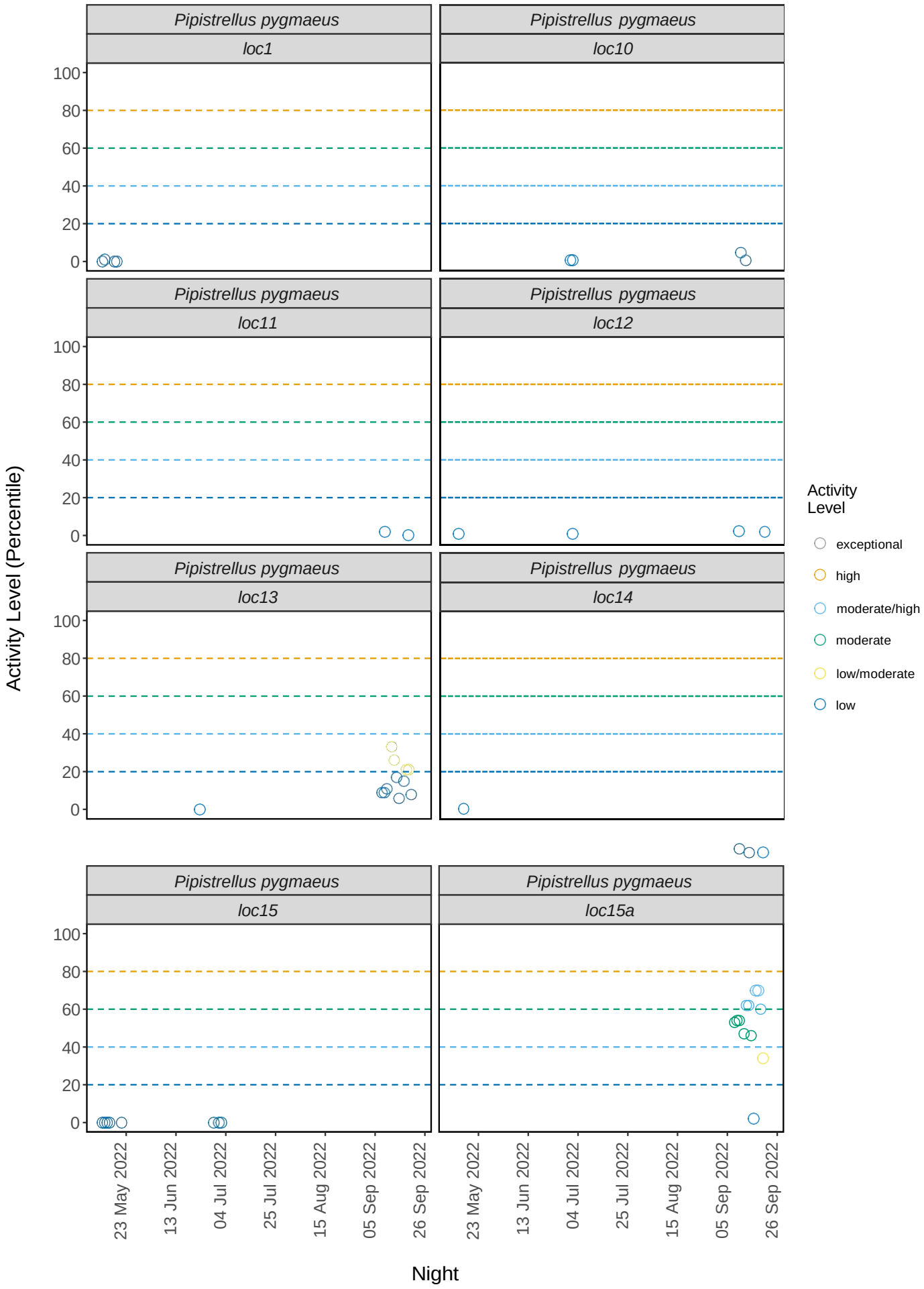

Nyctalus
loc4
Nyctalus
loc5
Nyctalus
loc6
Nyctalus
loc7
Nyctalus
loc8
Nyctalus
loc9
Pipistrellus pipistrellus
loc1
Pipistrellus pipistrellus
loc10
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

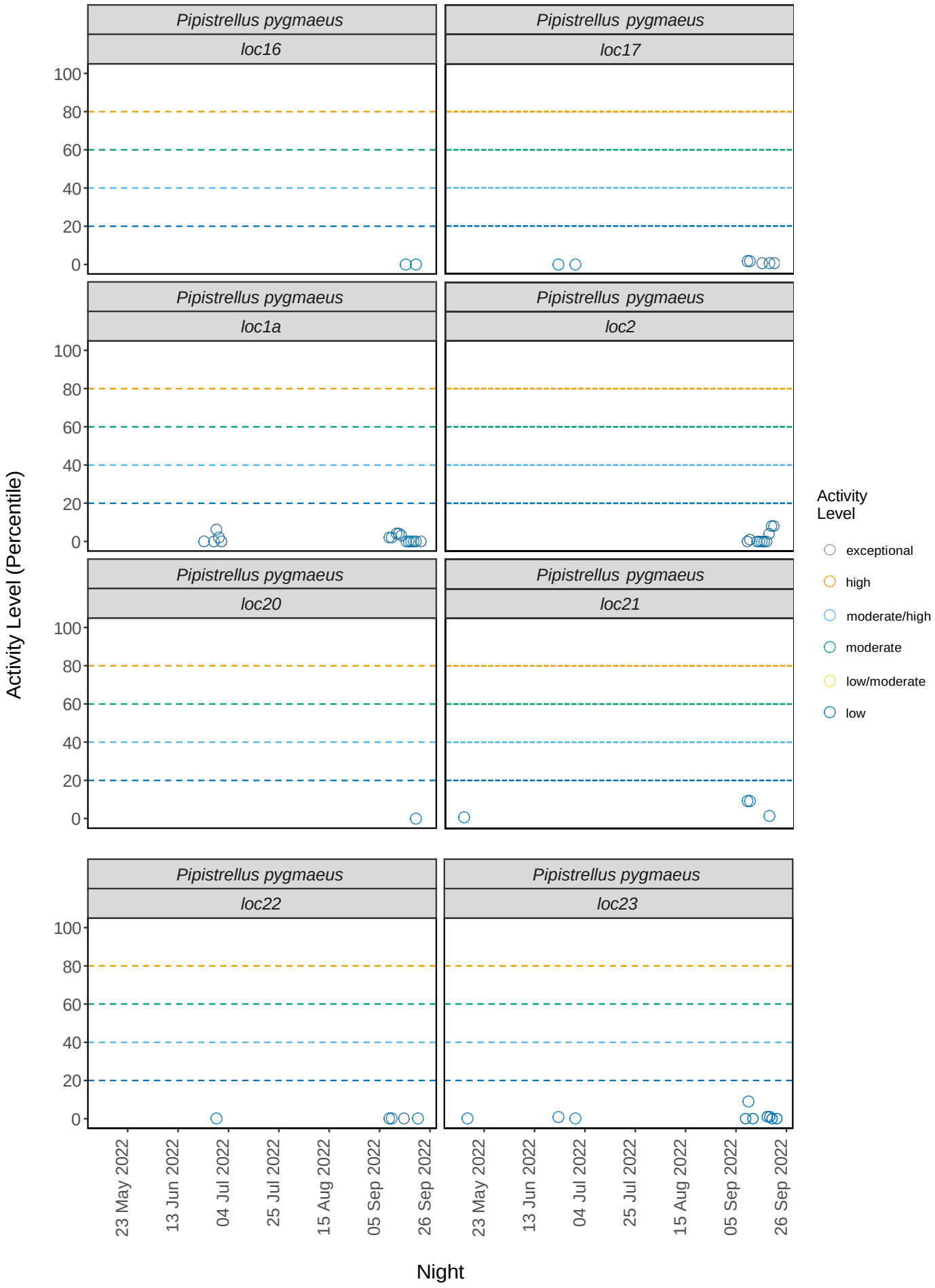

Pipistrellus pipistrellus
loc11
Pipistrellus pipistrellus
loc12
Pipistrellus pipistrellus
loc13
Pipistrellus pipistrellus
loc14
Pipistrellus pipistrellus
loc15
Pipistrellus pipistrellus
loc15a
Pipistrellus pipistrellus
loc16
Pipistrellus pipistrellus
loc17
Activity Level (Percentile)
0
20
40
60
80
100
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

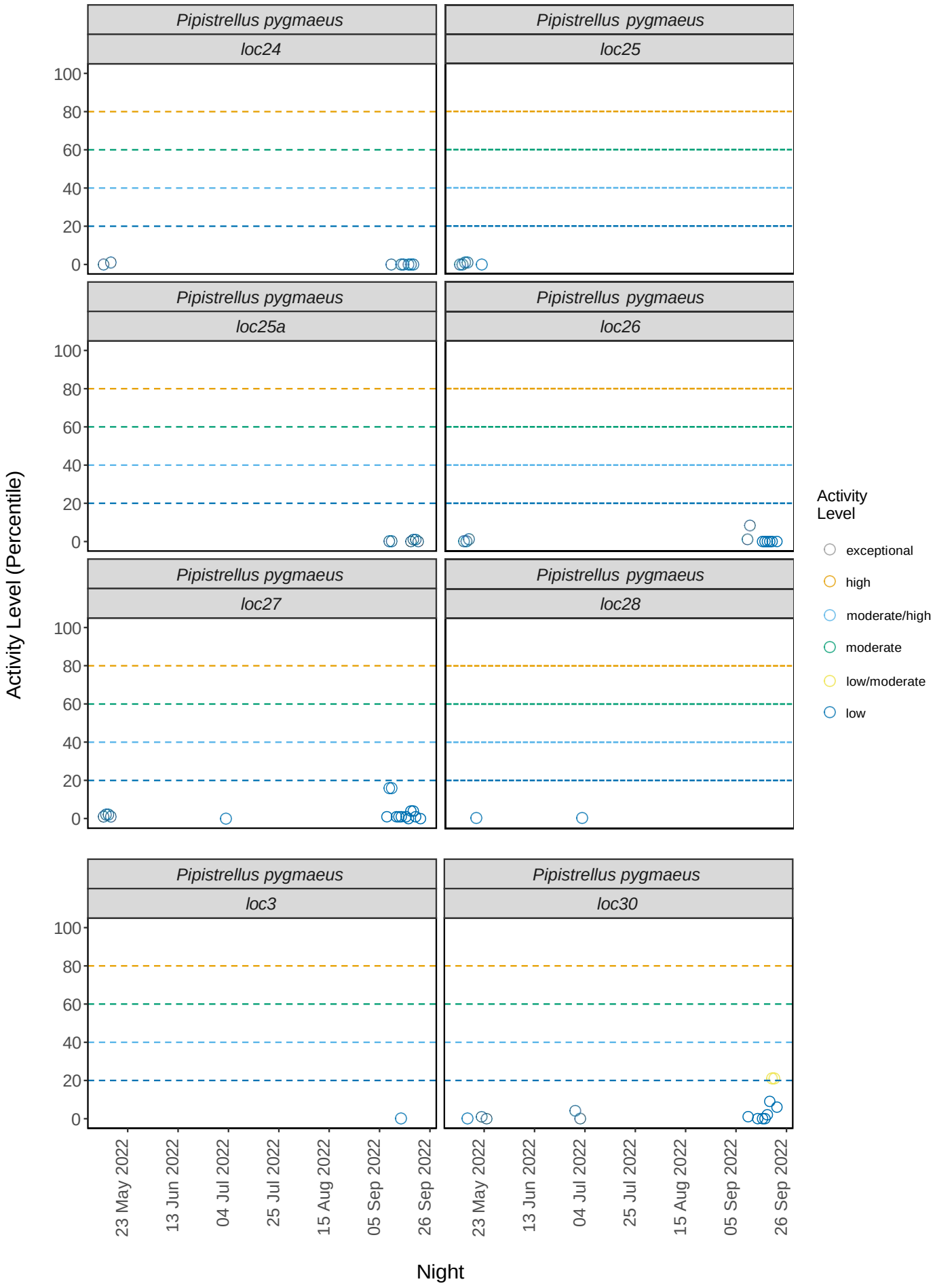

Pipistrellus pipistrellus
loc18
loc19
loc1a
loc2
loc20
loc21
loc22
loc23
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

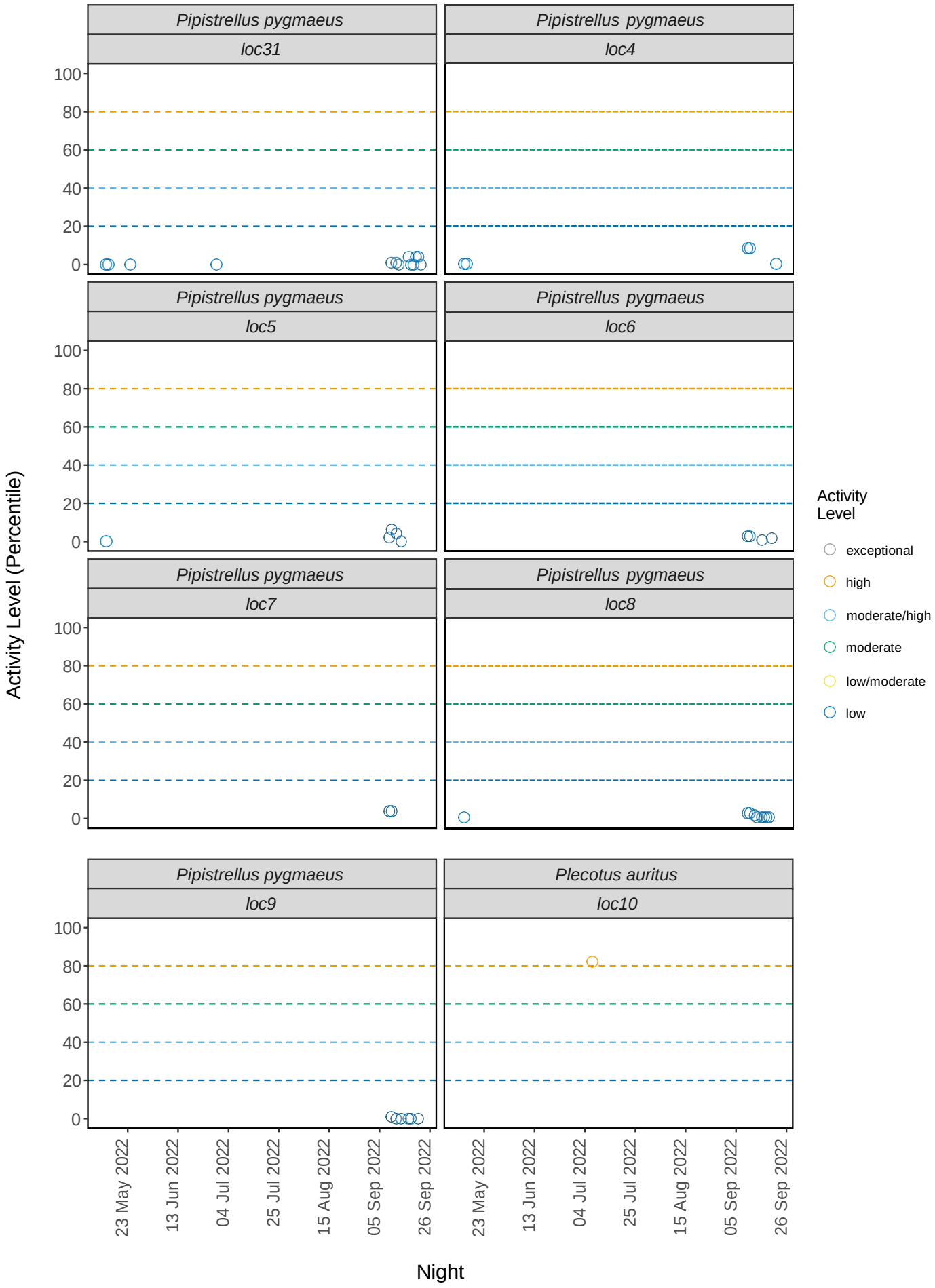

Pipistrellus pipistrellus
loc24
Pipistrellus pipistrellus
loc25
Pipistrellus pipistrellus
loc25a
Pipistrellus pipistrellus
loc26
Pipistrellus pipistrellus
loc27
Pipistrellus pipistrellus
loc28
Pipistrellus pipistrellus
loc29
Pipistrellus pipistrellus
loc3
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

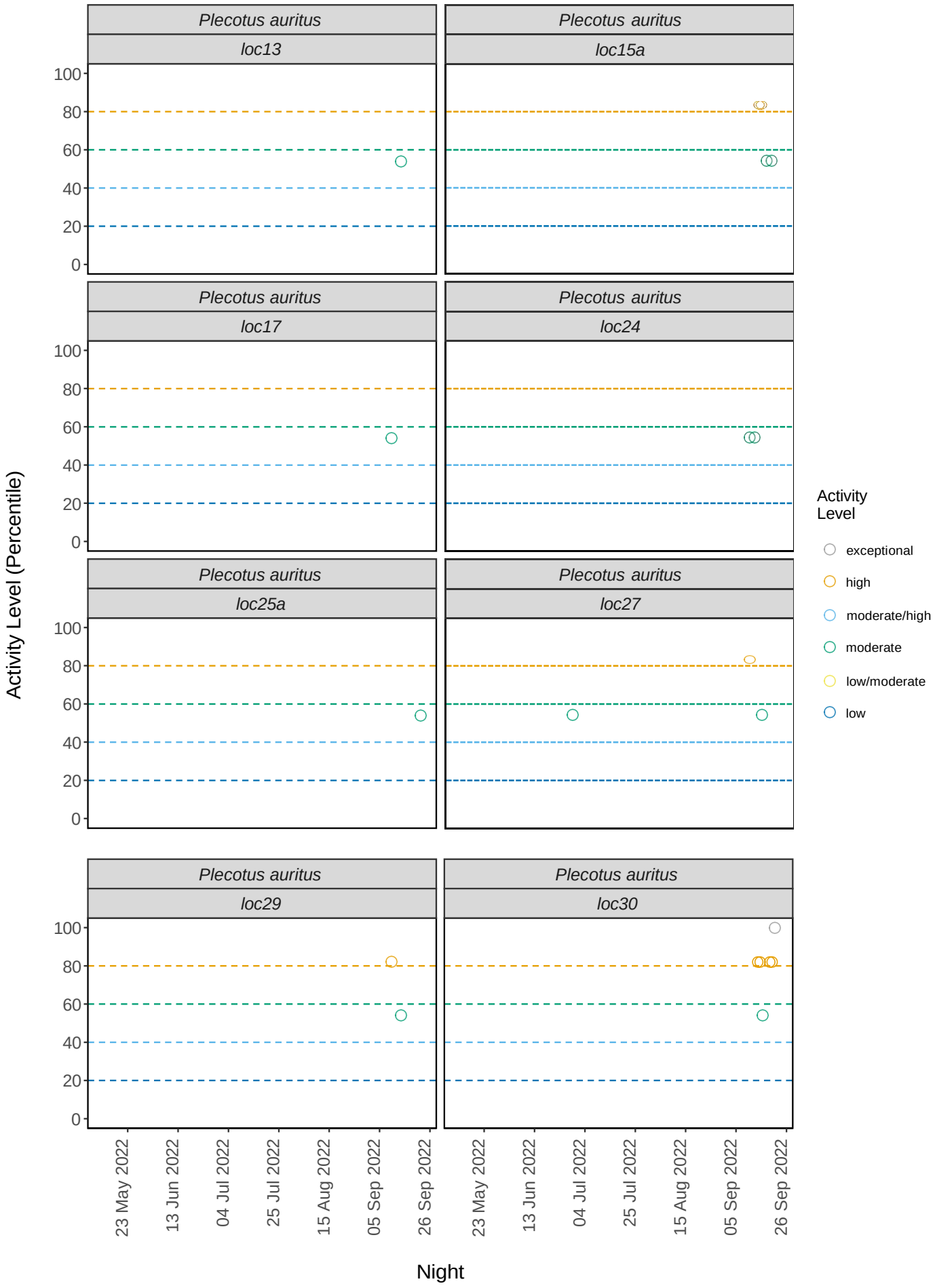

Pipistrellus pipistrellus
loc30
Pipistrellus pipistrellus
loc31
Pipistrellus pipistrellus
loc4
Pipistrellus pipistrellus
loc5
Pipistrellus pipistrellus
loc6
Pipistrellus pipistrellus
loc7
Pipistrellus pipistrellus
loc8
Pipistrellus pipistrellus
loc9
Activity Level (Percentile)
0
20
40
60
80
100
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

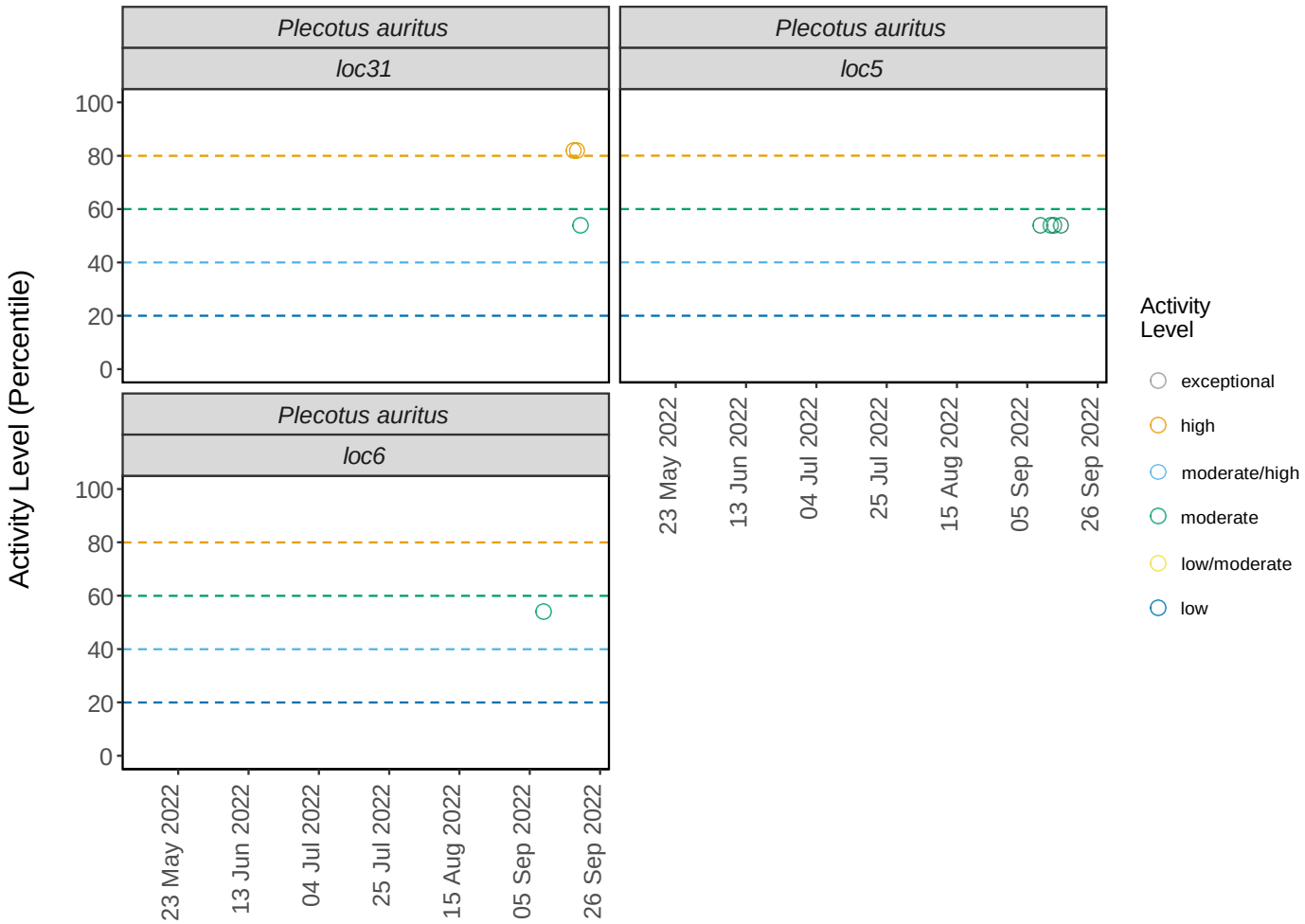

Pipistrellus pygmaeus
loc1
loc10
loc11
loc12
loc13
loc14
loc15
loc15a
Activity Level (Percentile)
0
20
40
60
80
100
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Pipistrellus pygmaeus
loc16
Pipistrellus pygmaeus
loc17
Pipistrellus pygmaeus
loc1a
Pipistrellus pygmaeus
loc2
Pipistrellus pygmaeus
loc20
Pipistrellus pygmaeus
loc21
Pipistrellus pygmaeus
loc22
Pipistrellus pygmaeus
loc23
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Pipistrellus pygmaeus
loc24
Pipistrellus pygmaeus
loc25
Pipistrellus pygmaeus
loc25a
Pipistrellus pygmaeus
loc26
Pipistrellus pygmaeus
loc27
Pipistrellus pygmaeus
loc28
Pipistrellus pygmaeus
loc3
Pipistrellus pygmaeus
loc30
Activity Level (Percentile)
0
20
40
60
80
100
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Pipistrellus pygmaeus
loc31
Pipistrellus pygmaeus
loc4
Pipistrellus pygmaeus
loc5
Pipistrellus pygmaeus
loc6
Pipistrellus pygmaeus
loc7
Pipistrellus pygmaeus
loc8
Pipistrellus pygmaeus
loc9
Plecotus auritus
loc10
Activity Level (Percentile)
0
20
40
60
80
100
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Plecotus auritus
loc13
Plecotus auritus
loc15a
Plecotus auritus
loc17
Plecotus auritus
loc24
Plecotus auritus
loc25a
Plecotus auritus
loc27
Plecotus auritus
loc29
Plecotus auritus
loc30
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Night
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low


Plecotus auritus
loc31
Plecotus auritus
loc5
Plecotus auritus
loc6
Activity Level (Percentile)
100
80
60
40
20
0
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low
Night

PER DETECTOR, PER MONTH

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

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc1	*Pipistrellus pipistrellus*	May	0	0	0	0	0	1
loc1	*Pipistrellus pygmaeus*	May	0	0	0	0	0	4
loc10	*Myotis daubentonii*	May	0	0	2	0	0	1
loc10	*Myotis daubentonii*	Jun	0	0	0	0	1	0
loc10	*Myotis daubentonii*	Jul	0	0	0	0	0	1
loc10	*Myotis daubentonii*	Sep	0	0	0	1	2	1
loc10	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc10	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	1
loc10	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	1
loc10	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	1
loc10	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	2
loc10	*Plecotus auritus*	Jul	0	1	0	0	0	0
loc11	*Myotis daubentonii*	Sep	0	0	2	0	1	0
loc11	*Nyctalus*	Sep	0	0	0	0	0	2
loc11	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc11	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	2
loc12	*Myotis daubentonii*	Sep	0	0	1	0	0	2
loc12	*Myotis nattereri*	Jun	0	0	0	0	1	0
loc12	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc12	*Pipistrellus pygmaeus*	May	0	0	0	0	0	1
loc12	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	1
loc12	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	2
loc13	*Myotis daubentonii*	Jun	0	0	0	0	1	0
loc13	*Myotis daubentonii*	Sep	0	0	0	0	3	0
loc13	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc13	*Nyctalus*	May	0	0	0	0	0	1

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc13	*Nyctalus*	Jun	0	0	0	0	0	2
loc13	*Pipistrellus pipistrellus*	May	0	0	0	0	0	1
loc13	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc13	*Pipistrellus pipistrellus*	Sep	0	0	0	2	5	5
loc13	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	1
loc13	*Pipistrellus pygmaeus*	Sep	0	0	0	0	4	7
loc13	*Plecotus auritus*	Sep	0	0	0	1	0	0
loc14	*Myotis daubentonii*	May	0	0	0	0	0	1
loc14	*Myotis daubentonii*	Jun	0	0	0	0	0	1
loc14	*Myotis daubentonii*	Sep	0	0	0	0	1	5
loc14	*Nyctalus*	Jul	0	0	0	0	0	1
loc14	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	3
loc14	*Pipistrellus pygmaeus*	May	0	0	0	0	0	1
loc14	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	3
loc15	*Myotis daubentonii*	May	0	0	0	0	0	1
loc15	*Myotis daubentonii*	Jun	0	0	0	0	0	2
loc15	*Myotis nattereri*	May	0	0	0	0	1	0
loc15	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	3
loc15	*Pipistrellus pygmaeus*	May	0	0	0	0	0	5
loc15	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	1
loc15	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	2
loc15a	*Myotis daubentonii*	Sep	0	0	6	1	1	0
loc15a	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc15a	*Nyctalus*	Sep	0	0	0	0	0	2
loc15a	*Pipistrellus pipistrellus*	Sep	0	0	6	2	1	2
loc15a	*Pipistrellus pygmaeus*	Sep	0	0	5	5	1	1
loc15a	*Plecotus auritus*	Sep	0	2	0	2	0	0
loc16	*Myotis daubentonii*	Sep	0	0	0	0	1	5
loc16	*Myotis nattereri*	Sep	0	0	0	0	3	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
loc16	*Nyctalus*	Jun	0	0	0	0	0	2
loc16	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc16	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	1
loc16	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	1
loc16	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	2
loc17	*Myotis daubentonii*	Jun	0	0	0	0	0	2
loc17	*Myotis daubentonii*	Sep	0	0	0	2	2	1
loc17	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc17	*Nyctalus*	Jun	0	0	0	0	0	3
loc17	*Nyctalus*	Sep	0	0	0	0	0	1
loc17	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	3
loc17	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	2
loc17	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	5
loc17	*Plecotus auritus*	Sep	0	0	0	1	0	0
loc18	*Nyctalus*	Jun	0	0	0	0	0	2
loc18	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc18	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	1
loc19	*Myotis daubentonii*	Sep	0	0	0	0	0	1
loc19	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc19	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	1
loc1a	*Myotis daubentonii*	Jun	0	0	0	0	0	1
loc1a	*Myotis daubentonii*	Sep	0	0	0	0	1	2
loc1a	*Nyctalus*	Jun	0	0	0	0	0	2
loc1a	*Nyctalus*	Jul	0	0	0	0	0	1
loc1a	*Nyctalus*	Sep	0	0	0	0	0	1
loc1a	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	3
loc1a	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	5
loc1a	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	4
loc1a	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	1
loc1a	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	11
loc2	*Myotis daubentonii*	May	0	0	0	0	0	1

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc2	*Myotis daubentonii*	Sep	0	0	0	2	2	2
loc2	*Myotis nattereri*	Sep	0	0	0	0	4	0
loc2	*Pipistrellus pipistrellus*	May	0	0	0	0	0	1
loc2	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc2	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	1
loc2	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	1
loc2	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	10
loc20	*Myotis daubentonii*	Sep	0	0	0	0	2	0
loc20	*Pipistrellus pipistrellus*	May	0	0	0	0	0	1
loc20	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc20	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	1
loc21	*Myotis daubentonii*	Sep	0	0	0	2	2	1
loc21	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc21	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	3
loc21	*Pipistrellus pygmaeus*	May	0	0	0	0	0	1
loc21	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	3
loc22	*Myotis daubentonii*	Sep	0	0	0	0	3	1
loc22	*Nyctalus*	Jun	0	0	0	0	0	3
loc22	*Pipistrellus pipistrellus*	May	0	0	0	0	0	1
loc22	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc22	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	2
loc22	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	1
loc22	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	4
loc23	*Myotis daubentonii*	May	0	0	1	0	1	1
loc23	*Myotis daubentonii*	Sep	0	0	0	3	3	1
loc23	*Myotis nattereri*	May	0	0	0	0	1	0
loc23	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc23	*Nyctalus*	Jun	0	0	0	0	0	2

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
loc23	*Pipistrellus pipistrellus*	May	0	0	0	0	0	1
loc23	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	2
loc23	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	9
loc23	*Pipistrellus pygmaeus*	May	0	0	0	0	0	1
loc23	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	2
loc23	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	7
loc24	*Myotis daubentonii*	May	0	0	0	0	0	2
loc24	*Myotis daubentonii*	Jun	0	0	0	0	0	1
loc24	*Myotis daubentonii*	Jul	0	0	0	0	1	0
loc24	*Myotis daubentonii*	Sep	0	0	0	2	4	2
loc24	*Myotis nattereri*	Sep	0	0	0	0	3	0
loc24	*Nyctalus*	Jun	0	0	0	0	0	3
loc24	*Nyctalus*	Jul	0	0	0	0	0	1
loc24	*Nyctalus*	Sep	0	0	0	0	0	2
loc24	*Pipistrellus pipistrellus*	May	0	0	0	0	0	2
loc24	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	2
loc24	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	10
loc24	*Pipistrellus pygmaeus*	May	0	0	0	0	0	2
loc24	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	6
loc24	*Plecotus auritus*	Sep	0	0	0	2	0	0
loc25	*Myotis daubentonii*	May	0	0	0	0	1	0
loc25	*Pipistrellus pipistrellus*	May	0	0	0	0	0	3
loc25	*Pipistrellus pygmaeus*	May	0	0	0	0	0	5
loc25a	*Myotis daubentonii*	Sep	0	1	0	2	2	3
loc25a	*Myotis nattereri*	Sep	0	0	0	2	2	0
loc25a	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	11
loc25a	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	6
loc25a	*Plecotus auritus*	Sep	0	0	0	1	0	0
loc26	*Myotis daubentonii*	May	0	0	0	0	1	1

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc26	*Myotis daubentonii*	Jun	0	0	0	0	0	3
loc26	*Myotis daubentonii*	Jul	0	0	0	0	0	1
loc26	*Myotis daubentonii*	Sep	0	0	0	4	2	1
loc26	*Myotis nattereri*	Jun	0	0	0	1	0	0
loc26	*Myotis nattereri*	Jul	0	0	0	1	0	0
loc26	*Myotis nattereri*	Sep	0	0	0	0	4	0
loc26	*Nyctalus*	Jun	0	0	0	0	0	1
loc26	*Nyctalus*	Jul	0	0	0	0	0	1
loc26	*Nyctalus*	Sep	0	0	0	0	0	2
loc26	*Pipistrellus pipistrellus*	May	0	0	0	0	0	4
loc26	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	5
loc26	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	1
loc26	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	6
loc26	*Pipistrellus pygmaeus*	May	0	0	0	0	0	3
loc26	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	8
loc27	*Myotis daubentonii*	Jun	0	0	0	0	0	2
loc27	*Myotis daubentonii*	Sep	4	3	1	2	0	0
loc27	*Myotis nattereri*	Sep	0	0	0	1	7	0
loc27	*Nyctalus*	Jun	0	0	1	0	0	4
loc27	*Nyctalus*	Jul	0	0	0	0	0	2
loc27	*Pipistrellus pipistrellus*	May	0	0	0	0	0	4
loc27	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	4
loc27	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	1
loc27	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	10
loc27	*Pipistrellus pygmaeus*	May	0	0	0	0	0	4
loc27	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	1
loc27	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	12
loc27	*Plecotus auritus*	Jun	0	0	0	1	0	0
loc27	*Plecotus auritus*	Sep	0	1	0	1	0	0
loc28	*Myotis daubentonii*	May	0	0	0	0	0	1

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc28	*Myotis daubentonii*	Sep	0	0	0	0	0	2
loc28	*Myotis nattereri*	Sep	0	0	0	0	2	0
loc28	*Nyctalus*	Jun	0	0	0	0	0	2
loc28	*Nyctalus*	Jul	0	0	0	0	0	1
loc28	*Nyctalus*	Sep	0	0	0	0	0	1
loc28	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	1
loc28	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	1
loc28	*Pipistrellus pygmaeus*	May	0	0	0	0	0	1
loc28	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	1
loc29	*Myotis daubentonii*	Jun	0	0	0	0	0	1
loc29	*Myotis daubentonii*	Sep	0	0	0	0	0	2
loc29	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	1
loc29	*Plecotus auritus*	Sep	0	1	0	1	0	0
loc3	*Myotis daubentonii*	Sep	0	0	1	1	0	1
loc3	*Myotis nattereri*	Sep	0	0	0	0	2	0
loc3	*Nyctalus*	Sep	0	0	0	0	0	1
loc3	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	1
loc3	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	1
loc3	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	1
loc30	*Myotis daubentonii*	May	0	0	0	1	0	0
loc30	*Myotis daubentonii*	Sep	0	0	0	4	1	4
loc30	*Nyctalus*	Jun	0	0	0	0	0	1
loc30	*Nyctalus*	Sep	0	0	0	0	0	1
loc30	*Pipistrellus pipistrellus*	May	0	0	0	0	0	3
loc30	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	4
loc30	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	2
loc30	*Pipistrellus pipistrellus*	Sep	0	0	2	0	1	6
loc30	*Pipistrellus pygmaeus*	May	0	0	0	0	0	3
loc30	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	1
loc30	*Pipistrellus pygmaeus*	Jul	0	0	0	0	0	1

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc30	*Pipistrellus pygmaeus*	Sep	0	0	0	0	2	7
loc30	*Plecotus auritus*	Sep	1	4	0	1	0	0
loc31	*Myotis daubentonii*	May	0	0	0	0	0	1
loc31	*Myotis daubentonii*	Jun	0	0	0	0	0	1
loc31	*Myotis daubentonii*	Sep	0	0	0	0	2	1
loc31	*Myotis nattereri*	May	0	0	0	0	1	0
loc31	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc31	*Nyctalus*	Jun	0	0	0	0	0	1
loc31	*Nyctalus*	Jul	0	0	0	0	0	2
loc31	*Nyctalus*	Sep	0	0	0	0	0	1
loc31	*Pipistrellus pipistrellus*	May	0	0	0	0	0	2
loc31	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	5
loc31	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	1
loc31	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	4
loc31	*Pipistrellus pygmaeus*	May	0	0	0	0	0	3
loc31	*Pipistrellus pygmaeus*	Jun	0	0	0	0	0	1
loc31	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	9
loc31	*Plecotus auritus*	Sep	0	2	0	1	0	0
loc4	*Myotis daubentonii*	May	0	0	0	0	0	1
loc4	*Myotis daubentonii*	Sep	0	0	1	0	0	0
loc4	*Myotis nattereri*	May	0	0	0	0	1	0
loc4	*Nyctalus*	Jun	0	0	0	0	0	1
loc4	*Pipistrellus pipistrellus*	May	0	0	0	0	0	1
loc4	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc4	*Pipistrellus pipistrellus*	Jul	0	0	0	0	0	2
loc4	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	2
loc4	*Pipistrellus pygmaeus*	May	0	0	0	0	0	2
loc4	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	3
loc5	*Myotis daubentonii*	Sep	0	0	2	0	1	1

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc5	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc5	*Nyctalus*	Sep	0	0	0	0	0	2
loc5	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	1
loc5	*Pipistrellus pygmaeus*	May	0	0	0	0	0	1
loc5	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	4
loc5	*Plecotus auritus*	Sep	0	0	0	4	0	0
loc6	*Myotis daubentonii*	May	0	0	0	0	0	2
loc6	*Myotis daubentonii*	Sep	0	0	2	0	1	4
loc6	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc6	*Nyctalus*	Sep	0	0	0	0	0	1
loc6	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	1
loc6	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	4
loc6	*Plecotus auritus*	Sep	0	0	0	1	0	0
loc7	*Myotis daubentonii*	May	0	0	1	0	0	0
loc7	*Myotis daubentonii*	Sep	0	0	0	1	1	3
loc7	*Myotis nattereri*	Sep	0	0	0	0	2	0
loc7	*Nyctalus*	Sep	0	0	0	0	0	1
loc7	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	2
loc7	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	2
loc8	*Myotis daubentonii*	May	0	0	0	0	0	1
loc8	*Myotis daubentonii*	Sep	0	0	0	0	1	4
loc8	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc8	*Nyctalus*	Sep	0	0	0	0	0	1
loc8	*Pipistrellus pipistrellus*	May	0	0	0	0	0	1
loc8	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	5
loc8	*Pipistrellus pygmaeus*	May	0	0	0	0	0	1
loc8	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	8
loc9	*Myotis daubentonii*	Jun	0	0	0	0	0	1
loc9	*Myotis daubentonii*	Sep	0	0	0	0	1	3

Detector ID	Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
loc9	*Myotis nattereri*	Sep	0	0	0	0	1	0
loc9	*Nyctalus*	Jun	0	0	2	0	0	2
loc9	*Pipistrellus pipistrellus*	Jun	0	0	0	0	0	1
loc9	*Pipistrellus pipistrellus*	Sep	0	0	0	0	0	2
loc9	*Pipistrellus pygmaeus*	Sep	0	0	0	0	0	6

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

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
loc1	*Pipistrellus pipistrellus*	May	1	0	1	1
loc1	*Pipistrellus pygmaeus*	May	0	0 - 0	1	4
loc10	*Myotis daubentonii*	May	60	15 - 45.5	60	3
loc10	*Myotis daubentonii*	Jun	31	15 - 45.5	31	1
loc10	*Myotis daubentonii*	Jul	15	15 - 45.5	15	1
loc10	*Myotis daubentonii*	Sep	31	15 - 45.5	42	4
loc10	*Pipistrellus pipistrellus*	Jun	0	0.5 - 0.5	0	1
loc10	*Pipistrellus pipistrellus*	Sep	1	0.5 - 0.5	1	1
loc10	*Pipistrellus pygmaeus*	Jun	0	0 - 0	0	1
loc10	*Pipistrellus pygmaeus*	Jul	0	0 - 0	0	1
loc10	*Pipistrellus pygmaeus*	Sep	2	0 - 0	4	2
loc10	*Plecotus auritus*	Jul	82	0	82	1
loc11	*Myotis daubentonii*	Sep	60	31 - 65	65	3
loc11	*Nyctalus*	Sep	0	0 - 0	0	2
loc11	*Pipistrellus pipistrellus*	Jun	0	0	0	1
loc11	*Pipistrellus pygmaeus*	Sep	1	1 - 1	2	2
loc12	*Myotis daubentonii*	Sep	15	15 - 15	60	3
loc12	*Myotis nattereri*	Jun	21	0	21	1
loc12	*Pipistrellus pipistrellus*	Jun	1	0	1	1
loc12	*Pipistrellus pygmaeus*	May	0	1.5 - 1.5	0	1
loc12	*Pipistrellus pygmaeus*	Jul	0	1.5 - 1.5	0	1
loc12	*Pipistrellus pygmaeus*	Sep	2	1.5 - 1.5	2	2
loc13	*Myotis daubentonii*	Jun	31	31 - 31	31	1
loc13	*Myotis daubentonii*	Sep	31	31 - 31	31	3
loc13	*Myotis nattereri*	Sep	21	0	21	1
loc13	*Nyctalus*	May	0	2 - 2	0	1
loc13	*Nyctalus*	Jun	2	2 - 2	2	2
loc13	*Pipistrellus pipistrellus*	May	0	15 - 39.5	0	1
loc13	*Pipistrellus pipistrellus*	Jun	0	15 - 39.5	0	1
loc13	*Pipistrellus pipistrellus*	Sep	24	15 - 39.5	55	12
loc13	*Pipistrellus pygmaeus*	Jun	0	9 - 21.5	0	1
loc13	*Pipistrellus pygmaeus*	Sep	15	9 - 21.5	33	11
loc13	*Plecotus auritus*	Sep	54	0	54	1
loc14	*Myotis daubentonii*	May	15	15 - 15	15	1
loc14	*Myotis daubentonii*	Jun	15	15 - 15	15	1
loc14	*Myotis daubentonii*	Sep	15	15 - 15	31	6
loc14	*Nyctalus*	Jul	0	0	0	1
loc14	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	3
loc14	*Pipistrellus pygmaeus*	May	0	0 - 0	0	1
loc14	*Pipistrellus pygmaeus*	Sep	0	0 - 0	2	3
loc15	*Myotis daubentonii*	May	15	15 - 15	15	1
loc15	*Myotis daubentonii*	Jun	15	15 - 15	15	2
loc15	*Myotis nattereri*	May	21	0	21	1
loc15	*Pipistrellus pipistrellus*	Jun	0	0 - 0	1	3
loc15	*Pipistrellus pygmaeus*	May	0	0 - 0	0	5
loc15	*Pipistrellus pygmaeus*	Jun	0	0 - 0	0	1
loc15	*Pipistrellus pygmaeus*	Jul	0	0 - 0	0	2
loc15a	*Myotis daubentonii*	Sep	61	45.5 - 64	66	8
loc15a	*Myotis nattereri*	Sep	21	0	21	1
loc15a	*Nyctalus*	Sep	2	2 - 2	2	2
loc15a	*Pipistrellus pipistrellus*	Sep	60	31 - 61.5	63	11
loc15a	*Pipistrellus pygmaeus*	Sep	54	40 - 62	70	12
loc15a	*Plecotus auritus*	Sep	68	54 - 82	82	4

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
loc16	*Myotis daubentonii*	Sep	15	15 - 15	31	6
loc16	*Myotis nattereri*	Sep	21	21 - 21	21	3
loc16	*Nyctalus*	Jun	2	2 - 2	2	2
loc16	*Pipistrellus pipistrellus*	Jun	1	0 - 0	1	1
loc16	*Pipistrellus pipistrellus*	Jul	0	0 - 0	0	1
loc16	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	1
loc16	*Pipistrellus pygmaeus*	Sep	0	0 - 0	0	2
loc17	*Myotis daubentonii*	Jun	15	15 - 42.5	15	2
loc17	*Myotis daubentonii*	Sep	31	15 - 42.5	54	5
loc17	*Myotis nattereri*	Sep	21	0	21	1
loc17	*Nyctalus*	Jun	0	0 - 0	2	3
loc17	*Nyctalus*	Sep	0	0 - 0	0	1
loc17	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	3
loc17	*Pipistrellus pygmaeus*	Jun	0	0 - 0	0	2
loc17	*Pipistrellus pygmaeus*	Sep	0	0 - 0	1	5
loc17	*Plecotus auritus*	Sep	54	0	54	1
loc18	*Nyctalus*	Jun	0	0 - 0	0	2
loc18	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	1
loc18	*Pipistrellus pipistrellus*	Jul	0	0 - 0	0	1
loc19	*Myotis daubentonii*	Sep	15	0	15	1
loc19	*Myotis nattereri*	Sep	21	0	21	1
loc19	*Pipistrellus pipistrellus*	Sep	0	0	0	1
loc1a	*Myotis daubentonii*	Jun	15	15 - 15	15	1
loc1a	*Myotis daubentonii*	Sep	15	15 - 15	31	3
loc1a	*Nyctalus*	Jun	3	1.5 - 1.5	3	2
loc1a	*Nyctalus*	Jul	0	1.5 - 1.5	0	1
loc1a	*Nyctalus*	Sep	0	1.5 - 1.5	0	1
loc1a	*Pipistrellus pipistrellus*	Jun	4	1 - 2.5	4	3
loc1a	*Pipistrellus pipistrellus*	Sep	0	1 - 2.5	1	5
loc1a	*Pipistrellus pygmaeus*	Jun	1	2 - 4.5	6	4
loc1a	*Pipistrellus pygmaeus*	Jul	0	2 - 4.5	0	1
loc1a	*Pipistrellus pygmaeus*	Sep	0	2 - 4.5	4	11
loc2	*Myotis daubentonii*	May	15	15 - 36.5	15	1
loc2	*Myotis daubentonii*	Sep	31	15 - 36.5	42	6
loc2	*Myotis nattereri*	Sep	21	21 - 21	21	4
loc2	*Pipistrellus pipistrellus*	May	0	0 - 0	0	1
loc2	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	1
loc2	*Pipistrellus pipistrellus*	Jul	0	0 - 0	0	1
loc2	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	1
loc2	*Pipistrellus pygmaeus*	Sep	0	4 - 8	8	10
loc20	*Myotis daubentonii*	Sep	31	31 - 31	31	2
loc20	*Pipistrellus pipistrellus*	May	0	0 - 0	0	1
loc20	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	1
loc20	*Pipistrellus pygmaeus*	Sep	0	0	0	1
loc21	*Myotis daubentonii*	Sep	31	15 - 54	54	5
loc21	*Myotis nattereri*	Sep	35	0	35	1
loc21	*Pipistrellus pipistrellus*	Sep	1	1 - 1	2	3
loc21	*Pipistrellus pygmaeus*	May	0	9 - 9	0	1
loc21	*Pipistrellus pygmaeus*	Sep	9	9 - 9	9	3
loc22	*Myotis daubentonii*	Sep	31	31 - 31	31	4
loc22	*Nyctalus*	Jun	2	2 - 2	2	3
loc22	*Pipistrellus pipistrellus*	May	0	0 - 0	0	1
loc22	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	1
loc22	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	2
loc22	*Pipistrellus pygmaeus*	Jun	0	0 - 0	0	1
loc22	*Pipistrellus pygmaeus*	Sep	0	0 - 0	0	4

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
loc23	*Myotis daubentonii*	May	31	23 - 45.5	60	3
loc23	*Myotis daubentonii*	Sep	31	23 - 45.5	54	7
loc23	*Myotis nattereri*	May	21	28 - 28	21	1
loc23	*Myotis nattereri*	Sep	35	28 - 28	35	1
loc23	*Nyctalus*	Jun	6	5.5 - 5.5	9	2
loc23	*Pipistrellus pipistrellus*	May	0	1 - 12	0	1
loc23	*Pipistrellus pipistrellus*	Jun	0	1 - 12	0	2
loc23	*Pipistrellus pipistrellus*	Sep	1	1 - 12	12	9
loc23	*Pipistrellus pygmaeus*	May	0	1 - 1	0	1
loc23	*Pipistrellus pygmaeus*	Jun	1	1 - 1	1	2
loc23	*Pipistrellus pygmaeus*	Sep	0	1 - 1	9	7
loc24	*Myotis daubentonii*	May	15	15 - 31	15	2
loc24	*Myotis daubentonii*	Jun	15	15 - 31	15	1
loc24	*Myotis daubentonii*	Jul	31	15 - 31	31	1
loc24	*Myotis daubentonii*	Sep	31	15 - 31	42	8
loc24	*Myotis nattereri*	Sep	21	21 - 21	21	3
loc24	*Nyctalus*	Jun	3	3 - 3	3	3
loc24	*Nyctalus*	Jul	2	3 - 3	2	1
loc24	*Nyctalus*	Sep	0	3 - 3	0	2
loc24	*Pipistrellus pipistrellus*	May	0	0 - 0	0	2
loc24	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	2
loc24	*Pipistrellus pipistrellus*	Sep	1	0 - 0	1	10
loc24	*Pipistrellus pygmaeus*	May	1	0 - 0	1	2
loc24	*Pipistrellus pygmaeus*	Sep	0	0 - 0	0	6
loc24	*Plecotus auritus*	Sep	54	54 - 54	54	2
loc25	*Myotis daubentonii*	May	31	0	31	1
loc25	*Pipistrellus pipistrellus*	May	0	0 - 0	1	3
loc25	*Pipistrellus pygmaeus*	May	0	0 - 0	1	5
loc25a	*Myotis daubentonii*	Sep	31	15 - 54	83	8
loc25a	*Myotis nattereri*	Sep	36	21 - 50	50	4
loc25a	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	11
loc25a	*Pipistrellus pygmaeus*	Sep	0	0 - 0	1	6
loc25a	*Plecotus auritus*	Sep	54	0	54	1
loc26	*Myotis daubentonii*	May	23	15 - 36.5	31	2
loc26	*Myotis daubentonii*	Jun	15	15 - 36.5	15	3
loc26	*Myotis daubentonii*	Jul	15	15 - 36.5	15	1
loc26	*Myotis daubentonii*	Sep	42	15 - 36.5	54	7
loc26	*Myotis nattereri*	Jun	47	21 - 41	47	1
loc26	*Myotis nattereri*	Jul	47	21 - 41	47	1
loc26	*Myotis nattereri*	Sep	21	21 - 41	35	4
loc26	*Nyctalus*	Jun	2	1 - 1	2	1
loc26	*Nyctalus*	Jul	0	1 - 1	0	1
loc26	*Nyctalus*	Sep	1	1 - 1	2	2
loc26	*Pipistrellus pipistrellus*	May	1	1 - 3.5	1	4
loc26	*Pipistrellus pipistrellus*	Jun	0	1 - 3.5	0	5
loc26	*Pipistrellus pipistrellus*	Jul	0	1 - 3.5	0	1
loc26	*Pipistrellus pipistrellus*	Sep	2	1 - 3.5	4	6
loc26	*Pipistrellus pygmaeus*	May	0	1 - 1	1	3
loc26	*Pipistrellus pygmaeus*	Sep	0	1 - 1	8	8
loc27	*Myotis daubentonii*	Jun	15	54 - 96	15	2
loc27	*Myotis daubentonii*	Sep	94	54 - 96	100	10
loc27	*Myotis nattereri*	Sep	21	21 - 34	47	8
loc27	*Nyctalus*	Jun	2	2 - 13	67	5
loc27	*Nyctalus*	Jul	2	2 - 13	2	2
loc27	*Pipistrellus pipistrellus*	May	0	1 - 4	2	4
loc27	*Pipistrellus pipistrellus*	Jun	1	1 - 4	1	4

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
loc27	*Pipistrellus pipistrellus*	Jul	0	1 - 4	0	1
loc27	*Pipistrellus pipistrellus*	Sep	2	1 - 4	11	10
loc27	*Pipistrellus pygmaeus*	May	2	1 - 8.5	2	4
loc27	*Pipistrellus pygmaeus*	Jul	0	1 - 8.5	0	1
loc27	*Pipistrellus pygmaeus*	Sep	1	1 - 8.5	16	12
loc27	*Plecotus auritus*	Jun	54	54 - 54	54	1
loc27	*Plecotus auritus*	Sep	68	54 - 54	82	2
loc28	*Myotis daubentonii*	May	15	15 - 15	15	1
loc28	*Myotis daubentonii*	Sep	15	15 - 15	15	2
loc28	*Myotis nattereri*	Sep	28	28 - 28	35	2
loc28	*Nyctalus*	Jun	1	0 - 0	2	2
loc28	*Nyctalus*	Jul	0	0 - 0	0	1
loc28	*Nyctalus*	Sep	0	0 - 0	0	1
loc28	*Pipistrellus pipistrellus*	Jul	0	0 - 0	0	1
loc28	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	1
loc28	*Pipistrellus pygmaeus*	May	0	0 - 0	0	1
loc28	*Pipistrellus pygmaeus*	Jul	0	0 - 0	0	1
loc29	*Myotis daubentonii*	Jun	15	15 - 15	15	1
loc29	*Myotis daubentonii*	Sep	15	15 - 15	15	2
loc29	*Pipistrellus pipistrellus*	Sep	0	0	0	1
loc29	*Plecotus auritus*	Sep	68	68 - 68	82	2
loc3	*Myotis daubentonii*	Sep	42	15 - 65	65	3
loc3	*Myotis nattereri*	Sep	21	21 - 21	21	2
loc3	*Nyctalus*	Sep	0	0	0	1
loc3	*Pipistrellus pipistrellus*	Jul	0	0 - 0	0	1
loc3	*Pipistrellus pipistrellus*	Sep	0	0 - 0	0	1
loc3	*Pipistrellus pygmaeus*	Sep	0	0	0	1
loc30	*Myotis daubentonii*	May	54	15 - 48	54	1
loc30	*Myotis daubentonii*	Sep	31	15 - 48	54	9
loc30	*Nyctalus*	Jun	0	1 - 1	0	1
loc30	*Nyctalus*	Sep	2	1 - 1	2	1
loc30	*Pipistrellus pipistrellus*	May	0	3 - 39	0	3
loc30	*Pipistrellus pipistrellus*	Jun	4	3 - 39	5	4
loc30	*Pipistrellus pipistrellus*	Jul	4	3 - 39	5	2
loc30	*Pipistrellus pipistrellus*	Sep	14	3 - 39	74	9
loc30	*Pipistrellus pygmaeus*	May	0	1.5 - 15	1	3
loc30	*Pipistrellus pygmaeus*	Jun	4	1.5 - 15	4	1
loc30	*Pipistrellus pygmaeus*	Jul	0	1.5 - 15	0	1
loc30	*Pipistrellus pygmaeus*	Sep	2	1.5 - 15	21	9
loc30	*Plecotus auritus*	Sep	82	54 - 100	100	6
loc31	*Myotis daubentonii*	May	15	15 - 23	15	1
loc31	*Myotis daubentonii*	Jun	15	15 - 23	15	1
loc31	*Myotis daubentonii*	Sep	31	15 - 23	31	3
loc31	*Myotis nattereri*	May	21	21 - 21	21	1
loc31	*Myotis nattereri*	Sep	21	21 - 21	21	1
loc31	*Nyctalus*	Jun	0	1 - 1	0	1
loc31	*Nyctalus*	Jul	1	1 - 1	2	2
loc31	*Nyctalus*	Sep	2	1 - 1	2	1
loc31	*Pipistrellus pipistrellus*	May	0	0 - 0	0	2
loc31	*Pipistrellus pipistrellus*	Jun	0	0 - 0	1	5
loc31	*Pipistrellus pipistrellus*	Jul	0	0 - 0	0	1
loc31	*Pipistrellus pipistrellus*	Sep	0	0 - 0	1	4
loc31	*Pipistrellus pygmaeus*	May	0	2.5 - 4	0	3
loc31	*Pipistrellus pygmaeus*	Jun	0	2.5 - 4	0	1
loc31	*Pipistrellus pygmaeus*	Sep	1	2.5 - 4	4	9
loc31	*Plecotus auritus*	Sep	82	82 - 82	82	3

Detector ID	Species/Species Group	Month	Median Percentile	95% CIs	Max Percentile	Nights Recorded
loc4	*Myotis daubentonii*	May	15	40 - 40	15	1
loc4	*Myotis daubentonii*	Sep	65	40 - 40	65	1
loc4	*Myotis nattereri*	May	21	0	21	1
loc4	*Nyctalus*	Jun	0	0	0	1
loc4	*Pipistrellus pipistrellus*	May	1	6.5 - 6.5	1	1
loc4	*Pipistrellus pipistrellus*	Jun	12	6.5 - 6.5	12	1
loc4	*Pipistrellus pipistrellus*	Jul	0	6.5 - 6.5	0	2
loc4	*Pipistrellus pipistrellus*	Sep	0	6.5 - 6.5	0	2
loc4	*Pipistrellus pygmaeus*	May	0	0 - 0	0	2
loc4	*Pipistrellus pygmaeus*	Sep	8	0 - 0	8	3
loc5	*Myotis daubentonii*	Sep	48	31 - 65	65	4
loc5	*Myotis nattereri*	Sep	21	0	21	1
loc5	*Nyctalus*	Sep	0	0 - 0	0	2
loc5	*Pipistrellus pipistrellus*	Sep	0	0	0	1
loc5	*Pipistrellus pygmaeus*	May	0	2 - 6	0	1
loc5	*Pipistrellus pygmaeus*	Sep	3	2 - 6	6	4
loc5	*Plecotus auritus*	Sep	54	54 - 54	54	4
loc6	*Myotis daubentonii*	May	15	15 - 37.5	15	2
loc6	*Myotis daubentonii*	Sep	15	15 - 37.5	62	7
loc6	*Myotis nattereri*	Sep	21	0	21	1
loc6	*Nyctalus*	Sep	0	0	0	1
loc6	*Pipistrellus pipistrellus*	Sep	0	0	0	1
loc6	*Pipistrellus pygmaeus*	Sep	2	2 - 2	2	4
loc6	*Plecotus auritus*	Sep	54	0	54	1
loc7	*Myotis daubentonii*	May	60	15 - 42	60	1
loc7	*Myotis daubentonii*	Sep	15	15 - 42	42	5
loc7	*Myotis nattereri*	Sep	21	21 - 21	21	2
loc7	*Nyctalus*	Sep	0	0	0	1
loc7	*Pipistrellus pipistrellus*	Sep	1	0.5 - 0.5	1	2
loc7	*Pipistrellus pygmaeus*	Sep	4	4 - 4	4	2
loc8	*Myotis daubentonii*	May	15	15 - 15	15	1
loc8	*Myotis daubentonii*	Sep	15	15 - 15	31	5
loc8	*Myotis nattereri*	Sep	21	0	21	1
loc8	*Nyctalus*	Sep	0	0	0	1
loc8	*Pipistrellus pipistrellus*	May	0	1 - 1	0	1
loc8	*Pipistrellus pipistrellus*	Sep	1	1 - 1	1	5
loc8	*Pipistrellus pygmaeus*	May	0	2 - 2	0	1
loc8	*Pipistrellus pygmaeus*	Sep	0	2 - 2	2	8
loc9	*Myotis daubentonii*	Jun	15	15 - 15	15	1
loc9	*Myotis daubentonii*	Sep	15	15 - 15	31	4
loc9	*Myotis nattereri*	Sep	21	0	21	1
loc9	*Nyctalus*	Jun	31	30.5 - 30.5	61	4
loc9	*Pipistrellus pipistrellus*	Jun	0	0 - 0	0	1
loc9	*Pipistrellus pipistrellus*	Sep	1	0 - 0	1	2
loc9	*Pipistrellus pygmaeus*	Sep	0	0 - 0	1	6

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	4	4	20	28	46	84
Myotis nattereri	0	0	0	5	45	0
Nyctalus	0	0	3	0	0	60
Pipistrellus pipistrellus	0	0	8	4	7	176
Pipistrellus pygmaeus	0	0	5	5	7	196
Plecotus auritus	1	11	0	17	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	31	54 - 96	100	186
Myotis nattereri	21	28 - 28	50	50
Nyctalus	0	5.5 - 5.5	67	63
Pipistrellus pipistrellus	0	6.5 - 6.5	74	195
Pipistrellus pygmaeus	0	9 - 9	70	213
Plecotus auritus	54	82 - 82	100	29

Figures

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

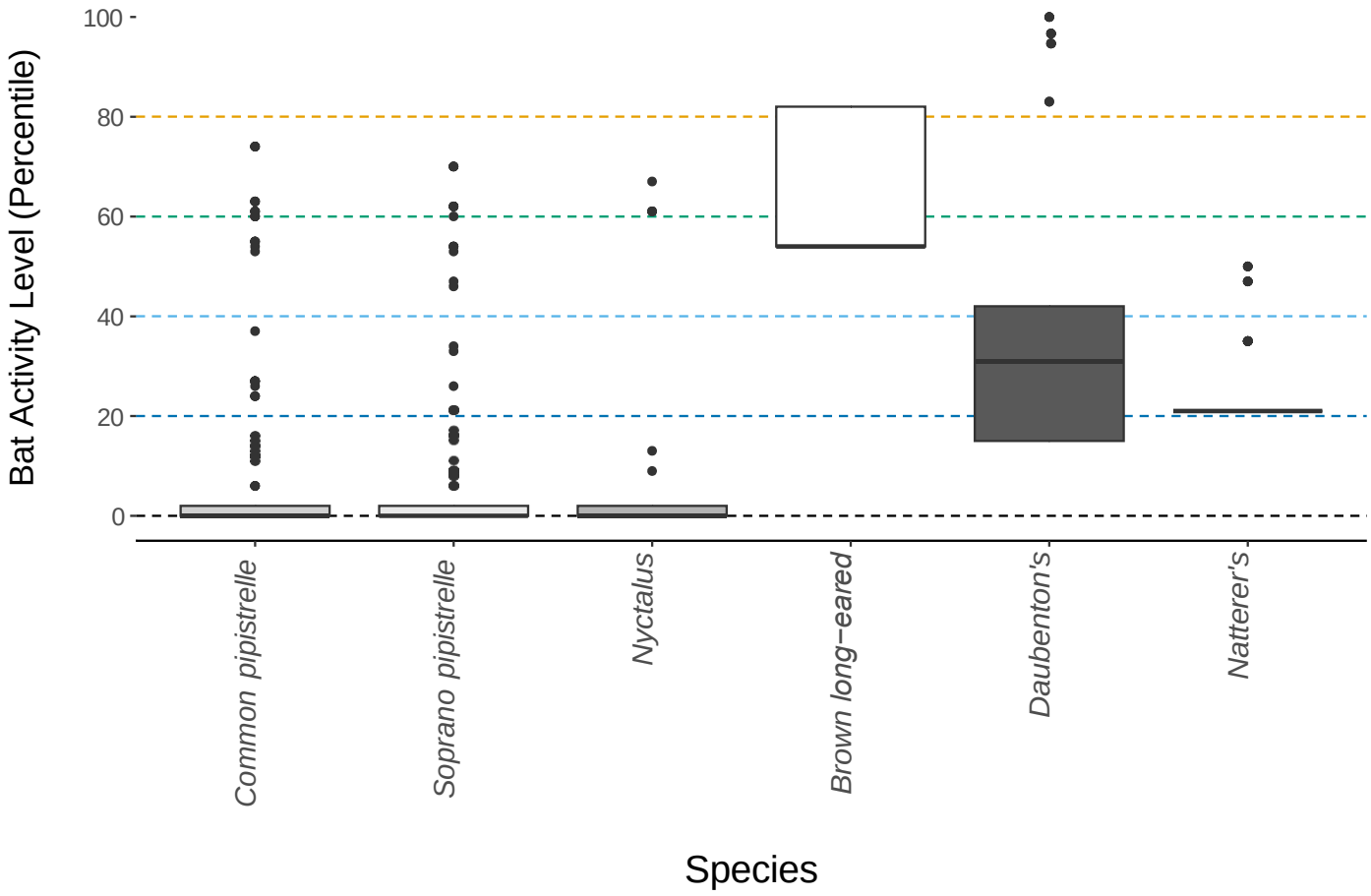
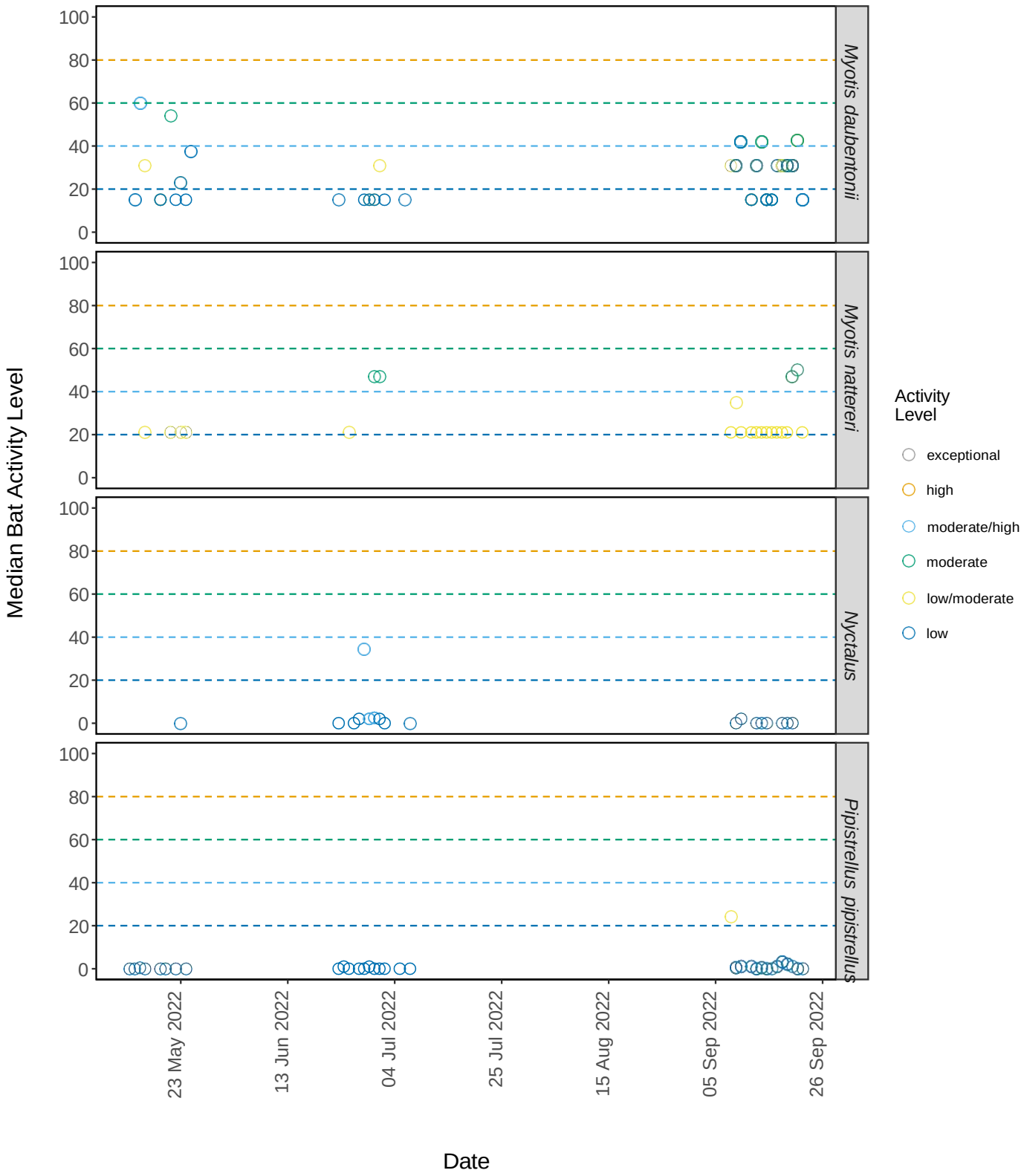
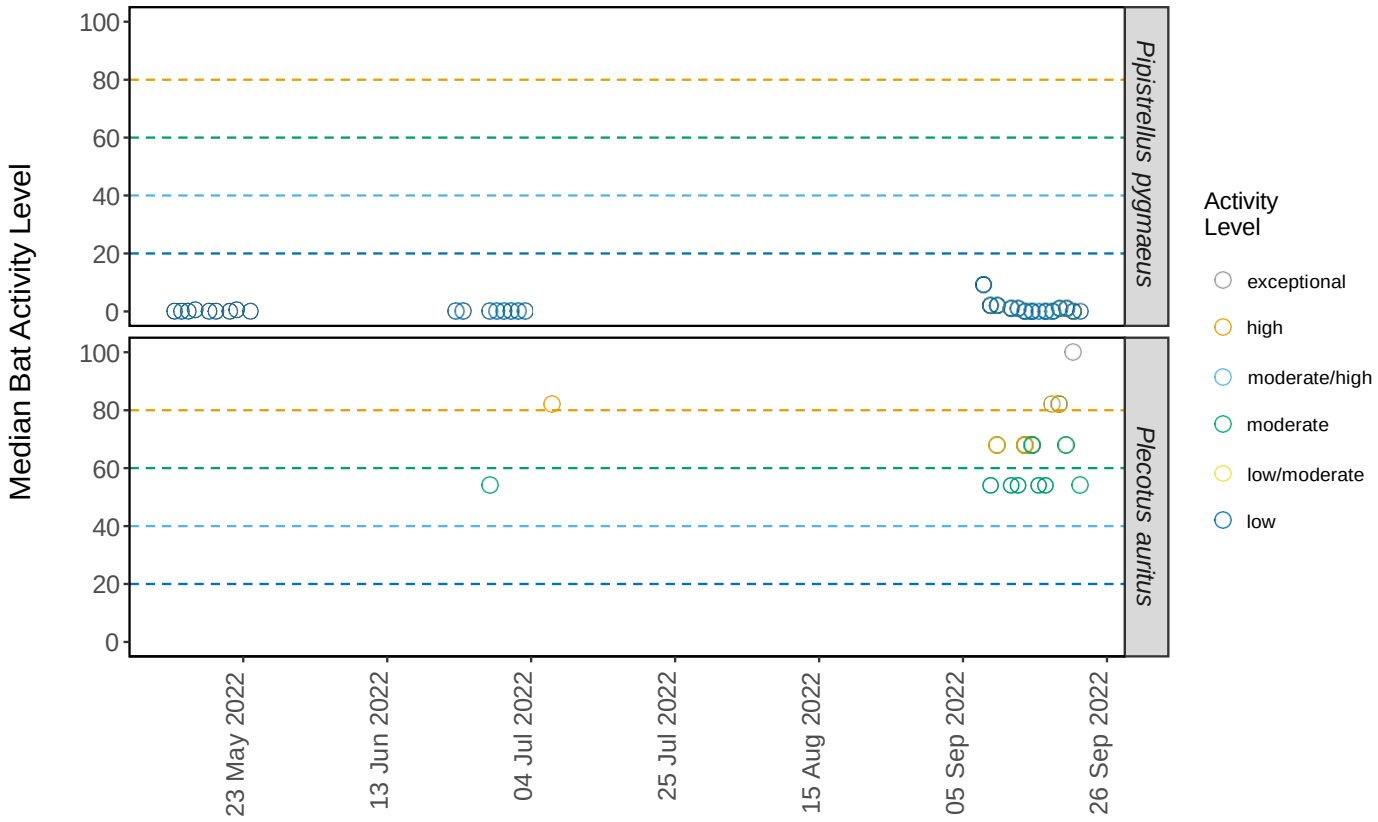


Figure 5. The median activity levels of bats recorded across all detectors each night.




Median Bat Activity Level
100
80
60
40
20
0
Pipistrellus pygmaeus
Plecotus auritus
23 May 2022
13 Jun 2022
04 Jul 2022
25 Jul 2022
15 Aug 2022
05 Sep 2022
26 Sep 2022
Activity Level
exceptional
high
moderate/high
moderate
low/moderate
low

Date

PER SITE, PER MONTH

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

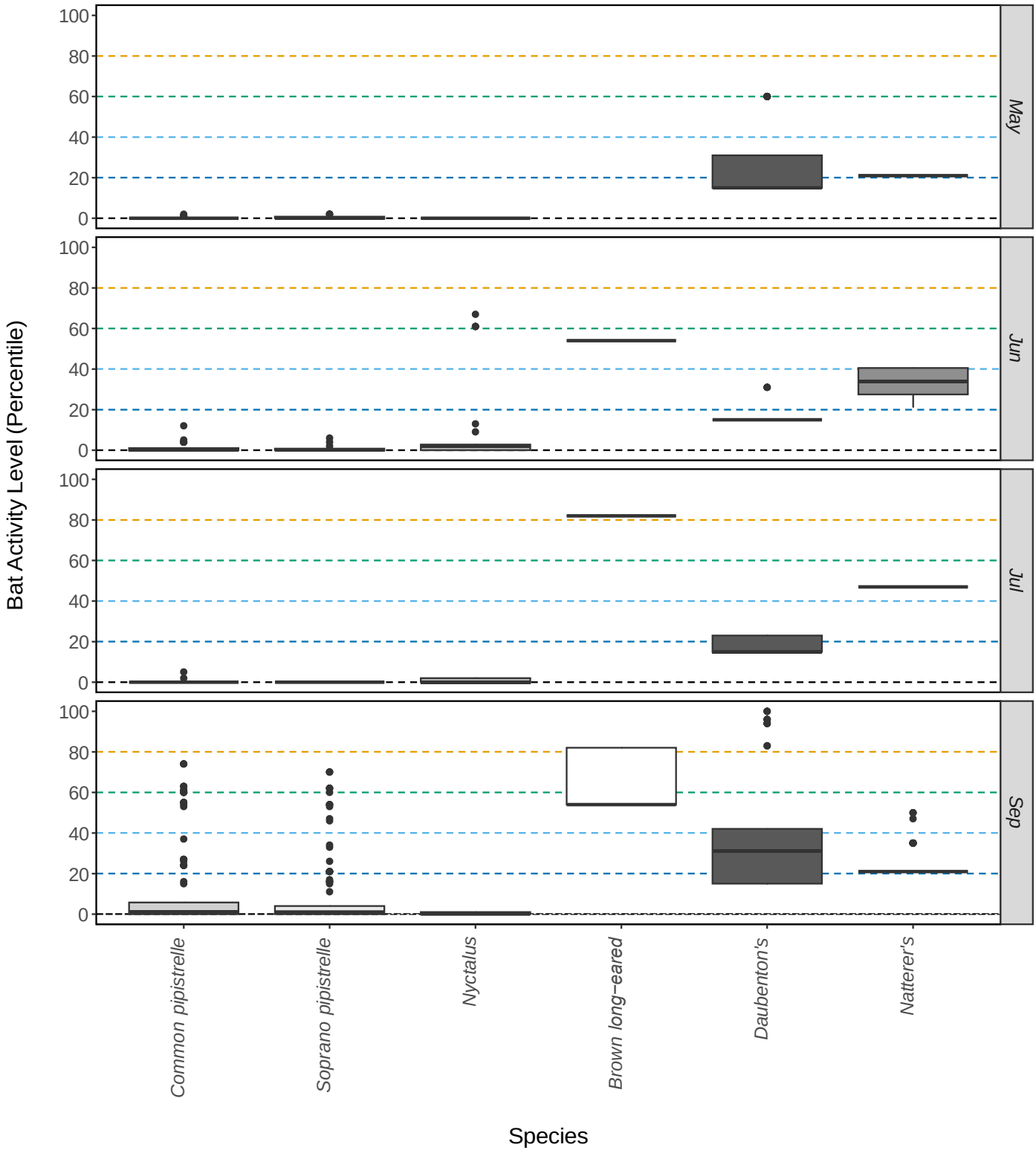
Species/Species Group	Month	Nights of Exceptional Activity	Nights of High Activity	Nights of Moderate/ High Activity	Nights of Moderate Activity	Nights of Low/ Moderate Activity	Nights of Low Activity
Myotis daubentonii	May	0	0	4	1	3	14
Myotis daubentonii	Jun	0	0	0	0	2	15
Myotis daubentonii	Jul	0	0	0	0	1	2
Myotis daubentonii	Sep	4	4	16	27	40	53
Myotis nattereri	May	0	0	0	0	4	0
Myotis nattereri	Jun	0	0	0	1	1	0
Myotis nattereri	Jul	0	0	0	1	0	0
Myotis nattereri	Sep	0	0	0	3	40	0
Nyctalus	May	0	0	0	0	0	1
Nyctalus	Jun	0	0	3	0	0	31
Nyctalus	Jul	0	0	0	0	0	9
Nyctalus	Sep	0	0	0	0	0	19
Pipistrellus pipistrellus	May	0	0	0	0	0	26
Pipistrellus pipistrellus	Jun	0	0	0	0	0	39
Pipistrellus pipistrellus	Jul	0	0	0	0	0	12
Pipistrellus pipistrellus	Sep	0	0	8	4	7	99
Pipistrellus pygmaeus	May	0	0	0	0	0	38
Pipistrellus pygmaeus	Jun	0	0	0	0	0	14
Pipistrellus pygmaeus	Jul	0	0	0	0	0	8
Pipistrellus pygmaeus	Sep	0	0	5	5	7	136
Plecotus auritus	Jun	0	0	0	1	0	0
Plecotus auritus	Jul	0	1	0	0	0	0
Plecotus auritus	Sep	1	10	0	16	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	May	15	40 - 40	60	22
Myotis daubentonii	Jun	15	54 - 96	31	17
Myotis daubentonii	Jul	15	15 - 45.5	31	3
Myotis daubentonii	Sep	31	54 - 96	100	144
Myotis nattereri	May	21	28 - 28	21	4
Myotis nattereri	Jun	34	21 - 41	47	2
Myotis nattereri	Jul	47	21 - 41	47	1
Myotis nattereri	Sep	21	28 - 28	50	43
Nyctalus	May	0	2 - 2	0	1
Nyctalus	Jun	2	5.5 - 5.5	67	34
Nyctalus	Jul	0	3 - 3	2	9
Nyctalus	Sep	0	3 - 3	2	19
Pipistrellus pipistrellus	May	0	6.5 - 6.5	2	26
Pipistrellus pipistrellus	Jun	0	6.5 - 6.5	12	39
Pipistrellus pipistrellus	Jul	0	6.5 - 6.5	5	12
Pipistrellus pipistrellus	Sep	1	6.5 - 6.5	74	118
Pipistrellus pygmaeus	May	0	9 - 9	2	38
Pipistrellus pygmaeus	Jun	0	9 - 21.5	6	14
Pipistrellus pygmaeus	Jul	0	2 - 4.5	0	8
Pipistrellus pygmaeus	Sep	1	9 - 9	70	153
Plecotus auritus	Jun	54	54 - 54	54	1
Plecotus auritus	Jul	82	0	82	1
Plecotus auritus	Sep	54	82 - 82	100	27

Figures

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



PART 2: Nightly Analysis

ENTIRE SURVEY PERIOD

Sunrise and Sunset Times

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

Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.6_-4.11	13/05/2022	2022-05-13	21:17	05:09	7.9
55.6_-4.11	14/05/2022	2022-05-13	21:17	05:09	7.9
55.58_-4.1	14/05/2022	2022-05-13	21:17	05:09	7.9
55.55_-4.04	14/05/2022	2022-05-13	21:17	05:09	7.9
55.55_-4.05	14/05/2022	2022-05-13	21:17	05:09	7.9
55.55_-4.03	14/05/2022	2022-05-13	21:17	05:09	7.9
55.6_-4.11	15/05/2022	2022-05-14	21:19	05:07	7.8
55.59_-4.05	15/05/2022	2022-05-14	21:19	05:07	7.8
55.58_-4.1	15/05/2022	2022-05-14	21:19	05:07	7.8
55.56_-4.03	14/05/2022	2022-05-14	21:19	05:07	7.8
55.55_-4.05	14/05/2022	2022-05-14	21:19	05:07	7.8
55.55_-4.02	14/05/2022	2022-05-14	21:19	05:07	7.8
55.55_-4.02	15/05/2022	2022-05-14	21:19	05:07	7.8
55.55_-4.03	14/05/2022	2022-05-14	21:19	05:07	7.8
55.55_-4.03	15/05/2022	2022-05-14	21:19	05:07	7.8
55.54_-4.11	14/05/2022	2022-05-14	21:19	05:07	7.8
55.6_-4.05	14/05/2022	2022-05-14	21:19	05:07	7.8
55.59_-4.06	14/05/2022	2022-05-14	21:19	05:07	7.8
55.59_-4.09	14/05/2022	2022-05-14	21:19	05:07	7.8
55.6_-4.11	14/05/2022	2022-05-14	21:19	05:07	7.8
55.6_-4.1	15/05/2022	2022-05-14	21:19	05:07	7.8
55.56_-4.02	14/05/2022	2022-05-14	21:19	05:07	7.8
55.56_-4.04	15/05/2022	2022-05-14	21:19	05:07	7.8
55.59_-4.09	15/05/2022	2022-05-14	21:19	05:07	7.8
55.59_-4.07	15/05/2022	2022-05-14	21:19	05:07	7.8
55.58_-4.07	15/05/2022	2022-05-14	21:19	05:07	7.8
55.6_-4.05	15/05/2022	2022-05-14	21:19	05:07	7.8
55.58_-4.1	16/05/2022	2022-05-15	21:20	05:05	7.7
55.55_-4.05	15/05/2022	2022-05-15	21:20	05:05	7.7
55.55_-4.02	15/05/2022	2022-05-15	21:20	05:05	7.7
55.55_-4.03	15/05/2022	2022-05-15	21:20	05:05	7.7
55.55_-4.03	16/05/2022	2022-05-15	21:20	05:05	7.7
55.54_-4.11	15/05/2022	2022-05-15	21:20	05:05	7.7
55.6_-4.05	16/05/2022	2022-05-15	21:20	05:05	7.7
55.59_-4.07	15/05/2022	2022-05-15	21:20	05:05	7.7
55.59_-4.05	16/05/2022	2022-05-15	21:20	05:05	7.7
55.58_-4.07	17/05/2022	2022-05-16	21:22	05:03	7.7
55.58_-4.1	16/05/2022	2022-05-16	21:22	05:03	7.7
55.56_-4.03	16/05/2022	2022-05-16	21:22	05:03	7.7
55.55_-4.04	16/05/2022	2022-05-16	21:22	05:03	7.7
55.55_-4.04	17/05/2022	2022-05-16	21:22	05:03	7.7
55.55_-4.05	16/05/2022	2022-05-16	21:22	05:03	7.7
55.55_-4.05	17/05/2022	2022-05-16	21:22	05:03	7.7
55.55_-4.02	17/05/2022	2022-05-16	21:22	05:03	7.7
55.55_-4.03	17/05/2022	2022-05-16	21:22	05:03	7.7
55.54_-4.12	16/05/2022	2022-05-16	21:22	05:03	7.7
55.58_-4.09	17/05/2022	2022-05-16	21:22	05:03	7.7
55.56_-4.03	17/05/2022	2022-05-16	21:22	05:03	7.7

Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.54_-4.12	17/05/2022	2022-05-16	21:22	05:03	7.7
55.54_-4.11	16/05/2022	2022-05-16	21:22	05:03	7.7
55.54_-4.11	17/05/2022	2022-05-16	21:22	05:03	7.7
55.6_-4.11	19/05/2022	2022-05-18	21:26	05:00	7.6
55.6_-4.11	20/05/2022	2022-05-19	21:28	04:58	7.5
55.55_-4.08	20/05/2022	2022-05-19	21:28	04:58	7.5
55.55_-4.03	20/05/2022	2022-05-19	21:28	04:58	7.5
55.54_-4.12	19/05/2022	2022-05-19	21:28	04:58	7.5
55.6_-4.1	20/05/2022	2022-05-19	21:28	04:58	7.5
55.55_-4.02	20/05/2022	2022-05-19	21:28	04:58	7.5
55.59_-4.09	20/05/2022	2022-05-19	21:28	04:58	7.5
55.55_-4.05	20/05/2022	2022-05-20	21:29	04:57	7.5
55.58_-4.1	21/05/2022	2022-05-21	21:31	04:55	7.4
55.54_-4.12	22/05/2022	2022-05-21	21:31	04:55	7.4
55.55_-4.05	22/05/2022	2022-05-22	21:33	04:54	7.3
55.54_-4.12	22/05/2022	2022-05-22	21:33	04:54	7.3
55.55_-4.02	22/05/2022	2022-05-22	21:33	04:54	7.3
55.6_-4.05	23/05/2022	2022-05-22	21:33	04:54	7.3
55.55_-4.04	23/05/2022	2022-05-22	21:33	04:54	7.3
55.56_-4.03	24/05/2022	2022-05-23	21:34	04:52	7.3
55.55_-4.02	23/05/2022	2022-05-23	21:34	04:52	7.3
55.58_-4.09	24/05/2022	2022-05-23	21:34	04:52	7.3
55.54_-4.12	25/05/2022	2022-05-24	21:36	04:51	7.2
55.54_-4.11	25/05/2022	2022-05-24	21:36	04:51	7.2
55.55_-4.02	25/05/2022	2022-05-24	21:36	04:51	7.2
55.59_-4.07	24/05/2022	2022-05-24	21:36	04:51	7.2
55.58_-4.1	25/05/2022	2022-05-24	21:36	04:51	7.2
55.56_-4.03	25/05/2022	2022-05-24	21:36	04:51	7.2
55.55_-4.08	24/05/2022	2022-05-24	21:36	04:51	7.2
55.6_-4.05	25/05/2022	2022-05-24	21:36	04:51	7.2
55.56_-4.03	26/05/2022	2022-05-25	21:38	04:49	7.2
55.55_-4.04	25/05/2022	2022-05-25	21:38	04:49	7.2
55.58_-4.09	24/06/2022	2022-06-23	22:05	04:34	6.5
55.57_-4.02	24/06/2022	2022-06-23	22:05	04:34	6.5
55.56_-4.03	23/06/2022	2022-06-23	22:05	04:34	6.5
55.58_-4.1	24/06/2022	2022-06-23	22:05	04:34	6.5
55.57_-4.01	24/06/2022	2022-06-23	22:05	04:34	6.5
55.56_-4.03	24/06/2022	2022-06-23	22:05	04:34	6.5
55.55_-4.04	23/06/2022	2022-06-23	22:05	04:34	6.5
55.55_-4.02	23/06/2022	2022-06-23	22:05	04:34	6.5
55.55_-4.03	24/06/2022	2022-06-23	22:05	04:34	6.5
55.54_-4.12	23/06/2022	2022-06-23	22:05	04:34	6.5
55.54_-4.12	24/06/2022	2022-06-23	22:05	04:34	6.5
55.54_-4.11	23/06/2022	2022-06-23	22:05	04:34	6.5
55.54_-4.11	24/06/2022	2022-06-23	22:05	04:34	6.5
55.57_-4.02	23/06/2022	2022-06-23	22:05	04:34	6.5
55.55_-4.03	23/06/2022	2022-06-23	22:05	04:34	6.5
55.58_-4.09	23/06/2022	2022-06-23	22:05	04:34	6.5
55.56_-4.04	24/06/2022	2022-06-23	22:05	04:34	6.5
55.56_-4.04	23/06/2022	2022-06-23	22:05	04:34	6.5
55.55_-4.04	24/06/2022	2022-06-23	22:05	04:34	6.5
55.55_-4.08	23/06/2022	2022-06-23	22:05	04:34	6.5
55.55_-4.08	24/06/2022	2022-06-23	22:05	04:34	6.5
55.59_-4.08	24/06/2022	2022-06-23	22:05	04:34	6.5
55.6_-4.11	25/06/2022	2022-06-24	22:05	04:35	6.5
55.6_-4.1	26/06/2022	2022-06-25	22:05	04:35	6.5
55.54_-4.11	26/06/2022	2022-06-25	22:05	04:35	6.5

Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.59_-4.05	26/06/2022	2022-06-25	22:05	04:35	6.5
55.59_-4.08	27/06/2022	2022-06-26	22:05	04:36	6.5
55.58_-4.1	27/06/2022	2022-06-27	22:04	04:36	6.5
55.55_-4.02	27/06/2022	2022-06-27	22:04	04:36	6.5
55.55_-4.03	27/06/2022	2022-06-27	22:04	04:36	6.5
55.6_-4.11	29/06/2022	2022-06-28	22:04	04:37	6.5
55.55_-4.02	28/06/2022	2022-06-28	22:04	04:37	6.5
55.54_-4.12	28/06/2022	2022-06-28	22:04	04:37	6.5
55.54_-4.12	29/06/2022	2022-06-28	22:04	04:37	6.5
55.54_-4.11	29/06/2022	2022-06-28	22:04	04:37	6.5
55.56_-4.03	29/06/2022	2022-06-28	22:04	04:37	6.5
55.55_-4.03	28/06/2022	2022-06-28	22:04	04:37	6.5
55.55_-4.03	29/06/2022	2022-06-28	22:04	04:37	6.5
55.58_-4.1	30/06/2022	2022-06-29	22:04	04:38	6.6
55.6_-4.11	30/06/2022	2022-06-29	22:04	04:38	6.6
55.56_-4.04	30/06/2022	2022-06-29	22:04	04:38	6.6
55.54_-4.11	30/06/2022	2022-06-29	22:04	04:38	6.6
55.59_-4.05	30/06/2022	2022-06-29	22:04	04:38	6.6
55.58_-4.01	30/06/2022	2022-06-29	22:04	04:38	6.6
55.56_-4.02	30/06/2022	2022-06-29	22:04	04:38	6.6
55.55_-4.02	29/06/2022	2022-06-29	22:04	04:38	6.6
55.55_-4.02	30/06/2022	2022-06-29	22:04	04:38	6.6
55.55_-4.03	30/06/2022	2022-06-29	22:04	04:38	6.6
55.54_-4.12	30/06/2022	2022-06-29	22:04	04:38	6.6
55.54_-4.12	29/06/2022	2022-06-29	22:04	04:38	6.6
55.6_-4.05	30/06/2022	2022-06-29	22:04	04:38	6.6
55.59_-4.07	29/06/2022	2022-06-29	22:04	04:38	6.6
55.59_-4.07	30/06/2022	2022-06-29	22:04	04:38	6.6
55.58_-4.07	30/06/2022	2022-06-29	22:04	04:38	6.6
55.57_-4.02	29/06/2022	2022-06-29	22:04	04:38	6.6
55.57_-4.01	30/06/2022	2022-06-29	22:04	04:38	6.6
55.56_-4.04	29/06/2022	2022-06-29	22:04	04:38	6.6
55.55_-4.04	30/06/2022	2022-06-29	22:04	04:38	6.6
55.55_-4.03	29/06/2022	2022-06-29	22:04	04:38	6.6
55.59_-4.08	30/06/2022	2022-06-29	22:04	04:38	6.6
55.59_-4.07	01/07/2022	2022-06-30	22:04	04:38	6.6
55.57_-4.02	30/06/2022	2022-06-30	22:04	04:38	6.6
55.6_-4.11	01/07/2022	2022-06-30	22:04	04:38	6.6
55.56_-4.03	30/06/2022	2022-06-30	22:04	04:38	6.6
55.54_-4.12	01/07/2022	2022-06-30	22:04	04:38	6.6
55.59_-4.07	30/06/2022	2022-06-30	22:04	04:38	6.6
55.59_-4.06	01/07/2022	2022-06-30	22:04	04:38	6.6
55.6_-4.11	30/06/2022	2022-06-30	22:04	04:38	6.6
55.56_-4.04	30/06/2022	2022-06-30	22:04	04:38	6.6
55.56_-4.03	01/07/2022	2022-06-30	22:04	04:38	6.6
55.55_-4.04	30/06/2022	2022-06-30	22:04	04:38	6.6
55.55_-4.02	01/07/2022	2022-06-30	22:04	04:38	6.6
55.55_-4.03	30/06/2022	2022-06-30	22:04	04:38	6.6
55.54_-4.12	30/06/2022	2022-06-30	22:04	04:38	6.6
55.54_-4.11	30/06/2022	2022-06-30	22:04	04:38	6.6
55.59_-4.08	01/07/2022	2022-06-30	22:04	04:38	6.6
55.58_-4.09	01/07/2022	2022-06-30	22:04	04:38	6.6
55.58_-4.1	01/07/2022	2022-06-30	22:04	04:38	6.6
55.55_-4.1	30/06/2022	2022-06-30	22:04	04:38	6.6
55.59_-4.08	30/06/2022	2022-06-30	22:04	04:38	6.6
55.58_-4.09	30/06/2022	2022-06-30	22:04	04:38	6.6
55.58_-4.01	30/06/2022	2022-06-30	22:04	04:38	6.6

Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.55_-4.04	01/07/2022	2022-06-30	22:04	04:38	6.6
55.55_-4.03	01/07/2022	2022-06-30	22:04	04:38	6.6
55.55_-4.08	30/06/2022	2022-06-30	22:04	04:38	6.6
55.59_-4.05	01/07/2022	2022-07-01	22:03	04:39	6.6
55.58_-4.1	01/07/2022	2022-07-01	22:03	04:39	6.6
55.6_-4.11	02/07/2022	2022-07-01	22:03	04:39	6.6
55.59_-4.07	02/07/2022	2022-07-01	22:03	04:39	6.6
55.57_-4.01	01/07/2022	2022-07-01	22:03	04:39	6.6
55.57_-4.01	02/07/2022	2022-07-01	22:03	04:39	6.6
55.55_-4.02	01/07/2022	2022-07-01	22:03	04:39	6.6
55.55_-4.03	01/07/2022	2022-07-01	22:03	04:39	6.6
55.6_-4.05	01/07/2022	2022-07-01	22:03	04:39	6.6
55.54_-4.12	01/07/2022	2022-07-01	22:03	04:39	6.6
55.54_-4.12	02/07/2022	2022-07-01	22:03	04:39	6.6
55.55_-4.04	01/07/2022	2022-07-01	22:03	04:39	6.6
55.58_-4.07	02/07/2022	2022-07-01	22:03	04:39	6.6
55.54_-4.11	01/07/2022	2022-07-01	22:03	04:39	6.6
55.58_-4.1	03/07/2022	2022-07-02	22:03	04:40	6.6
55.55_-4.08	02/07/2022	2022-07-02	22:03	04:40	6.6
55.54_-4.12	02/07/2022	2022-07-02	22:03	04:40	6.6
55.58_-4.01	03/07/2022	2022-07-02	22:03	04:40	6.6
55.54_-4.11	02/07/2022	2022-07-02	22:03	04:40	6.6
55.6_-4.05	02/07/2022	2022-07-02	22:03	04:40	6.6
55.59_-4.07	03/07/2022	2022-07-02	22:03	04:40	6.6
55.55_-4.02	02/07/2022	2022-07-02	22:03	04:40	6.6
55.55_-4.03	02/07/2022	2022-07-02	22:03	04:40	6.6
55.55_-4.03	04/07/2022	2022-07-03	22:02	04:41	6.6
55.6_-4.05	06/07/2022	2022-07-05	22:01	04:43	6.7
55.55_-4.02	07/07/2022	2022-07-06	22:00	04:44	6.7
55.6_-4.1	07/07/2022	2022-07-07	22:00	04:45	6.8
55.6_-4.11	07/07/2022	2022-07-07	22:00	04:45	6.8
55.59_-4.07	07/07/2022	2022-07-07	22:00	04:45	6.8
55.58_-4.09	09/09/2022	2022-09-08	19:55	06:37	10.7
55.58_-4.1	09/09/2022	2022-09-08	19:55	06:37	10.7
55.55_-4.03	09/09/2022	2022-09-08	19:55	06:37	10.7
55.54_-4.11	09/09/2022	2022-09-08	19:55	06:37	10.7
55.59_-4.06	09/09/2022	2022-09-09	19:52	06:39	10.8
55.59_-4.05	09/09/2022	2022-09-09	19:52	06:39	10.8
55.58_-4.09	09/09/2022	2022-09-09	19:52	06:39	10.8
55.58_-4.09	10/09/2022	2022-09-09	19:52	06:39	10.8
55.58_-4.1	09/09/2022	2022-09-09	19:52	06:39	10.8
55.58_-4.1	10/09/2022	2022-09-09	19:52	06:39	10.8
55.57_-4.02	09/09/2022	2022-09-09	19:52	06:39	10.8
55.57_-4.02	10/09/2022	2022-09-09	19:52	06:39	10.8
55.6_-4.11	09/09/2022	2022-09-09	19:52	06:39	10.8
55.6_-4.11	10/09/2022	2022-09-09	19:52	06:39	10.8
55.6_-4.1	09/09/2022	2022-09-09	19:52	06:39	10.8
55.56_-4.03	10/09/2022	2022-09-09	19:52	06:39	10.8
55.56_-4.04	10/09/2022	2022-09-09	19:52	06:39	10.8
55.56_-4.03	09/09/2022	2022-09-09	19:52	06:39	10.8
55.55_-4.05	09/09/2022	2022-09-09	19:52	06:39	10.8
55.55_-4.02	09/09/2022	2022-09-09	19:52	06:39	10.8
55.55_-4.03	09/09/2022	2022-09-09	19:52	06:39	10.8
55.55_-4.03	10/09/2022	2022-09-09	19:52	06:39	10.8
55.6_-4.05	09/09/2022	2022-09-09	19:52	06:39	10.8
55.6_-4.05	10/09/2022	2022-09-09	19:52	06:39	10.8
55.59_-4.05	10/09/2022	2022-09-09	19:52	06:39	10.8

Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.59_-4.07	10/09/2022	2022-09-09	19:52	06:39	10.8
55.59_-4.09	09/09/2022	2022-09-09	19:52	06:39	10.8
55.59_-4.09	10/09/2022	2022-09-09	19:52	06:39	10.8
55.59_-4.07	09/09/2022	2022-09-09	19:52	06:39	10.8
55.58_-4.07	10/09/2022	2022-09-09	19:52	06:39	10.8
55.55_-4.04	09/09/2022	2022-09-09	19:52	06:39	10.8
55.59_-4.08	09/09/2022	2022-09-09	19:52	06:39	10.8
55.58_-4.01	09/09/2022	2022-09-09	19:52	06:39	10.8
55.54_-4.11	09/09/2022	2022-09-09	19:52	06:39	10.8
55.59_-4.06	10/09/2022	2022-09-09	19:52	06:39	10.8
55.59_-4.08	10/09/2022	2022-09-09	19:52	06:39	10.8
55.59_-4.07	10/09/2022	2022-09-10	19:50	06:41	10.9
55.58_-4.09	10/09/2022	2022-09-10	19:50	06:41	10.9
55.58_-4.09	11/09/2022	2022-09-10	19:50	06:41	10.9
55.58_-4.07	10/09/2022	2022-09-10	19:50	06:41	10.9
55.58_-4.1	10/09/2022	2022-09-10	19:50	06:41	10.9
55.58_-4.1	11/09/2022	2022-09-10	19:50	06:41	10.9
55.57_-4.02	10/09/2022	2022-09-10	19:50	06:41	10.9
55.6_-4.11	10/09/2022	2022-09-10	19:50	06:41	10.9
55.6_-4.11	11/09/2022	2022-09-10	19:50	06:41	10.9
55.6_-4.1	10/09/2022	2022-09-10	19:50	06:41	10.9
55.6_-4.1	11/09/2022	2022-09-10	19:50	06:41	10.9
55.56_-4.03	10/09/2022	2022-09-10	19:50	06:41	10.9
55.56_-4.03	11/09/2022	2022-09-10	19:50	06:41	10.9
55.56_-4.04	10/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.04	11/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.05	10/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.02	10/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.02	11/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.03	10/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.03	11/09/2022	2022-09-10	19:50	06:41	10.9
55.54_-4.12	10/09/2022	2022-09-10	19:50	06:41	10.9
55.54_-4.12	11/09/2022	2022-09-10	19:50	06:41	10.9
55.54_-4.11	10/09/2022	2022-09-10	19:50	06:41	10.9
55.54_-4.11	11/09/2022	2022-09-10	19:50	06:41	10.9
55.6_-4.05	10/09/2022	2022-09-10	19:50	06:41	10.9
55.6_-4.05	11/09/2022	2022-09-10	19:50	06:41	10.9
55.59_-4.06	11/09/2022	2022-09-10	19:50	06:41	10.9
55.59_-4.06	10/09/2022	2022-09-10	19:50	06:41	10.9
55.59_-4.05	10/09/2022	2022-09-10	19:50	06:41	10.9
55.59_-4.09	10/09/2022	2022-09-10	19:50	06:41	10.9
55.59_-4.08	10/09/2022	2022-09-10	19:50	06:41	10.9
55.57_-4.02	11/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.04	10/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.05	11/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.08	10/09/2022	2022-09-10	19:50	06:41	10.9
55.59_-4.05	11/09/2022	2022-09-10	19:50	06:41	10.9
55.59_-4.09	11/09/2022	2022-09-10	19:50	06:41	10.9
55.59_-4.07	11/09/2022	2022-09-10	19:50	06:41	10.9
55.58_-4.07	11/09/2022	2022-09-10	19:50	06:41	10.9
55.58_-4.01	10/09/2022	2022-09-10	19:50	06:41	10.9
55.58_-4.01	11/09/2022	2022-09-10	19:50	06:41	10.9
55.56_-4.04	11/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.1	10/09/2022	2022-09-10	19:50	06:41	10.9
55.55_-4.1	11/09/2022	2022-09-10	19:50	06:41	10.9
55.57_-4.01	10/09/2022	2022-09-10	19:50	06:41	10.9
55.59_-4.07	13/09/2022	2022-09-12	19:44	06:45	11.0

Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.58_-4.09	12/09/2022	2022-09-12	19:44	06:45	11.0
55.58_-4.09	13/09/2022	2022-09-12	19:44	06:45	11.0
55.58_-4.1	12/09/2022	2022-09-12	19:44	06:45	11.0
55.58_-4.1	13/09/2022	2022-09-12	19:44	06:45	11.0
55.6_-4.11	12/09/2022	2022-09-12	19:44	06:45	11.0
55.6_-4.11	13/09/2022	2022-09-12	19:44	06:45	11.0
55.56_-4.03	12/09/2022	2022-09-12	19:44	06:45	11.0
55.55_-4.03	13/09/2022	2022-09-12	19:44	06:45	11.0
55.54_-4.11	12/09/2022	2022-09-12	19:44	06:45	11.0
55.59_-4.06	13/09/2022	2022-09-12	19:44	06:45	11.0
55.59_-4.09	12/09/2022	2022-09-12	19:44	06:45	11.0
55.59_-4.08	12/09/2022	2022-09-12	19:44	06:45	11.0
55.59_-4.08	13/09/2022	2022-09-12	19:44	06:45	11.0
55.55_-4.04	13/09/2022	2022-09-12	19:44	06:45	11.0
55.55_-4.03	12/09/2022	2022-09-12	19:44	06:45	11.0
55.54_-4.12	12/09/2022	2022-09-12	19:44	06:45	11.0
55.59_-4.09	13/09/2022	2022-09-12	19:44	06:45	11.0
55.58_-4.07	12/09/2022	2022-09-12	19:44	06:45	11.0
55.6_-4.1	13/09/2022	2022-09-12	19:44	06:45	11.0
55.55_-4.05	12/09/2022	2022-09-12	19:44	06:45	11.0
55.59_-4.05	12/09/2022	2022-09-12	19:44	06:45	11.0
55.55_-4.04	12/09/2022	2022-09-12	19:44	06:45	11.0
55.58_-4.09	13/09/2022	2022-09-13	19:42	06:47	11.1
55.58_-4.09	14/09/2022	2022-09-13	19:42	06:47	11.1
55.58_-4.1	13/09/2022	2022-09-13	19:42	06:47	11.1
55.58_-4.1	14/09/2022	2022-09-13	19:42	06:47	11.1
55.6_-4.11	13/09/2022	2022-09-13	19:42	06:47	11.1
55.6_-4.11	14/09/2022	2022-09-13	19:42	06:47	11.1
55.6_-4.1	13/09/2022	2022-09-13	19:42	06:47	11.1
55.55_-4.03	14/09/2022	2022-09-13	19:42	06:47	11.1
55.54_-4.11	14/09/2022	2022-09-13	19:42	06:47	11.1
55.59_-4.09	13/09/2022	2022-09-13	19:42	06:47	11.1
55.56_-4.04	13/09/2022	2022-09-13	19:42	06:47	11.1
55.55_-4.04	14/09/2022	2022-09-13	19:42	06:47	11.1
55.55_-4.05	13/09/2022	2022-09-13	19:42	06:47	11.1
55.55_-4.02	13/09/2022	2022-09-13	19:42	06:47	11.1
55.55_-4.03	13/09/2022	2022-09-13	19:42	06:47	11.1
55.58_-4.07	14/09/2022	2022-09-13	19:42	06:47	11.1
55.58_-4.01	14/09/2022	2022-09-13	19:42	06:47	11.1
55.57_-4.02	13/09/2022	2022-09-13	19:42	06:47	11.1
55.57_-4.02	14/09/2022	2022-09-13	19:42	06:47	11.1
55.56_-4.03	14/09/2022	2022-09-13	19:42	06:47	11.1
55.56_-4.03	13/09/2022	2022-09-13	19:42	06:47	11.1
55.54_-4.12	14/09/2022	2022-09-13	19:42	06:47	11.1
55.59_-4.06	14/09/2022	2022-09-13	19:42	06:47	11.1
55.59_-4.05	13/09/2022	2022-09-13	19:42	06:47	11.1
55.59_-4.07	13/09/2022	2022-09-13	19:42	06:47	11.1
55.59_-4.07	14/09/2022	2022-09-13	19:42	06:47	11.1
55.59_-4.06	13/09/2022	2022-09-13	19:42	06:47	11.1
55.58_-4.01	13/09/2022	2022-09-13	19:42	06:47	11.1
55.58_-4.09	14/09/2022	2022-09-14	19:39	06:49	11.2
55.58_-4.09	15/09/2022	2022-09-14	19:39	06:49	11.2
55.58_-4.07	15/09/2022	2022-09-14	19:39	06:49	11.2
55.58_-4.1	14/09/2022	2022-09-14	19:39	06:49	11.2
55.58_-4.1	15/09/2022	2022-09-14	19:39	06:49	11.2
55.6_-4.11	14/09/2022	2022-09-14	19:39	06:49	11.2
55.6_-4.1	14/09/2022	2022-09-14	19:39	06:49	11.2

Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.6_-4.1	15/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.04	14/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.03	14/09/2022	2022-09-14	19:39	06:49	11.2
55.6_-4.05	15/09/2022	2022-09-14	19:39	06:49	11.2
55.54_-4.12	14/09/2022	2022-09-14	19:39	06:49	11.2
55.59_-4.06	15/09/2022	2022-09-14	19:39	06:49	11.2
55.59_-4.08	15/09/2022	2022-09-14	19:39	06:49	11.2
55.56_-4.03	14/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.05	14/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.03	15/09/2022	2022-09-14	19:39	06:49	11.2
55.59_-4.09	14/09/2022	2022-09-14	19:39	06:49	11.2
55.59_-4.07	14/09/2022	2022-09-14	19:39	06:49	11.2
55.59_-4.06	14/09/2022	2022-09-14	19:39	06:49	11.2
55.57_-4.02	14/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.04	15/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.05	15/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.02	14/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.02	15/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.08	14/09/2022	2022-09-14	19:39	06:49	11.2
55.55_-4.1	15/09/2022	2022-09-14	19:39	06:49	11.2
55.54_-4.12	15/09/2022	2022-09-14	19:39	06:49	11.2
55.58_-4.09	15/09/2022	2022-09-15	19:37	06:51	11.2
55.58_-4.1	15/09/2022	2022-09-15	19:37	06:51	11.2
55.57_-4.02	15/09/2022	2022-09-15	19:37	06:51	11.2
55.6_-4.1	15/09/2022	2022-09-15	19:37	06:51	11.2
55.56_-4.04	15/09/2022	2022-09-15	19:37	06:51	11.2
55.55_-4.04	16/09/2022	2022-09-15	19:37	06:51	11.2
55.59_-4.05	16/09/2022	2022-09-15	19:37	06:51	11.2
55.59_-4.09	15/09/2022	2022-09-15	19:37	06:51	11.2
55.58_-4.1	16/09/2022	2022-09-15	19:37	06:51	11.2
55.56_-4.03	15/09/2022	2022-09-15	19:37	06:51	11.2
55.55_-4.05	16/09/2022	2022-09-15	19:37	06:51	11.2
55.55_-4.02	15/09/2022	2022-09-15	19:37	06:51	11.2
55.55_-4.03	16/09/2022	2022-09-15	19:37	06:51	11.2
55.54_-4.12	16/09/2022	2022-09-15	19:37	06:51	11.2
55.59_-4.07	15/09/2022	2022-09-15	19:37	06:51	11.2
55.58_-4.07	16/09/2022	2022-09-15	19:37	06:51	11.2
55.57_-4.02	16/09/2022	2022-09-15	19:37	06:51	11.2
55.55_-4.04	15/09/2022	2022-09-15	19:37	06:51	11.2
55.55_-4.03	15/09/2022	2022-09-15	19:37	06:51	11.2
55.59_-4.05	15/09/2022	2022-09-15	19:37	06:51	11.2
55.59_-4.08	16/09/2022	2022-09-15	19:37	06:51	11.2
55.59_-4.06	16/09/2022	2022-09-15	19:37	06:51	11.2
55.58_-4.01	15/09/2022	2022-09-15	19:37	06:51	11.2
55.55_-4.08	16/09/2022	2022-09-15	19:37	06:51	11.2
55.59_-4.06	15/09/2022	2022-09-15	19:37	06:51	11.2
55.54_-4.12	15/09/2022	2022-09-15	19:37	06:51	11.2
55.58_-4.1	16/09/2022	2022-09-16	19:34	06:53	11.3
55.58_-4.01	16/09/2022	2022-09-16	19:34	06:53	11.3
55.6_-4.11	16/09/2022	2022-09-16	19:34	06:53	11.3
55.6_-4.1	16/09/2022	2022-09-16	19:34	06:53	11.3
55.55_-4.02	17/09/2022	2022-09-16	19:34	06:53	11.3
55.55_-4.03	16/09/2022	2022-09-16	19:34	06:53	11.3
55.54_-4.12	16/09/2022	2022-09-16	19:34	06:53	11.3
55.59_-4.09	16/09/2022	2022-09-16	19:34	06:53	11.3
55.58_-4.09	16/09/2022	2022-09-16	19:34	06:53	11.3
55.56_-4.03	16/09/2022	2022-09-16	19:34	06:53	11.3

Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.59_-4.05	16/09/2022	2022-09-16	19:34	06:53	11.3
55.55_-4.04	17/09/2022	2022-09-16	19:34	06:53	11.3
55.6_-4.05	16/09/2022	2022-09-16	19:34	06:53	11.3
55.58_-4.09	17/09/2022	2022-09-17	19:31	06:54	11.4
55.58_-4.09	18/09/2022	2022-09-17	19:31	06:54	11.4
55.58_-4.1	17/09/2022	2022-09-17	19:31	06:54	11.4
55.58_-4.1	18/09/2022	2022-09-17	19:31	06:54	11.4
55.6_-4.11	17/09/2022	2022-09-17	19:31	06:54	11.4
55.6_-4.1	17/09/2022	2022-09-17	19:31	06:54	11.4
55.6_-4.1	18/09/2022	2022-09-17	19:31	06:54	11.4
55.55_-4.04	18/09/2022	2022-09-17	19:31	06:54	11.4
55.55_-4.02	18/09/2022	2022-09-17	19:31	06:54	11.4
55.55_-4.03	17/09/2022	2022-09-17	19:31	06:54	11.4
55.54_-4.12	17/09/2022	2022-09-17	19:31	06:54	11.4
55.54_-4.11	17/09/2022	2022-09-17	19:31	06:54	11.4
55.59_-4.09	18/09/2022	2022-09-17	19:31	06:54	11.4
55.59_-4.09	17/09/2022	2022-09-17	19:31	06:54	11.4
55.59_-4.08	17/09/2022	2022-09-17	19:31	06:54	11.4
55.55_-4.04	17/09/2022	2022-09-17	19:31	06:54	11.4
55.55_-4.05	17/09/2022	2022-09-17	19:31	06:54	11.4
55.56_-4.03	18/09/2022	2022-09-17	19:31	06:54	11.4
55.56_-4.04	18/09/2022	2022-09-17	19:31	06:54	11.4
55.59_-4.07	17/09/2022	2022-09-17	19:31	06:54	11.4
55.58_-4.09	18/09/2022	2022-09-18	19:29	06:56	11.5
55.58_-4.09	19/09/2022	2022-09-18	19:29	06:56	11.5
55.58_-4.1	18/09/2022	2022-09-18	19:29	06:56	11.5
55.58_-4.1	19/09/2022	2022-09-18	19:29	06:56	11.5
55.57_-4.02	19/09/2022	2022-09-18	19:29	06:56	11.5
55.6_-4.11	18/09/2022	2022-09-18	19:29	06:56	11.5
55.6_-4.1	19/09/2022	2022-09-18	19:29	06:56	11.5
55.56_-4.03	19/09/2022	2022-09-18	19:29	06:56	11.5
55.56_-4.03	18/09/2022	2022-09-18	19:29	06:56	11.5
55.55_-4.04	18/09/2022	2022-09-18	19:29	06:56	11.5
55.55_-4.04	19/09/2022	2022-09-18	19:29	06:56	11.5
55.55_-4.05	18/09/2022	2022-09-18	19:29	06:56	11.5
55.55_-4.02	18/09/2022	2022-09-18	19:29	06:56	11.5
55.55_-4.03	18/09/2022	2022-09-18	19:29	06:56	11.5
55.55_-4.03	19/09/2022	2022-09-18	19:29	06:56	11.5
55.54_-4.12	18/09/2022	2022-09-18	19:29	06:56	11.5
55.54_-4.11	18/09/2022	2022-09-18	19:29	06:56	11.5
55.59_-4.09	18/09/2022	2022-09-18	19:29	06:56	11.5
55.59_-4.08	18/09/2022	2022-09-18	19:29	06:56	11.5
55.59_-4.08	19/09/2022	2022-09-18	19:29	06:56	11.5
55.54_-4.12	19/09/2022	2022-09-18	19:29	06:56	11.5
55.59_-4.06	19/09/2022	2022-09-18	19:29	06:56	11.5
55.58_-4.01	19/09/2022	2022-09-18	19:29	06:56	11.5
55.56_-4.04	18/09/2022	2022-09-18	19:29	06:56	11.5
55.55_-4.02	19/09/2022	2022-09-18	19:29	06:56	11.5
55.55_-4.08	18/09/2022	2022-09-18	19:29	06:56	11.5
55.6_-4.05	19/09/2022	2022-09-18	19:29	06:56	11.5
55.59_-4.09	19/09/2022	2022-09-18	19:29	06:56	11.5
55.54_-4.11	19/09/2022	2022-09-18	19:29	06:56	11.5
55.59_-4.06	19/09/2022	2022-09-19	19:26	06:58	11.5
55.59_-4.06	20/09/2022	2022-09-19	19:26	06:58	11.5
55.58_-4.09	19/09/2022	2022-09-19	19:26	06:58	11.5
55.58_-4.09	20/09/2022	2022-09-19	19:26	06:58	11.5
55.58_-4.1	19/09/2022	2022-09-19	19:26	06:58	11.5

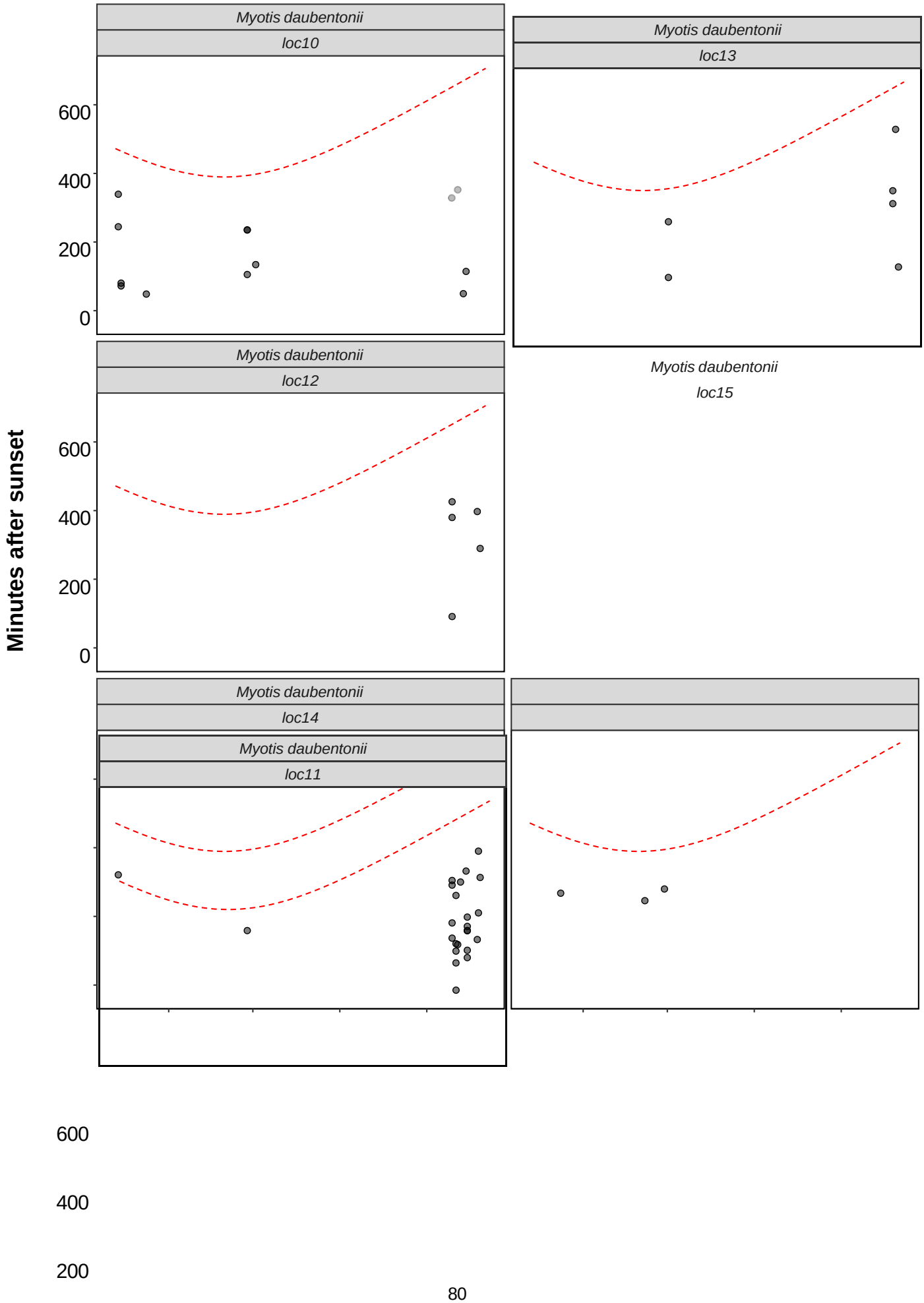
Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.58_-4.1	20/09/2022	2022-09-19	19:26	06:58	11.5
55.6_-4.11	19/09/2022	2022-09-19	19:26	06:58	11.5
55.6_-4.1	20/09/2022	2022-09-19	19:26	06:58	11.5
55.6_-4.1	19/09/2022	2022-09-19	19:26	06:58	11.5
55.56_-4.03	19/09/2022	2022-09-19	19:26	06:58	11.5
55.55_-4.04	19/09/2022	2022-09-19	19:26	06:58	11.5
55.55_-4.05	19/09/2022	2022-09-19	19:26	06:58	11.5
55.55_-4.05	20/09/2022	2022-09-19	19:26	06:58	11.5
55.55_-4.02	20/09/2022	2022-09-19	19:26	06:58	11.5
55.55_-4.03	19/09/2022	2022-09-19	19:26	06:58	11.5
55.55_-4.03	20/09/2022	2022-09-19	19:26	06:58	11.5
55.54_-4.12	19/09/2022	2022-09-19	19:26	06:58	11.5
55.54_-4.12	20/09/2022	2022-09-19	19:26	06:58	11.5
55.54_-4.11	19/09/2022	2022-09-19	19:26	06:58	11.5
55.59_-4.05	20/09/2022	2022-09-19	19:26	06:58	11.5
55.57_-4.02	20/09/2022	2022-09-19	19:26	06:58	11.5
55.56_-4.03	20/09/2022	2022-09-19	19:26	06:58	11.5
55.58_-4.07	19/09/2022	2022-09-19	19:26	06:58	11.5
55.55_-4.04	20/09/2022	2022-09-19	19:26	06:58	11.5
55.55_-4.02	19/09/2022	2022-09-19	19:26	06:58	11.5
55.59_-4.05	19/09/2022	2022-09-19	19:26	06:58	11.5
55.59_-4.07	20/09/2022	2022-09-19	19:26	06:58	11.5
55.59_-4.05	20/09/2022	2022-09-20	19:23	07:00	11.6
55.58_-4.09	20/09/2022	2022-09-20	19:23	07:00	11.6
55.58_-4.09	21/09/2022	2022-09-20	19:23	07:00	11.6
55.58_-4.07	21/09/2022	2022-09-20	19:23	07:00	11.6
55.58_-4.1	20/09/2022	2022-09-20	19:23	07:00	11.6
55.58_-4.1	21/09/2022	2022-09-20	19:23	07:00	11.6
55.58_-4.01	21/09/2022	2022-09-20	19:23	07:00	11.6
55.57_-4.02	20/09/2022	2022-09-20	19:23	07:00	11.6
55.57_-4.02	21/09/2022	2022-09-20	19:23	07:00	11.6
55.6_-4.11	20/09/2022	2022-09-20	19:23	07:00	11.6
55.6_-4.1	20/09/2022	2022-09-20	19:23	07:00	11.6
55.56_-4.02	20/09/2022	2022-09-20	19:23	07:00	11.6
55.56_-4.03	20/09/2022	2022-09-20	19:23	07:00	11.6
55.55_-4.05	20/09/2022	2022-09-20	19:23	07:00	11.6
55.55_-4.02	20/09/2022	2022-09-20	19:23	07:00	11.6
55.55_-4.03	20/09/2022	2022-09-20	19:23	07:00	11.6
55.55_-4.03	21/09/2022	2022-09-20	19:23	07:00	11.6
55.54_-4.12	20/09/2022	2022-09-20	19:23	07:00	11.6
55.54_-4.12	21/09/2022	2022-09-20	19:23	07:00	11.6
55.54_-4.11	20/09/2022	2022-09-20	19:23	07:00	11.6
55.54_-4.11	21/09/2022	2022-09-20	19:23	07:00	11.6
55.57_-4.01	20/09/2022	2022-09-20	19:23	07:00	11.6
55.57_-4.01	21/09/2022	2022-09-20	19:23	07:00	11.6
55.56_-4.03	21/09/2022	2022-09-20	19:23	07:00	11.6
55.55_-4.04	20/09/2022	2022-09-20	19:23	07:00	11.6
55.55_-4.1	21/09/2022	2022-09-20	19:23	07:00	11.6
55.6_-4.05	20/09/2022	2022-09-20	19:23	07:00	11.6
55.59_-4.05	21/09/2022	2022-09-20	19:23	07:00	11.6
55.56_-4.02	21/09/2022	2022-09-20	19:23	07:00	11.6
55.56_-4.04	20/09/2022	2022-09-20	19:23	07:00	11.6
55.6_-4.05	21/09/2022	2022-09-20	19:23	07:00	11.6
55.59_-4.07	20/09/2022	2022-09-20	19:23	07:00	11.6
55.59_-4.06	21/09/2022	2022-09-20	19:23	07:00	11.6
55.55_-4.05	21/09/2022	2022-09-20	19:23	07:00	11.6
55.56_-4.04	21/09/2022	2022-09-21	19:21	07:02	11.7

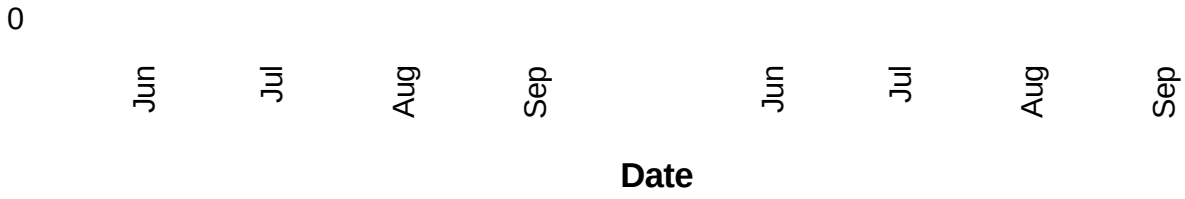
Night (y-m-d)	Sunset (hh:mm)	Sunrise (hh:mm)	Night Length (hours)	NA	NA
55.55_-4.05	22/09/2022	2022-09-21	19:21	07:02	11.7
55.54_-4.12	21/09/2022	2022-09-21	19:21	07:02	11.7
55.54_-4.11	21/09/2022	2022-09-21	19:21	07:02	11.7
55.6_-4.05	21/09/2022	2022-09-21	19:21	07:02	11.7
55.59_-4.08	21/09/2022	2022-09-21	19:21	07:02	11.7
55.55_-4.05	21/09/2022	2022-09-21	19:21	07:02	11.7
55.57_-4.01	21/09/2022	2022-09-21	19:21	07:02	11.7
55.56_-4.02	21/09/2022	2022-09-21	19:21	07:02	11.7
55.6_-4.11	22/09/2022	2022-09-22	19:18	07:04	11.8
55.56_-4.03	23/09/2022	2022-09-22	19:18	07:04	11.8
55.55_-4.02	22/09/2022	2022-09-22	19:18	07:04	11.8
55.55_-4.03	22/09/2022	2022-09-22	19:18	07:04	11.8
55.54_-4.12	22/09/2022	2022-09-22	19:18	07:04	11.8
55.54_-4.11	22/09/2022	2022-09-22	19:18	07:04	11.8
55.54_-4.11	23/09/2022	2022-09-22	19:18	07:04	11.8
55.55_-4.04	22/09/2022	2022-09-22	19:18	07:04	11.8
55.55_-4.04	23/09/2022	2022-09-22	19:18	07:04	11.8
55.55_-4.05	22/09/2022	2022-09-22	19:18	07:04	11.8
55.6_-4.05	22/09/2022	2022-09-22	19:18	07:04	11.8
55.55_-4.03	23/09/2022	2022-09-22	19:18	07:04	11.8
55.55_-4.08	23/09/2022	2022-09-22	19:18	07:04	11.8
55.55_-4.1	23/09/2022	2022-09-22	19:18	07:04	11.8
55.55_-4.05	23/09/2022	2022-09-22	19:18	07:04	11.8

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.


Myotis daubentonii
loc10
Myotis daubentonii
loc13
Myotis daubentonii
loc15
Myotis daubentonii
loc12
Myotis daubentonii
loc14
Myotis daubentonii
loc11
Minutes after sunset
600
400
200
0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Aug
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Jun
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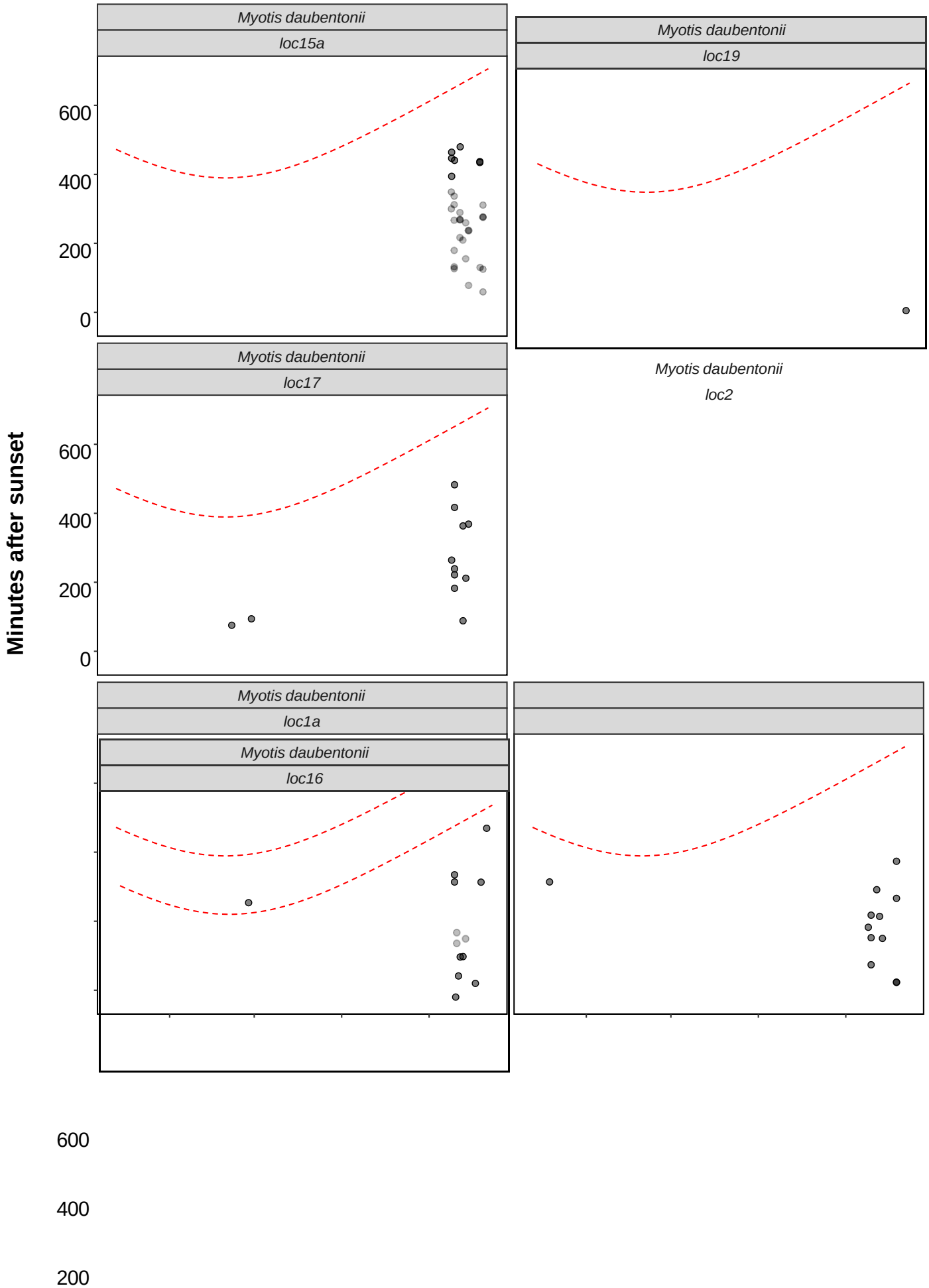
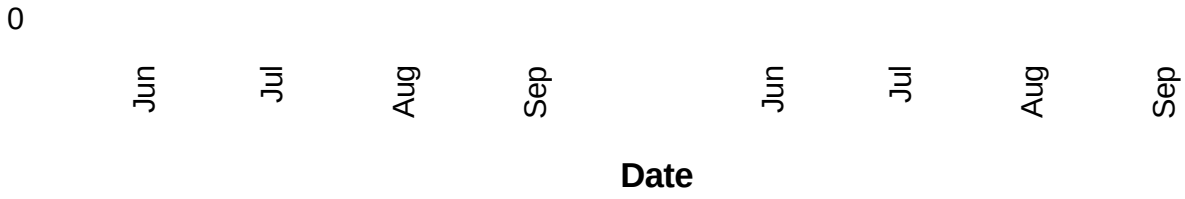
Aug
Sep
Date


Myotis daubentonii
loc15a
Myotis daubentonii
loc19
Myotis daubentonii
loc2
Myotis daubentonii
loc17
Myotis daubentonii
loc1a
Myotis daubentonii
loc16
Minutes after sunset
600
400
200
0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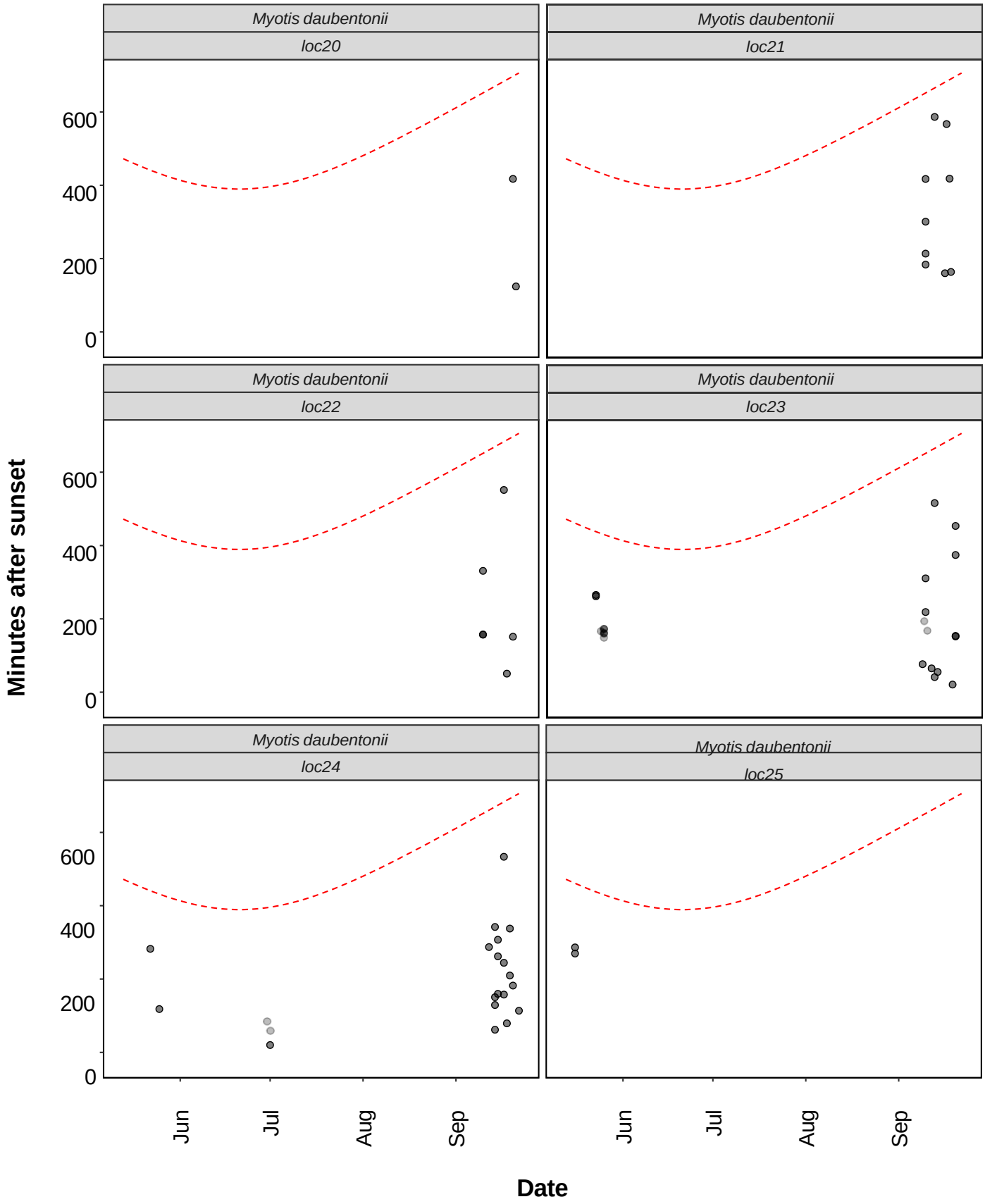
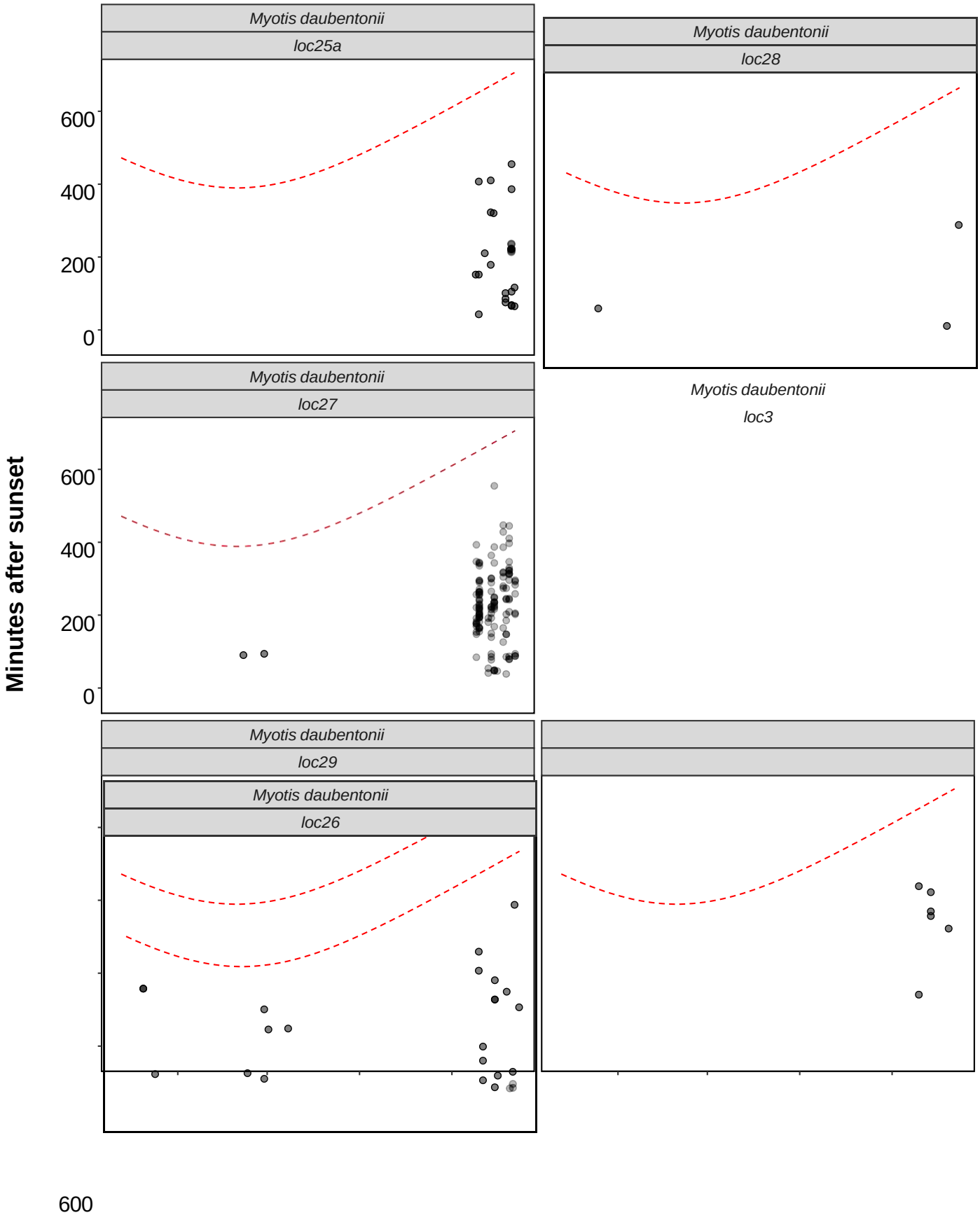
Date


Myotis daubentonii
loc20
Myotis daubentonii
loc21
Myotis daubentonii
loc22
Myotis daubentonii
loc23
Myotis daubentonii
loc24
Myotis daubentonii
loc25
Minutes after sunset
0
200
400
600
Jun
Jul
Aug
Sep
Date


Myotis daubentonii
loc25a
Myotis daubentonii
loc28
Myotis daubentonii
loc3
Myotis daubentonii
loc27
Myotis daubentonii
loc29
Myotis daubentonii
loc26
Minutes after sunset
600
400
200
0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Jun
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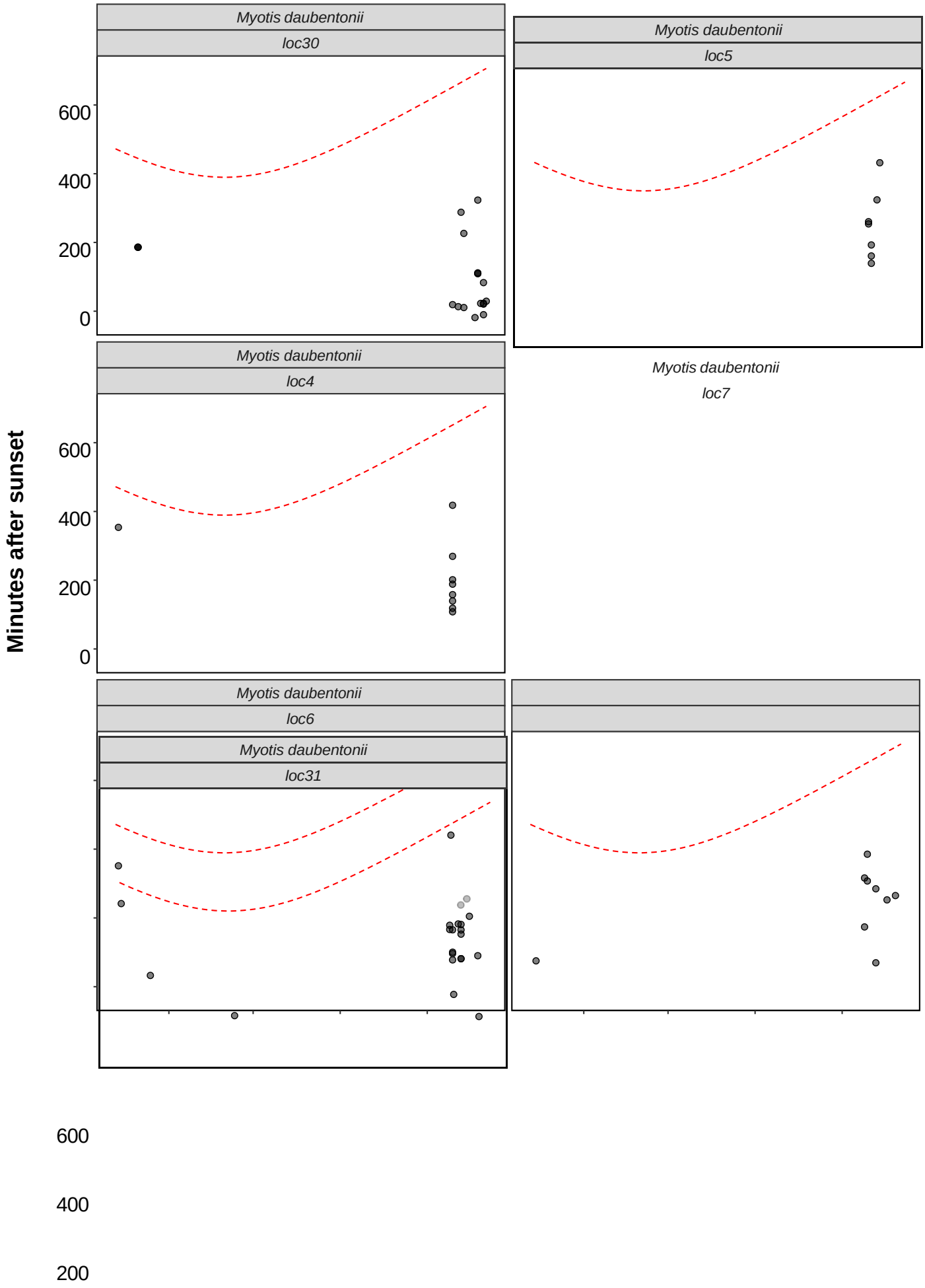
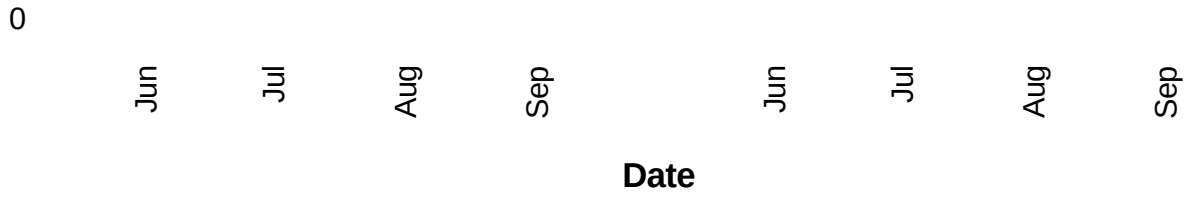
Date


Myotis daubentonii
loc30
Myotis daubentonii
loc5
Myotis daubentonii
loc7
Myotis daubentonii
loc4
Myotis daubentonii
loc6
Myotis daubentonii
loc31
Minutes after sunset
600
400
200
0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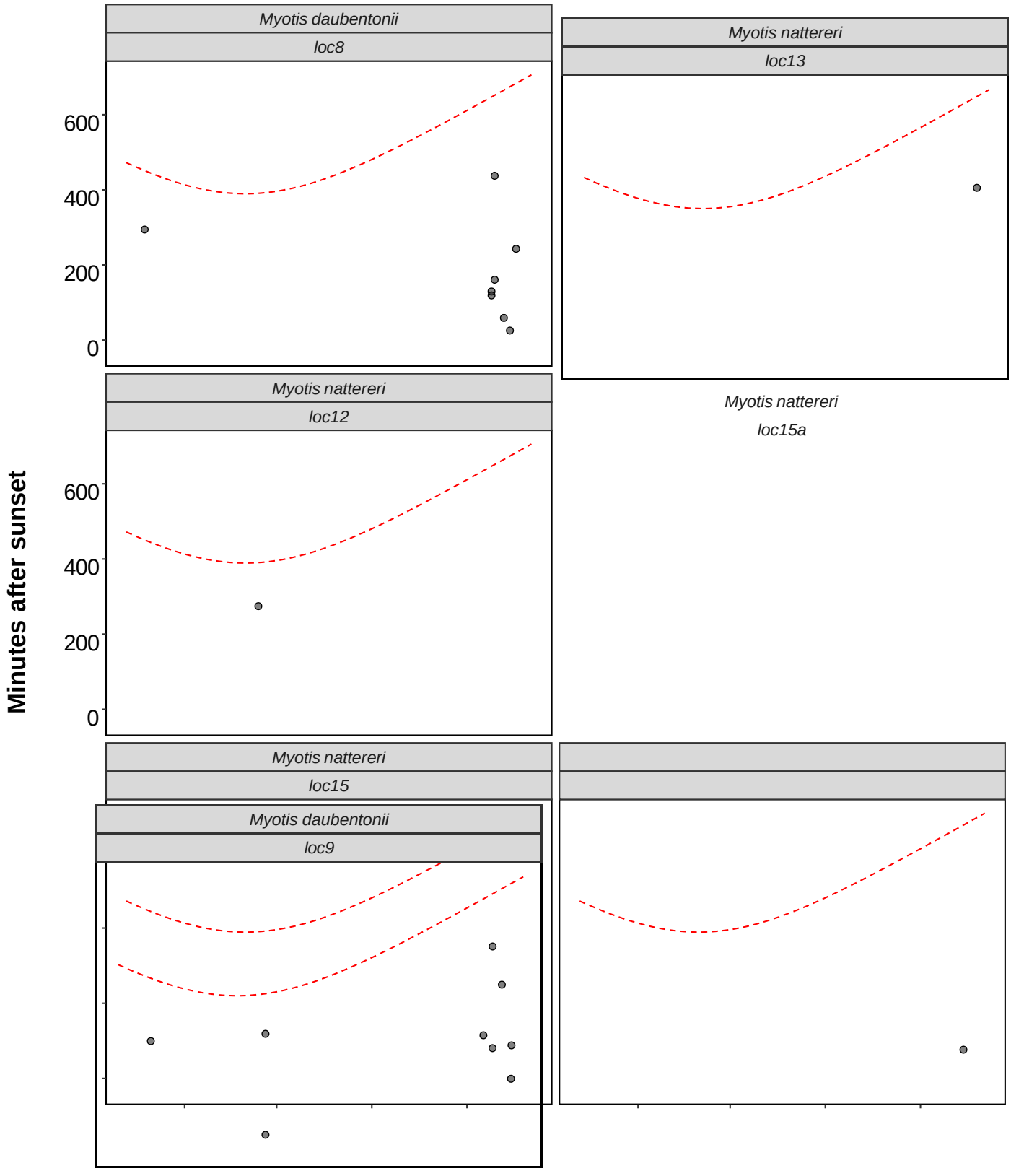
Date


Myotis daubentonii
loc8
Myotis nattereri
loc13
Myotis nattereri
loc12
Myotis nattereri
loc15a
Myotis nattereri
loc15
Myotis daubentonii
loc9
Minutes after sunset
600
400
200
0


0
Jun
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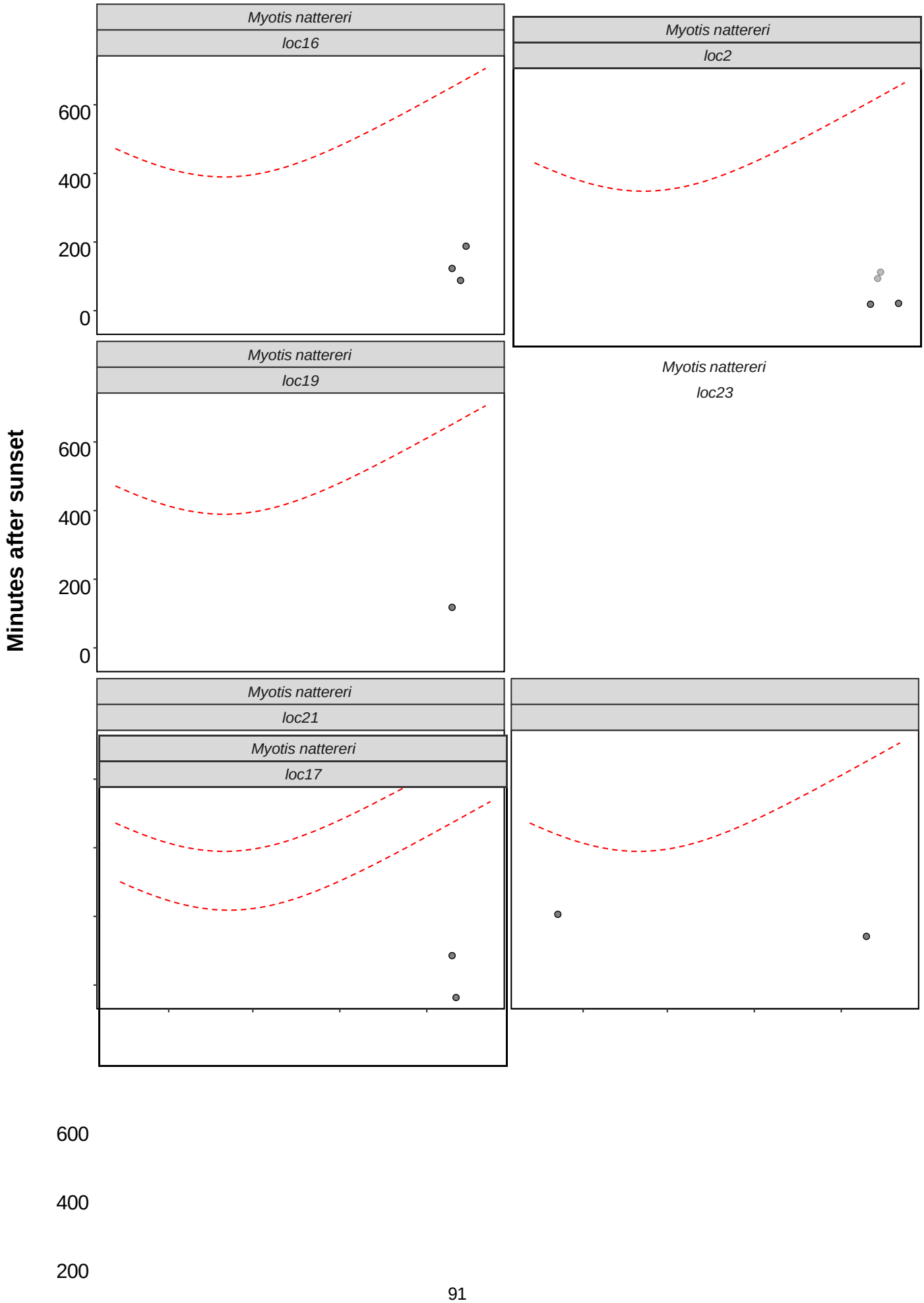
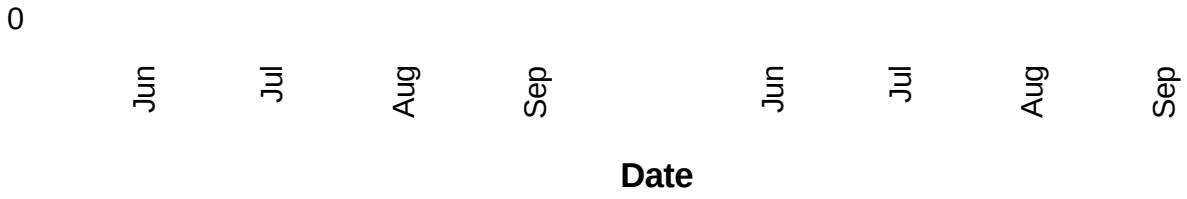
Date


Myotis nattereri
loc16
Myotis nattereri
loc2
Myotis nattereri
loc19
Myotis nattereri
loc23
Myotis nattereri
loc21
Myotis nattereri
loc17
Minutes after sunset
600
400
200
0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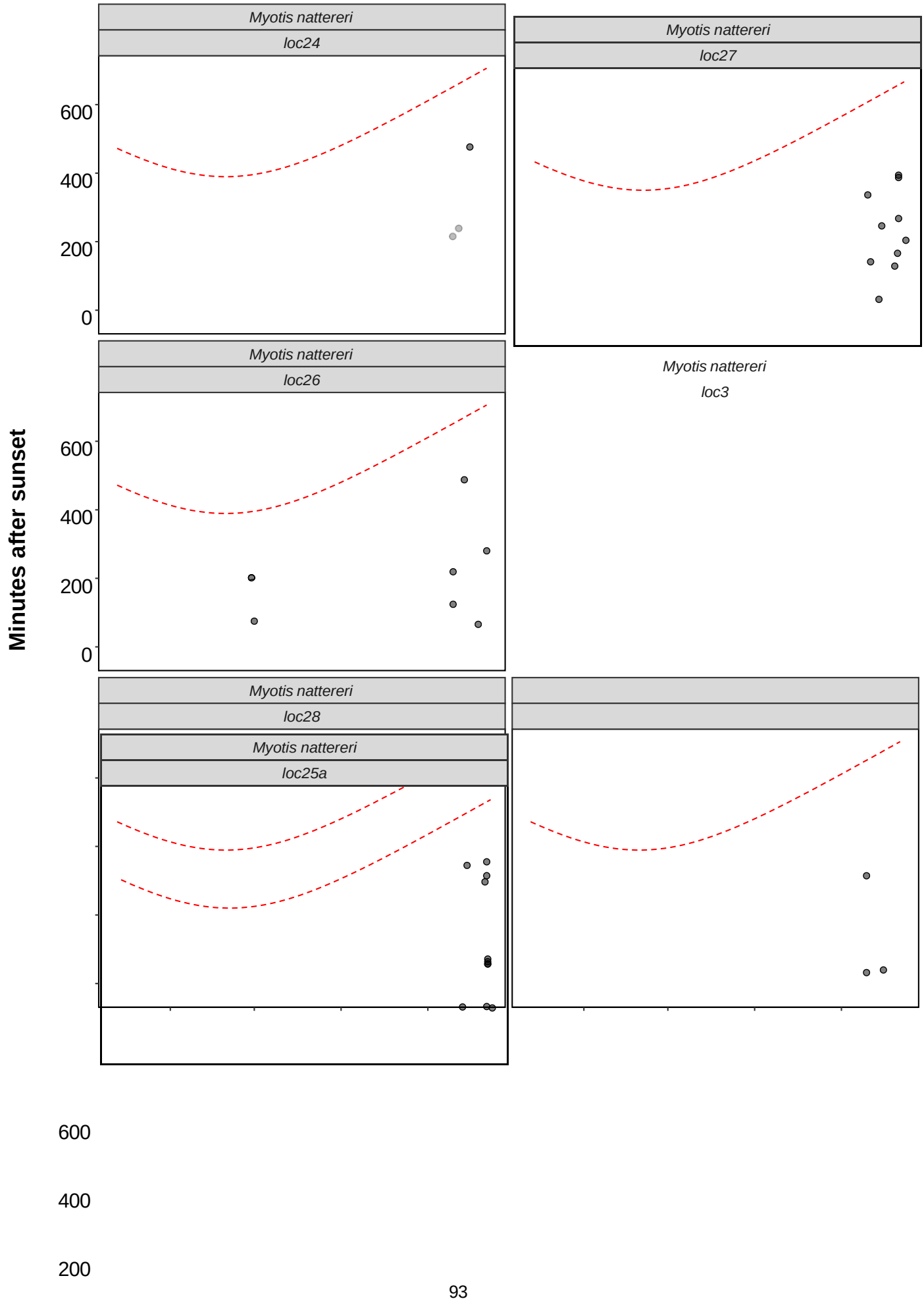
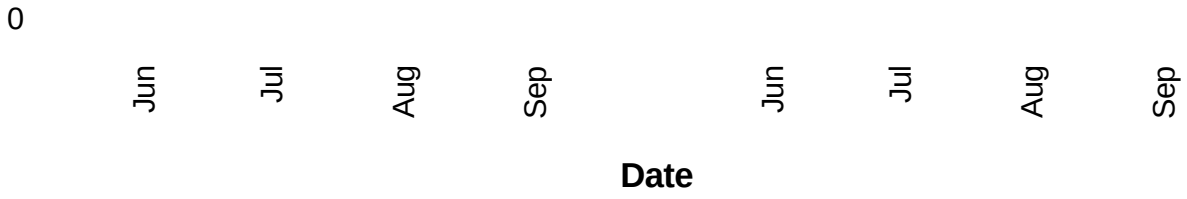

Myotis nattereri
loc24
Myotis nattereri
loc27
Myotis nattereri
loc3
Myotis nattereri
loc26
Myotis nattereri
loc28
Myotis nattereri
loc25a
Minutes after sunset
600
400
200
0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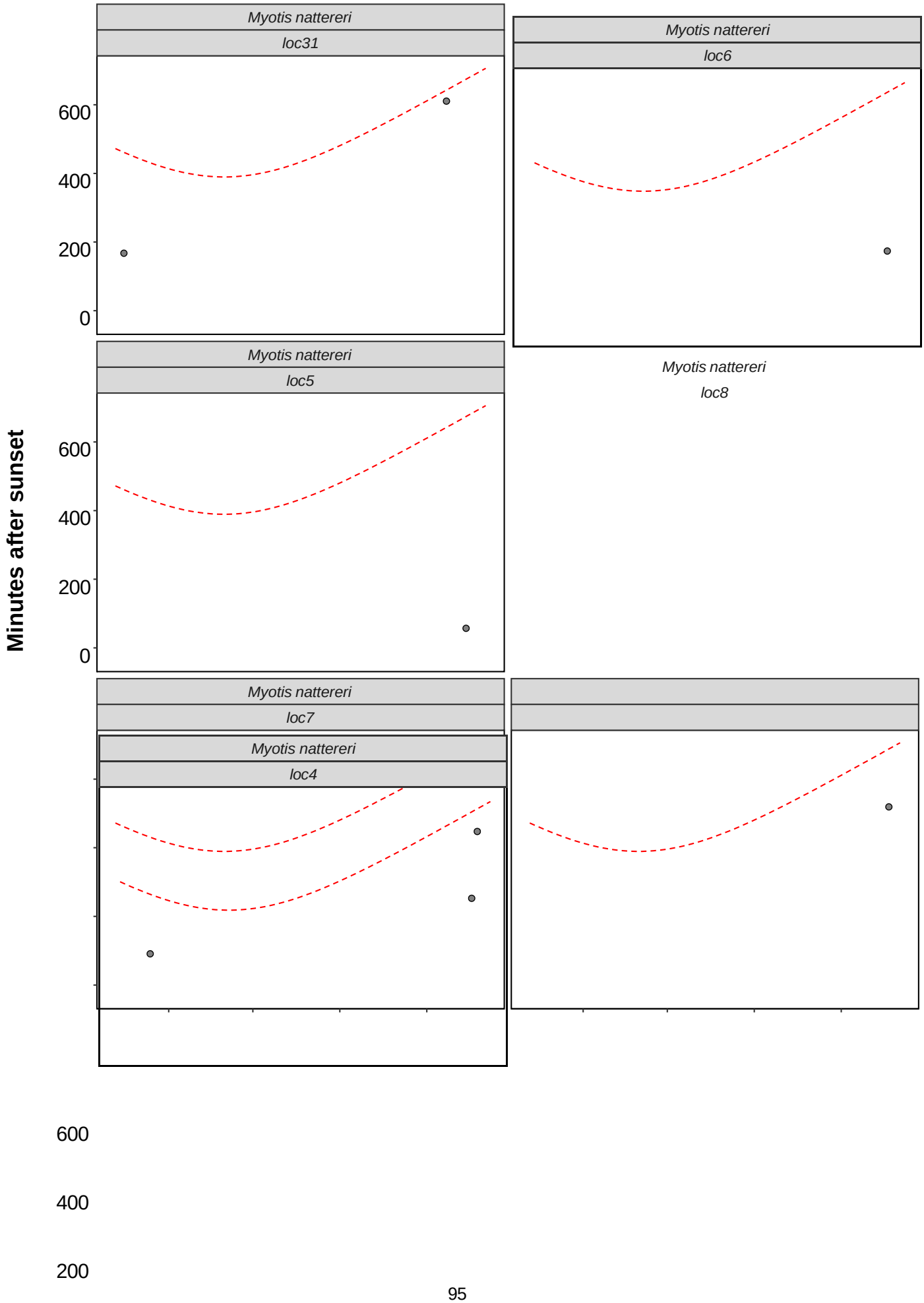
Myotis nattereri
loc31
Myotis nattereri
loc6
Myotis nattereri
loc8
Myotis nattereri
loc5
Myotis nattereri
loc7
Myotis nattereri
loc4
Minutes after sunset
600
400
200
0


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Jun
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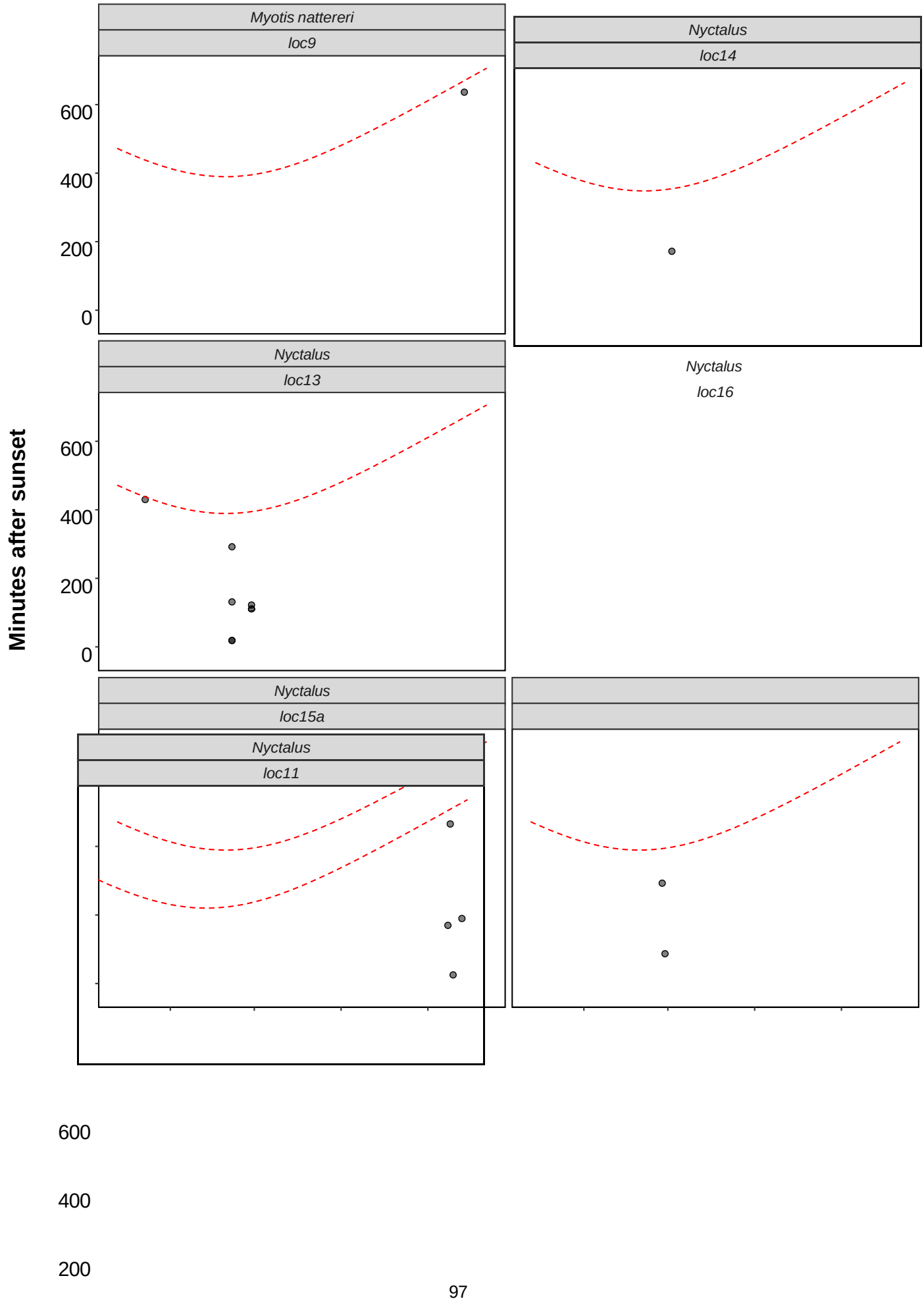
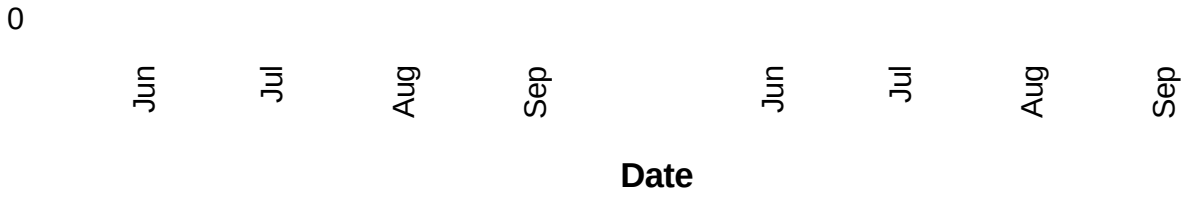
Date


Myotis nattereri
loc9
Nyctalus
loc14
Nyctalus
loc13
Nyctalus
loc16
Nyctalus
loc15a
Nyctalus
loc11
Minutes after sunset
600
400
200
0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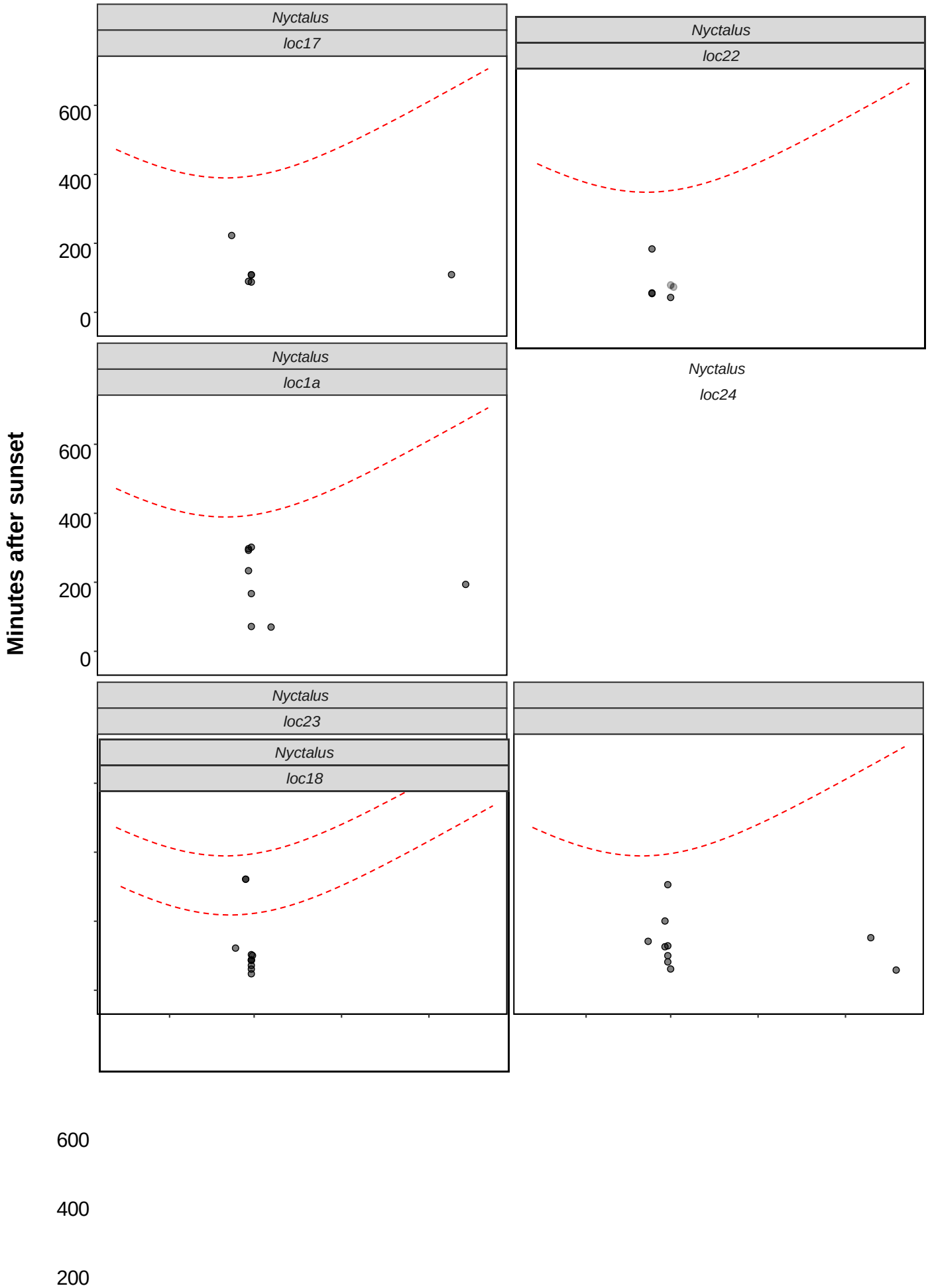
Date


Nyctalus
loc17
Nyctalus
loc22
Nyctalus
loc24
Nyctalus
loc1a
Nyctalus
loc23
Nyctalus
loc18
Minutes after sunset
600
400
200
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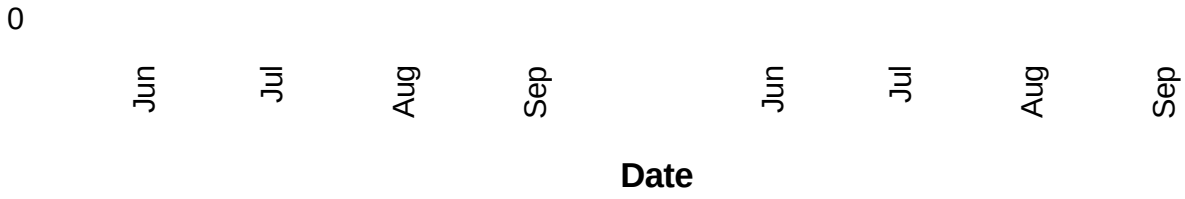
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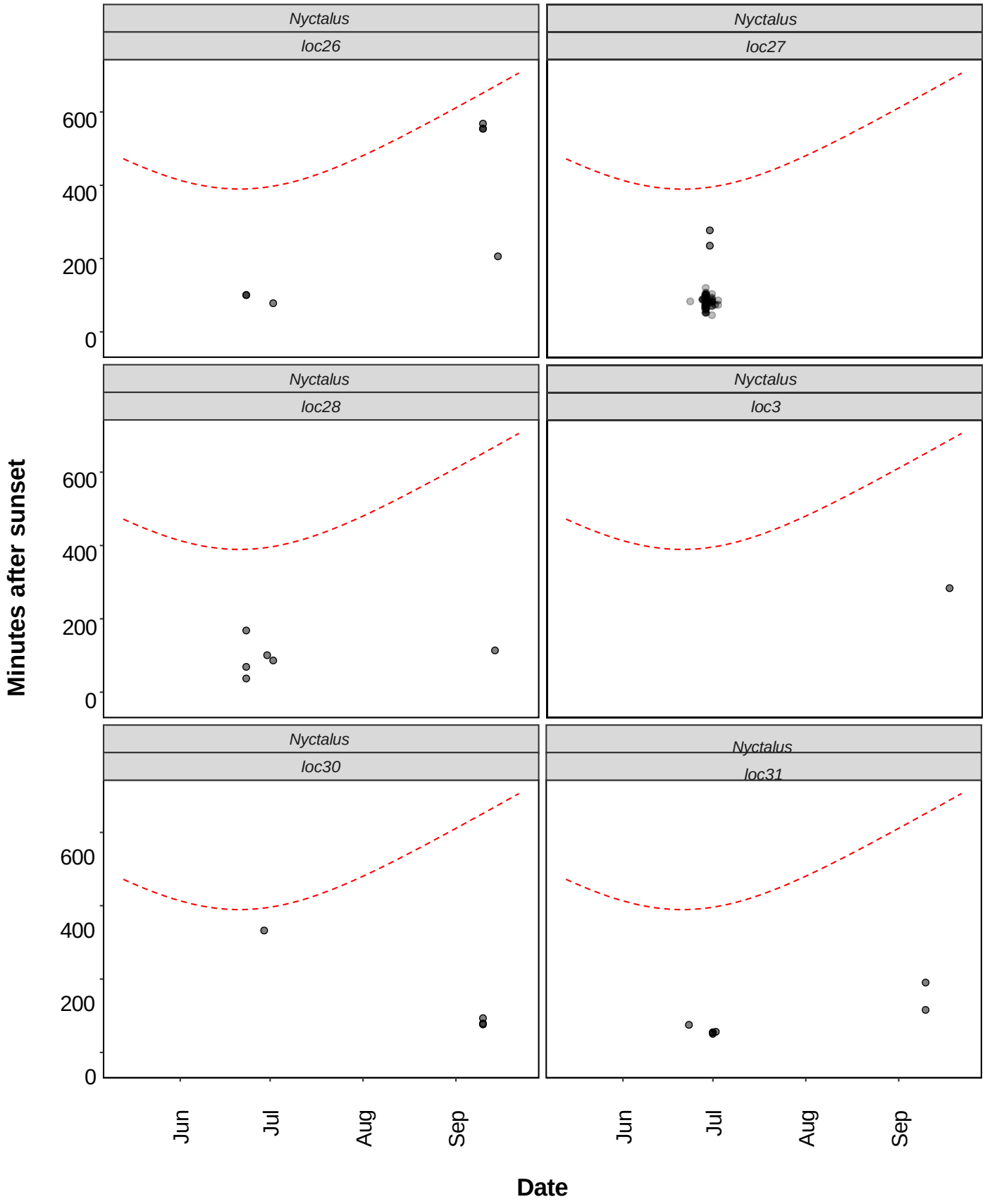
Nyctalus
loc26
Nyctalus
loc27
Nyctalus
loc28
Nyctalus
loc3
Nyctalus
loc30
Nyctalus
loc31
Minutes after sunset
0
200
400
600
Jun
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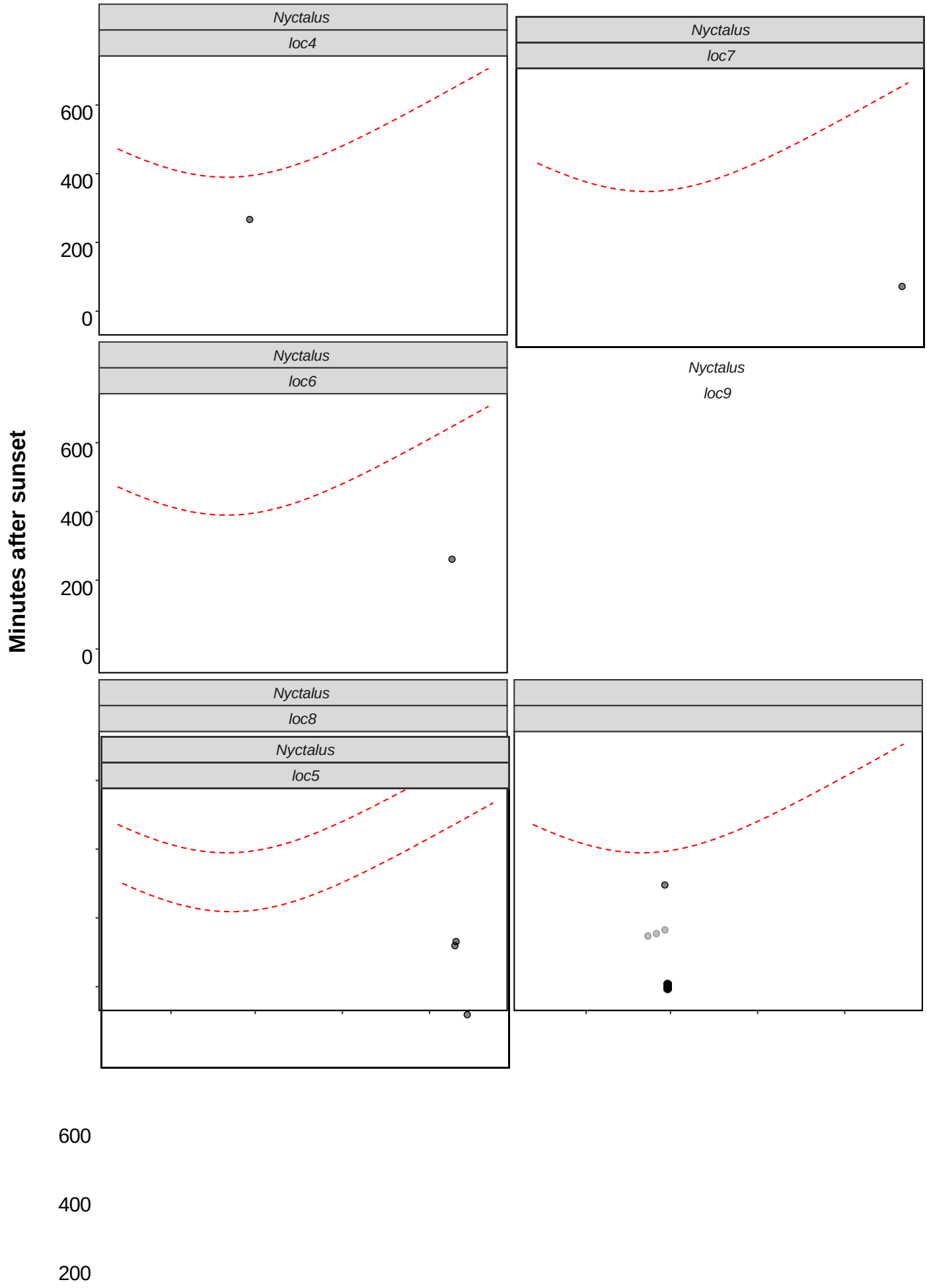
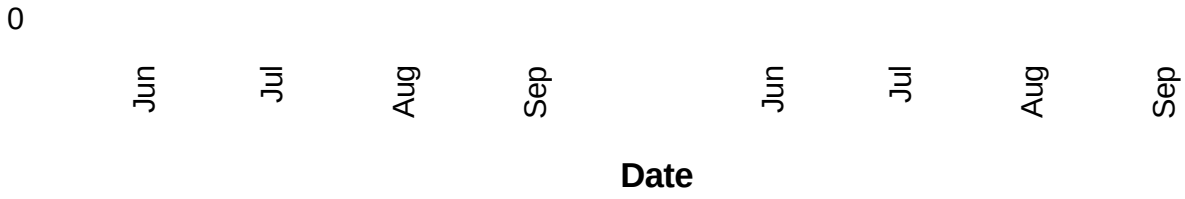
Aug
Sep
Date


Nyctalus
loc4
Nyctalus
loc7
Nyctalus
loc9
Nyctalus
loc6
Nyctalus
loc8
Nyctalus
loc5
Minutes after sunset
600
400
200
0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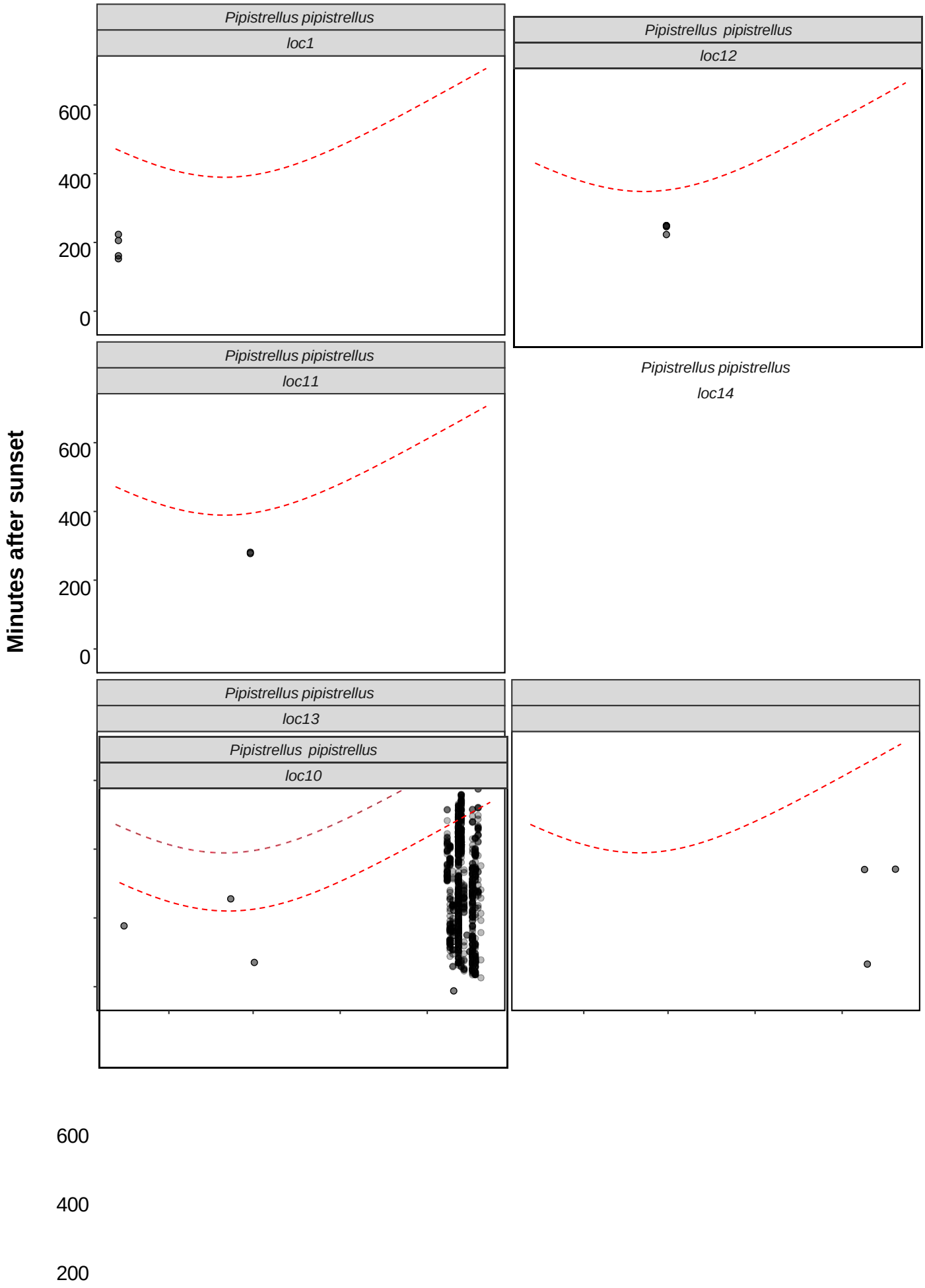
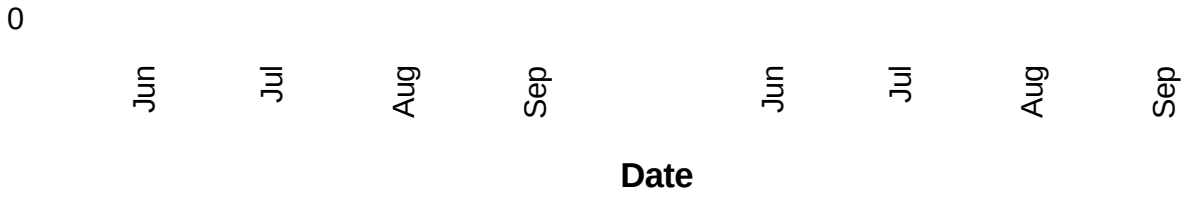

Pipistrellus pipistrellus
loc1
Pipistrellus pipistrellus
loc12
Pipistrellus pipistrellus
loc14
Pipistrellus pipistrellus
loc11
Pipistrellus pipistrellus
loc13
Pipistrellus pipistrellus
loc10
Minutes after sunset
600
400
200
0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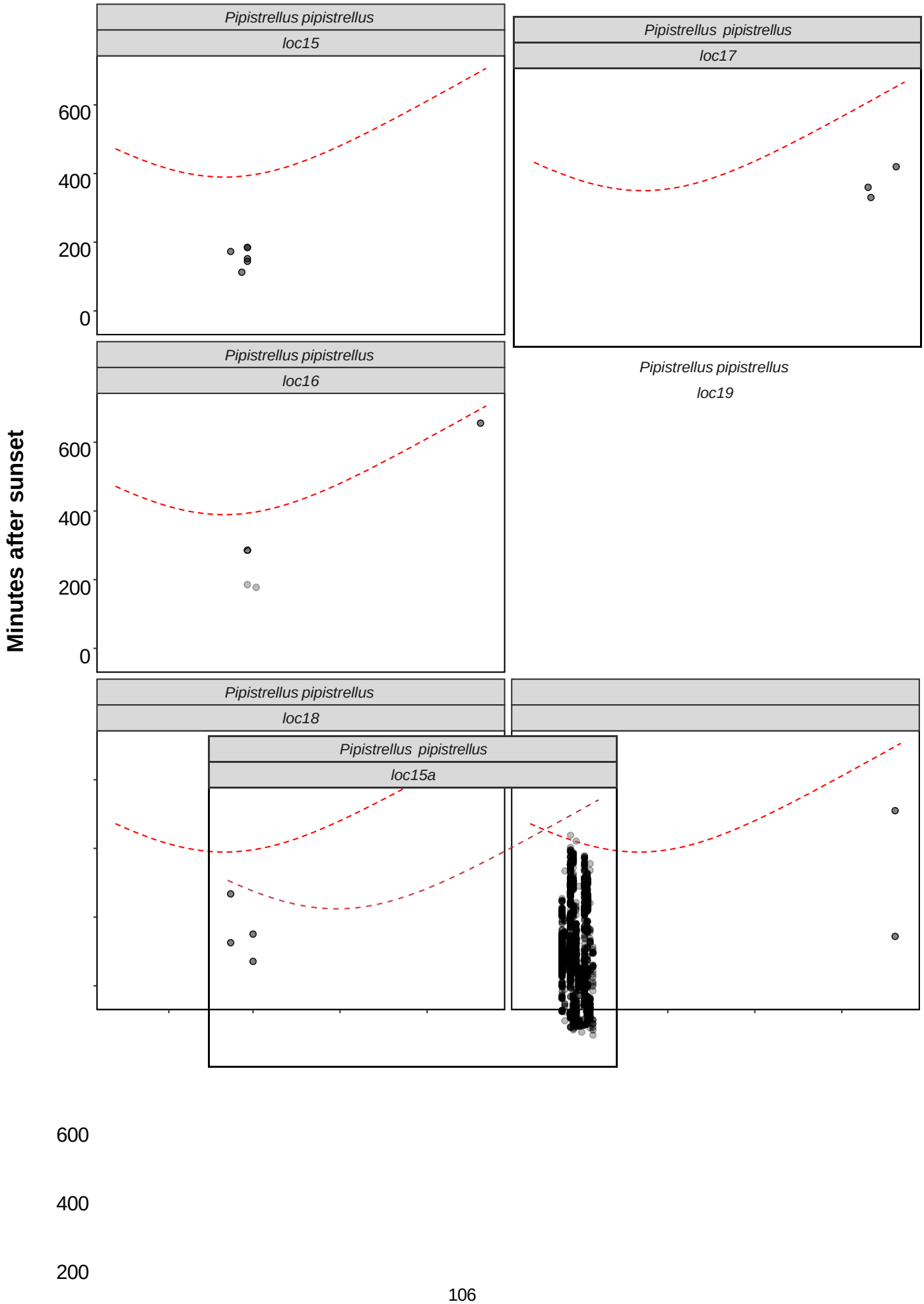
Date


Pipistrellus pipistrellus
loc15
Pipistrellus pipistrellus
loc17
Pipistrellus pipistrellus
loc19
Pipistrellus pipistrellus
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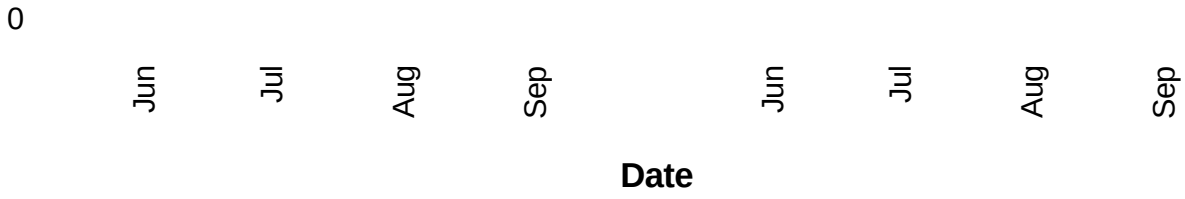
loc15a
Minutes after sunset
600
400
200
0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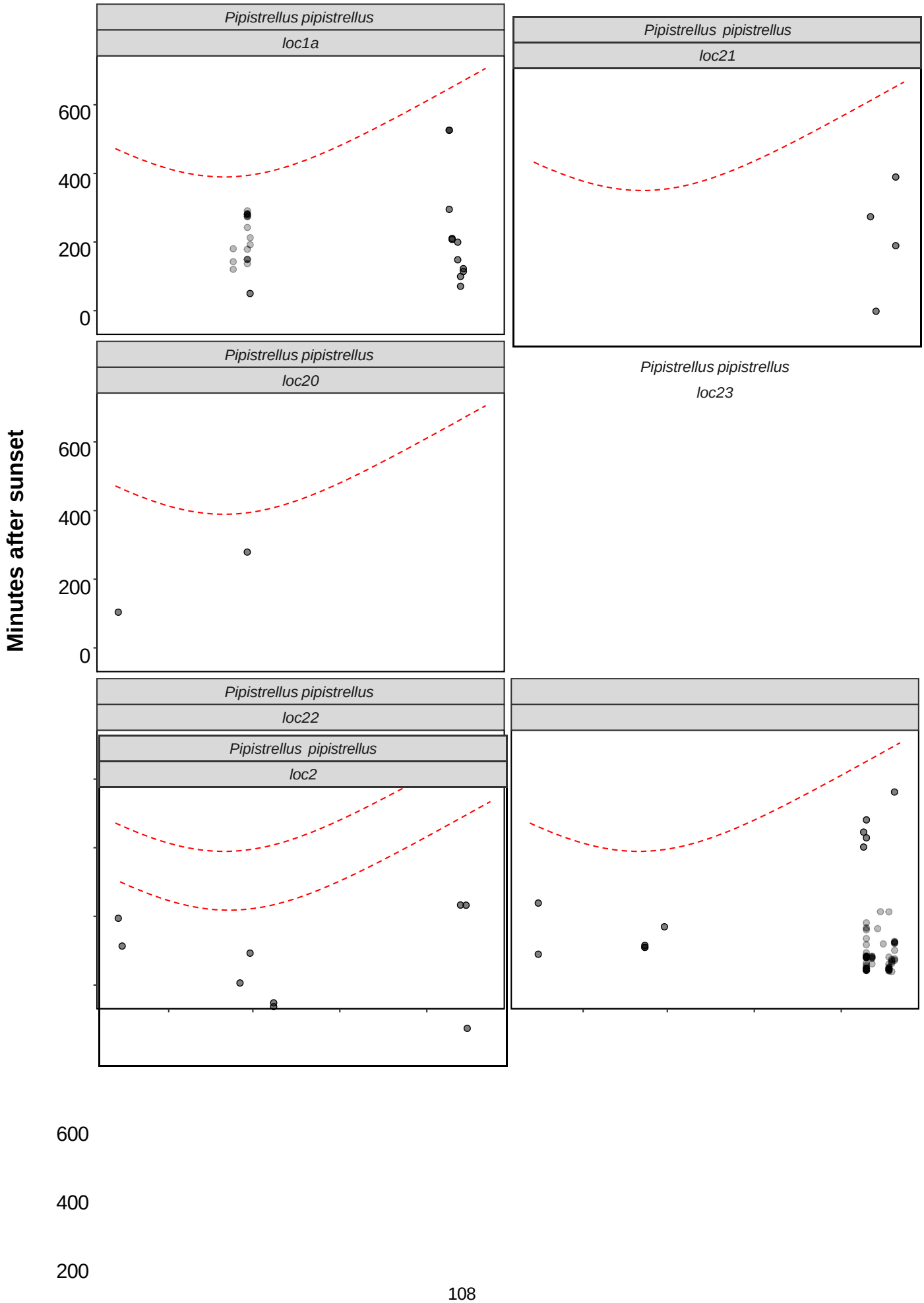
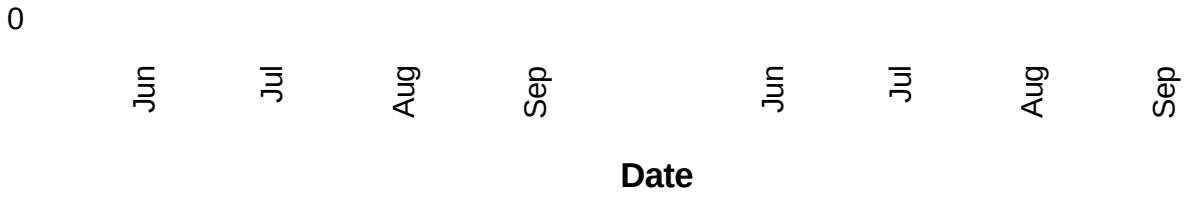
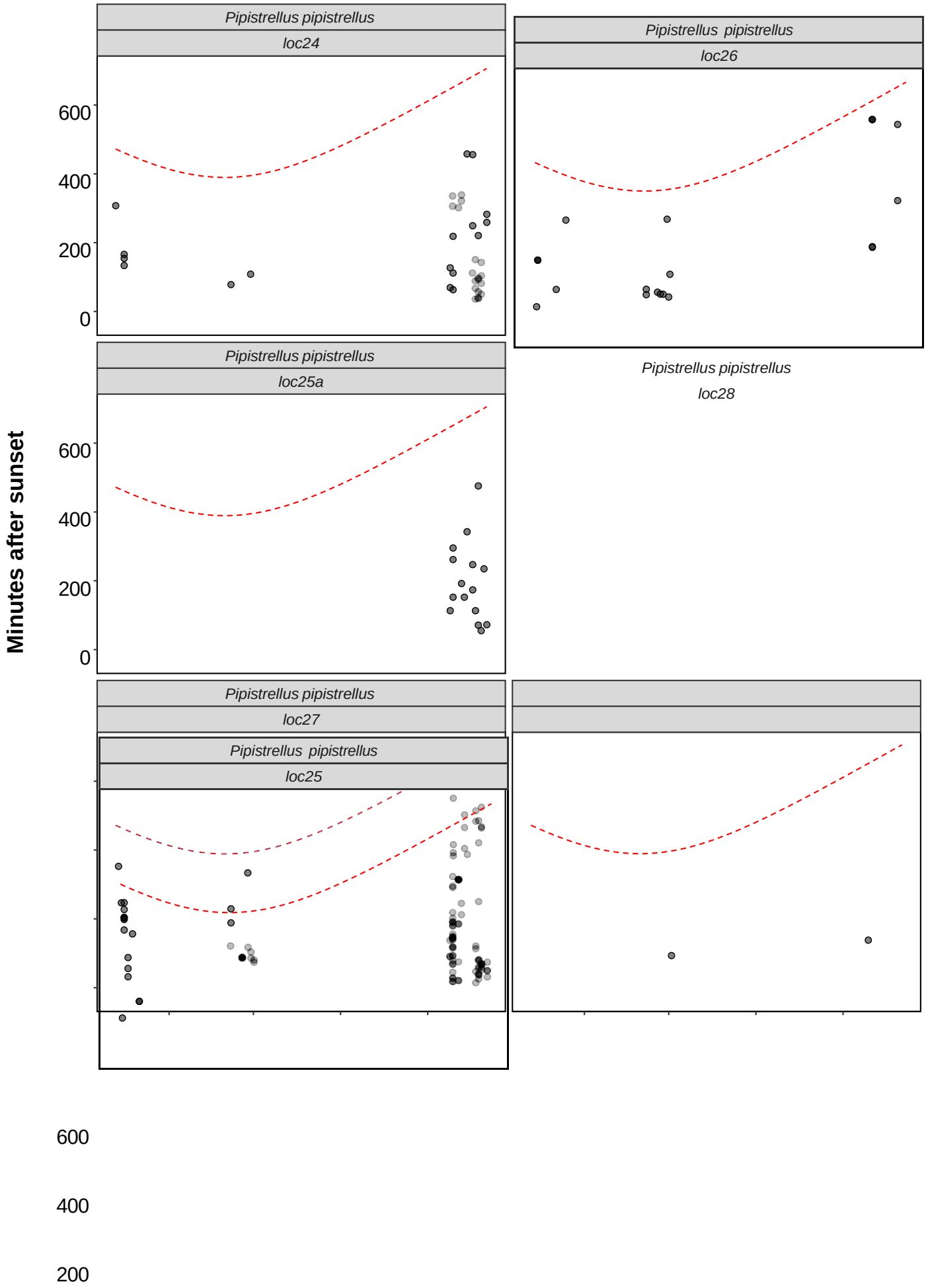
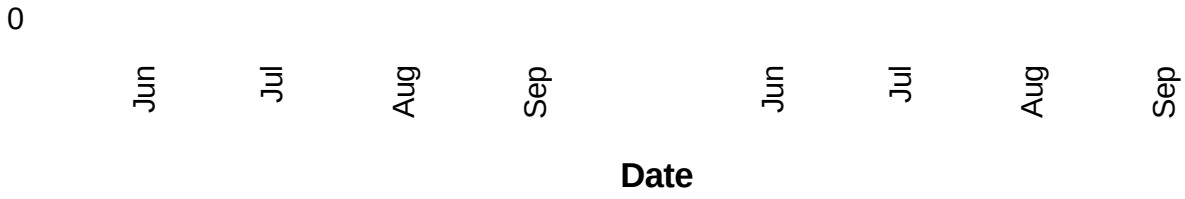
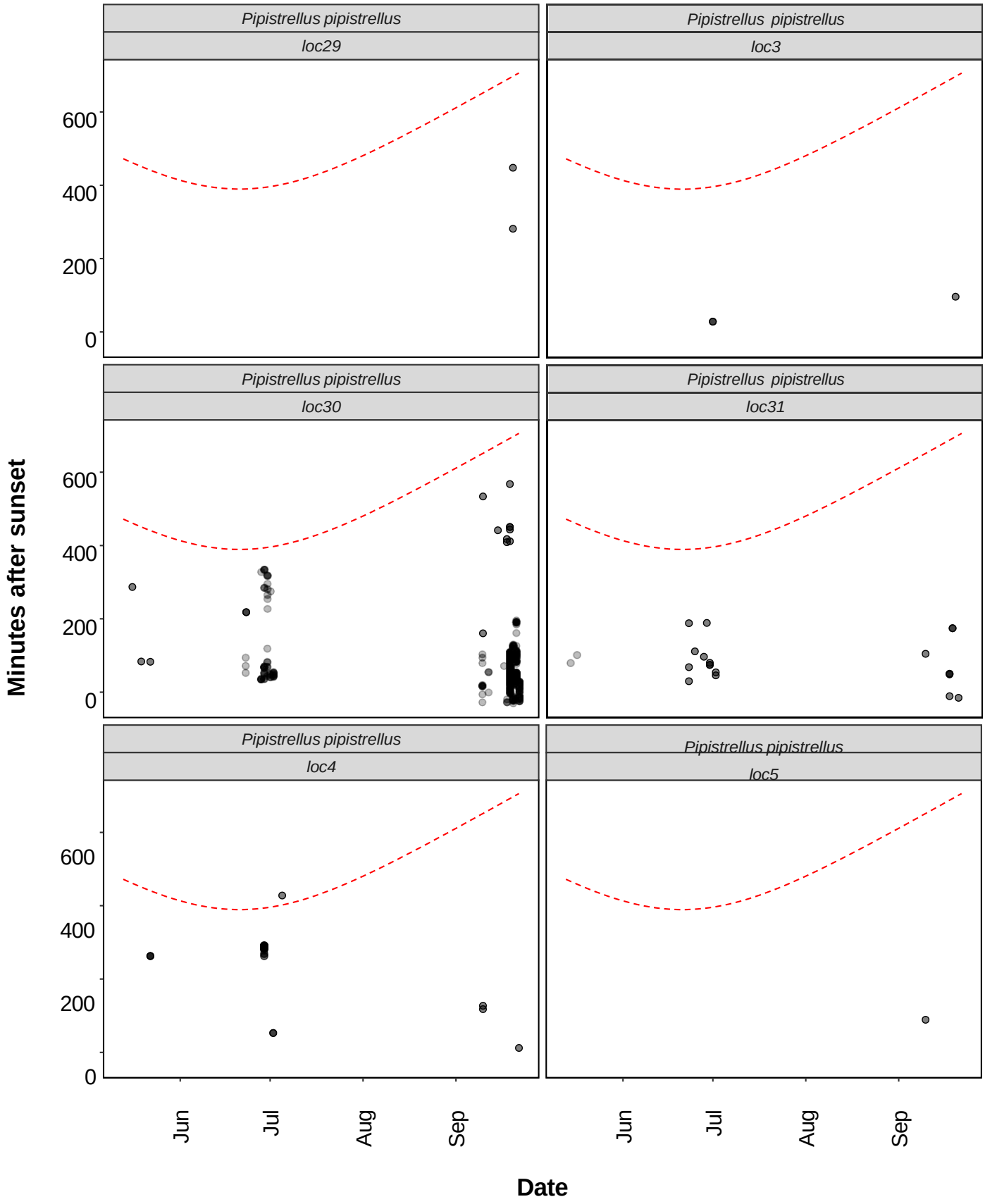
Sep
Date

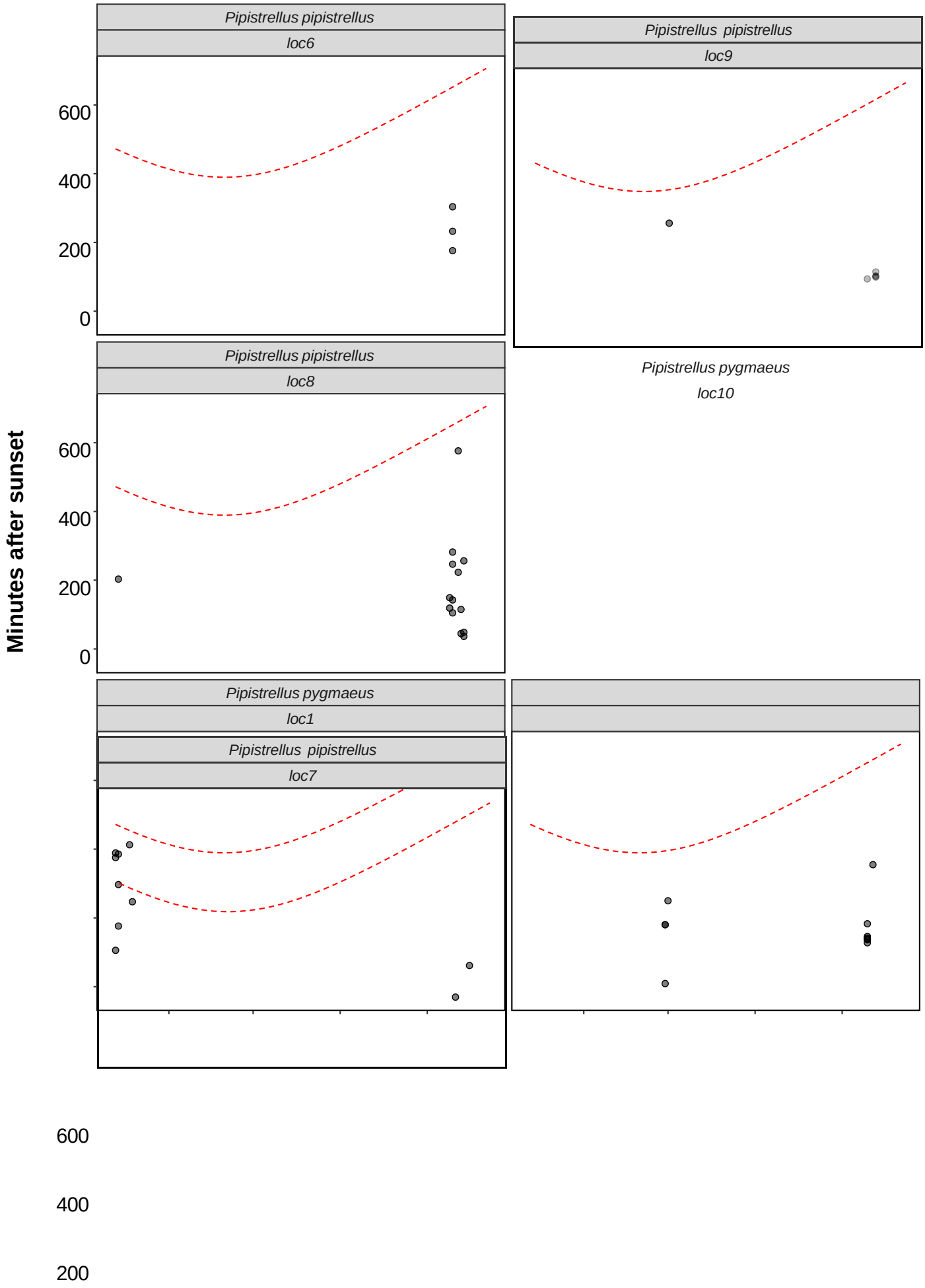

Pipistrellus pipistrellus
loc1a
Pipistrellus pipistrellus
loc21
Pipistrellus pipistrellus
loc20
Pipistrellus pipistrellus
loc23
Pipistrellus pipistrellus
loc22
Pipistrellus pipistrellus
loc2
Minutes after sunset
600
400
200
0


0
Jun
Jul
Aug
Sep
Jun
Jul
Aug
Sep
Date

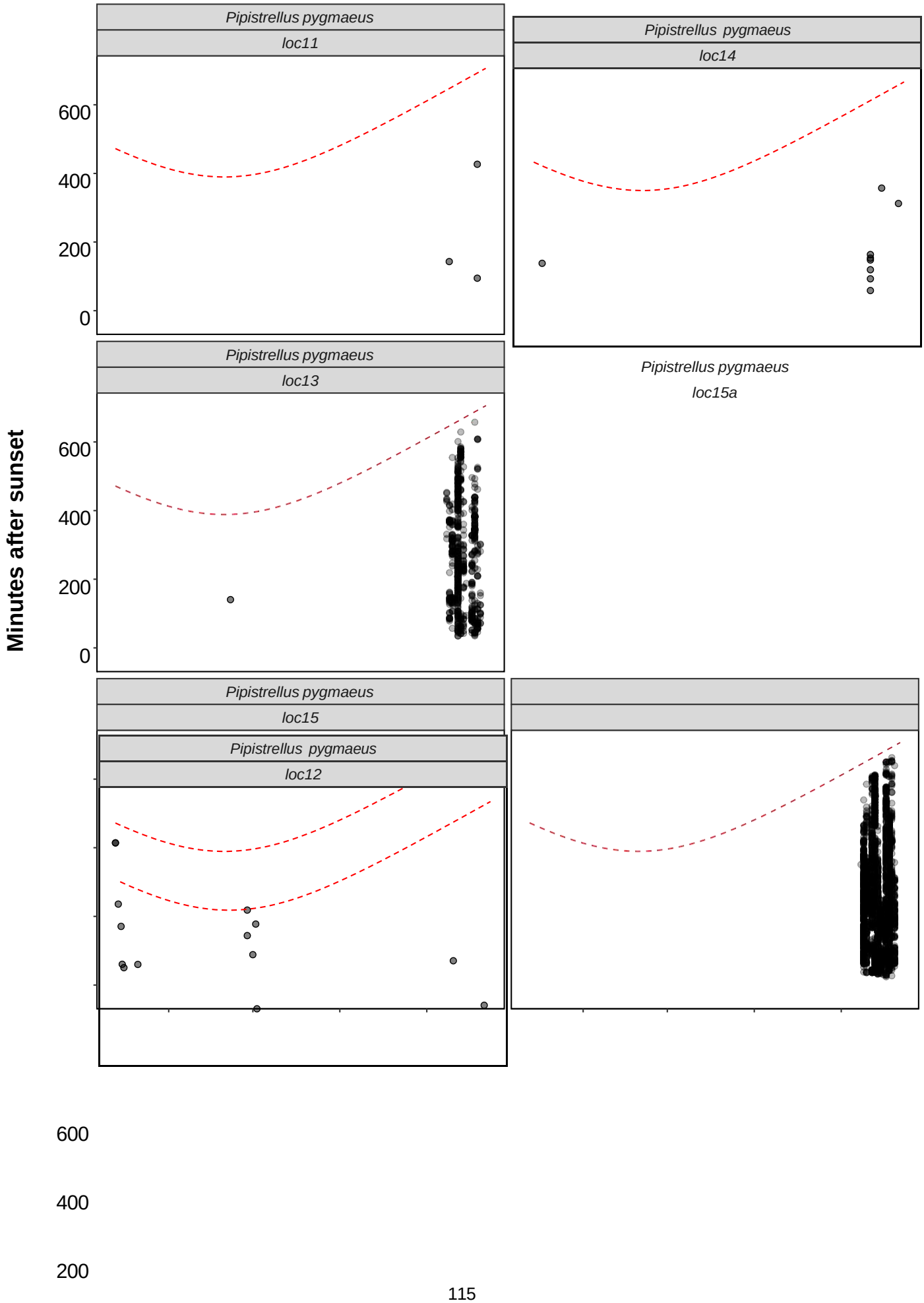

Pipistrellus pipistrellus
loc24
Pipistrellus pipistrellus
loc26
Pipistrellus pipistrellus
loc28
Pipistrellus pipistrellus
loc25a
Pipistrellus pipistrellus
loc27
Pipistrellus pipistrellus
loc25
Minutes after sunset
600
400
200
0

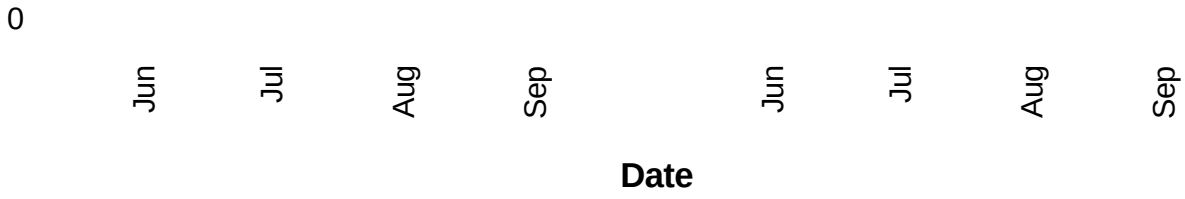

0
Jun
Jul
Aug
Sep
Jun
Jul
Aug
Sep
Date

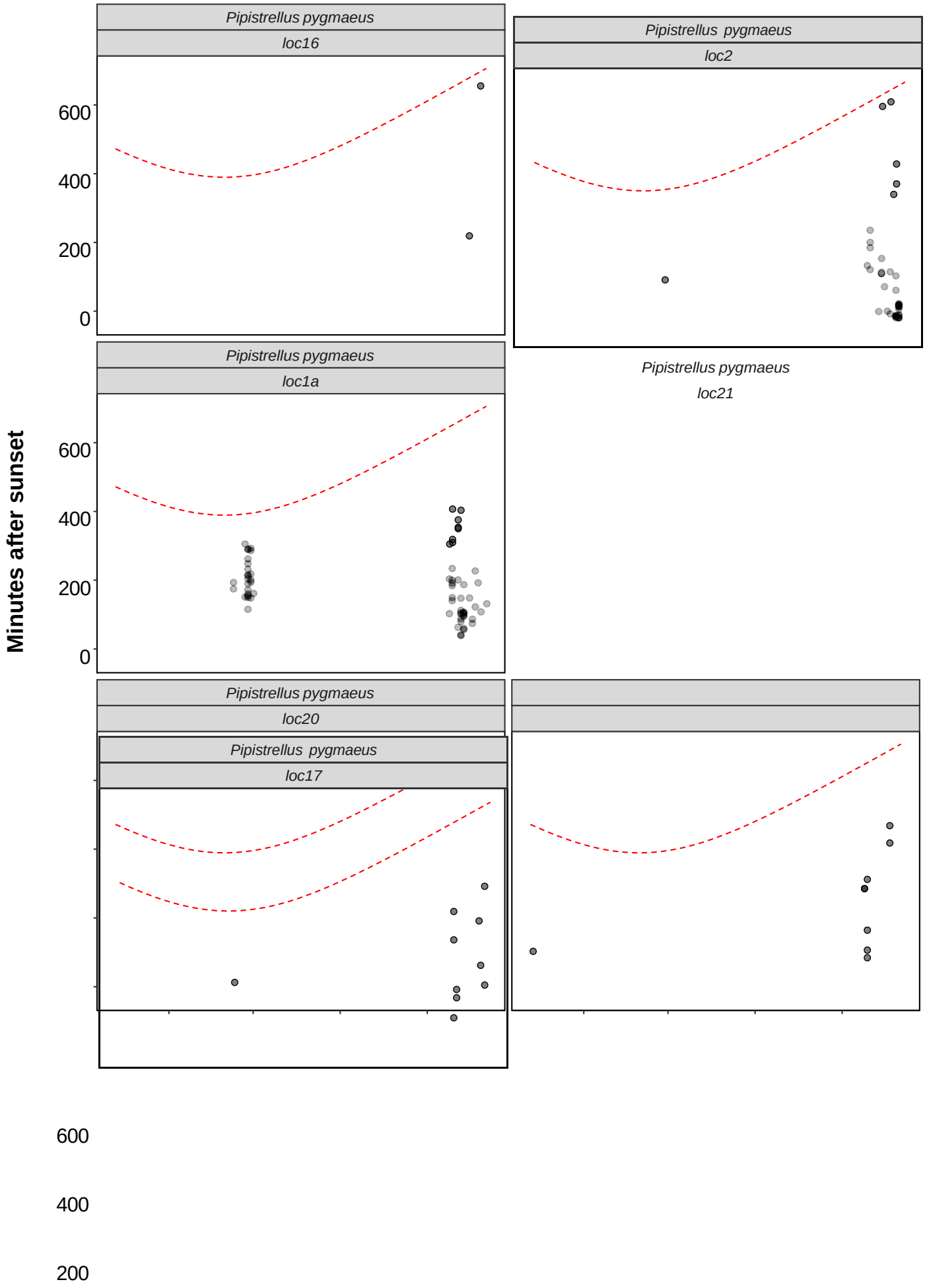

Pipistrellus pipistrellus
loc29
Pipistrellus pipistrellus
loc3
Pipistrellus pipistrellus
loc30
Pipistrellus pipistrellus
loc31
Pipistrellus pipistrellus
loc4
Pipistrellus pipistrellus
loc5
Minutes after sunset
0
200
400
600
Jun
Jul
Aug
Sep
Date

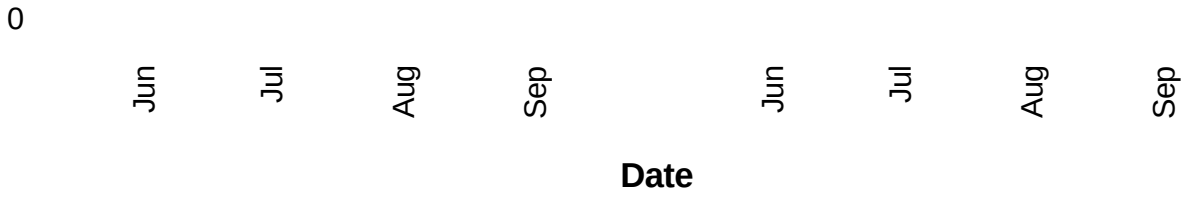

Pipistrellus pipistrellus
loc6
Pipistrellus pipistrellus
loc9
Pipistrellus pipistrellus
loc8
Pipistrellus pygmaeus
loc10
Pipistrellus pygmaeus
loc1
Pipistrellus pipistrellus
loc7
Minutes after sunset
600
400
200
0

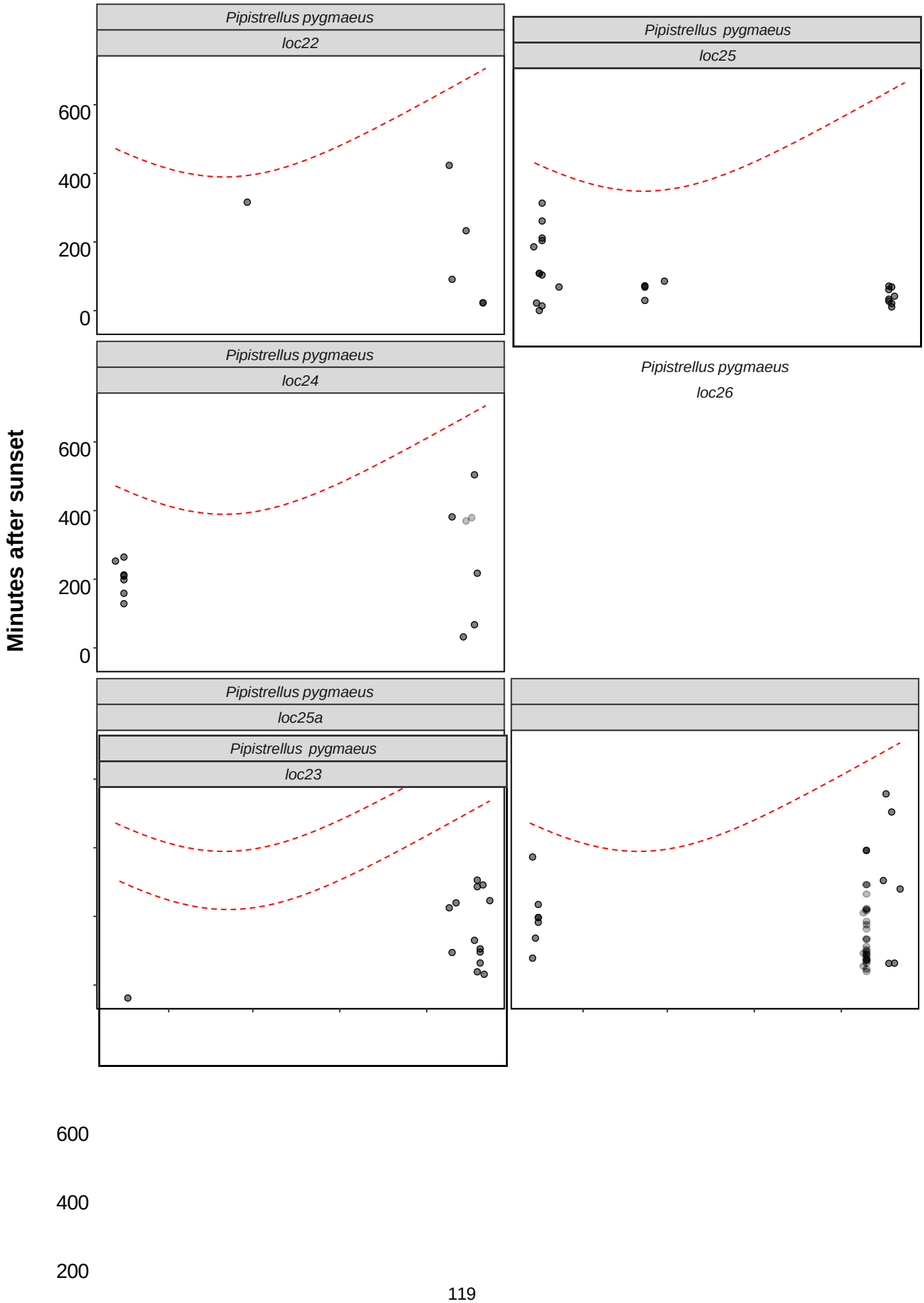

0
Jun
Jul
Aug
Sep
Jun
Jul
Aug
Sep
Date

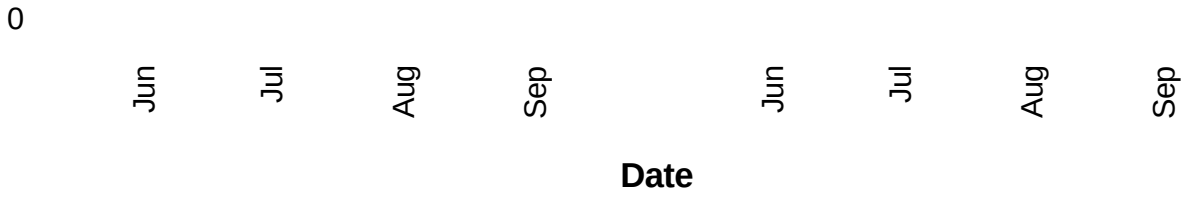

Pipistrellus pygmaeus
loc11
Pipistrellus pygmaeus
loc14
Pipistrellus pygmaeus
loc13
Pipistrellus pygmaeus
loc15a
Pipistrellus pygmaeus
loc15
Pipistrellus pygmaeus
loc12
Minutes after sunset
600
400
200
0

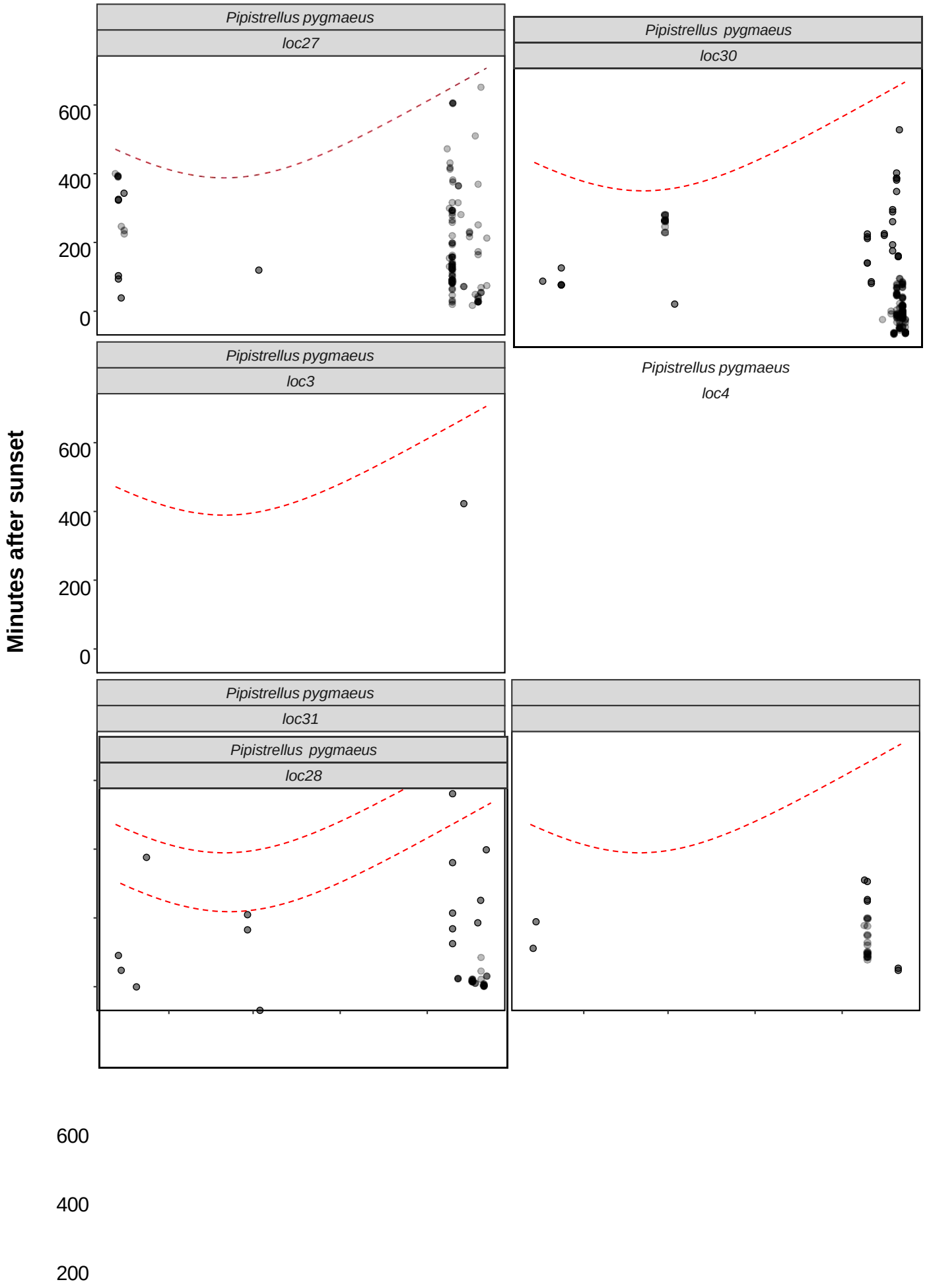

0
Jun
Jul
Aug
Sep
Jun
Jul
Aug
Sep
Date

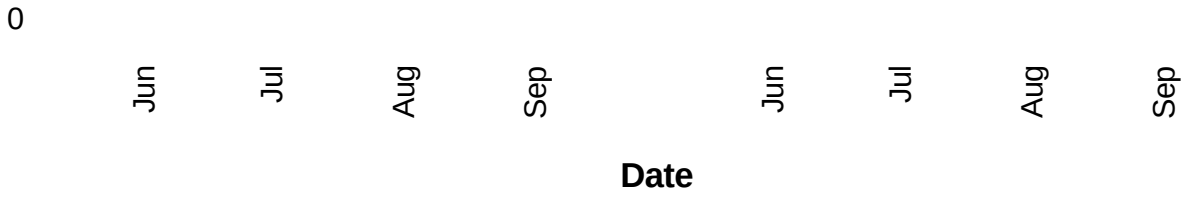

Pipistrellus pygmaeus
loc16
Pipistrellus pygmaeus
loc2
Pipistrellus pygmaeus
loc1a
Pipistrellus pygmaeus
loc21
Pipistrellus pygmaeus
loc20
Pipistrellus pygmaeus
loc17
Minutes after sunset
600
400
200
0

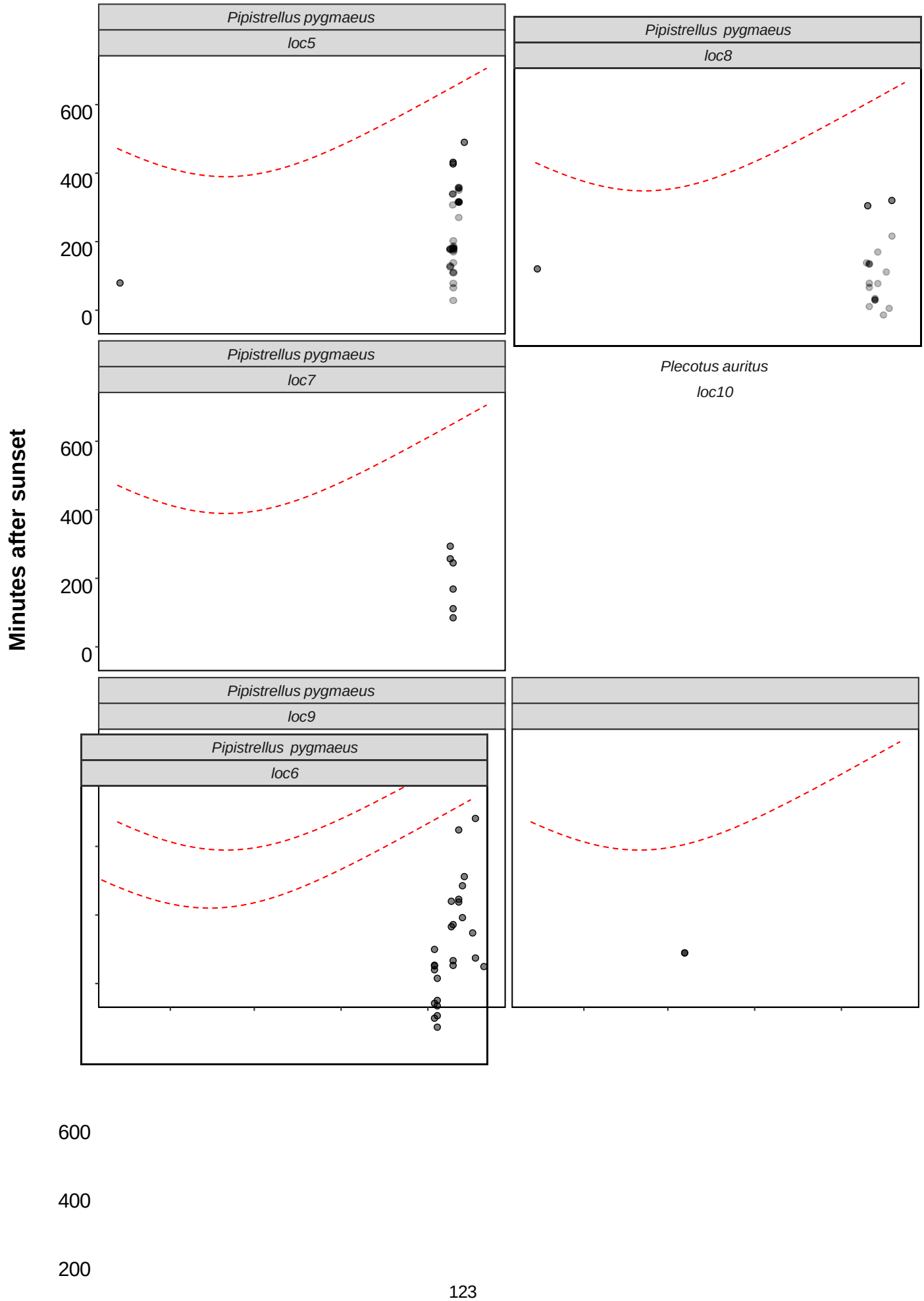

0
Jun
Jul
Aug
Sep
Jun
Jul
Aug
Sep
Date

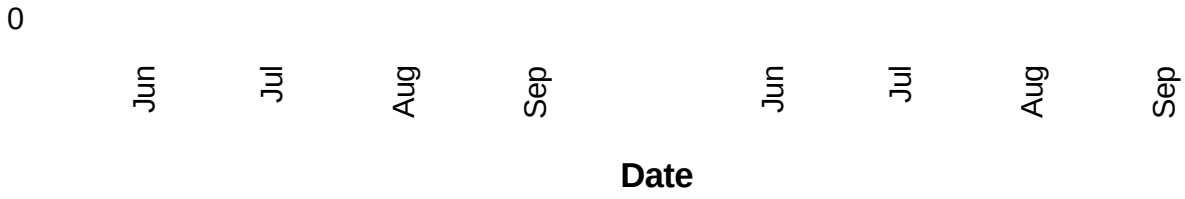

Pipistrellus pygmaeus
loc22
Pipistrellus pygmaeus
loc25
Pipistrellus pygmaeus
loc26
Pipistrellus pygmaeus
loc24
Pipistrellus pygmaeus
loc25a
Pipistrellus pygmaeus
loc23
Minutes after sunset
600
400
200
0

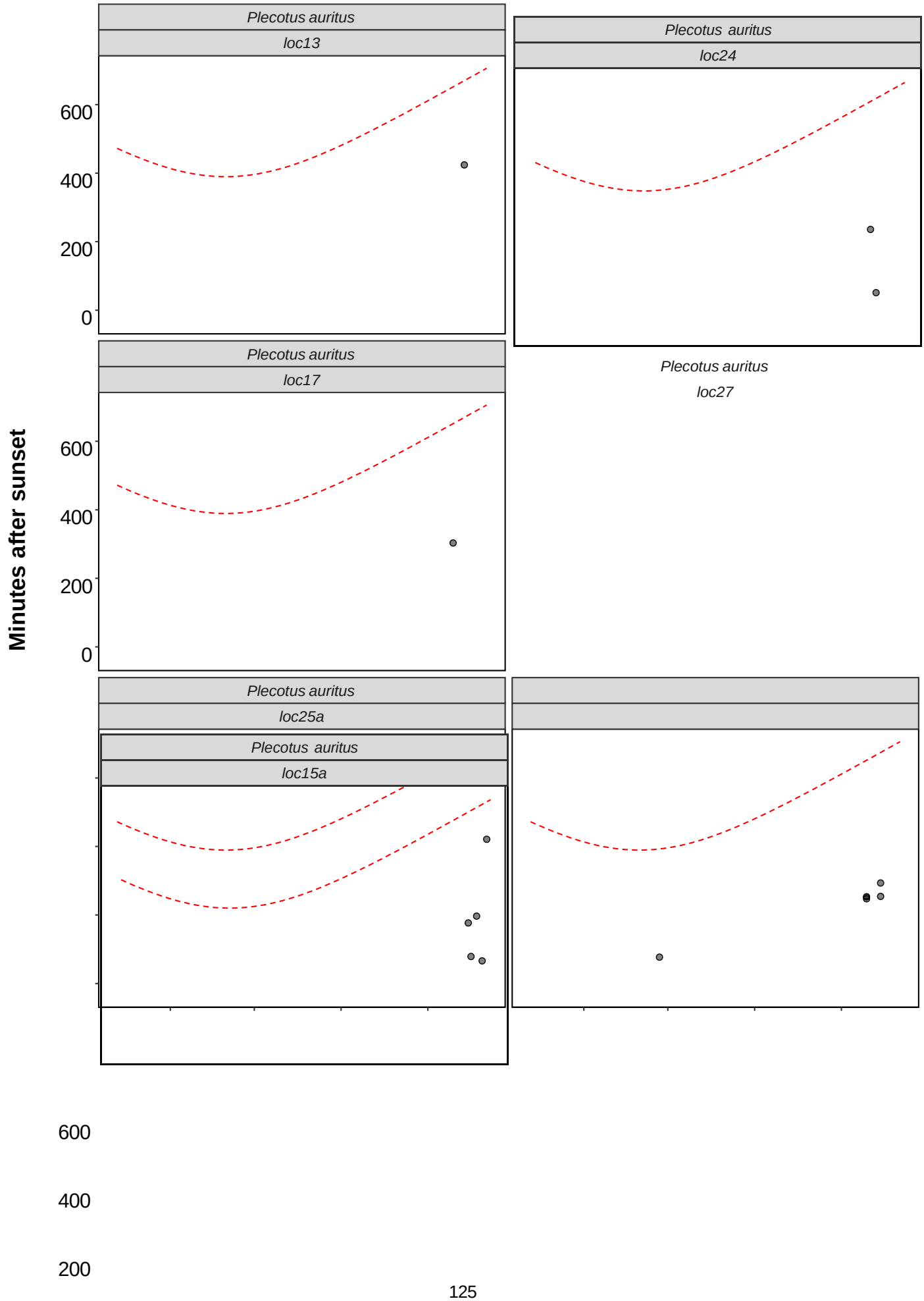

0
Jun
Jul
Aug
Sep
Jun
Jul
Aug
Sep
Date

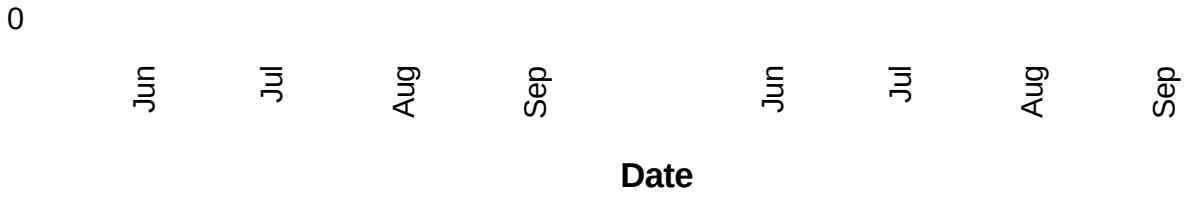

Pipistrellus pygmaeus
loc27
Pipistrellus pygmaeus
loc30
Pipistrellus pygmaeus
loc3
Pipistrellus pygmaeus
loc4
Pipistrellus pygmaeus
loc31
Pipistrellus pygmaeus
loc28
Minutes after sunset
600
400
200
0

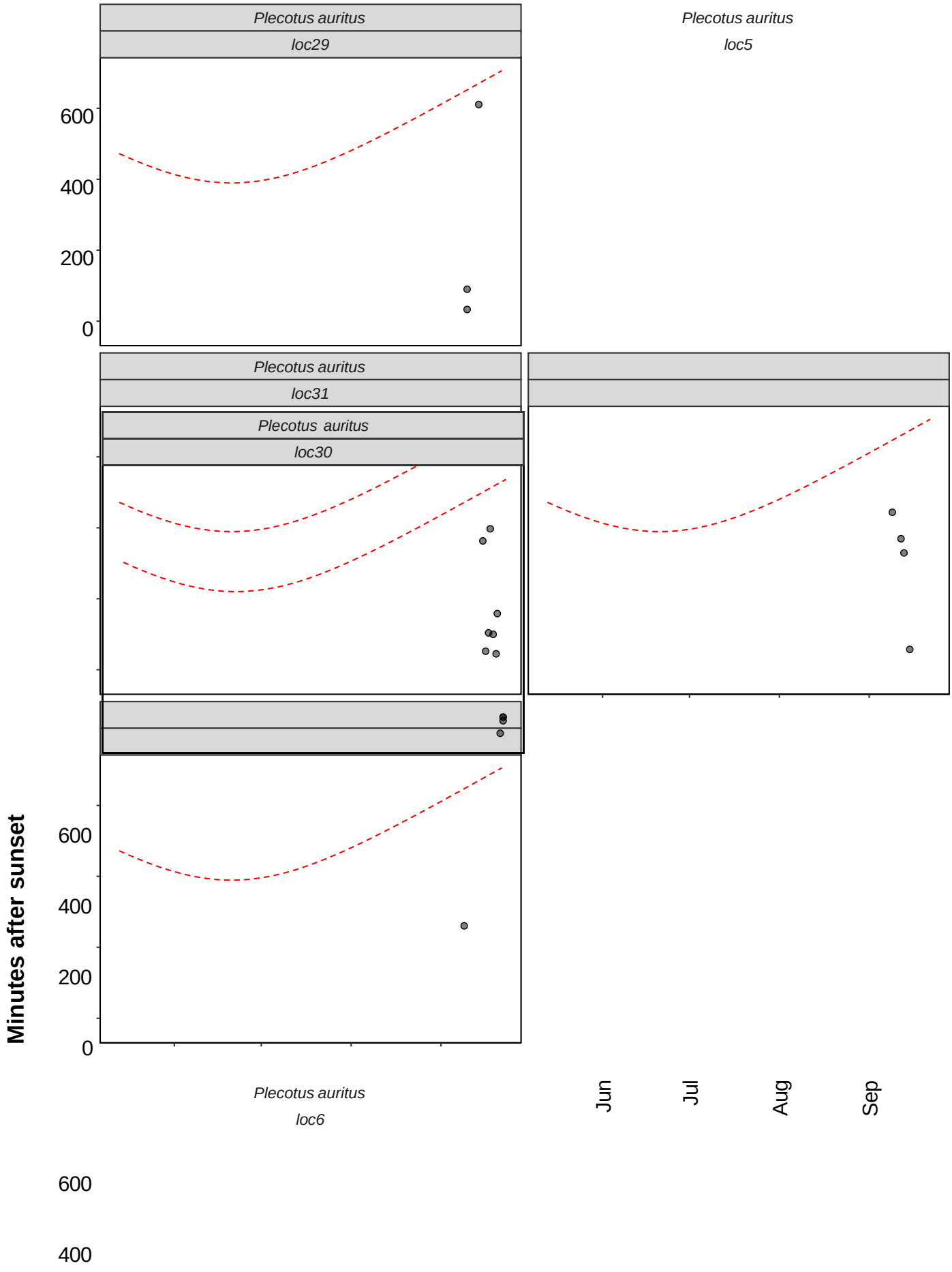

0
Jun
Jul
Aug
Sep
Jun
Jul
Aug
Sep
Date

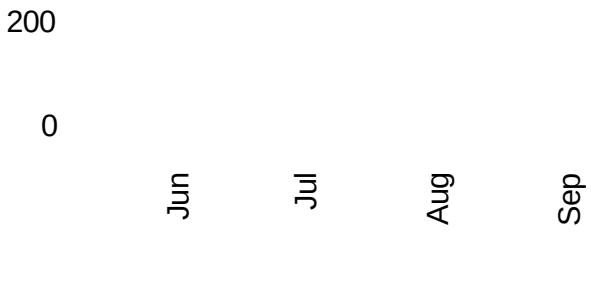

Pipistrellus pygmaeus
loc5
Pipistrellus pygmaeus
loc8
Plecotus auritus
loc10
Pipistrellus pygmaeus
loc7
Pipistrellus pygmaeus
loc9
Pipistrellus pygmaeus
loc6
Minutes after sunset
600
400
200
0


0
Jun
Jul
Aug
Sep
Jun
Jul
Aug
Sep
Date


Plecotus auritus
loc13
Plecotus auritus
loc24
Plecotus auritus
loc27
Plecotus auritus
loc17
Plecotus auritus
loc25a
Plecotus auritus
loc15a
Minutes after sunset
600
400
200
0


0
Jun
Jul
Aug
Sep
Jun
Jul
Aug
Sep
Date


Plecotus auritus
loc29
Plecotus auritus
loc5
Plecotus auritus
loc31
Plecotus auritus
loc30
Plecotus auritus
loc6
Minutes after sunset
0
200
400
600
Jun
Jul
Aug
Sep


200
0
Jun
Jul
Aug
Sep
Date

Roost Emergence Time and Bat Observation

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

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

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

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

Table 12: Table continues below

Species	Detector ID	2022-05-24	2022-06-30	2022-07-01	2022-09-10	2022-09-12
Common pipistrelle	loc13	0	0	0	0	0
Common pipistrelle	loc15a	0	0	0	0	0
Common pipistrelle	loc21	0	0	0	0	1
Common pipistrelle	loc26	0	0	0	0	0
Common pipistrelle	loc27	0	0	0	4	2
Common pipistrelle	loc30	0	0	0	7	1
Common pipistrelle	loc31	0	0	0	0	0
Common pipistrelle	loc4	0	0	0	0	0
Soprano pipistrelle	loc10	0	1	0	0	0
Soprano pipistrelle	loc15a	0	0	0	0	0
Soprano pipistrelle	loc2	0	0	0	0	0
Soprano pipistrelle	loc22	0	0	0	0	0
Soprano pipistrelle	loc27	0	0	0	2	0
Soprano pipistrelle	loc30	0	0	0	0	0
Soprano pipistrelle	loc31	0	0	0	0	3
Soprano pipistrelle	loc8	0	0	0	0	0
Nyctalus	loc9	0	50	0	0	0
Brown long-eared	loc29	0	0	0	1	0
Brown long-eared	loc30	0	0	0	0	0
Brown long-eared	loc31	0	0	0	0	0
Brown long-eared	loc5	0	0	0	0	0
Daubenton’s	loc10	1	0	0	0	0
Daubenton’s	loc15a	0	0	0	0	0
Daubenton’s	loc19	0	0	0	0	0
Daubenton’s	loc2	0	0	0	0	0
Daubenton’s	loc22	0	0	0	0	0
Daubenton’s	loc23	0	0	0	0	0
Daubenton’s	loc24	0	0	2	0	0
Daubenton’s	loc25a	0	0	0	1	0
Daubenton’s	loc26	0	0	0	0	0
Daubenton’s	loc27	0	0	0	0	0
Daubenton’s	loc28	0	0	0	0	0
Daubenton’s	loc30	0	0	0	1	1
Daubenton’s	loc31	0	0	0	0	0
Daubenton’s	loc7	0	0	0	0	0
Daubenton’s	loc8	0	0	0	0	0
Daubenton’s	loc9	0	1	0	0	0
Natterer’s	loc2	0	0	0	1	0
Natterer’s	loc3	0	0	0	1	0

Table 13: Table continues below

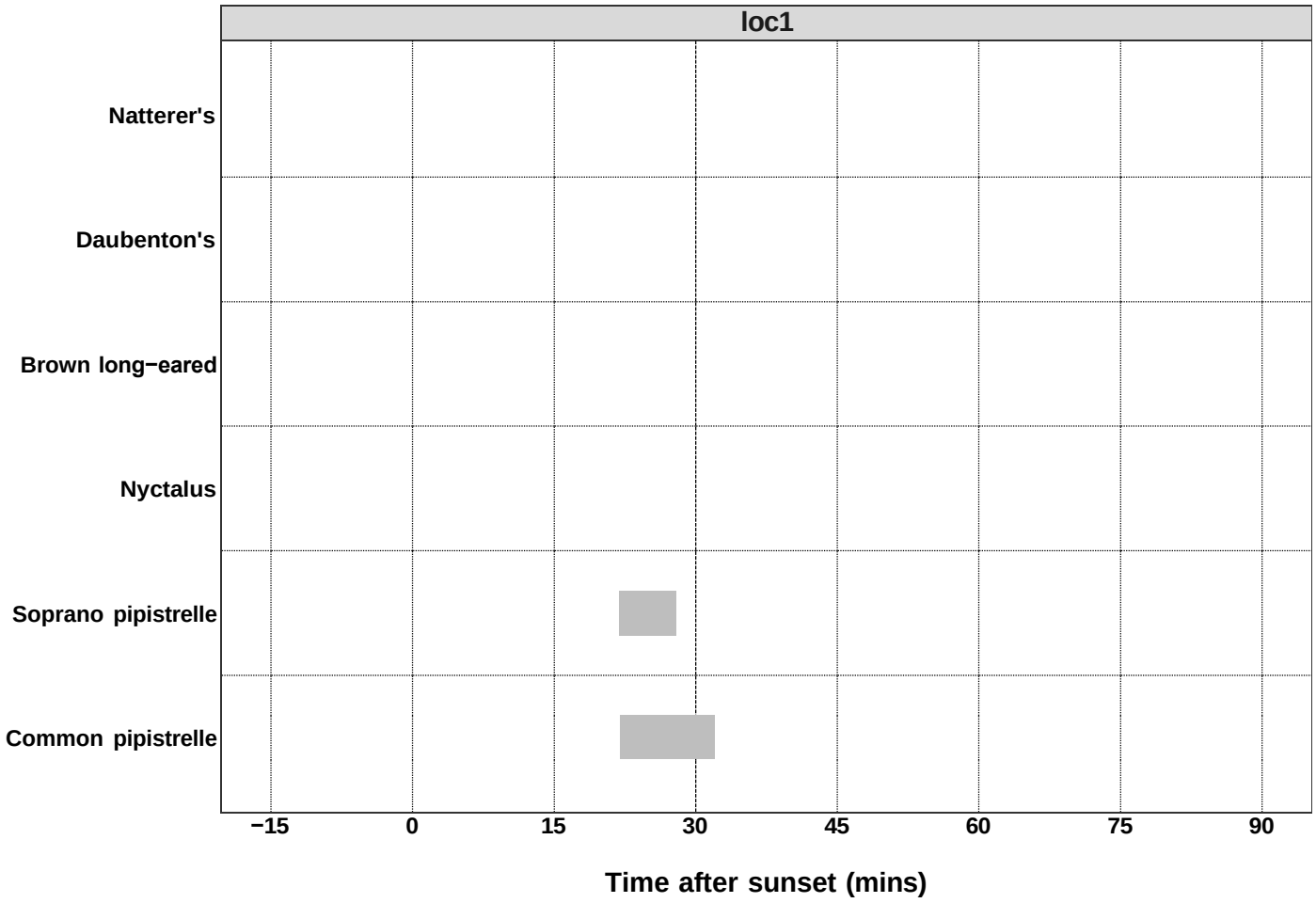
2022-09-13	2022-09-14	2022-09-15	2022-09-16	2022-09-17	2022-09-18	2022-09-19
0	0	0	0	0	0	0
0	0	0	1	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	1	1
0	0	0	0	0	3	47
0	0	0	0	0	1	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	1	0	1
0	0	0	0	1	0	8
0	0	0	0	0	0	0
0	0	0	0	1	0	4
0	1	0	0	1	7	8
0	0	0	0	12	2	0
0	0	1	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	1	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	2
0	0	0	0	0	1	0
1	0	0	0	0	0	1
0	1	0	0	0	0	0
0	0	0	0	0	0	0
0	1	0	0	0	0	1
2	0	3	1	0	0	1
0	0	0	0	0	1	0
0	1	0	0	0	1	0
0	0	0	0	0	1	0
1	0	0	0	0	0	0
1	0	1	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	1	0	0	0

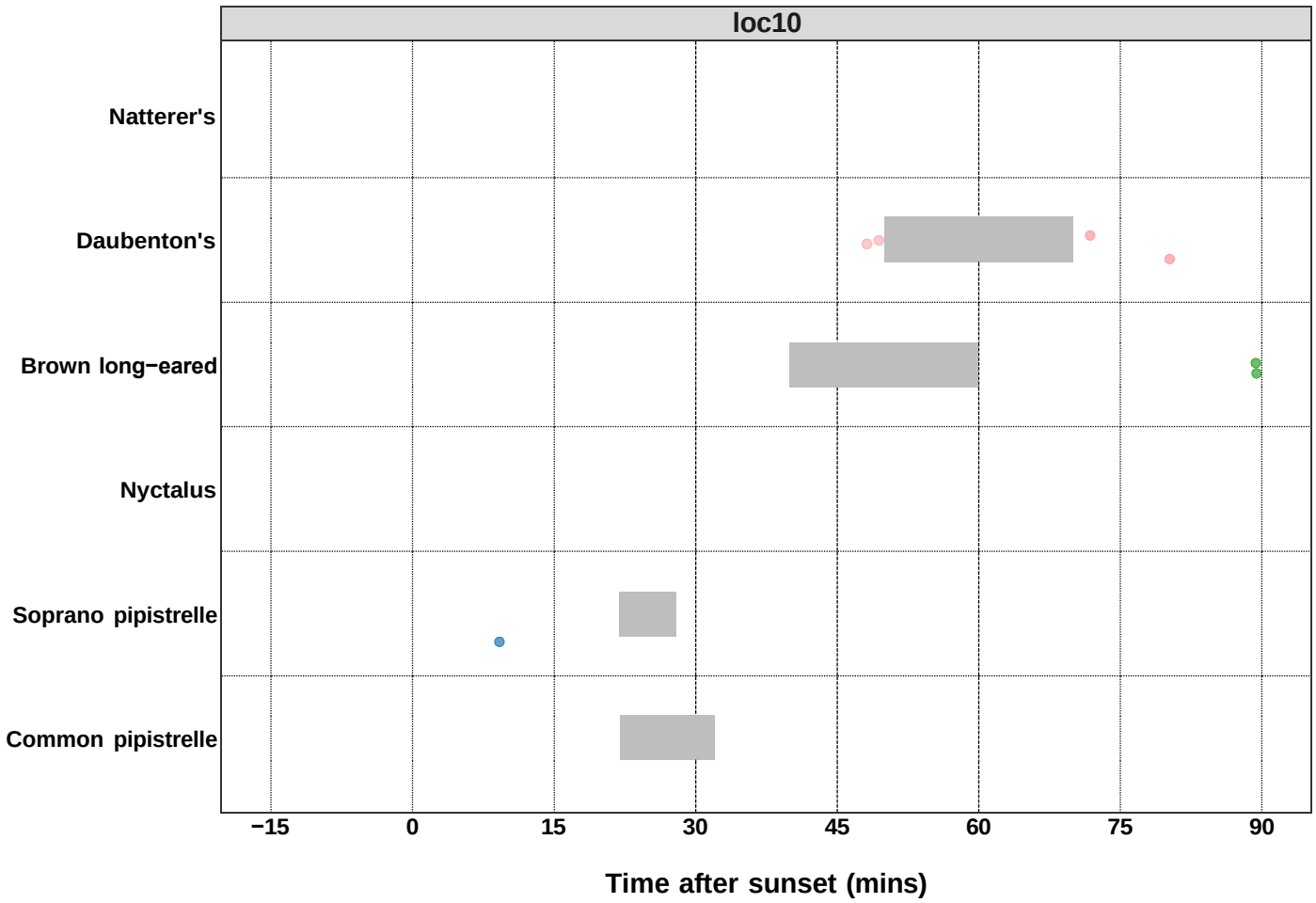
2022-09-20	2022-09-21	2022-09-22
1	0	0
1	0	0
0	0	0
1	0	0
0	0	0
18	17	46
0	1	0
0	0	1
0	0	0
0	0	0
5	0	0
0	2	0
0	0	0

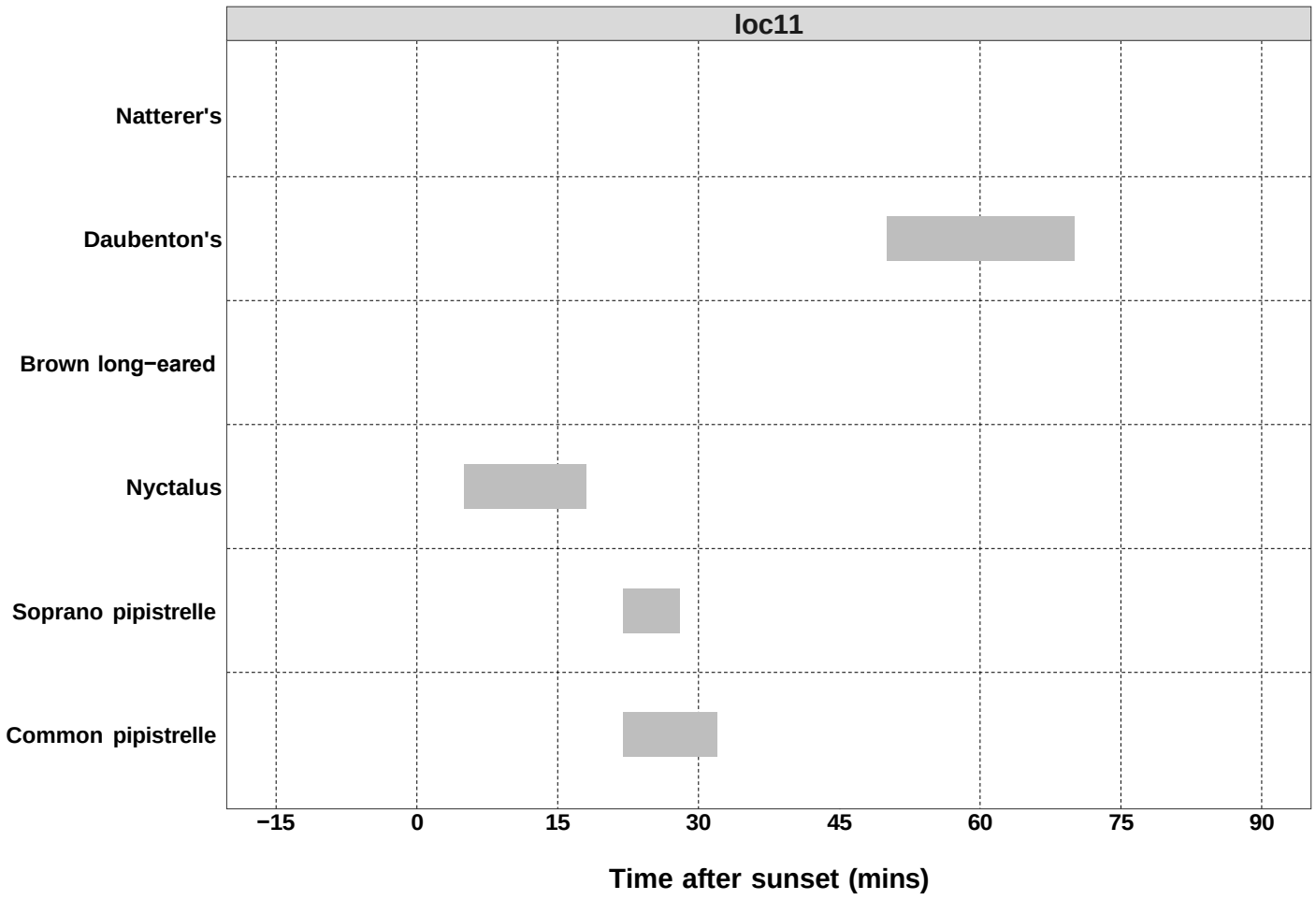
2022-09-20	2022-09-21	2022-09-22
12	52	14
1	9	0
0	0	0
0	0	0
0	0	0
1	3	0
1	0	0
0	0	0
0	0	0
1	0	0
0	1	0
0	0	0
0	0	0
0	0	0
0	0	0
0	2	1
1	0	0
0	0	0
0	0	0
1	3	1
0	0	0
0	0	0
0	0	0
0	0	0
1	0	0
0	0	0

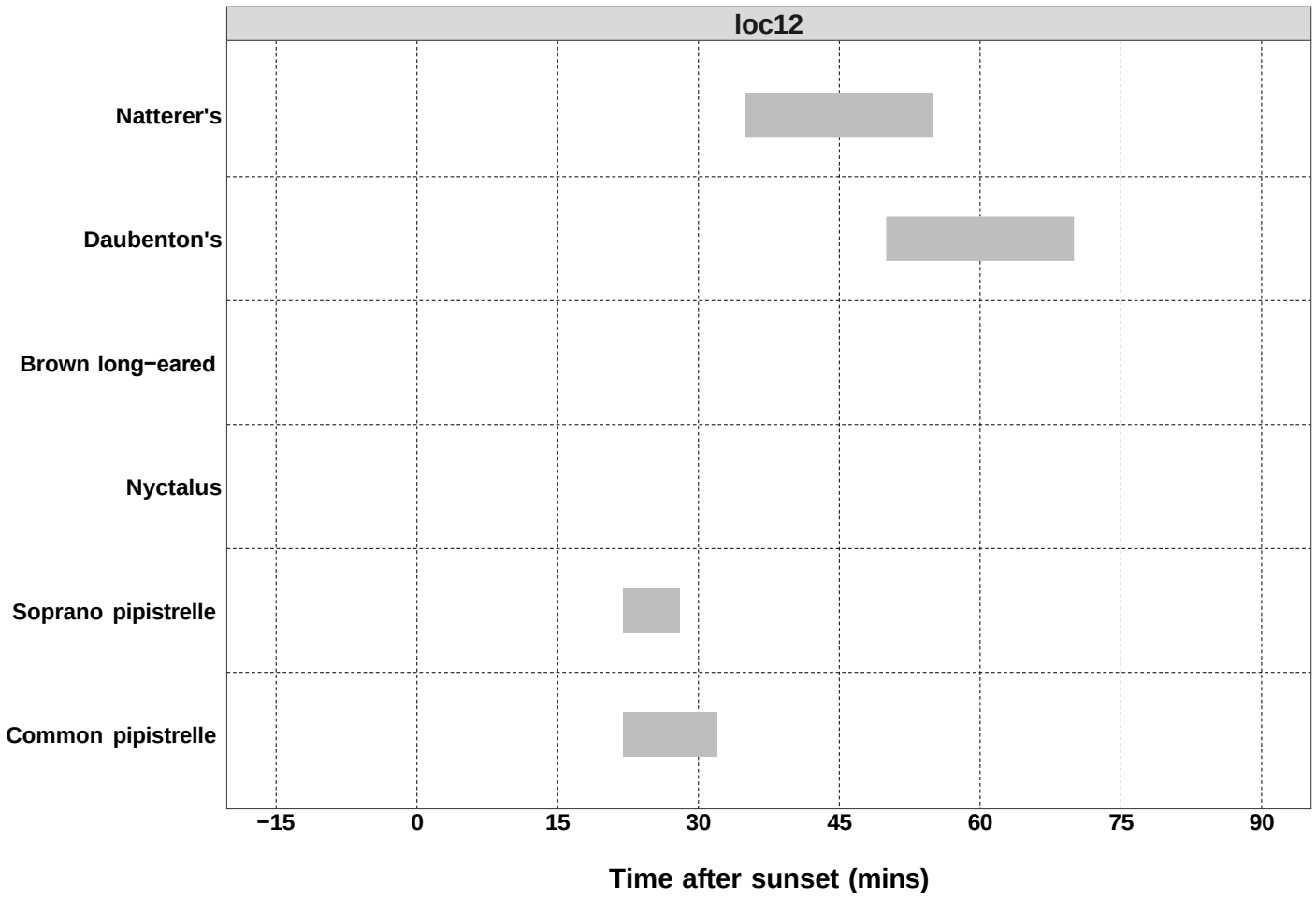
Bat Passes Potentially Indicating Close Proximity to a Roost (Russ 2012) - Figures

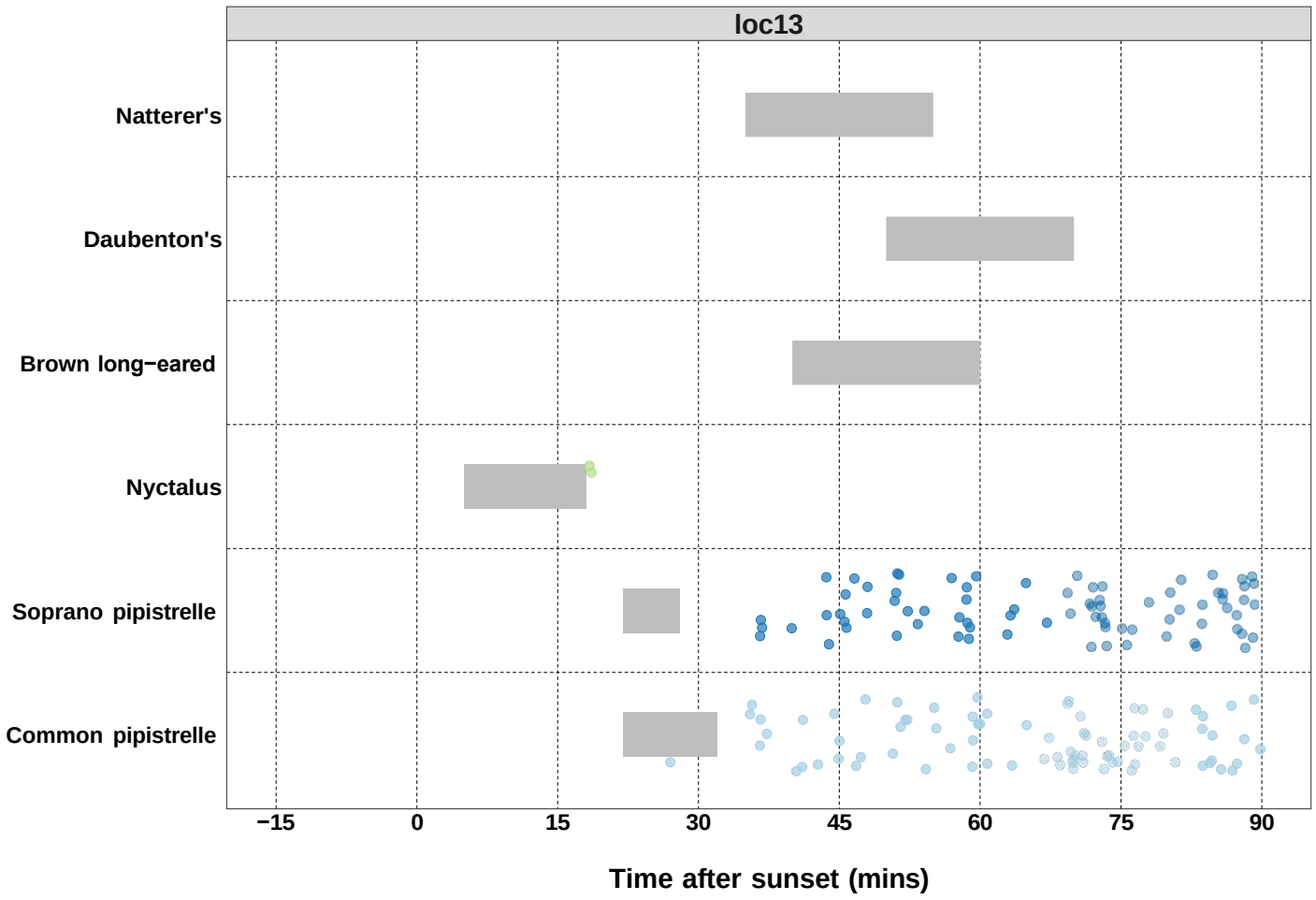
Figure 8. Time from 15 minutes before to 90 minutes after sunset. Species-specific emergence time ranges are shown as grey bars. Bat passes overlapping species-specific grey bars, or occuring earlier than this time range, may potentially indicate the presence of a nearby roost.

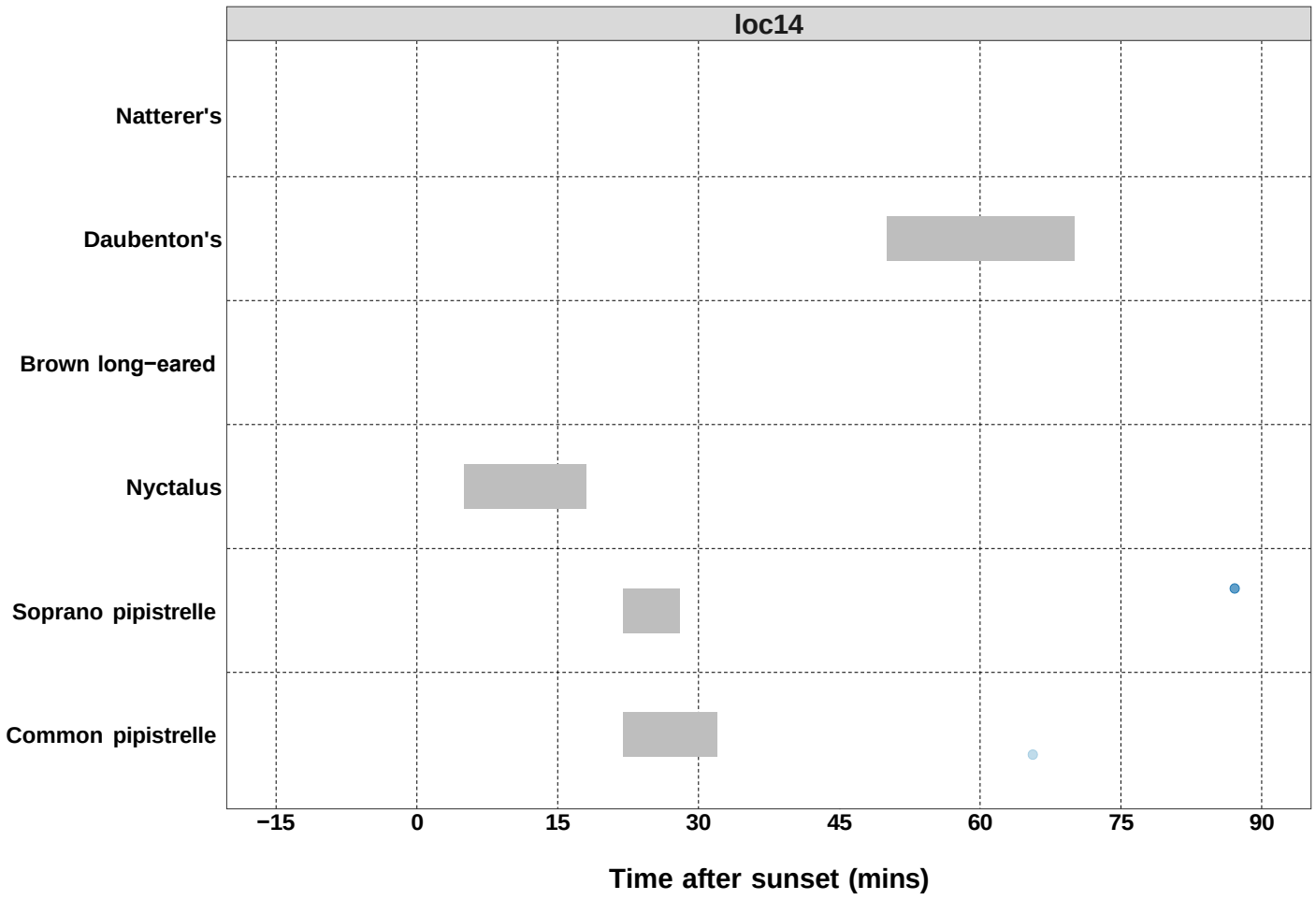


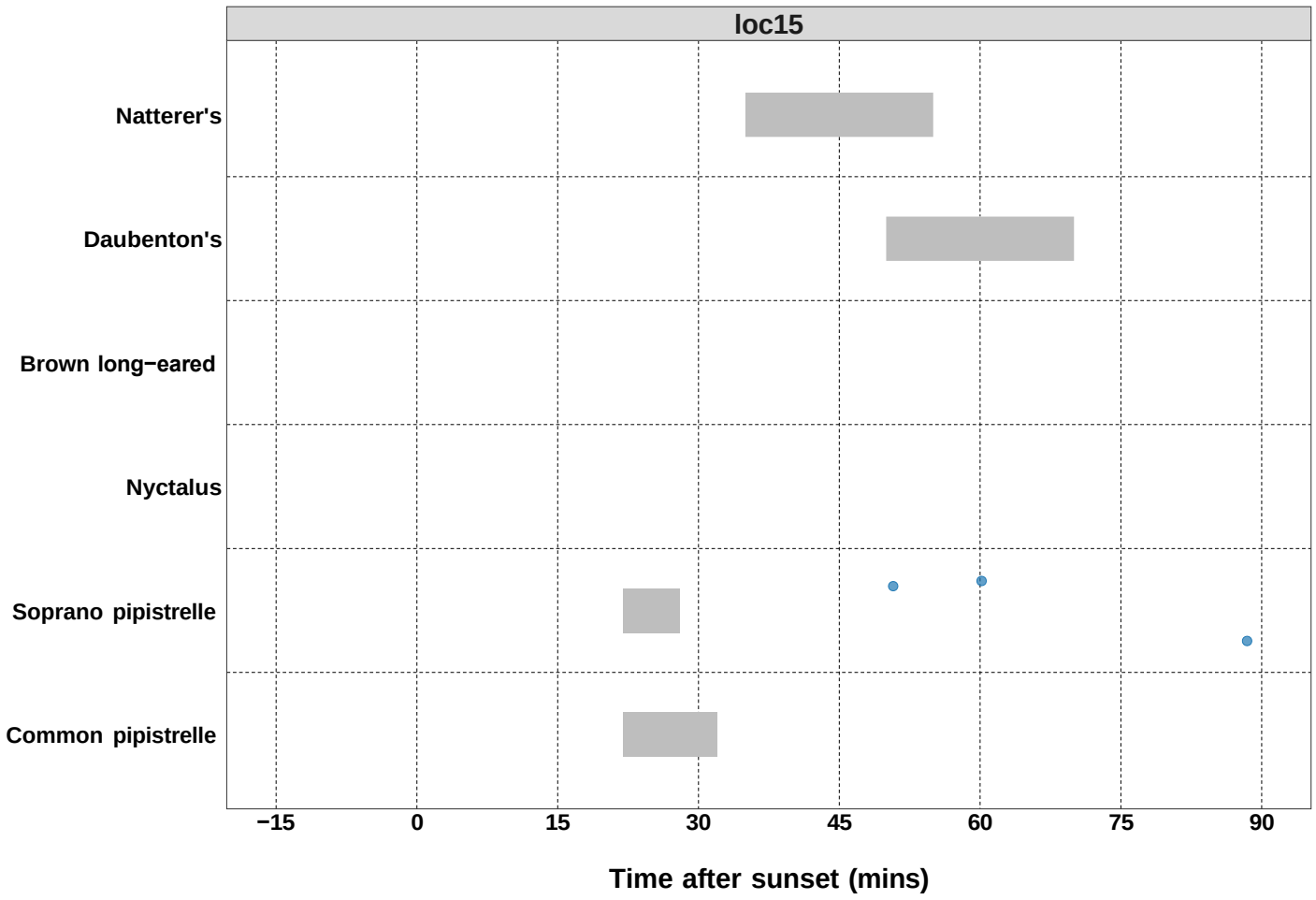

loc10
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

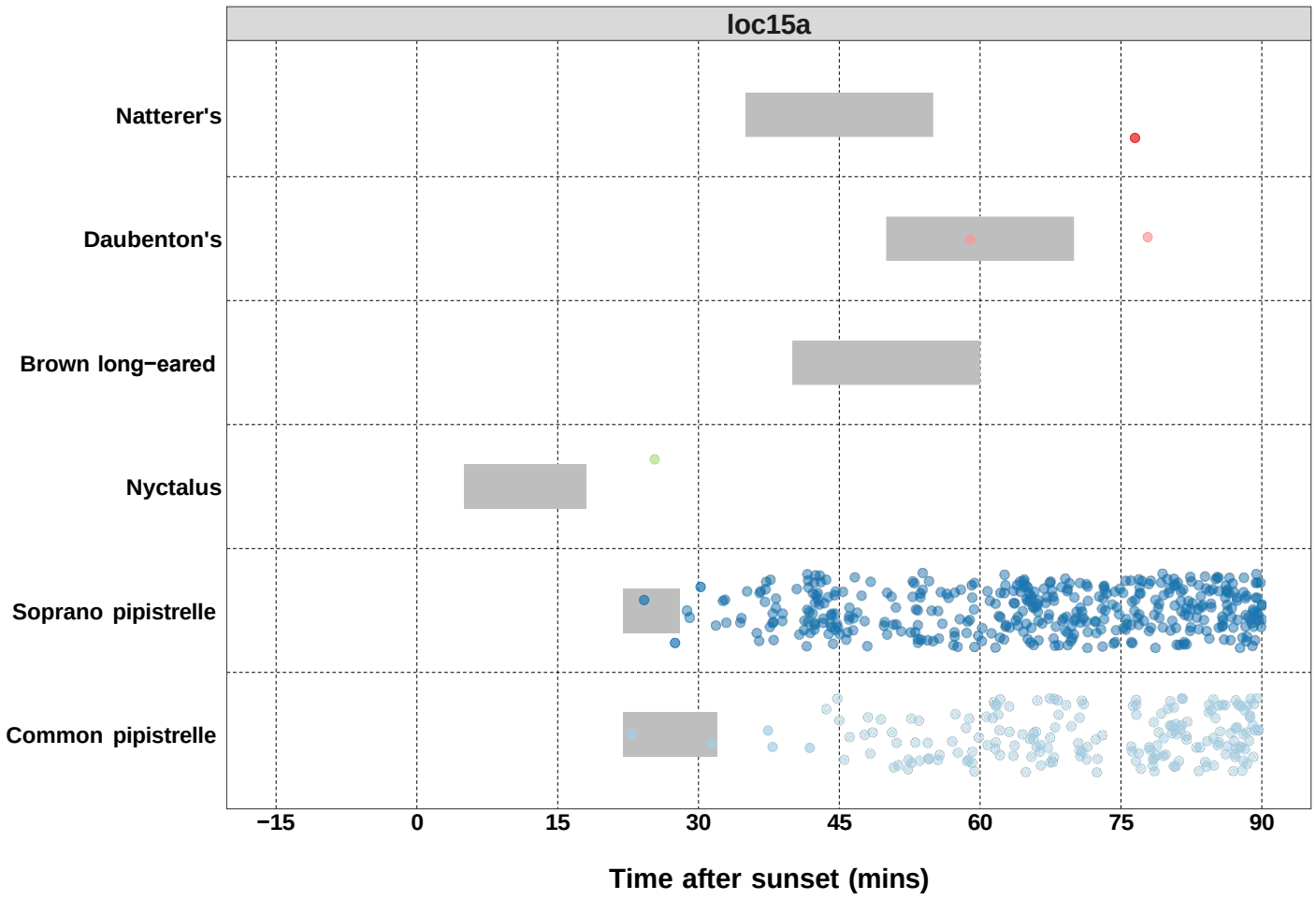

loc11
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

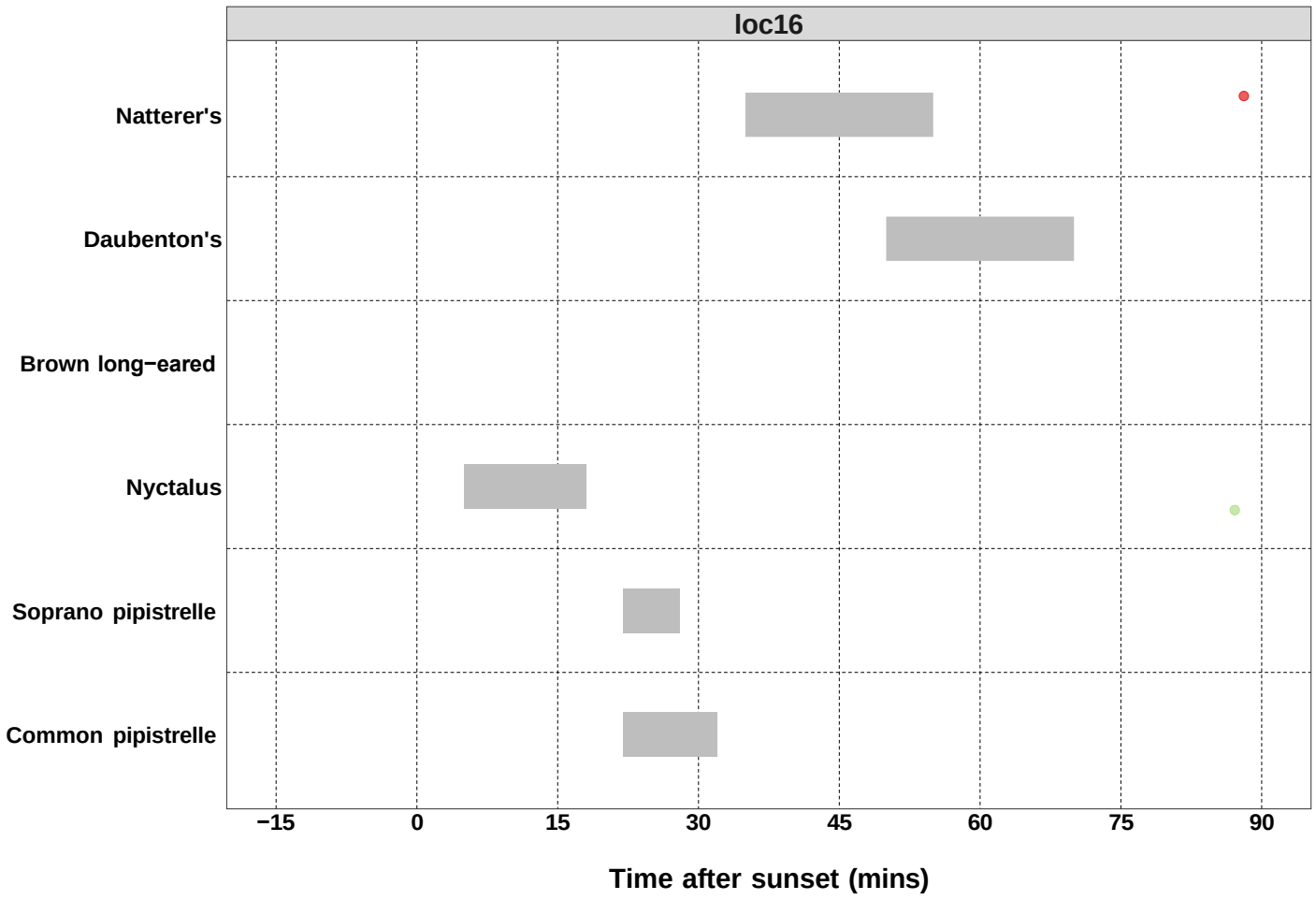

loc12
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

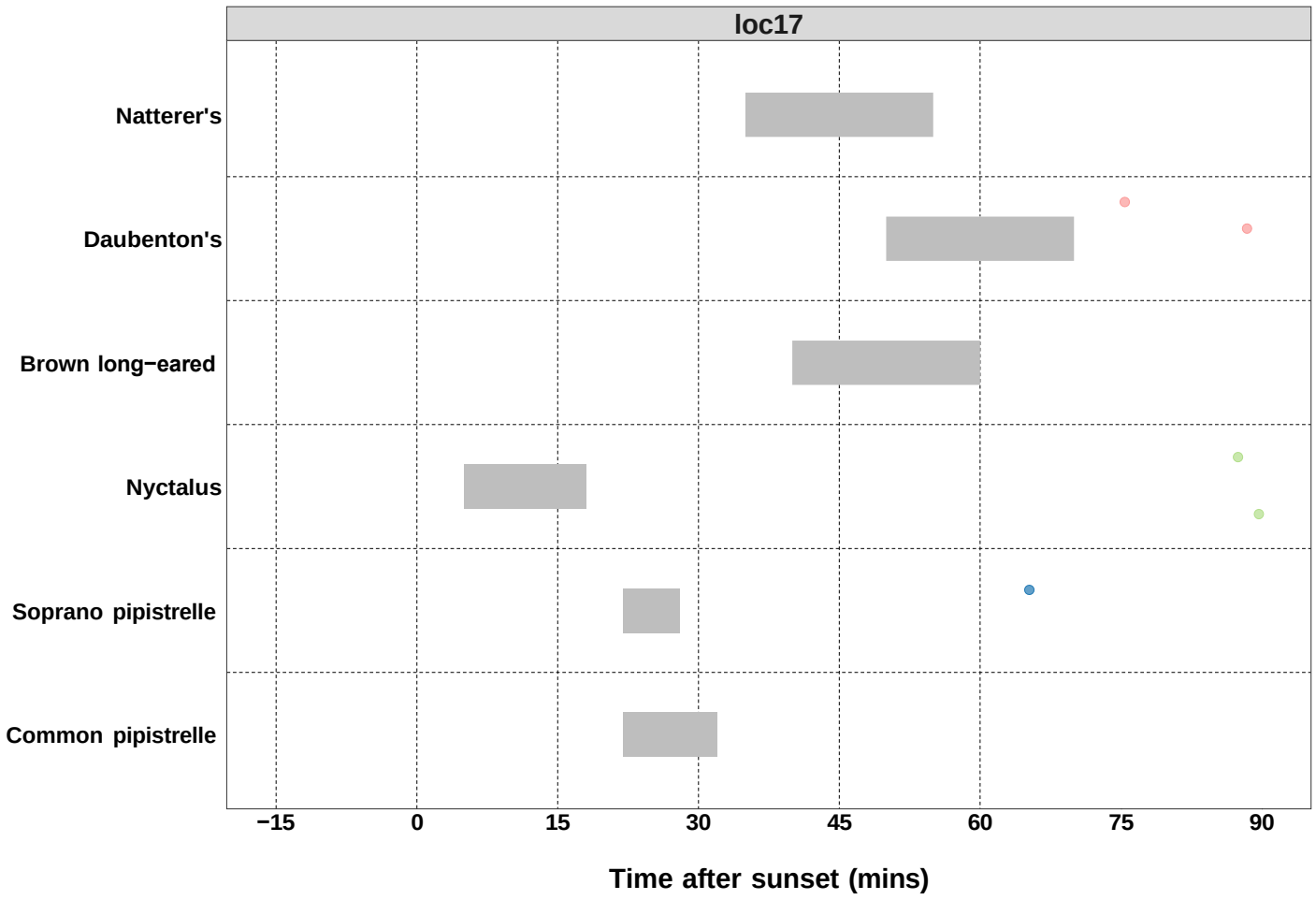

loc13
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

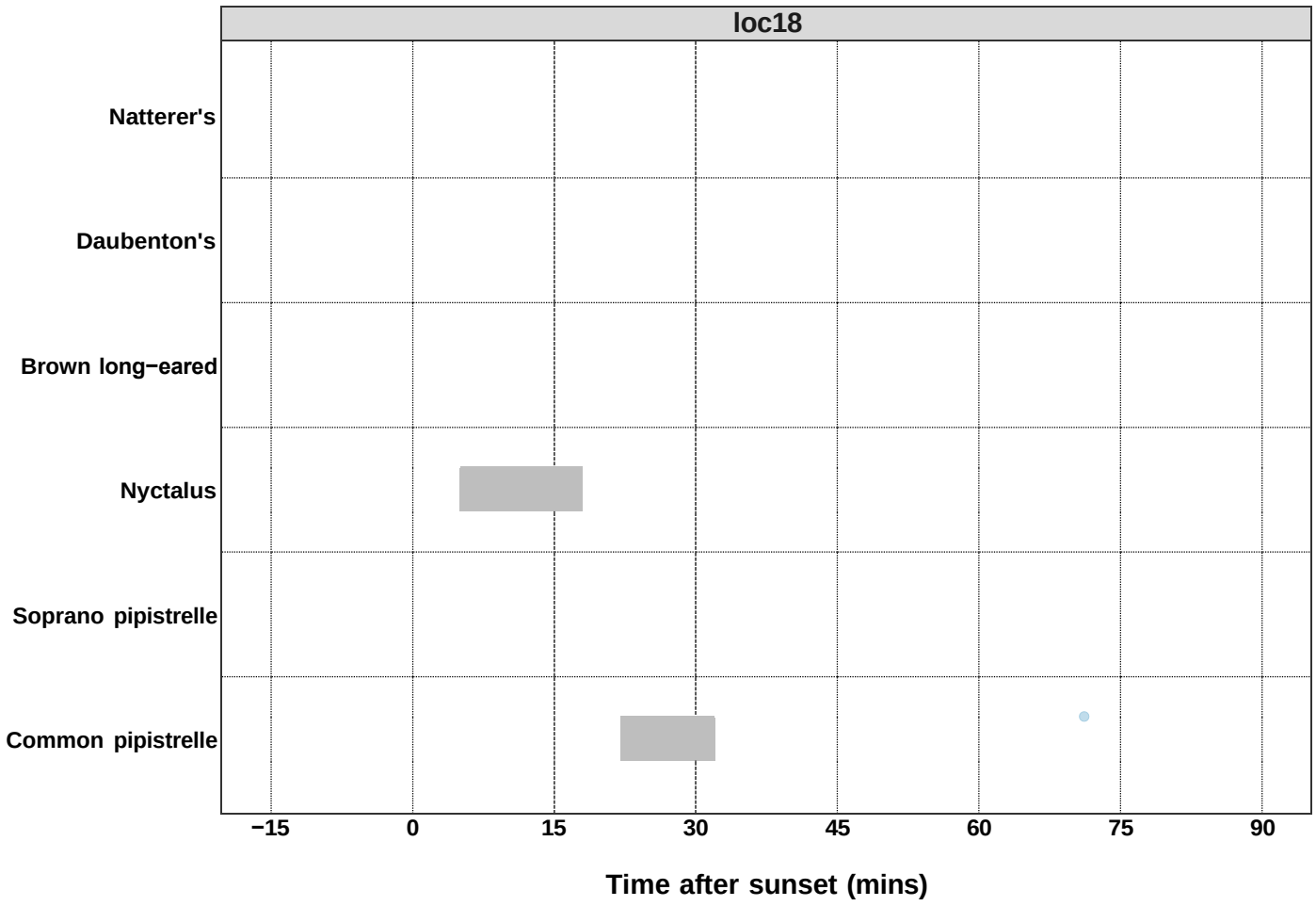

loc14
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

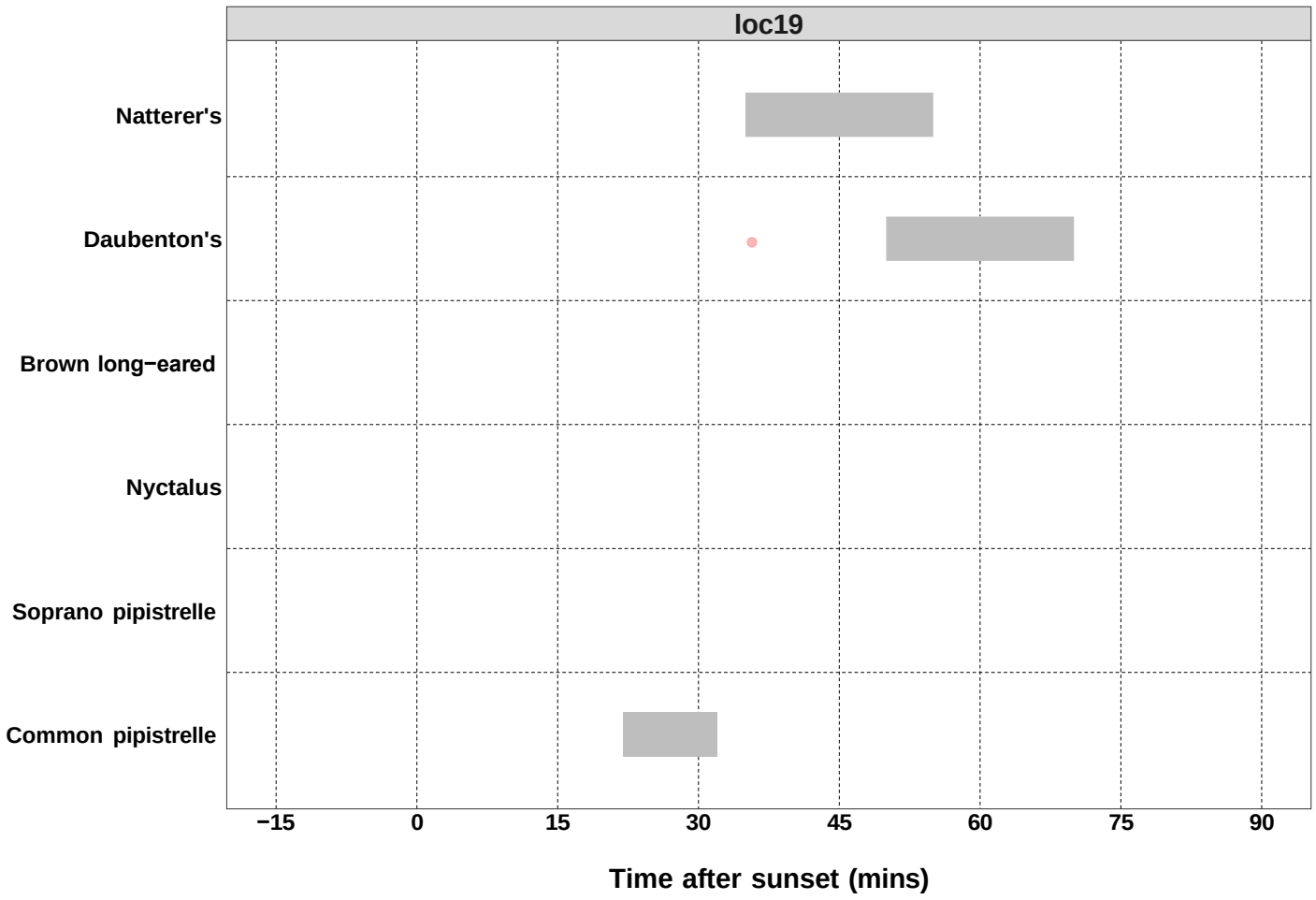

loc15
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

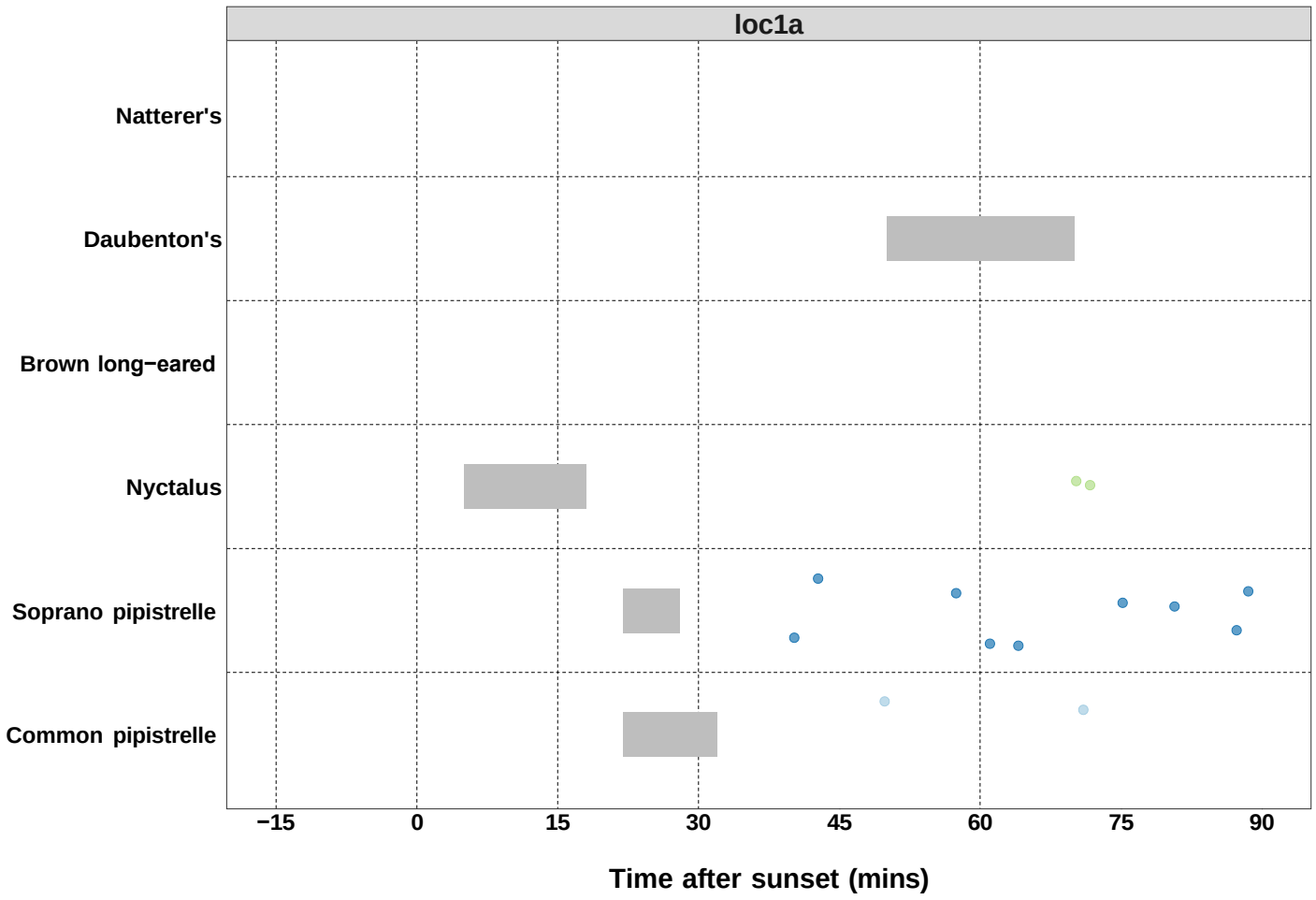

loc15a
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

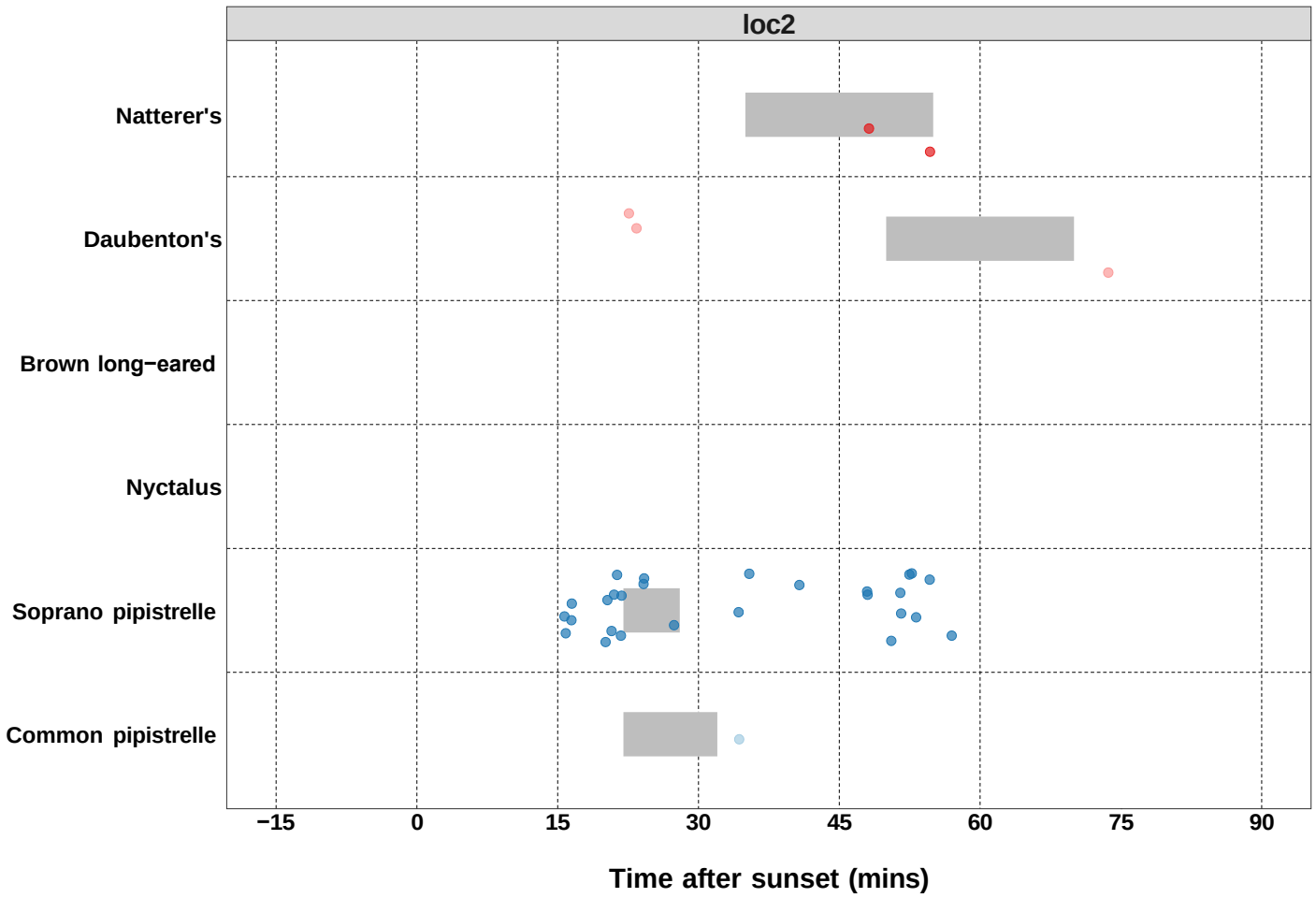

loc16
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

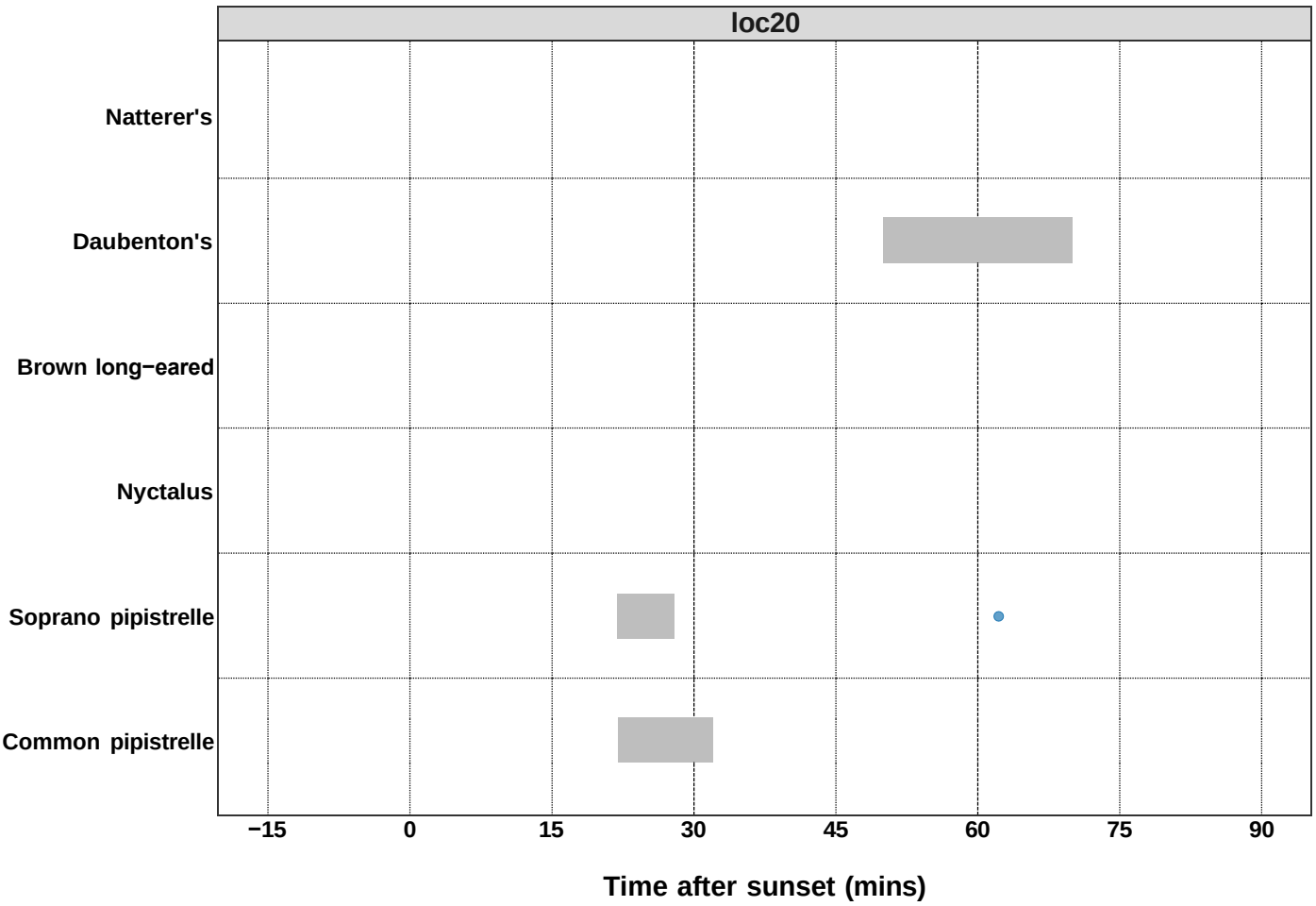

loc17
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

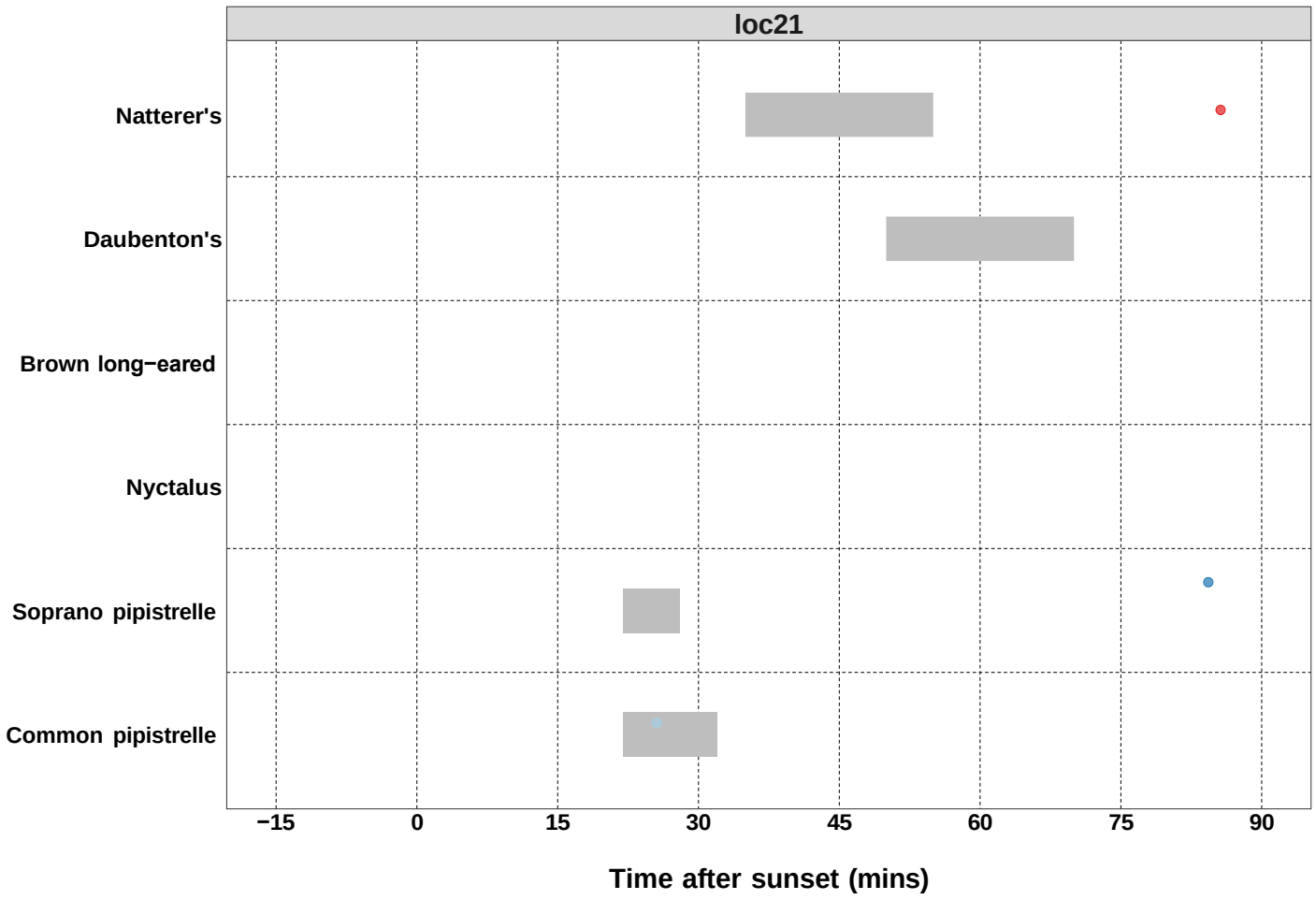

loc18
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

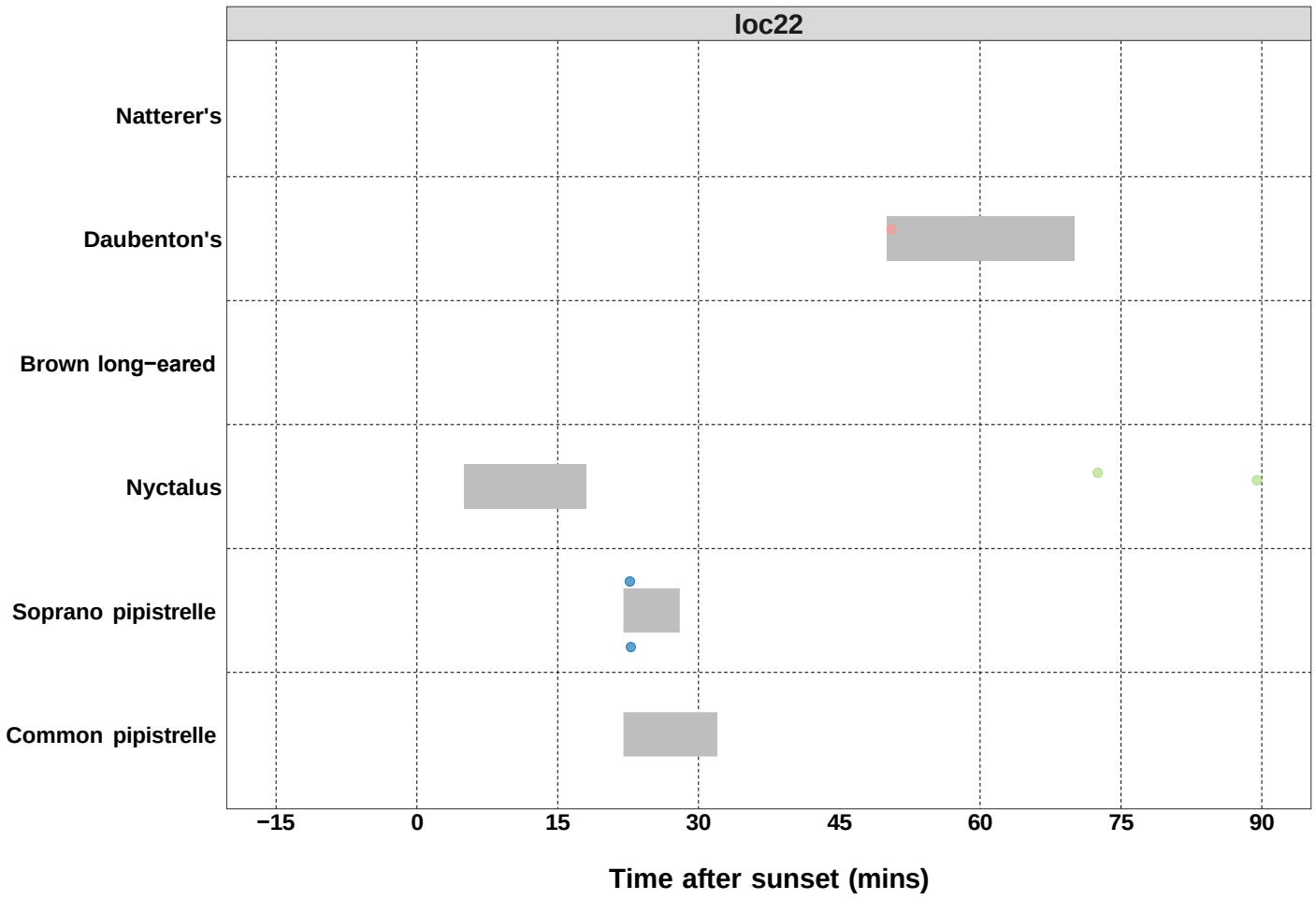

loc19
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

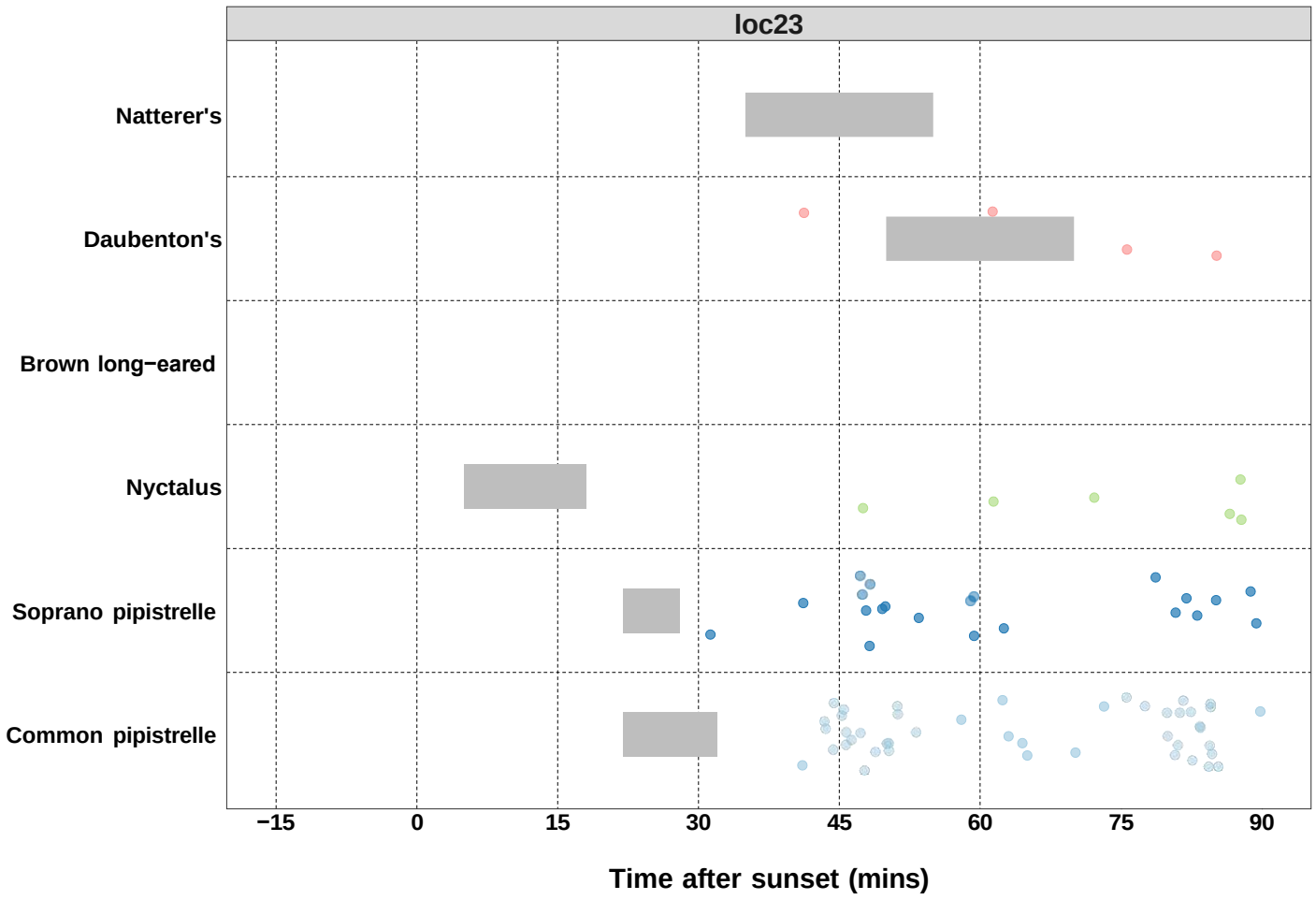

loc1a
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

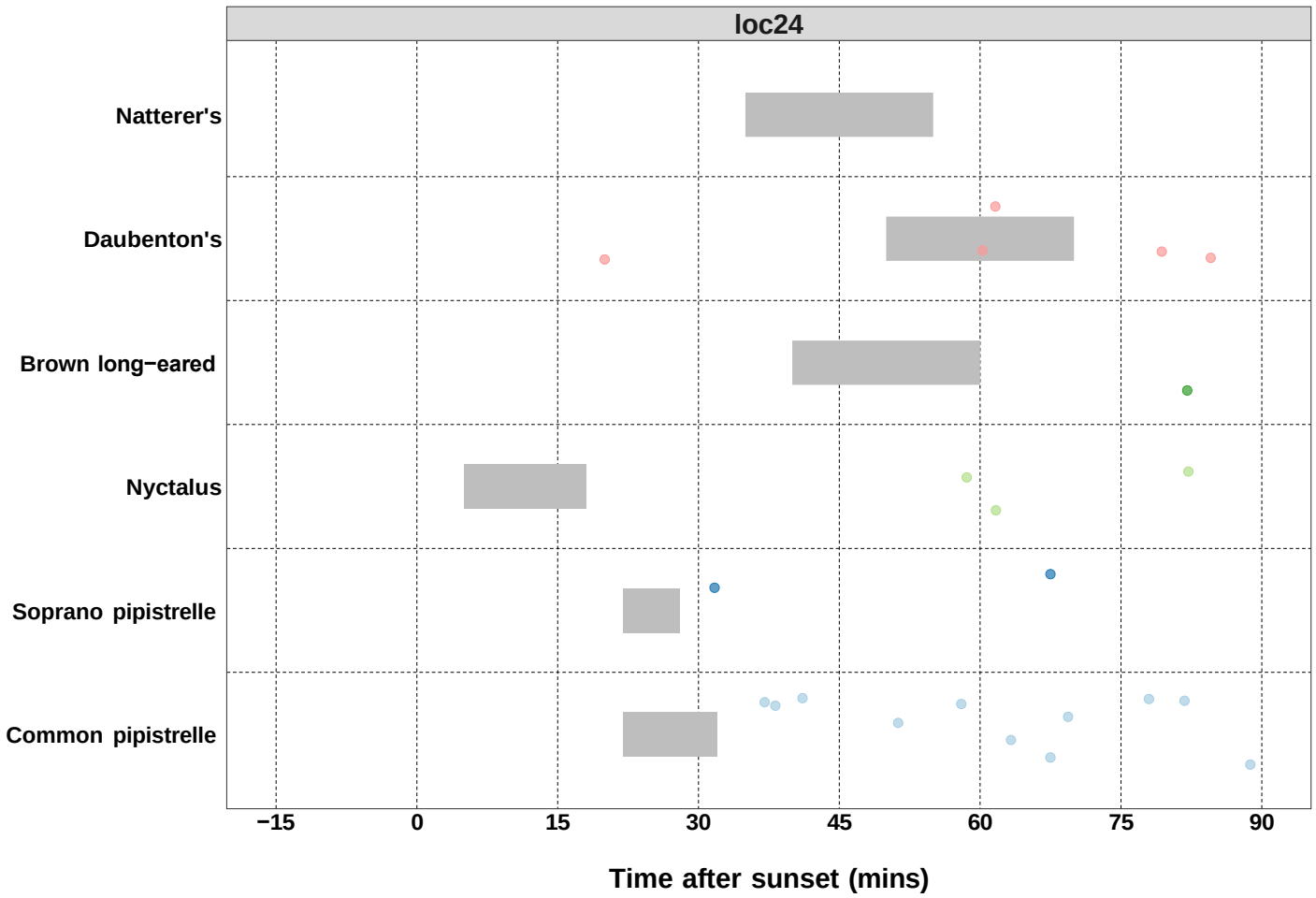

loc2
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

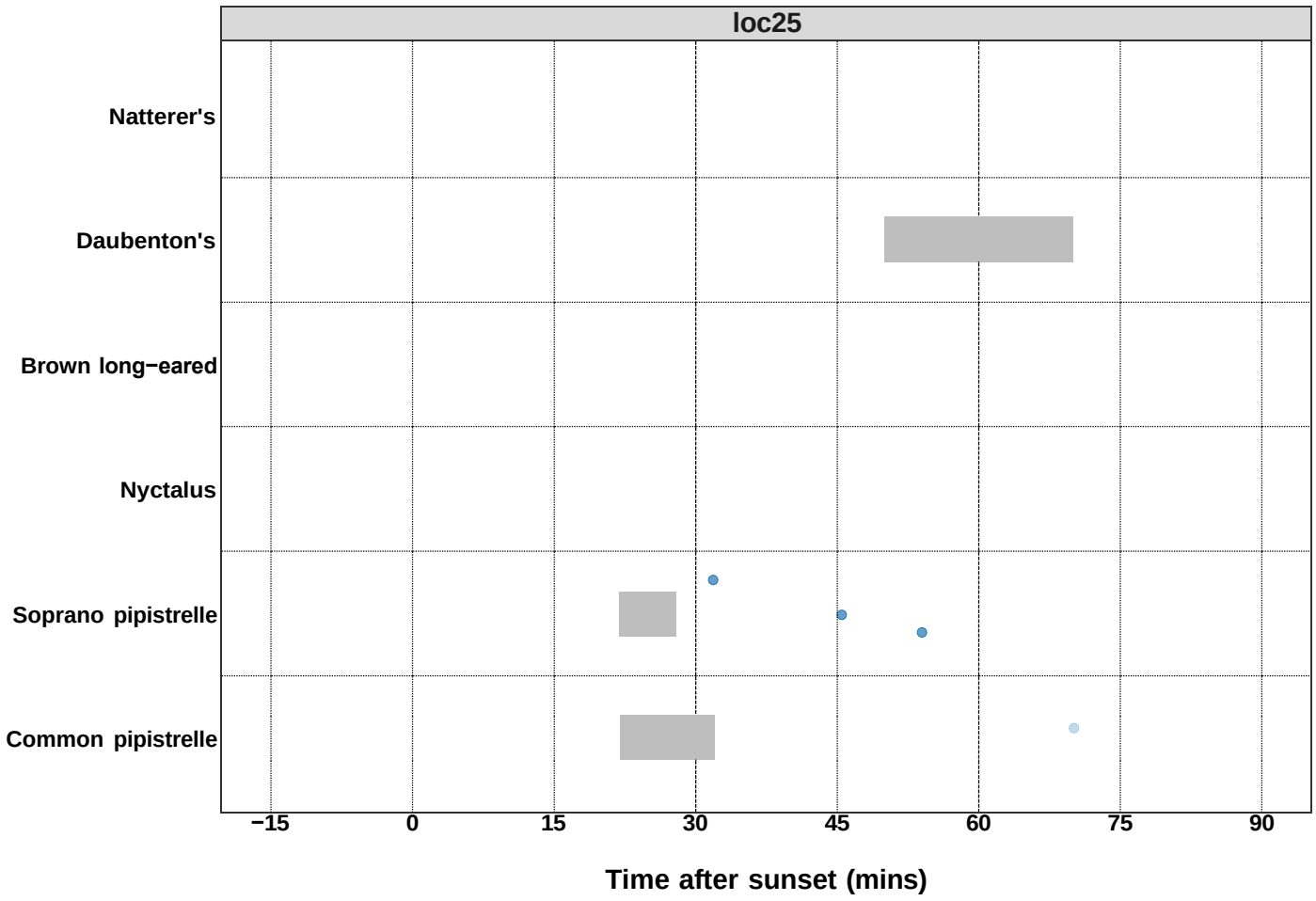

loc20
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

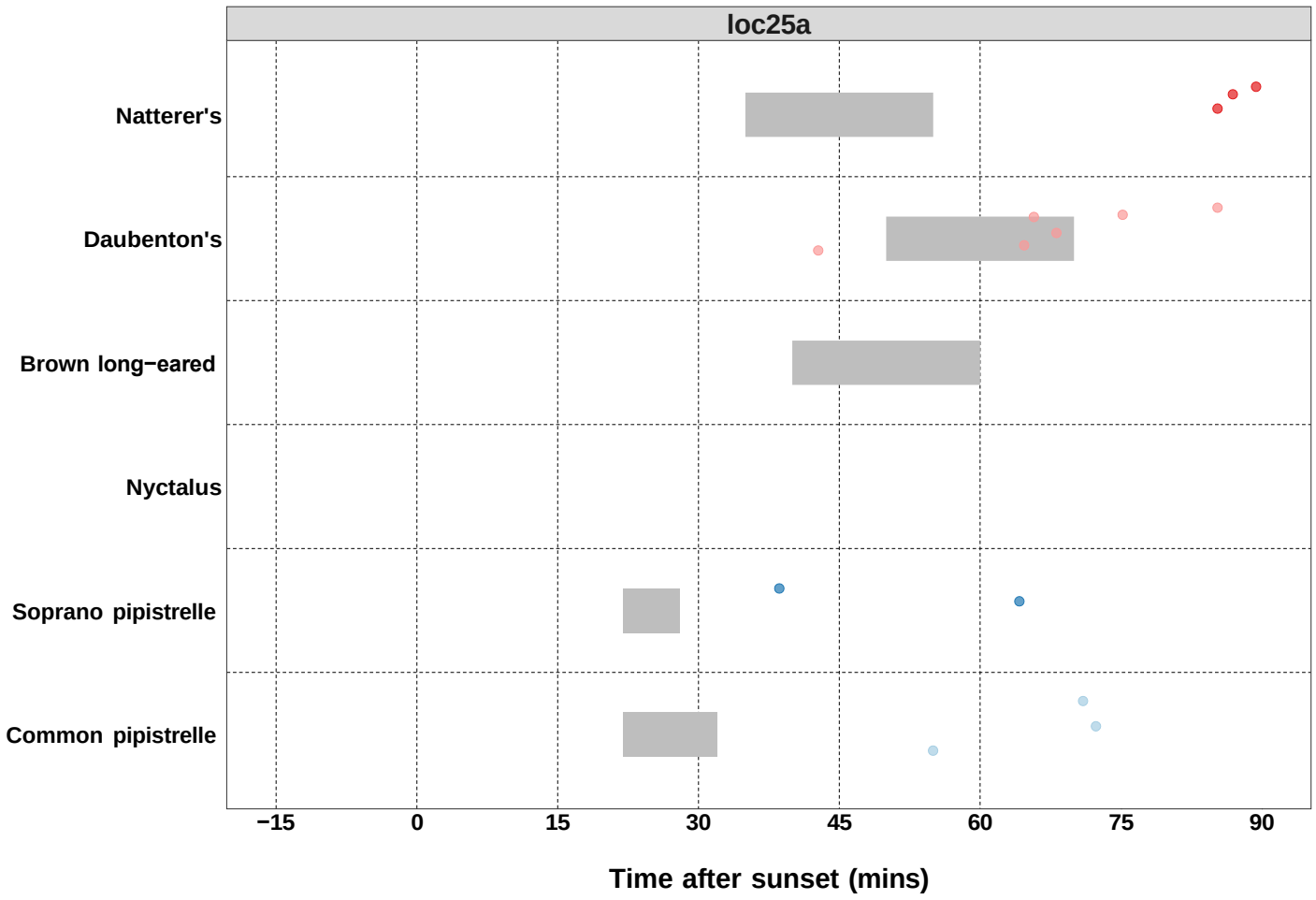

loc21
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

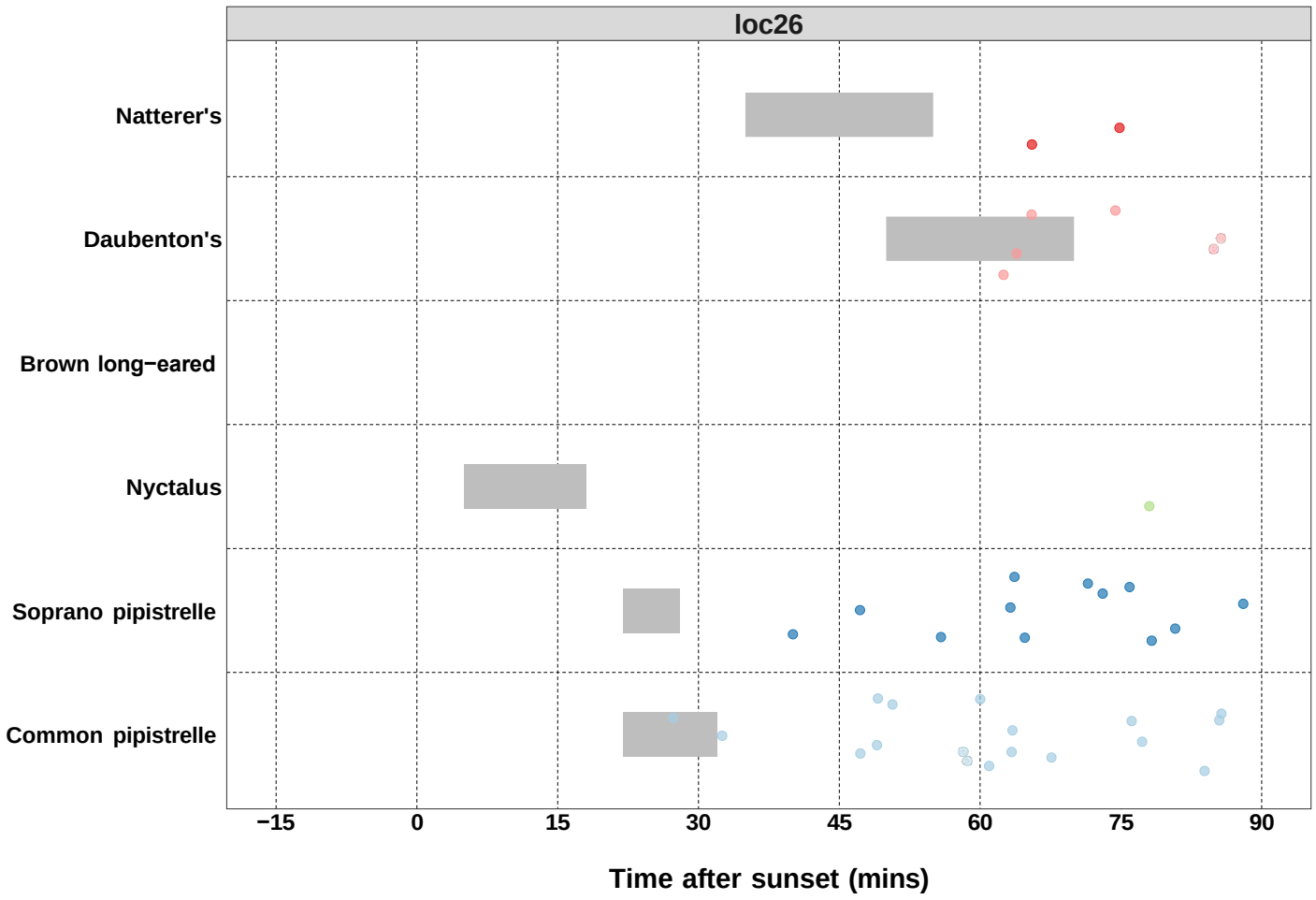

loc22
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

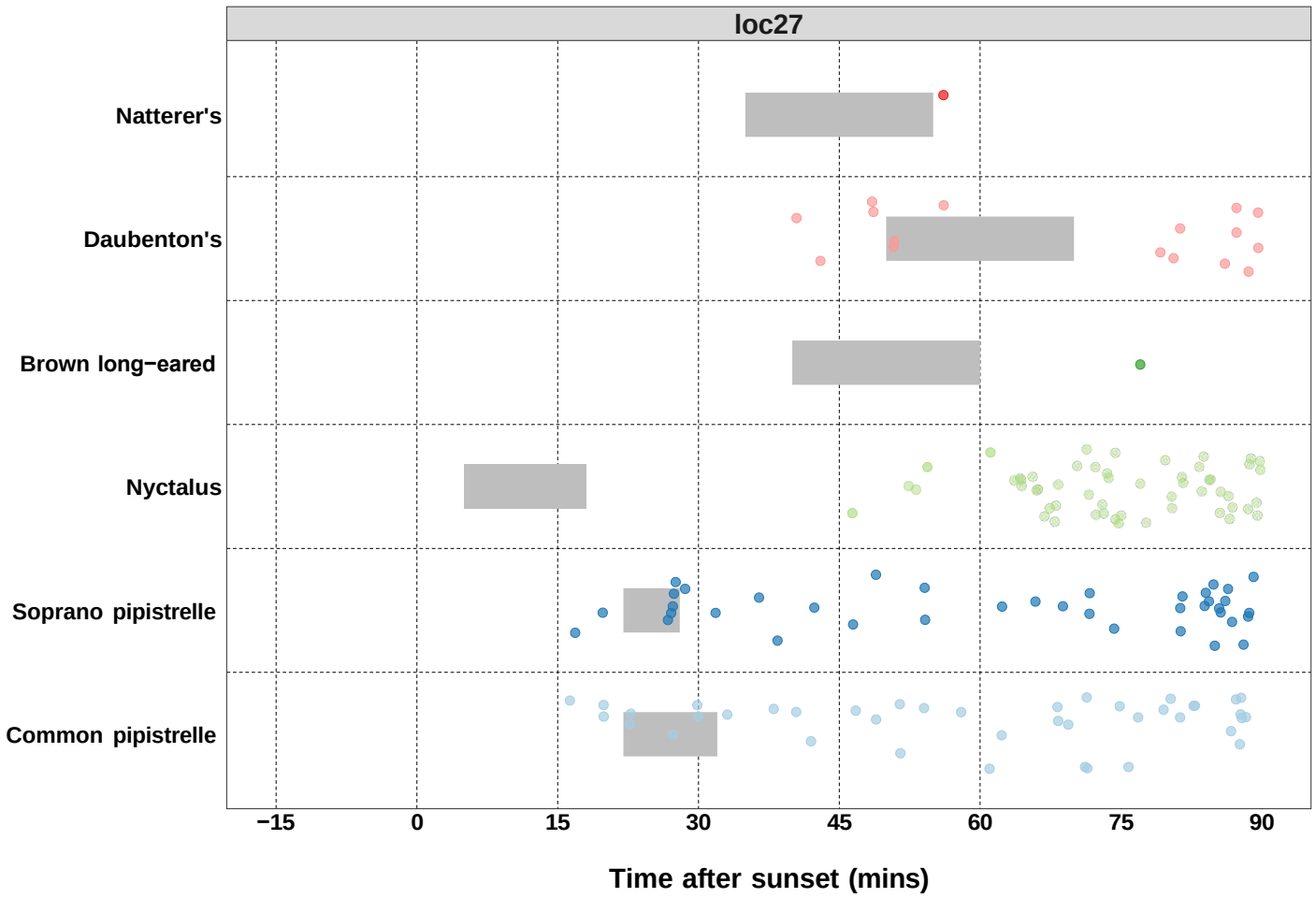

loc23
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

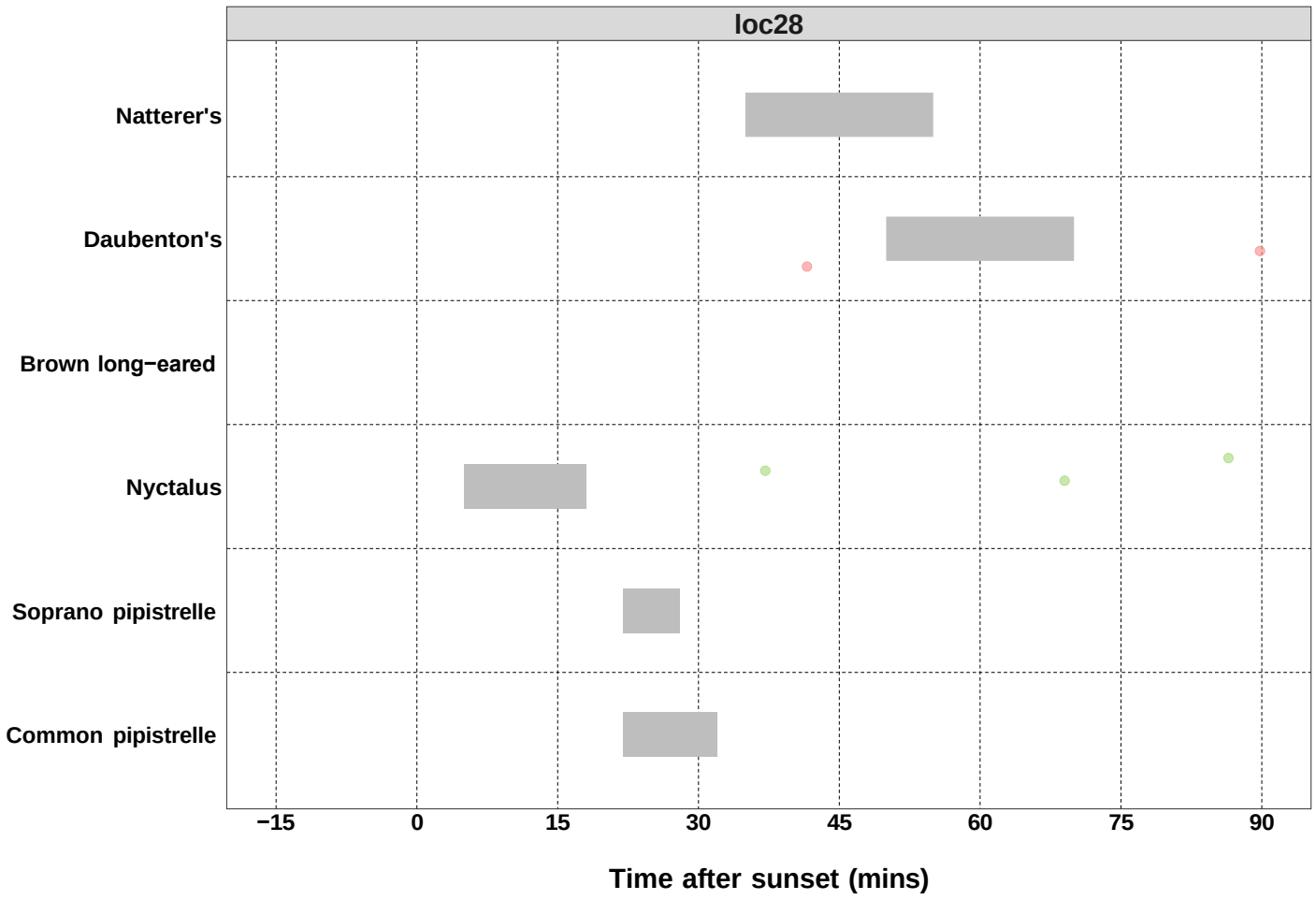

loc24
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

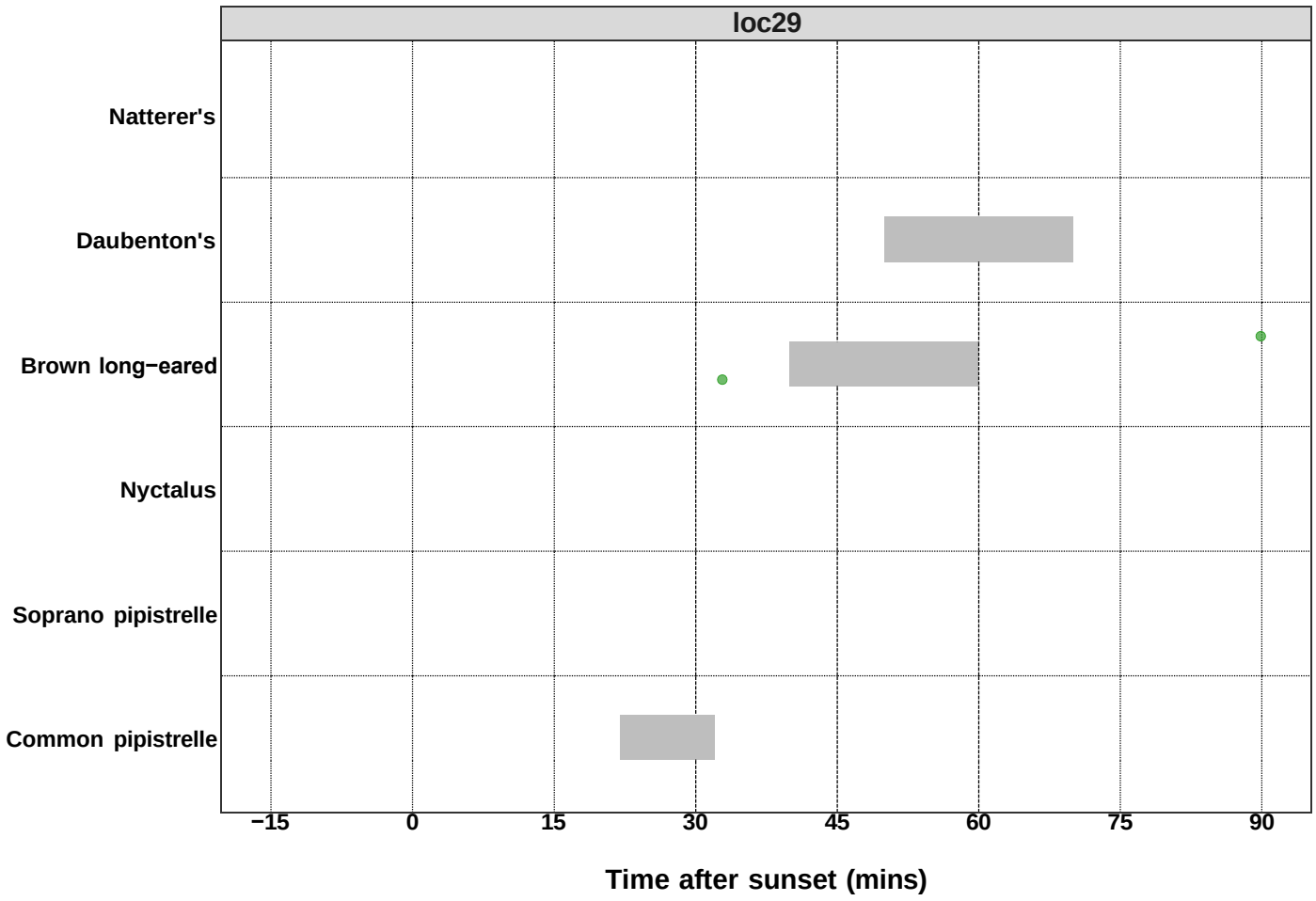

loc25
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

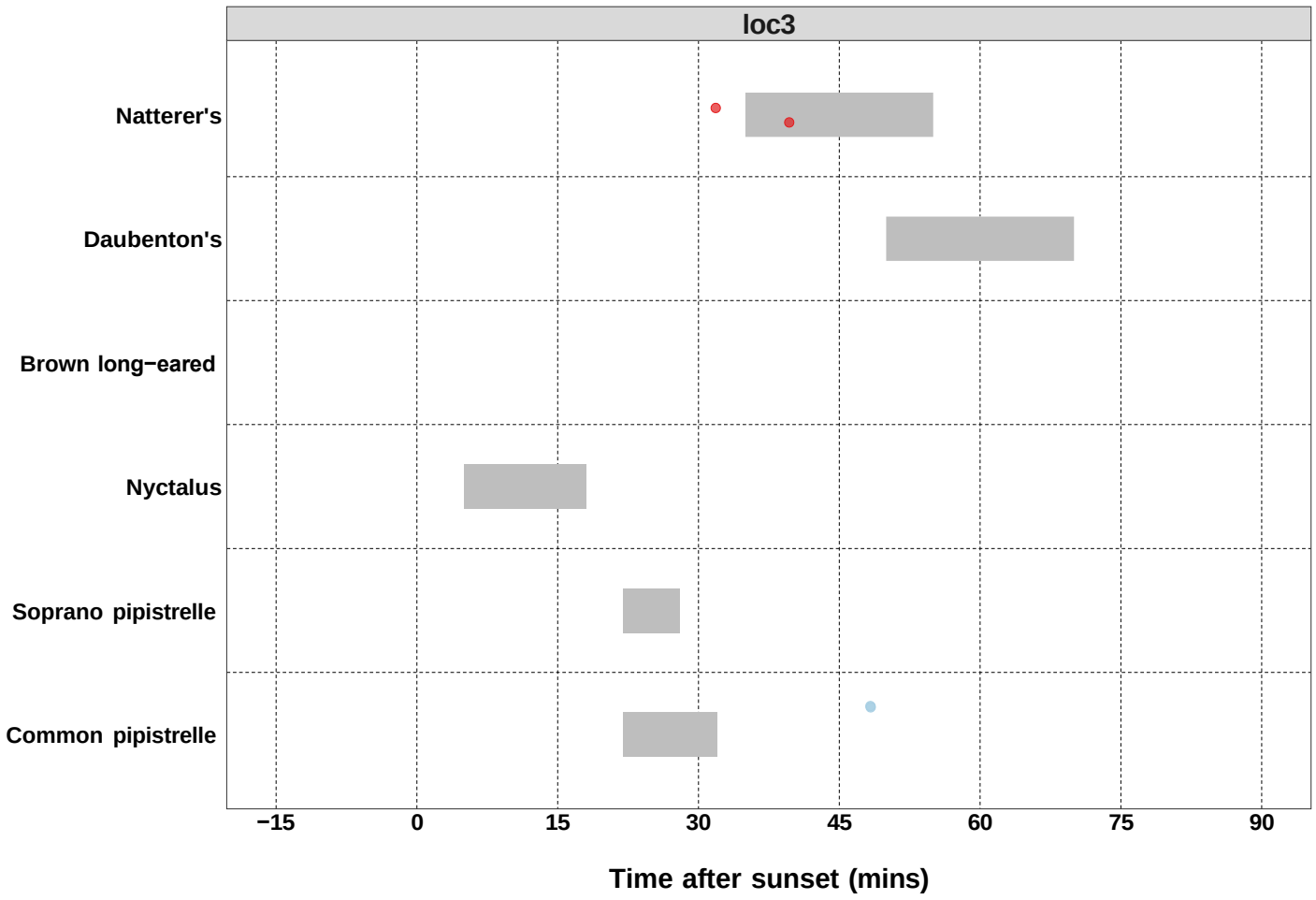

loc25a
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

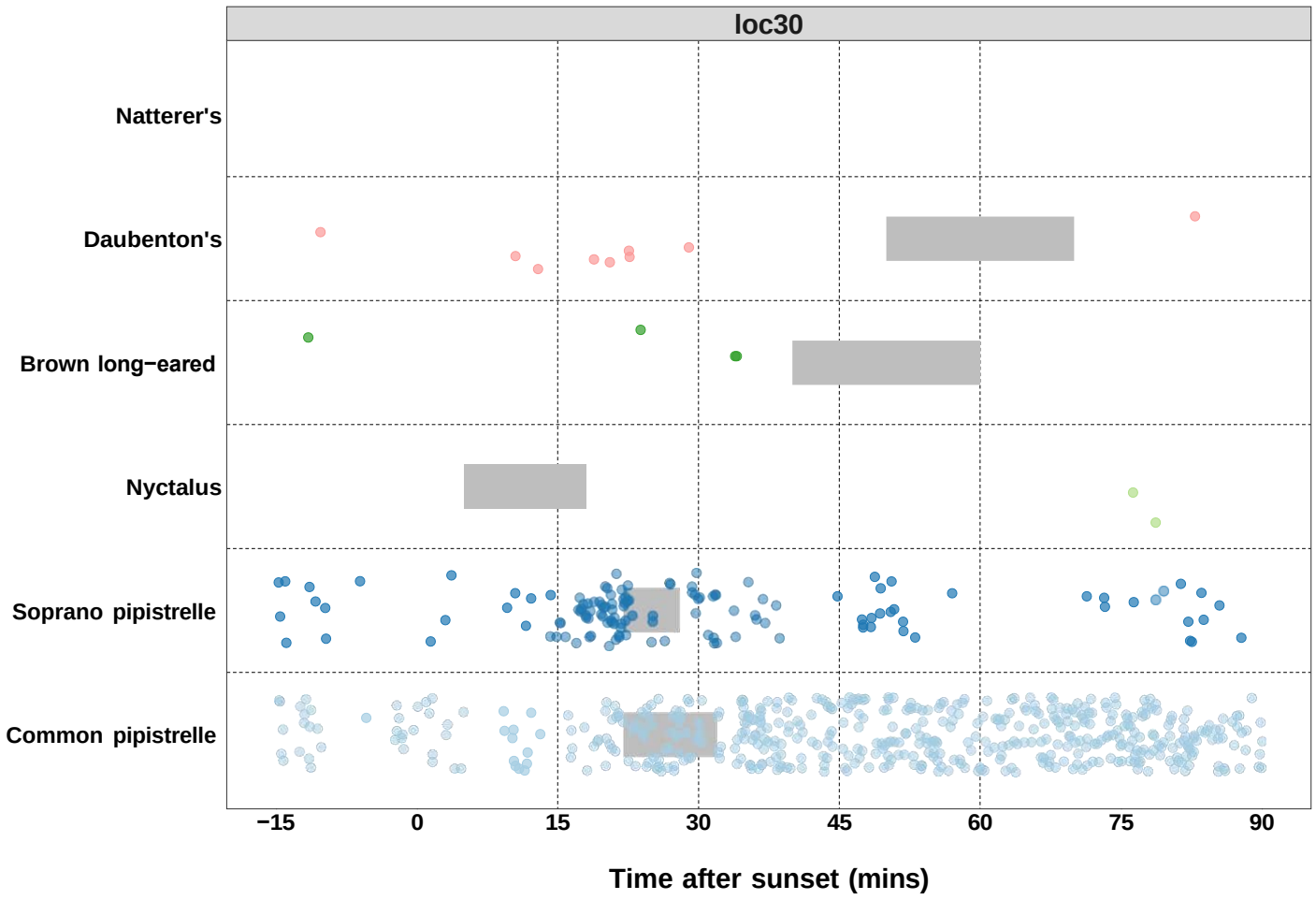

loc26
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

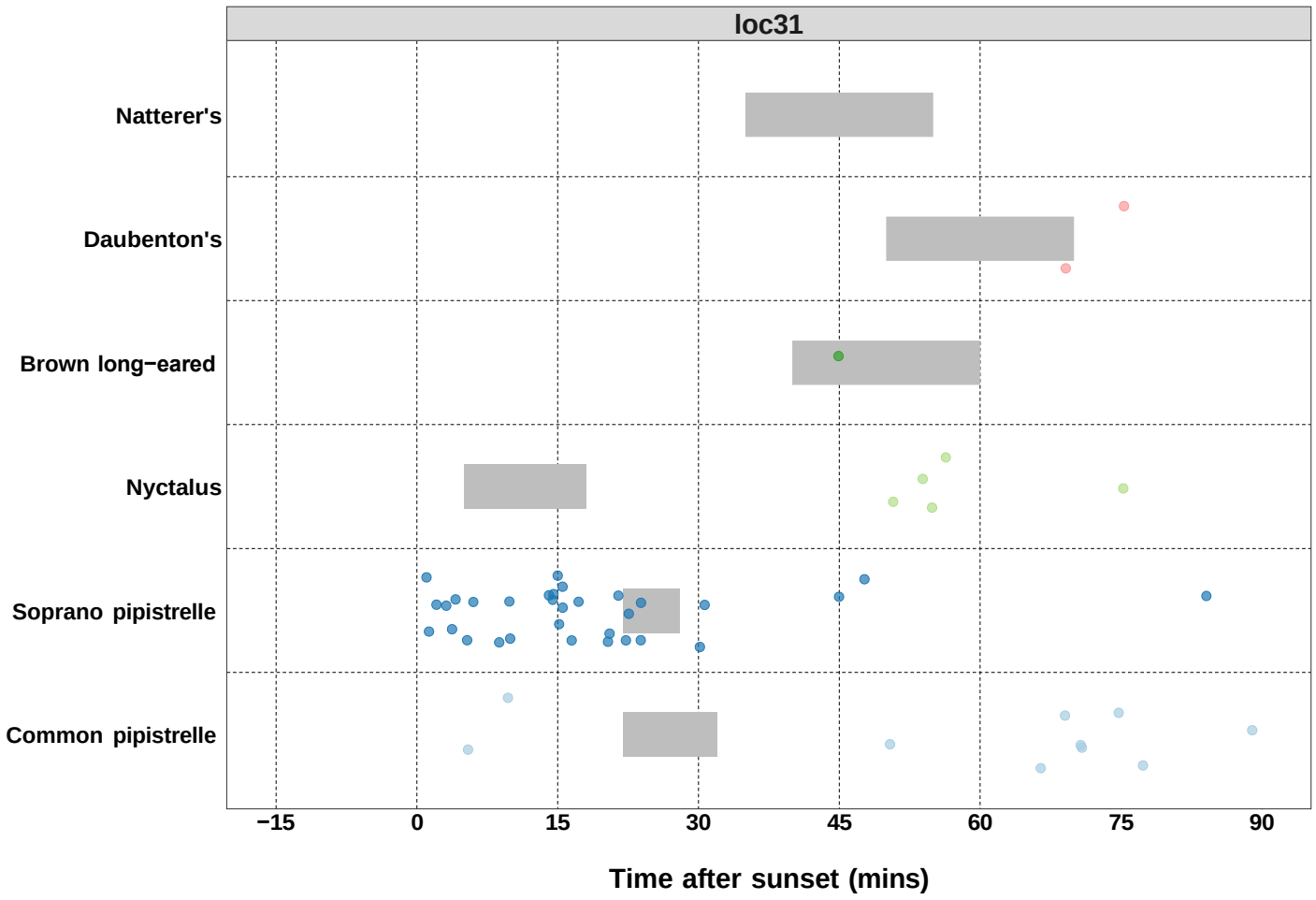

loc27
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

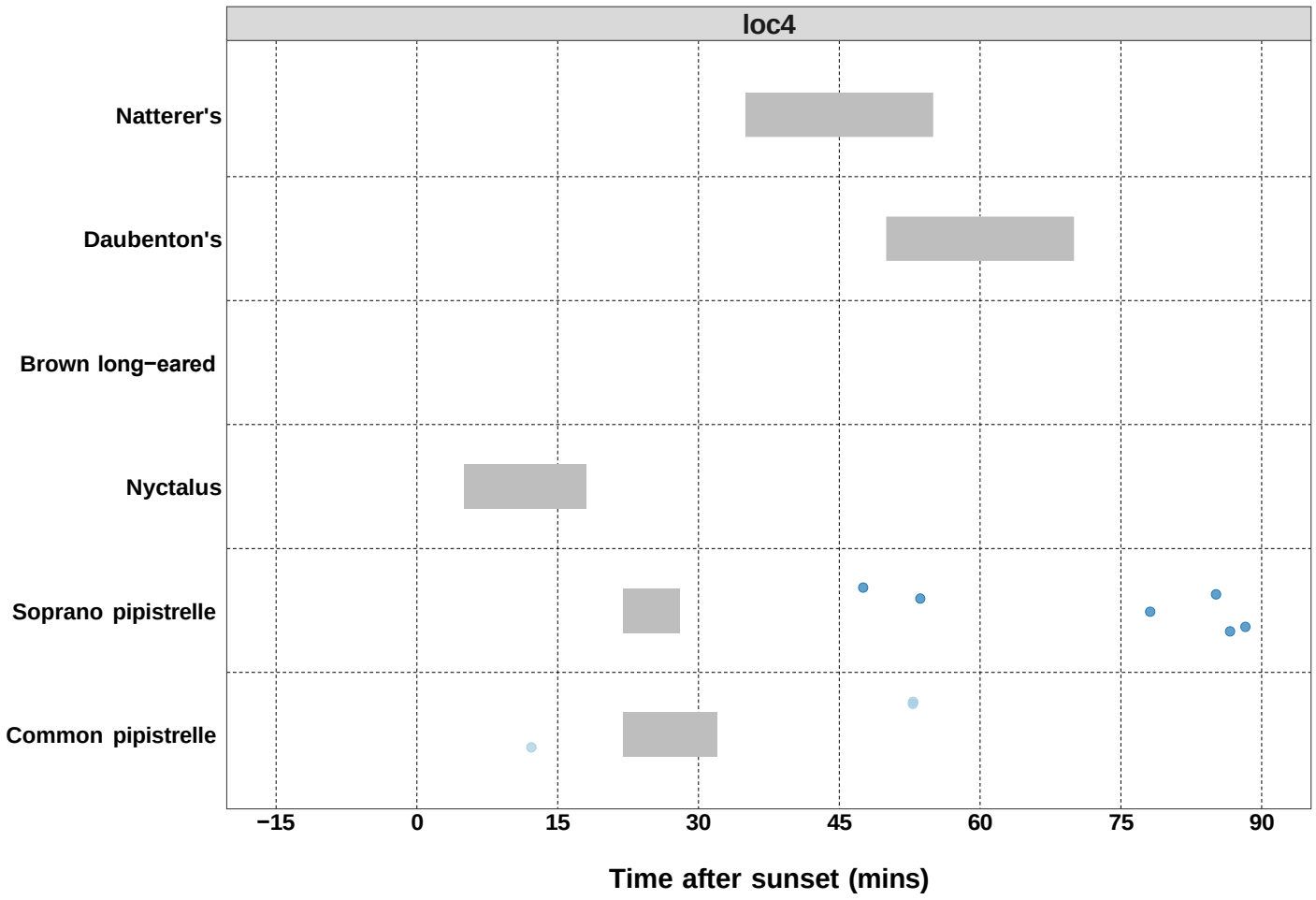

loc28
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

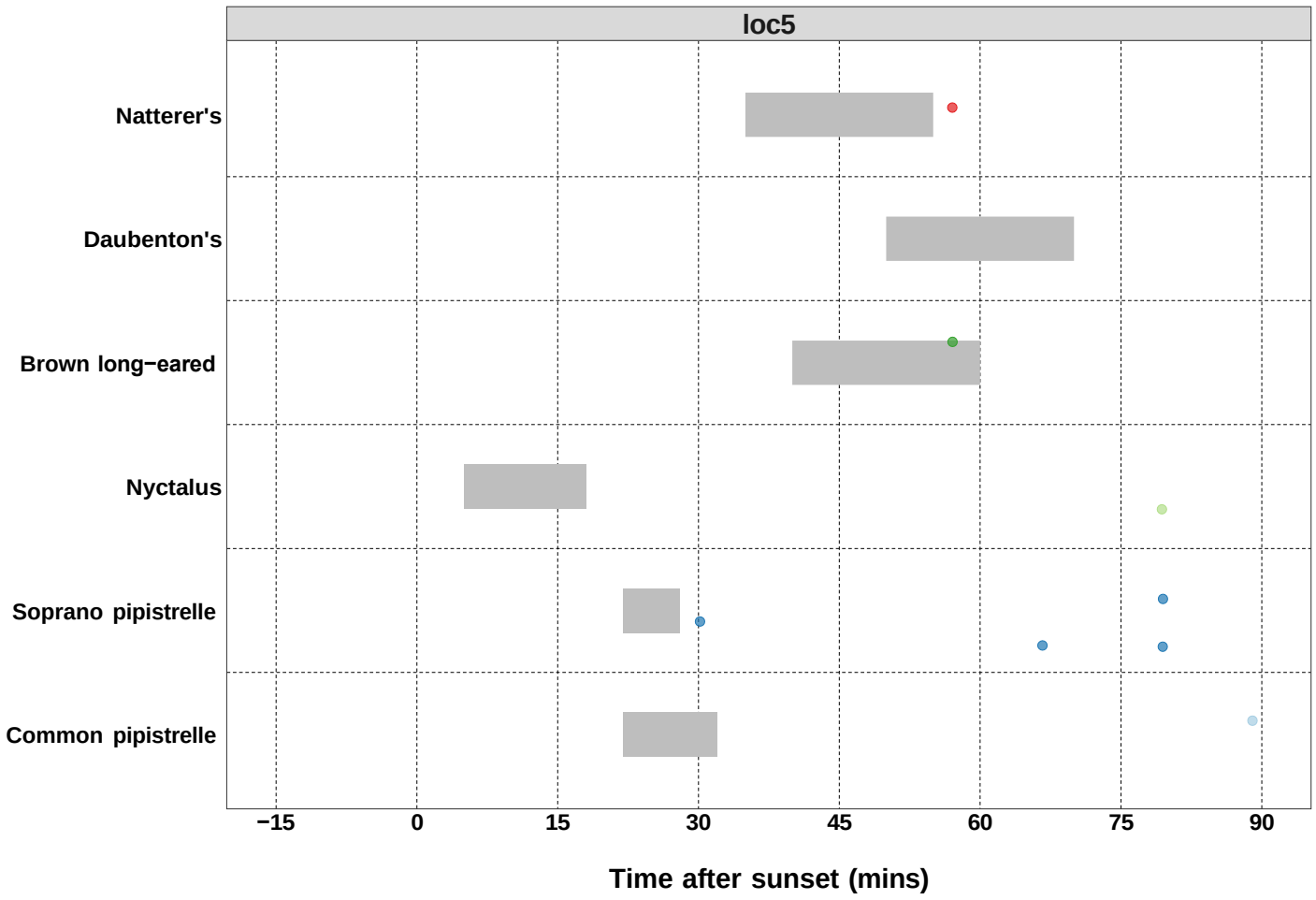

loc29
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

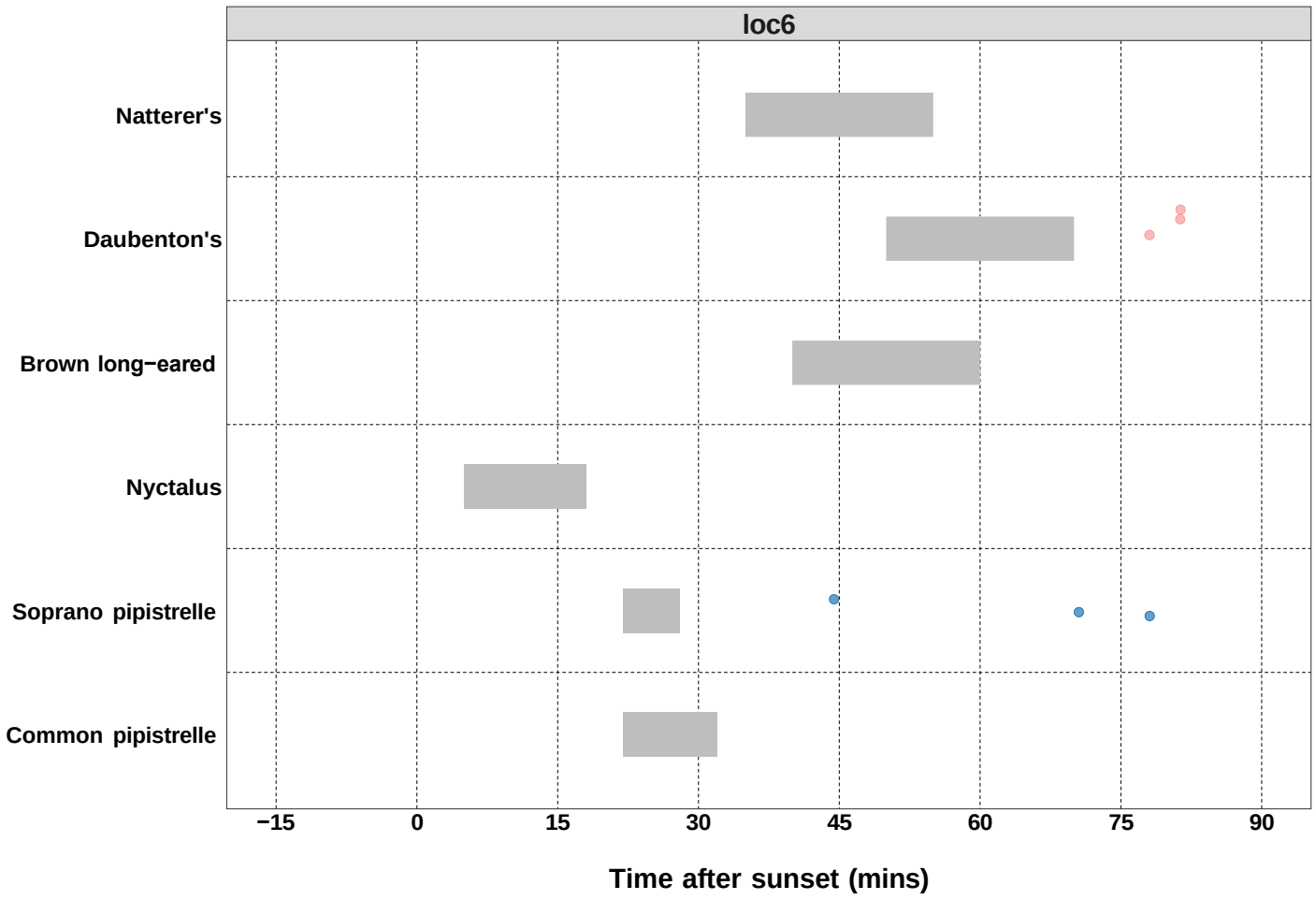

loc3
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

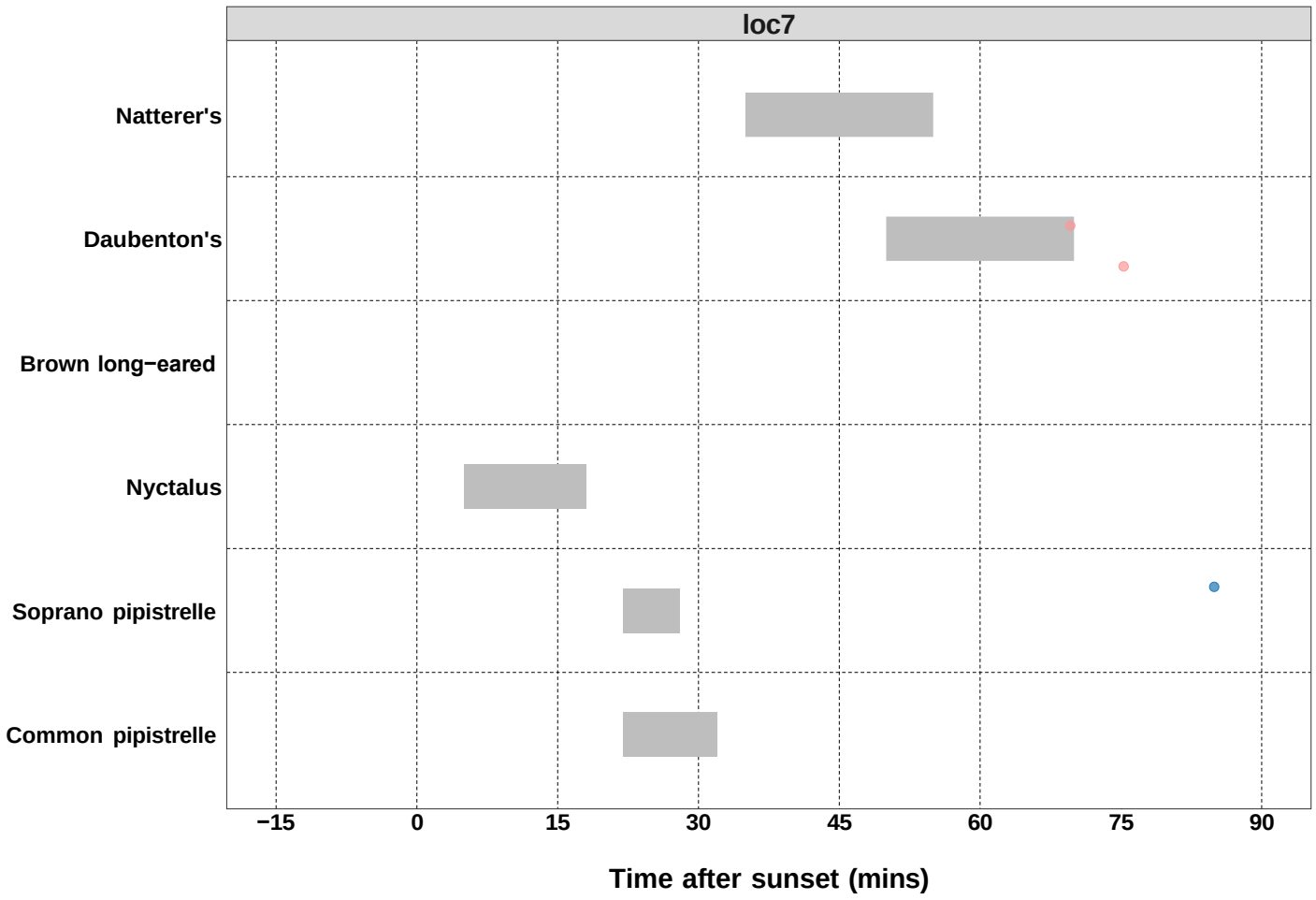

loc30
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

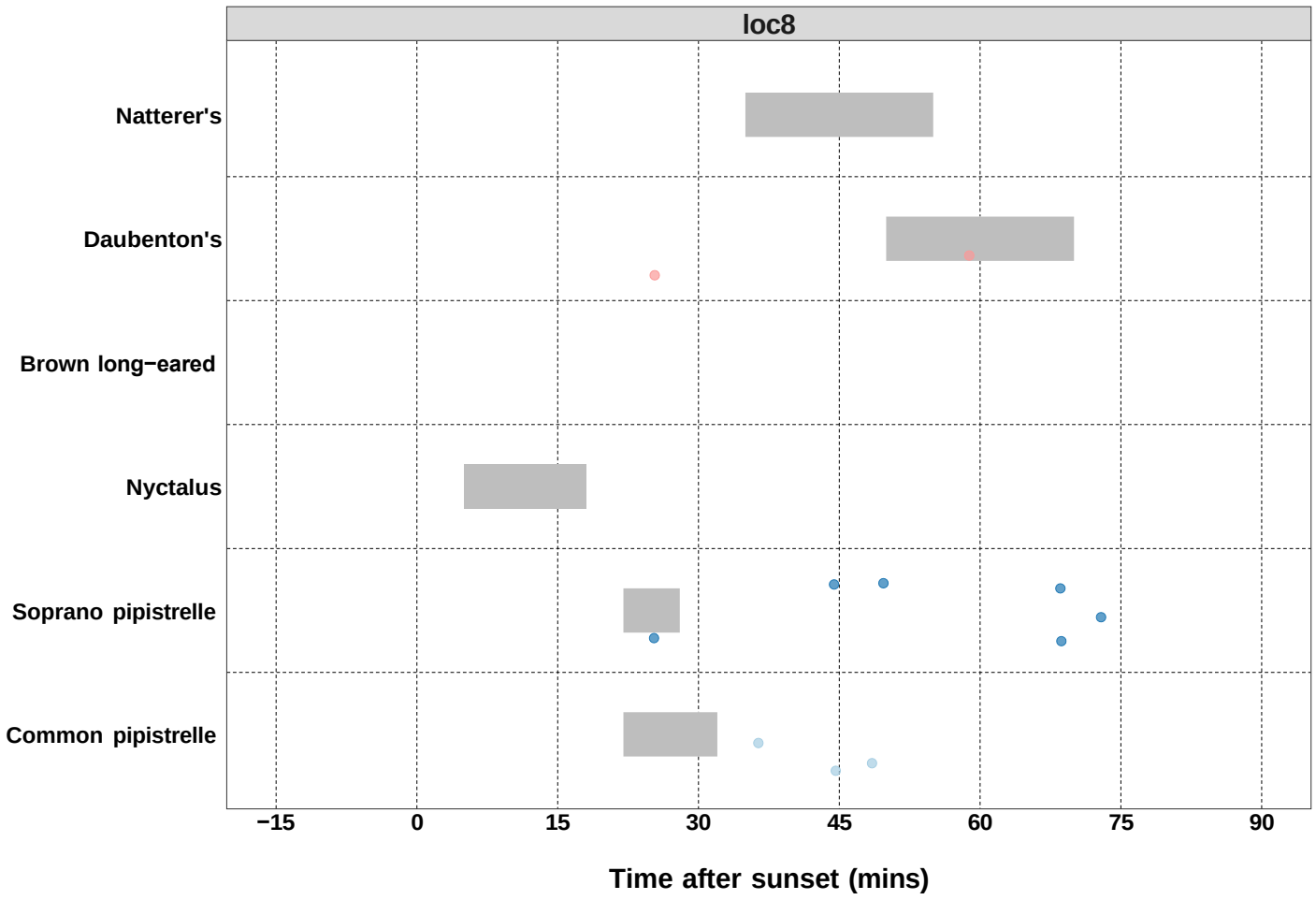

loc31
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

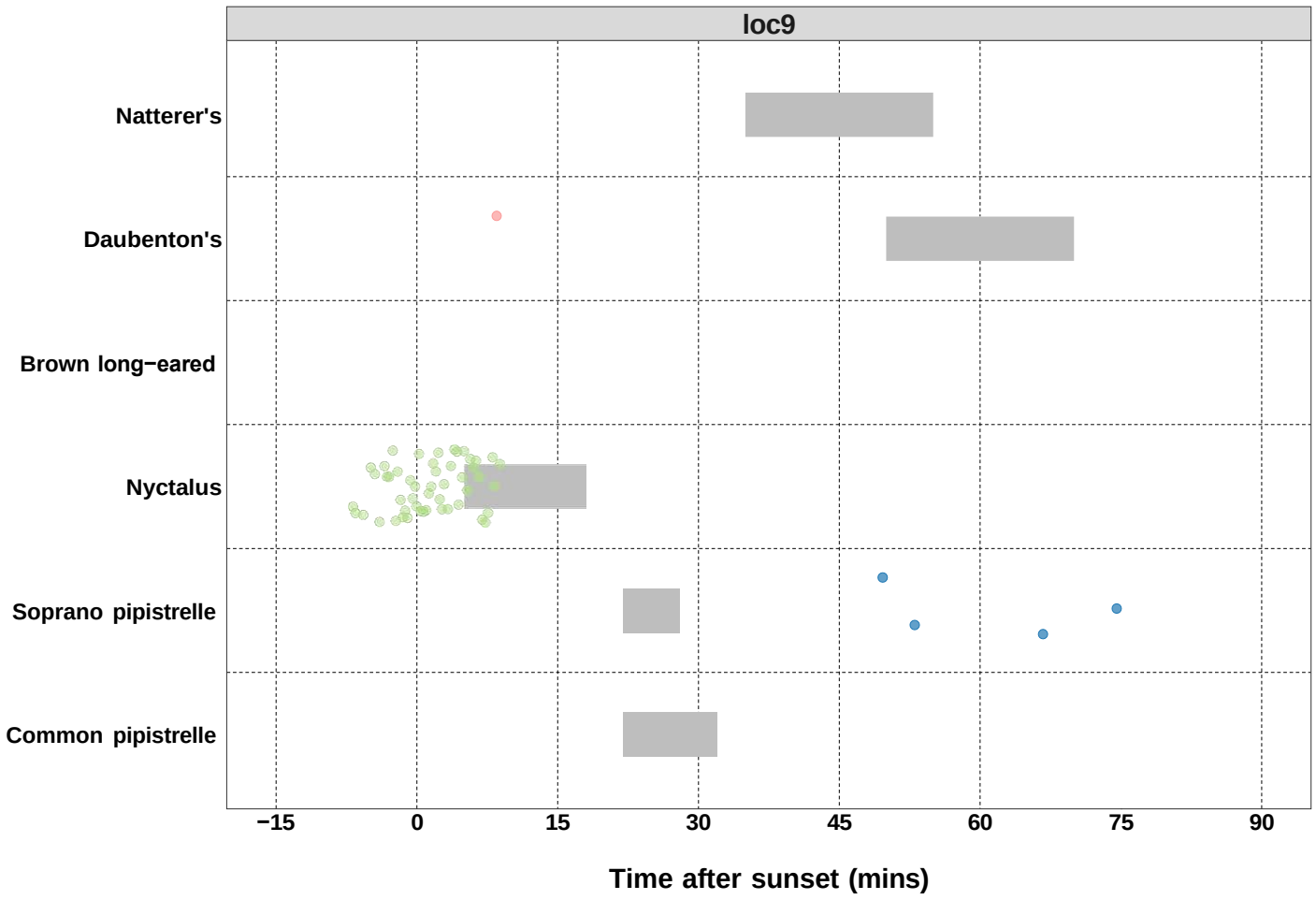

loc4
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


loc5
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


loc6
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


loc7
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


loc8
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)


loc9
Natterer's
Daubenton's
Brown long−eared
Nyctalus
Soprano pipistrelle
Common pipistrelle
−15
0
15
30
45
60
75
90
Time after sunset (mins)

Counts of Bat Passes

All detectors

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

Species	Passes (No.)	Percentage of total (%)
Common pipistrelle	5397	44.5
Soprano pipistrelle	5819	48.0
Nyctalus	276	2.3
Brown long-eared	42	0.3
Daubenton's	523	4.3
Natterer's	70	0.6
Total	12127	100.0

Page Break

Counts of Bat Passes

Per Detector

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

Species	Detector ID	Count (No)	Percentage by Detector (%)
Common pipistrelle	loc1	3	30.0
Common pipistrelle	loc10	4	9.1
Common pipistrelle	loc11	2	8.0
Common pipistrelle	loc12	4	17.4
Common pipistrelle	loc13	1181	63.2
Common pipistrelle	loc14	5	20.8
Common pipistrelle	loc15	6	27.3
Common pipistrelle	loc15a	2618	38.7
Common pipistrelle	loc16	5	23.8
Common pipistrelle	loc17	3	7.7
Common pipistrelle	loc18	3	60.0
Common pipistrelle	loc19	1	33.3
Common pipistrelle	loc1a	43	31.6
Common pipistrelle	loc2	5	6.2
Common pipistrelle	loc20	2	28.6
Common pipistrelle	loc21	17	19.5
Common pipistrelle	loc22	4	16.7
Common pipistrelle	loc23	100	54.6
Common pipistrelle	loc24	35	38.9
Common pipistrelle	loc25	6	30.0
Common pipistrelle	loc25a	15	22.4
Common pipistrelle	loc26	58	40.6
Common pipistrelle	loc27	129	24.0
Common pipistrelle	loc28	2	13.3
Common pipistrelle	loc29	2	25.0
Common pipistrelle	loc3	3	16.7
Common pipistrelle	loc30	1047	76.9
Common pipistrelle	loc31	24	25.3

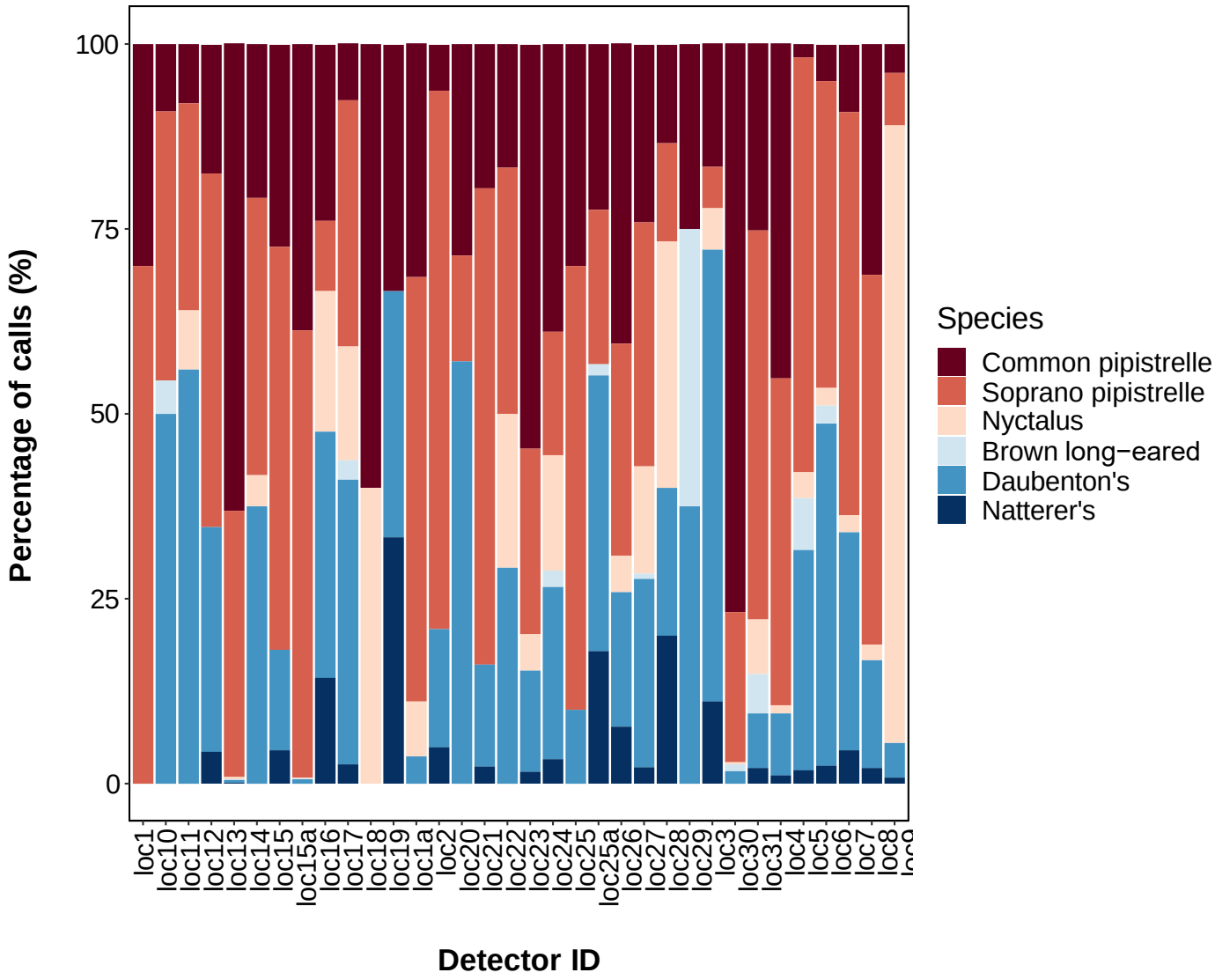
Species	Detector ID	Count (No)	Percentage by Detector (%)
Common pipistrelle	loc4	43	45.3
Common pipistrelle	loc5	1	1.8
Common pipistrelle	loc6	2	4.9
Common pipistrelle	loc7	4	9.1
Common pipistrelle	loc8	15	31.2
Common pipistrelle	loc9	5	3.9
Soprano pipistrelle	loc1	7	70.0
Soprano pipistrelle	loc10	16	36.4
Soprano pipistrelle	loc11	7	28.0
Soprano pipistrelle	loc12	11	47.8
Soprano pipistrelle	loc13	672	36.0
Soprano pipistrelle	loc14	9	37.5
Soprano pipistrelle	loc15	12	54.5
Soprano pipistrelle	loc15a	4086	60.5
Soprano pipistrelle	loc16	2	9.5
Soprano pipistrelle	loc17	13	33.3
Soprano pipistrelle	loc1a	78	57.4
Soprano pipistrelle	loc2	59	72.8
Soprano pipistrelle	loc20	1	14.3
Soprano pipistrelle	loc21	56	64.4
Soprano pipistrelle	loc22	8	33.3
Soprano pipistrelle	loc23	46	25.1
Soprano pipistrelle	loc24	15	16.7
Soprano pipistrelle	loc25	12	60.0
Soprano pipistrelle	loc25a	14	20.9
Soprano pipistrelle	loc26	41	28.7
Soprano pipistrelle	loc27	177	33.0
Soprano pipistrelle	loc28	2	13.3
Soprano pipistrelle	loc3	1	5.6
Soprano pipistrelle	loc30	276	20.3
Soprano pipistrelle	loc31	50	52.6
Soprano pipistrelle	loc4	42	44.2
Soprano pipistrelle	loc5	32	56.1
Soprano pipistrelle	loc6	17	41.5
Soprano pipistrelle	loc7	24	54.5
Soprano pipistrelle	loc8	24	50.0
Soprano pipistrelle	loc9	9	7.1
Nyctalus	loc11	2	8.0
Nyctalus	loc13	5	0.3
Nyctalus	loc14	1	4.2
Nyctalus	loc15a	4	0.1
Nyctalus	loc16	4	19.0
Nyctalus	loc17	6	15.4
Nyctalus	loc18	2	40.0
Nyctalus	loc1a	10	7.4
Nyctalus	loc22	5	20.8
Nyctalus	loc23	9	4.9
Nyctalus	loc24	14	15.6
Nyctalus	loc26	7	4.9
Nyctalus	loc27	78	14.5
Nyctalus	loc28	5	33.3
Nyctalus	loc3	1	5.6
Nyctalus	loc30	4	0.3
Nyctalus	loc31	7	7.4
Nyctalus	loc4	1	1.1
Nyctalus	loc5	2	3.5
Nyctalus	loc6	1	2.4

Species	Detector ID	Count (No)	Percentage by Detector (%)
Nyctalus	loc7	1	2.3
Nyctalus	loc8	1	2.1
Nyctalus	loc9	106	83.5
Brown long-eared	loc10	2	4.5
Brown long-eared	loc13	1	0.1
Brown long-eared	loc15a	6	0.1
Brown long-eared	loc17	1	2.6
Brown long-eared	loc24	2	2.2
Brown long-eared	loc25a	1	1.5
Brown long-eared	loc27	4	0.7
Brown long-eared	loc29	3	37.5
Brown long-eared	loc30	12	0.9
Brown long-eared	loc31	5	5.3
Brown long-eared	loc5	4	7.0
Brown long-eared	loc6	1	2.4
Daubenton’s	loc10	22	50.0
Daubenton’s	loc11	14	56.0
Daubenton’s	loc12	7	30.4
Daubenton’s	loc13	8	0.4
Daubenton’s	loc14	9	37.5
Daubenton’s	loc15	3	13.6
Daubenton’s	loc15a	43	0.6
Daubenton’s	loc16	7	33.3
Daubenton’s	loc17	15	38.5
Daubenton’s	loc19	1	33.3
Daubenton’s	loc1a	5	3.7
Daubenton’s	loc2	13	16.0
Daubenton’s	loc20	4	57.1
Daubenton’s	loc21	12	13.8
Daubenton’s	loc22	7	29.2
Daubenton’s	loc23	25	13.7
Daubenton’s	loc24	21	23.3
Daubenton’s	loc25	2	10.0
Daubenton’s	loc25a	25	37.3
Daubenton’s	loc26	26	18.2
Daubenton’s	loc27	137	25.5
Daubenton’s	loc28	3	20.0
Daubenton’s	loc29	3	37.5
Daubenton’s	loc3	11	61.1
Daubenton’s	loc30	23	1.7
Daubenton’s	loc31	7	7.4
Daubenton’s	loc4	8	8.4
Daubenton’s	loc5	17	29.8
Daubenton’s	loc6	19	46.3
Daubenton’s	loc7	13	29.5
Daubenton’s	loc8	7	14.6
Daubenton’s	loc9	6	4.7
Natterer’s	loc12	1	4.3
Natterer’s	loc13	1	0.1
Natterer’s	loc15	1	4.5
Natterer’s	loc15a	1	0.0
Natterer’s	loc16	3	14.3
Natterer’s	loc17	1	2.6
Natterer’s	loc19	1	33.3
Natterer’s	loc2	4	4.9
Natterer’s	loc21	2	2.3
Natterer’s	loc23	3	1.6

Species	Detector ID	Count (No)	Percentage by Detector (%)
Natterer’s	loc24	3	3.3
Natterer’s	loc25a	12	17.9
Natterer’s	loc26	11	7.7
Natterer’s	loc27	12	2.2
Natterer’s	loc28	3	20.0
Natterer’s	loc3	2	11.1
Natterer’s	loc31	2	2.1
Natterer’s	loc4	1	1.1
Natterer’s	loc5	1	1.8
Natterer’s	loc6	1	2.4
Natterer’s	loc7	2	4.5
Natterer’s	loc8	1	2.1
Natterer’s	loc9	1	0.8

Species Composition

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



PART 2a: Presence Only

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

Nightly Bat Pass Rate (Bat passes per hour)

Median Per Detector

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

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

Species	Detector ID	Median Pass Rate
Common pipistrelle	loc1	0.4
Common pipistrelle	loc10	0.2
Common pipistrelle	loc11	0.3
Common pipistrelle	loc12	0.6
Common pipistrelle	loc13	6.6
Common pipistrelle	loc14	0.2
Common pipistrelle	loc15	0.1
Common pipistrelle	loc15a	25.9
Common pipistrelle	loc16	0.1
Common pipistrelle	loc17	0.1
Common pipistrelle	loc18	0.2
Common pipistrelle	loc19	0.1
Common pipistrelle	loc1a	0.5
Common pipistrelle	loc2	0.1
Common pipistrelle	loc20	0.1
Common pipistrelle	loc21	0.6
Common pipistrelle	loc22	0.1
Common pipistrelle	loc23	0.4
Common pipistrelle	loc24	0.2
Common pipistrelle	loc25	0.3
Common pipistrelle	loc25a	0.1
Common pipistrelle	loc26	0.3
Common pipistrelle	loc27	0.6
Common pipistrelle	loc28	0.1
Common pipistrelle	loc29	0.2
Common pipistrelle	loc3	0.2
Common pipistrelle	loc30	1.5
Common pipistrelle	loc31	0.2
Common pipistrelle	loc4	0.2
Common pipistrelle	loc5	0.1
Common pipistrelle	loc6	0.2
Common pipistrelle	loc7	0.2
Common pipistrelle	loc8	0.3
Common pipistrelle	loc9	0.1
Soprano pipistrelle	loc1	0.2
Soprano pipistrelle	loc10	0.2
Soprano pipistrelle	loc11	0.3
Soprano pipistrelle	loc12	0.2
Soprano pipistrelle	loc13	3.6
Soprano pipistrelle	loc14	0.1
Soprano pipistrelle	loc15	0.2
Soprano pipistrelle	loc15a	31.1
Soprano pipistrelle	loc16	0.1
Soprano pipistrelle	loc17	0.1
Soprano pipistrelle	loc1a	0.3

Species	Detector ID	Median Pass Rate
Soprano pipistrelle	loc2	0.2
Soprano pipistrelle	loc20	0.1
Soprano pipistrelle	loc21	1.4
Soprano pipistrelle	loc22	0.2
Soprano pipistrelle	loc23	0.2
Soprano pipistrelle	loc24	0.2
Soprano pipistrelle	loc25	0.3
Soprano pipistrelle	loc25a	0.1
Soprano pipistrelle	loc26	0.2
Soprano pipistrelle	loc27	0.3
Soprano pipistrelle	loc28	0.1
Soprano pipistrelle	loc3	0.1
Soprano pipistrelle	loc30	0.4
Soprano pipistrelle	loc31	0.2
Soprano pipistrelle	loc4	0.2
Soprano pipistrelle	loc5	0.6
Soprano pipistrelle	loc6	0.4
Soprano pipistrelle	loc7	1.1
Soprano pipistrelle	loc8	0.2
Soprano pipistrelle	loc9	0.1
Nyctalus	loc11	0.1
Nyctalus	loc13	0.3
Nyctalus	loc14	0.1
Nyctalus	loc15a	0.2
Nyctalus	loc16	0.3
Nyctalus	loc17	0.1
Nyctalus	loc18	0.1
Nyctalus	loc1a	0.4
Nyctalus	loc22	0.3
Nyctalus	loc23	0.7
Nyctalus	loc24	0.3
Nyctalus	loc26	0.2
Nyctalus	loc27	0.5
Nyctalus	loc28	0.1
Nyctalus	loc3	0.1
Nyctalus	loc30	0.2
Nyctalus	loc31	0.2
Nyctalus	loc4	0.1
Nyctalus	loc5	0.1
Nyctalus	loc6	0.1
Nyctalus	loc7	0.1
Nyctalus	loc8	0.1
Nyctalus	loc9	4.0
Brown long-eared	loc10	0.3
Brown long-eared	loc13	0.1
Brown long-eared	loc15a	0.1
Brown long-eared	loc17	0.1
Brown long-eared	loc24	0.1
Brown long-eared	loc25a	0.1
Brown long-eared	loc27	0.1
Brown long-eared	loc29	0.1
Brown long-eared	loc30	0.2
Brown long-eared	loc31	0.2
Brown long-eared	loc5	0.1
Brown long-eared	loc6	0.1
Daubenton’s	loc10	0.2
Daubenton’s	loc11	0.4

Species	Detector ID	Median Pass Rate
Daubenton's	loc12	0.1
Daubenton's	loc13	0.2
Daubenton's	loc14	0.1
Daubenton's	loc15	0.1
Daubenton's	loc15a	0.5
Daubenton's	loc16	0.1
Daubenton's	loc17	0.2
Daubenton's	loc19	0.1
Daubenton's	loc1a	0.1
Daubenton's	loc2	0.2
Daubenton's	loc20	0.2
Daubenton's	loc21	0.2
Daubenton's	loc22	0.2
Daubenton's	loc23	0.2
Daubenton's	loc24	0.2
Daubenton's	loc25	0.3
Daubenton's	loc25a	0.2
Daubenton's	loc26	0.2
Daubenton's	loc27	1.2
Daubenton's	loc28	0.1
Daubenton's	loc29	0.1
Daubenton's	loc3	0.3
Daubenton's	loc30	0.2
Daubenton's	loc31	0.1
Daubenton's	loc4	0.4
Daubenton's	loc5	0.4
Daubenton's	loc6	0.1
Daubenton's	loc7	0.1
Daubenton's	loc8	0.1
Daubenton's	loc9	0.1
Natterer's	loc12	0.1
Natterer's	loc13	0.1
Natterer's	loc15	0.1
Natterer's	loc15a	0.1
Natterer's	loc16	0.1
Natterer's	loc17	0.1
Natterer's	loc19	0.1
Natterer's	loc2	0.1
Natterer's	loc21	0.2
Natterer's	loc23	0.2
Natterer's	loc24	0.1
Natterer's	loc25a	0.3
Natterer's	loc26	0.1
Natterer's	loc27	0.1
Natterer's	loc28	0.1
Natterer's	loc3	0.1
Natterer's	loc31	0.1
Natterer's	loc4	0.1
Natterer's	loc5	0.1
Natterer's	loc6	0.1
Natterer's	loc7	0.1
Natterer's	loc8	0.1
Natterer's	loc9	0.1

Nightly Bat Pass Rate (Bat passes per hour)

Mean per Detector

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

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

Species	Detector ID	Mean Pass Rate
Common pipistrelle	loc1	0.4
Common pipistrelle	loc10	0.2
Common pipistrelle	loc11	0.3
Common pipistrelle	loc12	0.6
Common pipistrelle	loc13	7.6
Common pipistrelle	loc14	0.2
Common pipistrelle	loc15	0.3
Common pipistrelle	loc15a	21.3
Common pipistrelle	loc16	0.2
Common pipistrelle	loc17	0.1
Common pipistrelle	loc18	0.2
Common pipistrelle	loc19	0.1
Common pipistrelle	loc1a	0.7
Common pipistrelle	loc2	0.2
Common pipistrelle	loc20	0.1
Common pipistrelle	loc21	0.5
Common pipistrelle	loc22	0.1
Common pipistrelle	loc23	0.8
Common pipistrelle	loc24	0.2
Common pipistrelle	loc25	0.3
Common pipistrelle	loc25a	0.1
Common pipistrelle	loc26	0.4
Common pipistrelle	loc27	0.7
Common pipistrelle	loc28	0.1
Common pipistrelle	loc29	0.2
Common pipistrelle	loc3	0.2
Common pipistrelle	loc30	5.3
Common pipistrelle	loc31	0.3
Common pipistrelle	loc4	1.0
Common pipistrelle	loc5	0.1
Common pipistrelle	loc6	0.2
Common pipistrelle	loc7	0.2
Common pipistrelle	loc8	0.2
Common pipistrelle	loc9	0.2
Soprano pipistrelle	loc1	0.2
Soprano pipistrelle	loc10	0.4
Soprano pipistrelle	loc11	0.3
Soprano pipistrelle	loc12	0.3
Soprano pipistrelle	loc13	5.0
Soprano pipistrelle	loc14	0.2
Soprano pipistrelle	loc15	0.2
Soprano pipistrelle	loc15a	30.4
Soprano pipistrelle	loc16	0.1
Soprano pipistrelle	loc17	0.2
Soprano pipistrelle	loc1a	0.5
Soprano pipistrelle	loc2	0.5
Soprano pipistrelle	loc20	0.1

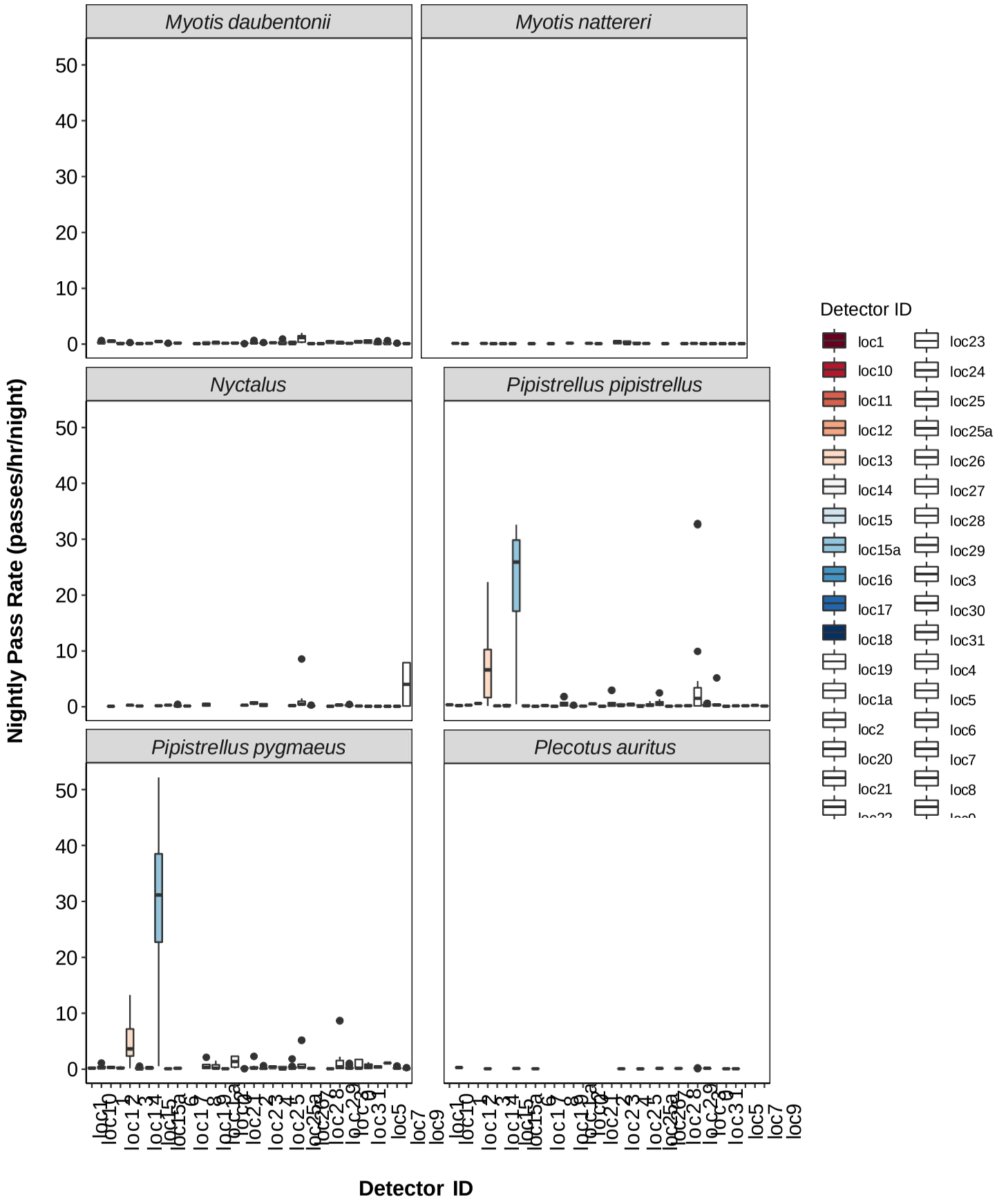
Species	Detector ID	Mean Pass Rate
Soprano pipistrelle	loc21	1.3
Soprano pipistrelle	loc22	0.2
Soprano pipistrelle	loc23	0.5
Soprano pipistrelle	loc24	0.2
Soprano pipistrelle	loc25	0.3
Soprano pipistrelle	loc25a	0.2
Soprano pipistrelle	loc26	0.4
Soprano pipistrelle	loc27	1.0
Soprano pipistrelle	loc28	0.1
Soprano pipistrelle	loc3	0.1
Soprano pipistrelle	loc30	1.8
Soprano pipistrelle	loc31	0.4
Soprano pipistrelle	loc4	0.8
Soprano pipistrelle	loc5	0.6
Soprano pipistrelle	loc6	0.4
Soprano pipistrelle	loc7	1.1
Soprano pipistrelle	loc8	0.2
Soprano pipistrelle	loc9	0.1
Nyctalus	loc11	0.1
Nyctalus	loc13	0.2
Nyctalus	loc14	0.1
Nyctalus	loc15a	0.2
Nyctalus	loc16	0.3
Nyctalus	loc17	0.2
Nyctalus	loc18	0.1
Nyctalus	loc1a	0.4
Nyctalus	loc22	0.3
Nyctalus	loc23	0.7
Nyctalus	loc24	0.3
Nyctalus	loc26	0.2
Nyctalus	loc27	1.7
Nyctalus	loc28	0.2
Nyctalus	loc3	0.1
Nyctalus	loc30	0.2
Nyctalus	loc31	0.2
Nyctalus	loc4	0.1
Nyctalus	loc5	0.1
Nyctalus	loc6	0.1
Nyctalus	loc7	0.1
Nyctalus	loc8	0.1
Nyctalus	loc9	4.0
Brown long-eared	loc10	0.3
Brown long-eared	loc13	0.1
Brown long-eared	loc15a	0.1
Brown long-eared	loc17	0.1
Brown long-eared	loc24	0.1
Brown long-eared	loc25a	0.1
Brown long-eared	loc27	0.1
Brown long-eared	loc29	0.1
Brown long-eared	loc30	0.2
Brown long-eared	loc31	0.1
Brown long-eared	loc5	0.1
Brown long-eared	loc6	0.1
Daubenton’s	loc10	0.3
Daubenton’s	loc11	0.4
Daubenton’s	loc12	0.2
Daubenton’s	loc13	0.2

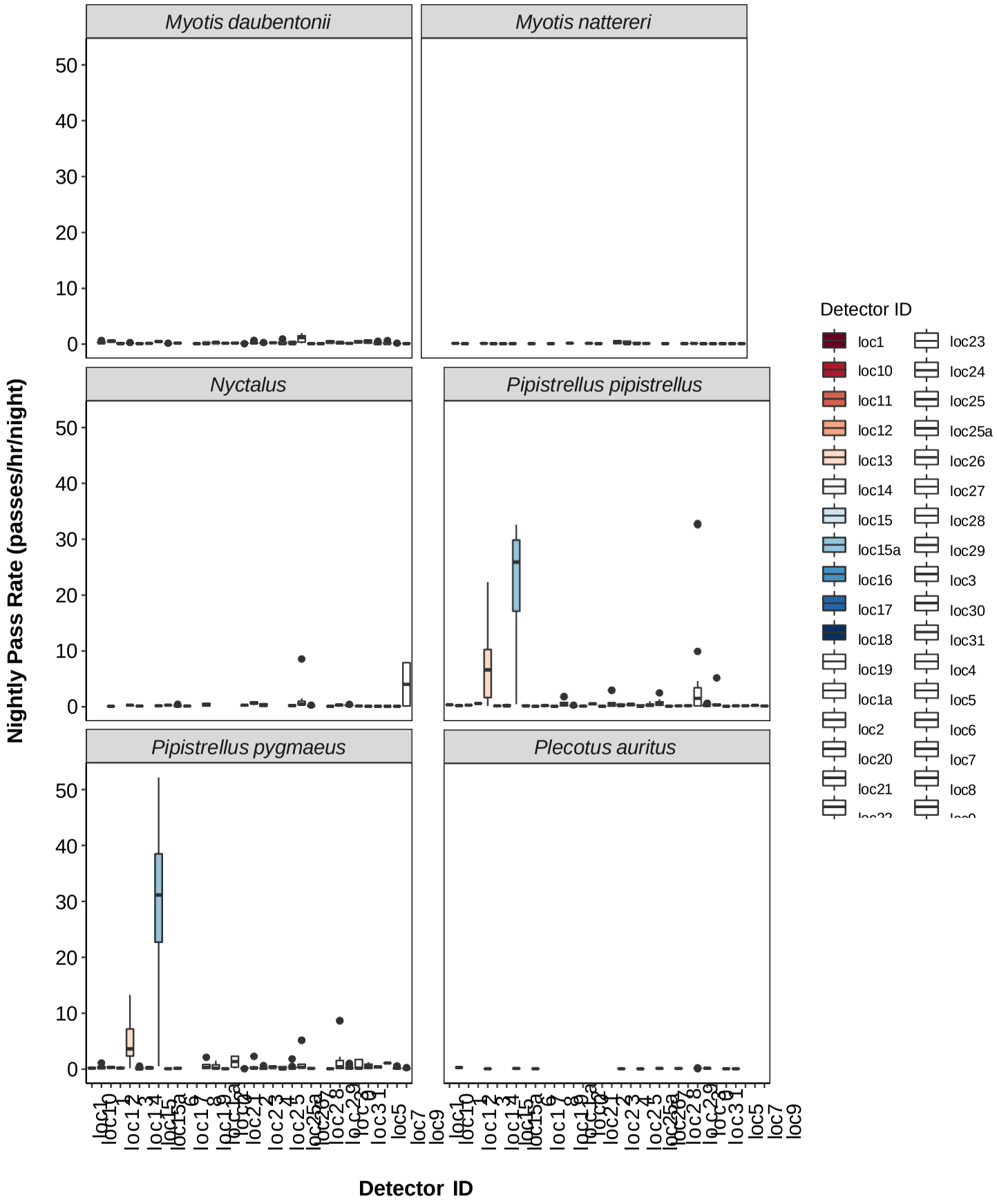
Species	Detector ID	Mean Pass Rate
Daubenton’s	loc14	0.1
Daubenton’s	loc15	0.1
Daubenton’s	loc15a	0.5
Daubenton’s	loc16	0.1
Daubenton’s	loc17	0.2
Daubenton’s	loc19	0.1
Daubenton’s	loc1a	0.1
Daubenton’s	loc2	0.2
Daubenton’s	loc20	0.2
Daubenton’s	loc21	0.2
Daubenton’s	loc22	0.2
Daubenton’s	loc23	0.3
Daubenton’s	loc24	0.2
Daubenton’s	loc25	0.3
Daubenton’s	loc25a	0.3
Daubenton’s	loc26	0.2
Daubenton’s	loc27	1.0
Daubenton’s	loc28	0.1
Daubenton’s	loc29	0.1
Daubenton’s	loc3	0.3
Daubenton’s	loc30	0.2
Daubenton’s	loc31	0.2
Daubenton’s	loc4	0.4
Daubenton’s	loc5	0.4
Daubenton’s	loc6	0.2
Daubenton’s	loc7	0.2
Daubenton’s	loc8	0.1
Daubenton’s	loc9	0.1
Natterer’s	loc12	0.1
Natterer’s	loc13	0.1
Natterer’s	loc15	0.1
Natterer’s	loc15a	0.1
Natterer’s	loc16	0.1
Natterer’s	loc17	0.1
Natterer’s	loc19	0.1
Natterer’s	loc2	0.1
Natterer’s	loc21	0.2
Natterer’s	loc23	0.2
Natterer’s	loc24	0.1
Natterer’s	loc25a	0.3
Natterer’s	loc26	0.2
Natterer’s	loc27	0.1
Natterer’s	loc28	0.1
Natterer’s	loc3	0.1
Natterer’s	loc31	0.1
Natterer’s	loc4	0.1
Natterer’s	loc5	0.1
Natterer’s	loc6	0.1
Natterer’s	loc7	0.1
Natterer’s	loc8	0.1
Natterer’s	loc9	0.1

Nightly Bat Passes (Bat passes per hour)

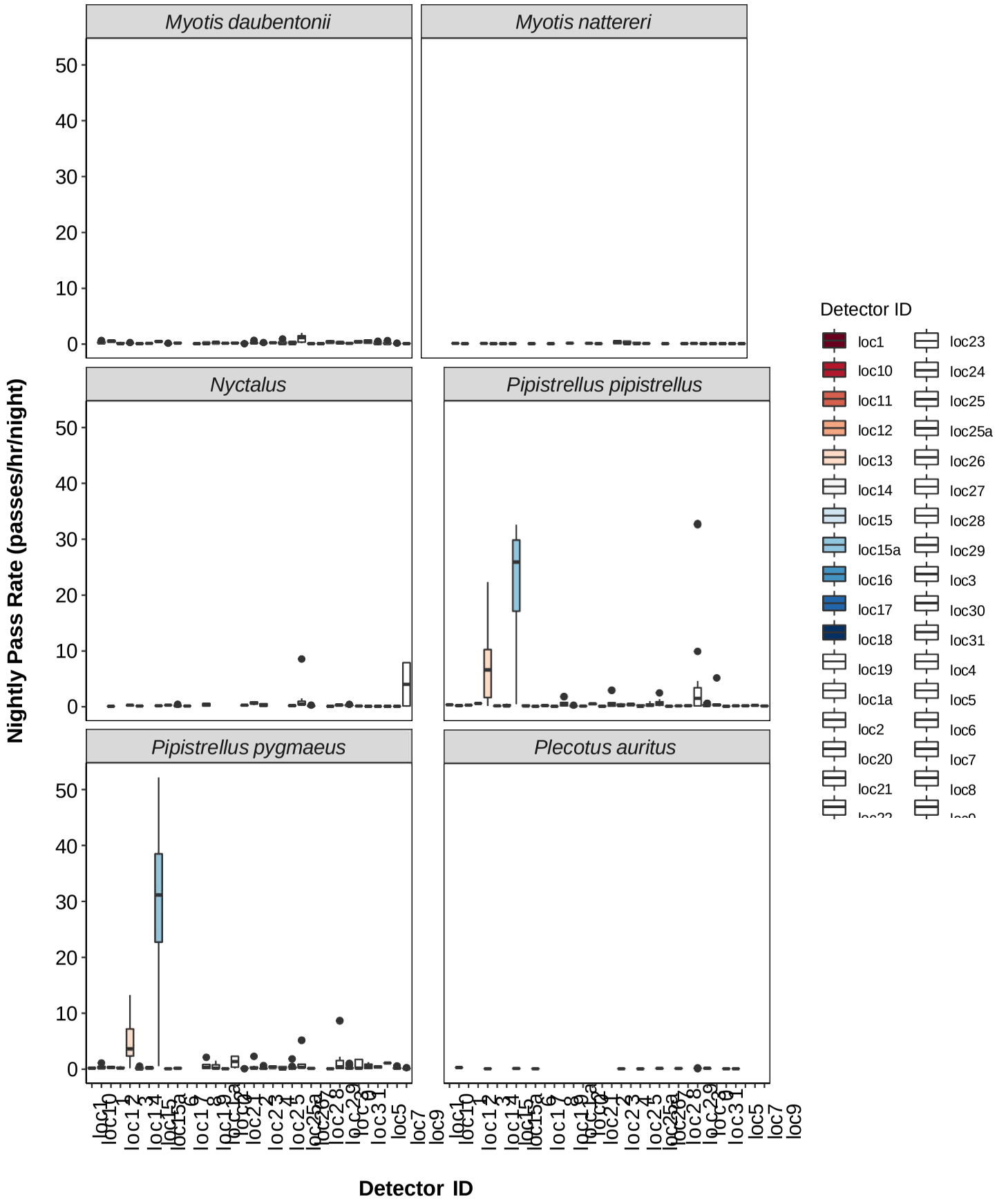
Per Detector - Figures

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


Myotis daubentonii
Myotis nattereri
Nyctalus
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Plecotus auritus
Nightly Pass Rate (passes/hr/night)
Detector ID
Detector ID
loc1
loc10
loc11
loc12
loc13
loc14
loc15
loc15a
loc16
loc17
loc18
loc19
loc1a
loc2
loc20
loc21
loc23
loc24
loc25
loc25a
loc26
loc27
loc28
loc29
loc3
loc30
loc31
loc4
loc5
loc6
loc7
loc8


Myotis daubentonii
Myotis nattereri
Nyctalus
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Plecotus auritus
Nightly Pass Rate (passes/hr/night)
Detector ID
Detector ID
loc1
loc10
loc11
loc12
loc13
loc14
loc15
loc15a
loc16
loc17
loc18
loc19
loc1a
loc2
loc20
loc21
loc23
loc24
loc25
loc25a
loc26
loc27
loc28
loc29
loc3
loc30
loc31
loc4
loc5
loc6
loc7
loc8

[[1]]


Myotis daubentonii
Myotis nattereri
Nyctalus
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Plecotus auritus
Nightly Pass Rate (passes/hr/night)
Detector ID
Detector ID
loc1
loc10
loc11
loc12
loc13
loc14
loc15
loc15a
loc16
loc17
loc18
loc19
loc1a
loc2
loc20
loc21
loc23
loc24
loc25
loc25a
loc26
loc27
loc28
loc29
loc3
loc30
loc31
loc4
loc5
loc6
loc7
loc8

SPLIT BY MONTH

Total Bat Passes per Detector, each Month

Per Detector

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

Species	Detector ID	May	Jun	Jul	Sep
Common pipistrelle	loc1	3	0	0	0
Common pipistrelle	loc10	0	1	0	3
Common pipistrelle	loc11	0	2	0	0
Common pipistrelle	loc12	0	4	0	0
Common pipistrelle	loc13	1	1	0	1179
Common pipistrelle	loc14	0	0	0	5
Common pipistrelle	loc15	0	6	0	0
Common pipistrelle	loc15a	0	0	0	2618
Common pipistrelle	loc16	0	3	1	1
Common pipistrelle	loc17	0	0	0	3
Common pipistrelle	loc18	0	2	1	0
Common pipistrelle	loc19	0	0	0	1
Common pipistrelle	loc1a	0	27	0	16
Common pipistrelle	loc2	1	1	2	1
Common pipistrelle	loc20	1	1	0	0
Common pipistrelle	loc21	0	0	0	17
Common pipistrelle	loc22	1	1	0	2
Common pipistrelle	loc23	1	3	0	96
Common pipistrelle	loc24	3	2	0	30
Common pipistrelle	loc25	6	0	0	0
Common pipistrelle	loc25a	0	0	0	15
Common pipistrelle	loc26	10	7	2	39
Common pipistrelle	loc27	10	17	2	100
Common pipistrelle	loc28	0	0	1	1
Common pipistrelle	loc29	0	0	0	2
Common pipistrelle	loc3	0	0	2	1
Common pipistrelle	loc30	3	38	22	984
Common pipistrelle	loc31	2	12	2	8
Common pipistrelle	loc4	3	34	3	3
Common pipistrelle	loc5	0	0	0	1
Common pipistrelle	loc6	0	0	0	2
Common pipistrelle	loc7	0	0	0	4
Common pipistrelle	loc8	1	0	0	14
Common pipistrelle	loc9	0	1	0	4
Soprano pipistrelle	loc1	7	0	0	0
Soprano pipistrelle	loc10	0	2	1	13
Soprano pipistrelle	loc11	0	0	0	7
Soprano pipistrelle	loc12	1	0	1	9
Soprano pipistrelle	loc13	0	1	0	671
Soprano pipistrelle	loc14	1	0	0	8
Soprano pipistrelle	loc15	8	2	2	0
Soprano pipistrelle	loc15a	0	0	0	4086
Soprano pipistrelle	loc16	0	0	0	2
Soprano pipistrelle	loc17	0	2	0	11
Soprano pipistrelle	loc1a	0	24	1	53

Species	Detector ID	May	Jun	Jul	Sep
Soprano pipistrelle	loc2	0	0	0	59
Soprano pipistrelle	loc20	0	0	0	1
Soprano pipistrelle	loc21	1	0	0	55
Soprano pipistrelle	loc22	0	1	0	7
Soprano pipistrelle	loc23	1	5	0	40
Soprano pipistrelle	loc24	6	0	0	9
Soprano pipistrelle	loc25	12	0	0	0
Soprano pipistrelle	loc25a	0	0	0	14
Soprano pipistrelle	loc26	8	0	0	33
Soprano pipistrelle	loc27	20	0	1	156
Soprano pipistrelle	loc28	1	0	1	0
Soprano pipistrelle	loc3	0	0	0	1
Soprano pipistrelle	loc30	5	11	1	259
Soprano pipistrelle	loc31	3	2	0	45
Soprano pipistrelle	loc4	2	0	0	40
Soprano pipistrelle	loc5	1	0	0	31
Soprano pipistrelle	loc6	0	0	0	17
Soprano pipistrelle	loc7	0	0	0	24
Soprano pipistrelle	loc8	1	0	0	23
Soprano pipistrelle	loc9	0	0	0	9
Nyctalus	loc11	0	0	0	2
Nyctalus	loc13	1	4	0	0
Nyctalus	loc14	0	0	1	0
Nyctalus	loc15a	0	0	0	4
Nyctalus	loc16	0	4	0	0
Nyctalus	loc17	0	5	0	1
Nyctalus	loc18	0	2	0	0
Nyctalus	loc1a	0	8	1	1
Nyctalus	loc22	0	5	0	0
Nyctalus	loc23	0	9	0	0
Nyctalus	loc24	0	9	3	2
Nyctalus	loc26	0	2	1	4
Nyctalus	loc27	0	73	5	0
Nyctalus	loc28	0	3	1	1
Nyctalus	loc3	0	0	0	1
Nyctalus	loc30	0	1	0	3
Nyctalus	loc31	0	1	4	2
Nyctalus	loc4	0	1	0	0
Nyctalus	loc5	0	0	0	2
Nyctalus	loc6	0	0	0	1
Nyctalus	loc7	0	0	0	1
Nyctalus	loc8	0	0	0	1
Nyctalus	loc9	0	106	0	0
Brown long-eared	loc10	0	0	2	0
Brown long-eared	loc13	0	0	0	1
Brown long-eared	loc15a	0	0	0	6
Brown long-eared	loc17	0	0	0	1
Brown long-eared	loc24	0	0	0	2
Brown long-eared	loc25a	0	0	0	1
Brown long-eared	loc27	0	1	0	3
Brown long-eared	loc29	0	0	0	3
Brown long-eared	loc30	0	0	0	12
Brown long-eared	loc31	0	0	0	5
Brown long-eared	loc5	0	0	0	4
Brown long-eared	loc6	0	0	0	1
Daubenton’s	loc10	11	2	1	8
Daubenton’s	loc11	0	0	0	14

Species	Detector ID	May	Jun	Jul	Sep
Daubenton’s	loc12	0	0	0	7
Daubenton’s	loc13	0	2	0	6
Daubenton’s	loc14	1	1	0	7
Daubenton’s	loc15	1	2	0	0
Daubenton’s	loc15a	0	0	0	43
Daubenton’s	loc16	0	0	0	7
Daubenton’s	loc17	0	2	0	13
Daubenton’s	loc19	0	0	0	1
Daubenton’s	loc1a	0	1	0	4
Daubenton’s	loc2	1	0	0	12
Daubenton’s	loc20	0	0	0	4
Daubenton’s	loc21	0	0	0	12
Daubenton’s	loc22	0	0	0	7
Daubenton’s	loc23	8	0	0	17
Daubenton’s	loc24	2	1	2	16
Daubenton’s	loc25	2	0	0	0
Daubenton’s	loc25a	0	0	0	25
Daubenton’s	loc26	3	3	1	19
Daubenton’s	loc27	0	2	0	135
Daubenton’s	loc28	1	0	0	2
Daubenton’s	loc29	0	1	0	2
Daubenton’s	loc3	0	0	0	11
Daubenton’s	loc30	4	0	0	19
Daubenton’s	loc31	1	1	0	5
Daubenton’s	loc4	1	0	0	7
Daubenton’s	loc5	0	0	0	17
Daubenton’s	loc6	2	0	0	17
Daubenton’s	loc7	5	0	0	8
Daubenton’s	loc8	1	0	0	6
Daubenton’s	loc9	0	1	0	5
Natterer’s	loc12	0	1	0	0
Natterer’s	loc13	0	0	0	1
Natterer’s	loc15	1	0	0	0
Natterer’s	loc15a	0	0	0	1
Natterer’s	loc16	0	0	0	3
Natterer’s	loc17	0	0	0	1
Natterer’s	loc19	0	0	0	1
Natterer’s	loc2	0	0	0	4
Natterer’s	loc21	0	0	0	2
Natterer’s	loc23	1	0	0	2
Natterer’s	loc24	0	0	0	3
Natterer’s	loc25a	0	0	0	12
Natterer’s	loc26	0	3	3	5
Natterer’s	loc27	0	0	0	12
Natterer’s	loc28	0	0	0	3
Natterer’s	loc3	0	0	0	2
Natterer’s	loc31	1	0	0	1
Natterer’s	loc4	1	0	0	0
Natterer’s	loc5	0	0	0	1
Natterer’s	loc6	0	0	0	1
Natterer’s	loc7	0	0	0	2
Natterer’s	loc8	0	0	0	1
Natterer’s	loc9	0	0	0	1

Survey Effort

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

Month	Detector ID	No. of Survey Nights
May	loc1	4
May	loc10	3
May	loc12	1
May	loc13	2
May	loc14	2
May	loc15	6
May	loc2	2
May	loc20	1
May	loc21	1
May	loc22	1
May	loc23	4
May	loc24	4
May	loc25	6
May	loc26	7
May	loc27	5
May	loc28	2
May	loc30	5
May	loc31	4
May	loc4	4
May	loc5	1
May	loc6	2
May	loc7	1
May	loc8	2
Jun	loc10	2
Jun	loc11	1
Jun	loc12	2
Jun	loc13	2
Jun	loc14	1
Jun	loc15	4
Jun	loc16	2
Jun	loc17	3
Jun	loc18	2
Jun	loc1a	4
Jun	loc2	1
Jun	loc20	1
Jun	loc22	3
Jun	loc23	3
Jun	loc24	3
Jun	loc26	5
Jun	loc27	5
Jun	loc28	2
Jun	loc29	1
Jun	loc30	4
Jun	loc31	5
Jun	loc4	1
Jun	loc9	4
Jul	loc10	3
Jul	loc12	1
Jul	loc14	1
Jul	loc15	2
Jul	loc16	1
Jul	loc18	1
Jul	loc1a	2

Month	Detector ID	No. of Survey Nights
Jul	loc2	1
Jul	loc24	1
Jul	loc26	3
Jul	loc27	3
Jul	loc28	1
Jul	loc3	1
Jul	loc30	2
Jul	loc31	2
Jul	loc4	2
Sep	loc10	5
Sep	loc11	7
Sep	loc12	4
Sep	loc13	12
Sep	loc14	8
Sep	loc15a	12
Sep	loc16	7
Sep	loc17	8
Sep	loc19	3
Sep	loc1a	11
Sep	loc2	11
Sep	loc20	2
Sep	loc21	8
Sep	loc22	8
Sep	loc23	11
Sep	loc24	12
Sep	loc25a	12
Sep	loc26	11
Sep	loc27	13
Sep	loc28	5
Sep	loc29	4
Sep	loc3	5
Sep	loc30	12
Sep	loc31	11
Sep	loc4	4
Sep	loc5	6
Sep	loc6	7
Sep	loc7	7
Sep	loc8	9
Sep	loc9	8

Nightly Bat Pass Rate for each Month

Median Per Detector

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

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

Species	Detector ID	May	Jun	Jul	Sep
Common pipistrelle	loc1	0.4	NA	NA	NA
Common pipistrelle	loc10	NA	0.1	NA	0.3
Common pipistrelle	loc11	NA	0.3	NA	NA
Common pipistrelle	loc12	NA	0.6	NA	NA
Common pipistrelle	loc13	0.1	0.1	NA	7.7
Common pipistrelle	loc14	NA	NA	NA	0.2
Common pipistrelle	loc15	NA	0.1	NA	NA
Common pipistrelle	loc15a	NA	NA	NA	25.9
Common pipistrelle	loc16	NA	0.5	0.1	0.1
Common pipistrelle	loc17	NA	NA	NA	0.1
Common pipistrelle	loc18	NA	0.3	0.1	NA
Common pipistrelle	loc19	NA	NA	NA	0.1
Common pipistrelle	loc1a	NA	1.8	NA	0.2
Common pipistrelle	loc2	0.1	0.1	0.3	0.1
Common pipistrelle	loc20	0.1	0.1	NA	NA
Common pipistrelle	loc21	NA	NA	NA	0.6
Common pipistrelle	loc22	0.1	0.1	NA	0.1
Common pipistrelle	loc23	0.1	0.2	NA	0.6
Common pipistrelle	loc24	0.2	0.1	NA	0.2
Common pipistrelle	loc25	0.3	NA	NA	NA
Common pipistrelle	loc25a	NA	NA	NA	0.1
Common pipistrelle	loc26	0.3	0.1	0.3	0.6
Common pipistrelle	loc27	0.1	0.6	0.3	0.8
Common pipistrelle	loc28	NA	NA	0.1	0.1
Common pipistrelle	loc29	NA	NA	NA	0.2
Common pipistrelle	loc3	NA	NA	0.3	0.1
Common pipistrelle	loc30	0.1	1.7	1.7	3.9
Common pipistrelle	loc31	0.1	0.3	0.3	0.1
Common pipistrelle	loc4	0.4	5.2	0.2	0.1
Common pipistrelle	loc5	NA	NA	NA	0.1
Common pipistrelle	loc6	NA	NA	NA	0.2
Common pipistrelle	loc7	NA	NA	NA	0.2
Common pipistrelle	loc8	0.1	NA	NA	0.3
Common pipistrelle	loc9	NA	0.1	NA	0.2
Soprano pipistrelle	loc1	0.2	NA	NA	NA
Soprano pipistrelle	loc10	NA	0.3	0.1	0.6
Soprano pipistrelle	loc11	NA	NA	NA	0.3
Soprano pipistrelle	loc12	0.1	NA	0.1	0.4
Soprano pipistrelle	loc13	NA	0.1	NA	4.0
Soprano pipistrelle	loc14	0.1	NA	NA	0.1
Soprano pipistrelle	loc15	0.2	0.3	0.1	NA
Soprano pipistrelle	loc15a	NA	NA	NA	31.1
Soprano pipistrelle	loc16	NA	NA	NA	0.1
Soprano pipistrelle	loc17	NA	0.1	NA	0.1
Soprano pipistrelle	loc1a	NA	0.6	0.1	0.2

Species	Detector ID	May	Jun	Jul	Sep
Soprano pipistrelle	loc2	NA	NA	NA	0.2
Soprano pipistrelle	loc20	NA	NA	NA	0.1
Soprano pipistrelle	loc21	0.1	NA	NA	2.3
Soprano pipistrelle	loc22	NA	0.1	NA	0.2
Soprano pipistrelle	loc23	0.1	0.4	NA	0.2
Soprano pipistrelle	loc24	0.4	NA	NA	0.1
Soprano pipistrelle	loc25	0.3	NA	NA	NA
Soprano pipistrelle	loc25a	NA	NA	NA	0.1
Soprano pipistrelle	loc26	0.3	NA	NA	0.2
Soprano pipistrelle	loc27	0.6	NA	0.1	0.3
Soprano pipistrelle	loc28	0.1	NA	0.1	NA
Soprano pipistrelle	loc3	NA	NA	NA	0.1
Soprano pipistrelle	loc30	0.1	1.7	0.1	0.6
Soprano pipistrelle	loc31	0.1	0.3	NA	0.3
Soprano pipistrelle	loc4	0.1	NA	NA	1.8
Soprano pipistrelle	loc5	0.1	NA	NA	0.7
Soprano pipistrelle	loc6	NA	NA	NA	0.4
Soprano pipistrelle	loc7	NA	NA	NA	1.1
Soprano pipistrelle	loc8	0.1	NA	NA	0.2
Soprano pipistrelle	loc9	NA	NA	NA	0.1
Nyctalus	loc11	NA	NA	NA	0.1
Nyctalus	loc13	0.1	0.3	NA	NA
Nyctalus	loc14	NA	NA	0.1	NA
Nyctalus	loc15a	NA	NA	NA	0.2
Nyctalus	loc16	NA	0.3	NA	NA
Nyctalus	loc17	NA	0.1	NA	0.1
Nyctalus	loc18	NA	0.1	NA	NA
Nyctalus	loc1a	NA	0.6	0.1	0.1
Nyctalus	loc22	NA	0.3	NA	NA
Nyctalus	loc23	NA	0.7	NA	NA
Nyctalus	loc24	NA	0.6	0.4	0.1
Nyctalus	loc26	NA	0.3	0.1	0.2
Nyctalus	loc27	NA	0.5	0.4	NA
Nyctalus	loc28	NA	0.2	0.1	0.1
Nyctalus	loc3	NA	NA	NA	0.1
Nyctalus	loc30	NA	0.1	NA	0.3
Nyctalus	loc31	NA	0.1	0.3	0.2
Nyctalus	loc4	NA	0.1	NA	NA
Nyctalus	loc5	NA	NA	NA	0.1
Nyctalus	loc6	NA	NA	NA	0.1
Nyctalus	loc7	NA	NA	NA	0.1
Nyctalus	loc8	NA	NA	NA	0.1
Nyctalus	loc9	NA	4.0	NA	NA
Brown long-eared	loc10	NA	NA	0.3	NA
Brown long-eared	loc13	NA	NA	NA	0.1
Brown long-eared	loc15a	NA	NA	NA	0.1
Brown long-eared	loc17	NA	NA	NA	0.1
Brown long-eared	loc24	NA	NA	NA	0.1
Brown long-eared	loc25a	NA	NA	NA	0.1
Brown long-eared	loc27	NA	0.1	NA	0.1
Brown long-eared	loc29	NA	NA	NA	0.1
Brown long-eared	loc30	NA	NA	NA	0.2
Brown long-eared	loc31	NA	NA	NA	0.2
Brown long-eared	loc5	NA	NA	NA	0.1
Brown long-eared	loc6	NA	NA	NA	0.1
Daubenton’s	loc10	0.6	0.3	0.1	0.2
Daubenton’s	loc11	NA	NA	NA	0.4

Species	Detector ID	May	Jun	Jul	Sep
Daubenton’s	loc12	NA	NA	NA	0.1
Daubenton’s	loc13	NA	0.3	NA	0.2
Daubenton’s	loc14	0.1	0.1	NA	0.1
Daubenton’s	loc15	0.1	0.1	NA	NA
Daubenton’s	loc15a	NA	NA	NA	0.5
Daubenton’s	loc16	NA	NA	NA	0.1
Daubenton’s	loc17	NA	0.1	NA	0.2
Daubenton’s	loc19	NA	NA	NA	0.1
Daubenton’s	loc1a	NA	0.1	NA	0.1
Daubenton’s	loc2	0.1	NA	NA	0.2
Daubenton’s	loc20	NA	NA	NA	0.2
Daubenton’s	loc21	NA	NA	NA	0.2
Daubenton’s	loc22	NA	NA	NA	0.2
Daubenton’s	loc23	0.3	NA	NA	0.2
Daubenton’s	loc24	0.1	0.1	0.3	0.2
Daubenton’s	loc25	0.3	NA	NA	NA
Daubenton’s	loc25a	NA	NA	NA	0.2
Daubenton’s	loc26	0.2	0.1	0.1	0.3
Daubenton’s	loc27	NA	0.1	NA	1.4
Daubenton’s	loc28	0.1	NA	NA	0.1
Daubenton’s	loc29	NA	0.1	NA	0.1
Daubenton’s	loc3	NA	NA	NA	0.3
Daubenton’s	loc30	0.5	NA	NA	0.2
Daubenton’s	loc31	0.1	0.1	NA	0.2
Daubenton’s	loc4	0.1	NA	NA	0.6
Daubenton’s	loc5	NA	NA	NA	0.4
Daubenton’s	loc6	0.1	NA	NA	0.1
Daubenton’s	loc7	0.7	NA	NA	0.1
Daubenton’s	loc8	0.1	NA	NA	0.1
Daubenton’s	loc9	NA	0.1	NA	0.1
Natterer’s	loc12	NA	0.1	NA	NA
Natterer’s	loc13	NA	NA	NA	0.1
Natterer’s	loc15	0.1	NA	NA	NA
Natterer’s	loc15a	NA	NA	NA	0.1
Natterer’s	loc16	NA	NA	NA	0.1
Natterer’s	loc17	NA	NA	NA	0.1
Natterer’s	loc19	NA	NA	NA	0.1
Natterer’s	loc2	NA	NA	NA	0.1
Natterer’s	loc21	NA	NA	NA	0.2
Natterer’s	loc23	0.1	NA	NA	0.2
Natterer’s	loc24	NA	NA	NA	0.1
Natterer’s	loc25a	NA	NA	NA	0.3
Natterer’s	loc26	NA	0.5	0.4	0.1
Natterer’s	loc27	NA	NA	NA	0.1
Natterer’s	loc28	NA	NA	NA	0.1
Natterer’s	loc3	NA	NA	NA	0.1
Natterer’s	loc31	0.1	NA	NA	0.1
Natterer’s	loc4	0.1	NA	NA	NA
Natterer’s	loc5	NA	NA	NA	0.1
Natterer’s	loc6	NA	NA	NA	0.1
Natterer’s	loc7	NA	NA	NA	0.1
Natterer’s	loc8	NA	NA	NA	0.1
Natterer’s	loc9	NA	NA	NA	0.1

Nightly Bat Pass Rate for each Month

Mean per Detector

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

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

Species	Detector ID	May	Jun	Jul	Sep
Common pipistrelle	loc1	0.4	NA	NA	NA
Common pipistrelle	loc10	NA	0.1	NA	0.3
Common pipistrelle	loc11	NA	0.3	NA	NA
Common pipistrelle	loc12	NA	0.6	NA	NA
Common pipistrelle	loc13	0.1	0.1	NA	8.8
Common pipistrelle	loc14	NA	NA	NA	0.2
Common pipistrelle	loc15	NA	0.3	NA	NA
Common pipistrelle	loc15a	NA	NA	NA	21.3
Common pipistrelle	loc16	NA	0.5	0.1	0.1
Common pipistrelle	loc17	NA	NA	NA	0.1
Common pipistrelle	loc18	NA	0.3	0.1	NA
Common pipistrelle	loc19	NA	NA	NA	0.1
Common pipistrelle	loc1a	NA	1.4	NA	0.3
Common pipistrelle	loc2	0.1	0.1	0.3	0.1
Common pipistrelle	loc20	0.1	0.1	NA	NA
Common pipistrelle	loc21	NA	NA	NA	0.5
Common pipistrelle	loc22	0.1	0.1	NA	0.1
Common pipistrelle	loc23	0.1	0.2	NA	1.0
Common pipistrelle	loc24	0.2	0.1	NA	0.3
Common pipistrelle	loc25	0.3	NA	NA	NA
Common pipistrelle	loc25a	NA	NA	NA	0.1
Common pipistrelle	loc26	0.3	0.2	0.3	0.6
Common pipistrelle	loc27	0.3	0.7	0.3	0.9
Common pipistrelle	loc28	NA	NA	0.1	0.1
Common pipistrelle	loc29	NA	NA	NA	0.2
Common pipistrelle	loc3	NA	NA	0.3	0.1
Common pipistrelle	loc30	0.1	1.4	1.7	9.5
Common pipistrelle	loc31	0.1	0.4	0.3	0.2
Common pipistrelle	loc4	0.4	5.2	0.2	0.1
Common pipistrelle	loc5	NA	NA	NA	0.1
Common pipistrelle	loc6	NA	NA	NA	0.2
Common pipistrelle	loc7	NA	NA	NA	0.2
Common pipistrelle	loc8	0.1	NA	NA	0.3
Common pipistrelle	loc9	NA	0.1	NA	0.2
Soprano pipistrelle	loc1	0.2	NA	NA	NA
Soprano pipistrelle	loc10	NA	0.3	0.1	0.6
Soprano pipistrelle	loc11	NA	NA	NA	0.3
Soprano pipistrelle	loc12	0.1	NA	0.1	0.4
Soprano pipistrelle	loc13	NA	0.1	NA	5.5
Soprano pipistrelle	loc14	0.1	NA	NA	0.2
Soprano pipistrelle	loc15	0.2	0.3	0.1	NA
Soprano pipistrelle	loc15a	NA	NA	NA	30.4
Soprano pipistrelle	loc16	NA	NA	NA	0.1
Soprano pipistrelle	loc17	NA	0.1	NA	0.2
Soprano pipistrelle	loc1a	NA	0.9	0.1	0.4
Soprano pipistrelle	loc2	NA	NA	NA	0.5
Soprano pipistrelle	loc20	NA	NA	NA	0.1

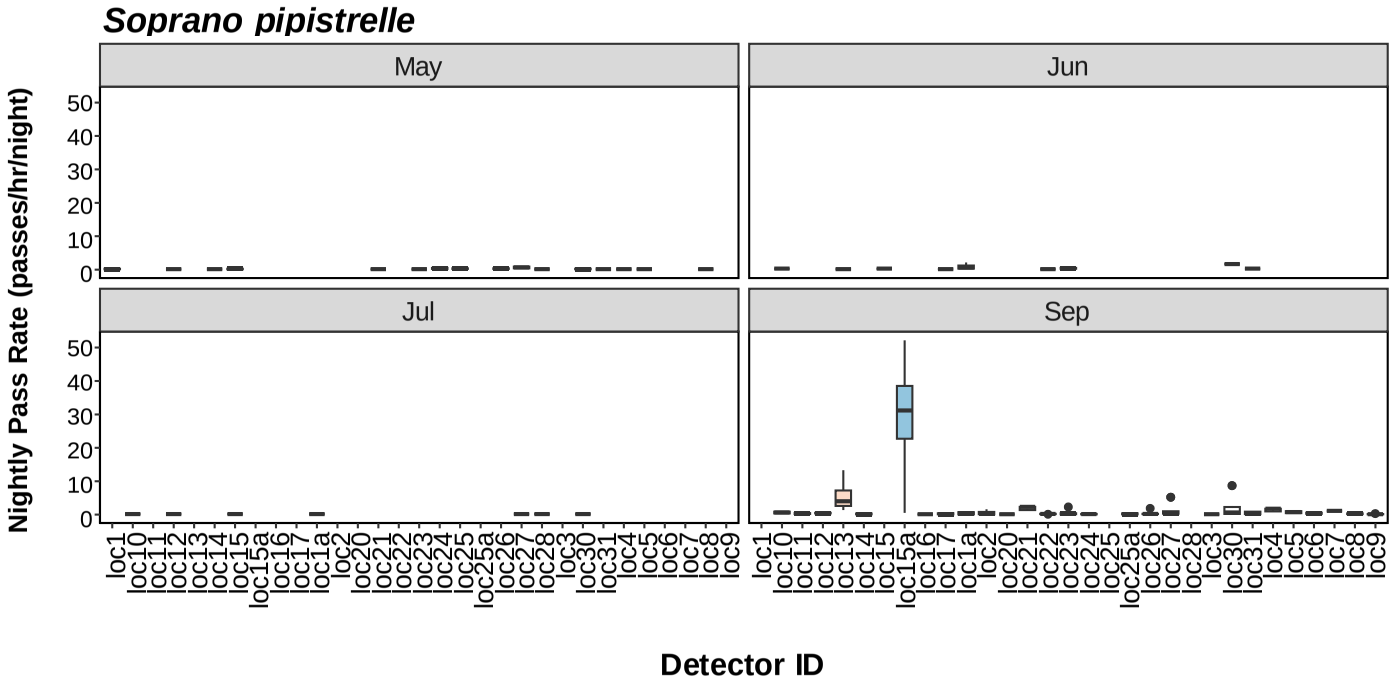
Species	Detector ID	May	Jun	Jul	Sep
Soprano pipistrelle	loc21	0.1	NA	NA	1.7
Soprano pipistrelle	loc22	NA	0.1	NA	0.2
Soprano pipistrelle	loc23	0.1	0.4	NA	0.5
Soprano pipistrelle	loc24	0.4	NA	NA	0.1
Soprano pipistrelle	loc25	0.3	NA	NA	NA
Soprano pipistrelle	loc25a	NA	NA	NA	0.2
Soprano pipistrelle	loc26	0.3	NA	NA	0.4
Soprano pipistrelle	loc27	0.6	NA	0.1	1.2
Soprano pipistrelle	loc28	0.1	NA	0.1	NA
Soprano pipistrelle	loc3	NA	NA	NA	0.1
Soprano pipistrelle	loc30	0.2	1.7	0.1	2.5
Soprano pipistrelle	loc31	0.1	0.3	NA	0.4
Soprano pipistrelle	loc4	0.1	NA	NA	1.2
Soprano pipistrelle	loc5	0.1	NA	NA	0.7
Soprano pipistrelle	loc6	NA	NA	NA	0.4
Soprano pipistrelle	loc7	NA	NA	NA	1.1
Soprano pipistrelle	loc8	0.1	NA	NA	0.3
Soprano pipistrelle	loc9	NA	NA	NA	0.1
Nyctalus	loc11	NA	NA	NA	0.1
Nyctalus	loc13	0.1	0.3	NA	NA
Nyctalus	loc14	NA	NA	0.1	NA
Nyctalus	loc15a	NA	NA	NA	0.2
Nyctalus	loc16	NA	0.3	NA	NA
Nyctalus	loc17	NA	0.3	NA	0.1
Nyctalus	loc18	NA	0.1	NA	NA
Nyctalus	loc1a	NA	0.6	0.1	0.1
Nyctalus	loc22	NA	0.3	NA	NA
Nyctalus	loc23	NA	0.7	NA	NA
Nyctalus	loc24	NA	0.5	0.4	0.1
Nyctalus	loc26	NA	0.3	0.1	0.2
Nyctalus	loc27	NA	2.2	0.4	NA
Nyctalus	loc28	NA	0.2	0.1	0.1
Nyctalus	loc3	NA	NA	NA	0.1
Nyctalus	loc30	NA	0.1	NA	0.3
Nyctalus	loc31	NA	0.1	0.3	0.2
Nyctalus	loc4	NA	0.1	NA	NA
Nyctalus	loc5	NA	NA	NA	0.1
Nyctalus	loc6	NA	NA	NA	0.1
Nyctalus	loc7	NA	NA	NA	0.1
Nyctalus	loc8	NA	NA	NA	0.1
Nyctalus	loc9	NA	4.0	NA	NA
Brown long-eared	loc10	NA	NA	0.3	NA
Brown long-eared	loc13	NA	NA	NA	0.1
Brown long-eared	loc15a	NA	NA	NA	0.1
Brown long-eared	loc17	NA	NA	NA	0.1
Brown long-eared	loc24	NA	NA	NA	0.1
Brown long-eared	loc25a	NA	NA	NA	0.1
Brown long-eared	loc27	NA	0.1	NA	0.1
Brown long-eared	loc29	NA	NA	NA	0.1
Brown long-eared	loc30	NA	NA	NA	0.2
Brown long-eared	loc31	NA	NA	NA	0.1
Brown long-eared	loc5	NA	NA	NA	0.1
Brown long-eared	loc6	NA	NA	NA	0.1
Daubenton’s	loc10	0.5	0.3	0.1	0.2
Daubenton’s	loc11	NA	NA	NA	0.4
Daubenton’s	loc12	NA	NA	NA	0.2
Daubenton’s	loc13	NA	0.3	NA	0.2

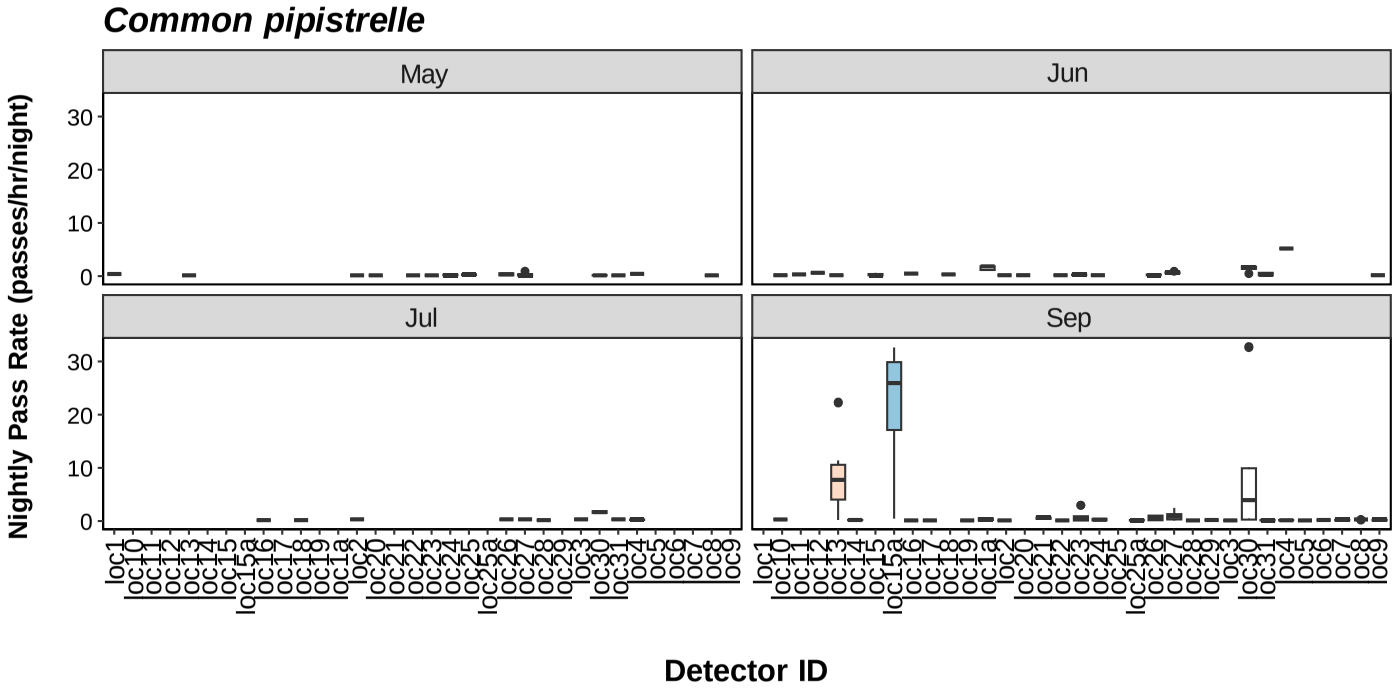
Species	Detector ID	May	Jun	Jul	Sep
Daubenton’s	loc14	0.1	0.1	NA	0.1
Daubenton’s	loc15	0.1	0.1	NA	NA
Daubenton’s	loc15a	NA	NA	NA	0.5
Daubenton’s	loc16	NA	NA	NA	0.1
Daubenton’s	loc17	NA	0.1	NA	0.2
Daubenton’s	loc19	NA	NA	NA	0.1
Daubenton’s	loc1a	NA	0.1	NA	0.1
Daubenton’s	loc2	0.1	NA	NA	0.2
Daubenton’s	loc20	NA	NA	NA	0.2
Daubenton’s	loc21	NA	NA	NA	0.2
Daubenton’s	loc22	NA	NA	NA	0.2
Daubenton’s	loc23	0.4	NA	NA	0.2
Daubenton’s	loc24	0.1	0.1	0.3	0.2
Daubenton’s	loc25	0.3	NA	NA	NA
Daubenton’s	loc25a	NA	NA	NA	0.3
Daubenton’s	loc26	0.2	0.1	0.1	0.2
Daubenton’s	loc27	NA	0.1	NA	1.2
Daubenton’s	loc28	0.1	NA	NA	0.1
Daubenton’s	loc29	NA	0.1	NA	0.1
Daubenton’s	loc3	NA	NA	NA	0.3
Daubenton’s	loc30	0.5	NA	NA	0.2
Daubenton’s	loc31	0.1	0.1	NA	0.2
Daubenton’s	loc4	0.1	NA	NA	0.6
Daubenton’s	loc5	NA	NA	NA	0.4
Daubenton’s	loc6	0.1	NA	NA	0.2
Daubenton’s	loc7	0.7	NA	NA	0.1
Daubenton’s	loc8	0.1	NA	NA	0.1
Daubenton’s	loc9	NA	0.1	NA	0.1
Natterer’s	loc12	NA	0.1	NA	NA
Natterer’s	loc13	NA	NA	NA	0.1
Natterer’s	loc15	0.1	NA	NA	NA
Natterer’s	loc15a	NA	NA	NA	0.1
Natterer’s	loc16	NA	NA	NA	0.1
Natterer’s	loc17	NA	NA	NA	0.1
Natterer’s	loc19	NA	NA	NA	0.1
Natterer’s	loc2	NA	NA	NA	0.1
Natterer’s	loc21	NA	NA	NA	0.2
Natterer’s	loc23	0.1	NA	NA	0.2
Natterer’s	loc24	NA	NA	NA	0.1
Natterer’s	loc25a	NA	NA	NA	0.3
Natterer’s	loc26	NA	0.5	0.4	0.1
Natterer’s	loc27	NA	NA	NA	0.1
Natterer’s	loc28	NA	NA	NA	0.1
Natterer’s	loc3	NA	NA	NA	0.1
Natterer’s	loc31	0.1	NA	NA	0.1
Natterer’s	loc4	0.1	NA	NA	NA
Natterer’s	loc5	NA	NA	NA	0.1
Natterer’s	loc6	NA	NA	NA	0.1
Natterer’s	loc7	NA	NA	NA	0.1
Natterer’s	loc8	NA	NA	NA	0.1
Natterer’s	loc9	NA	NA	NA	0.1

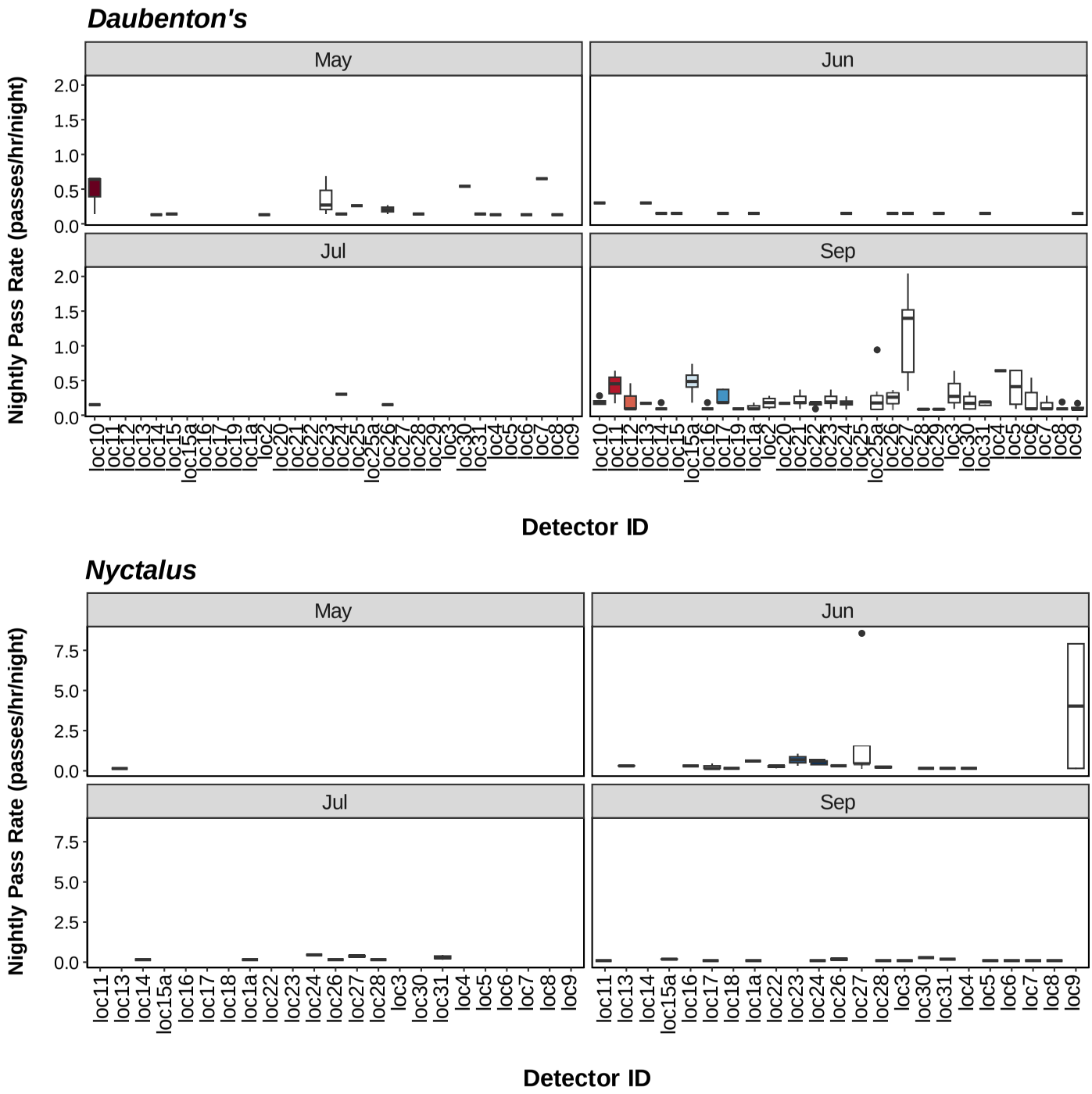
Nightly Bat Pass Rate for each Month

Per Detector - Figures

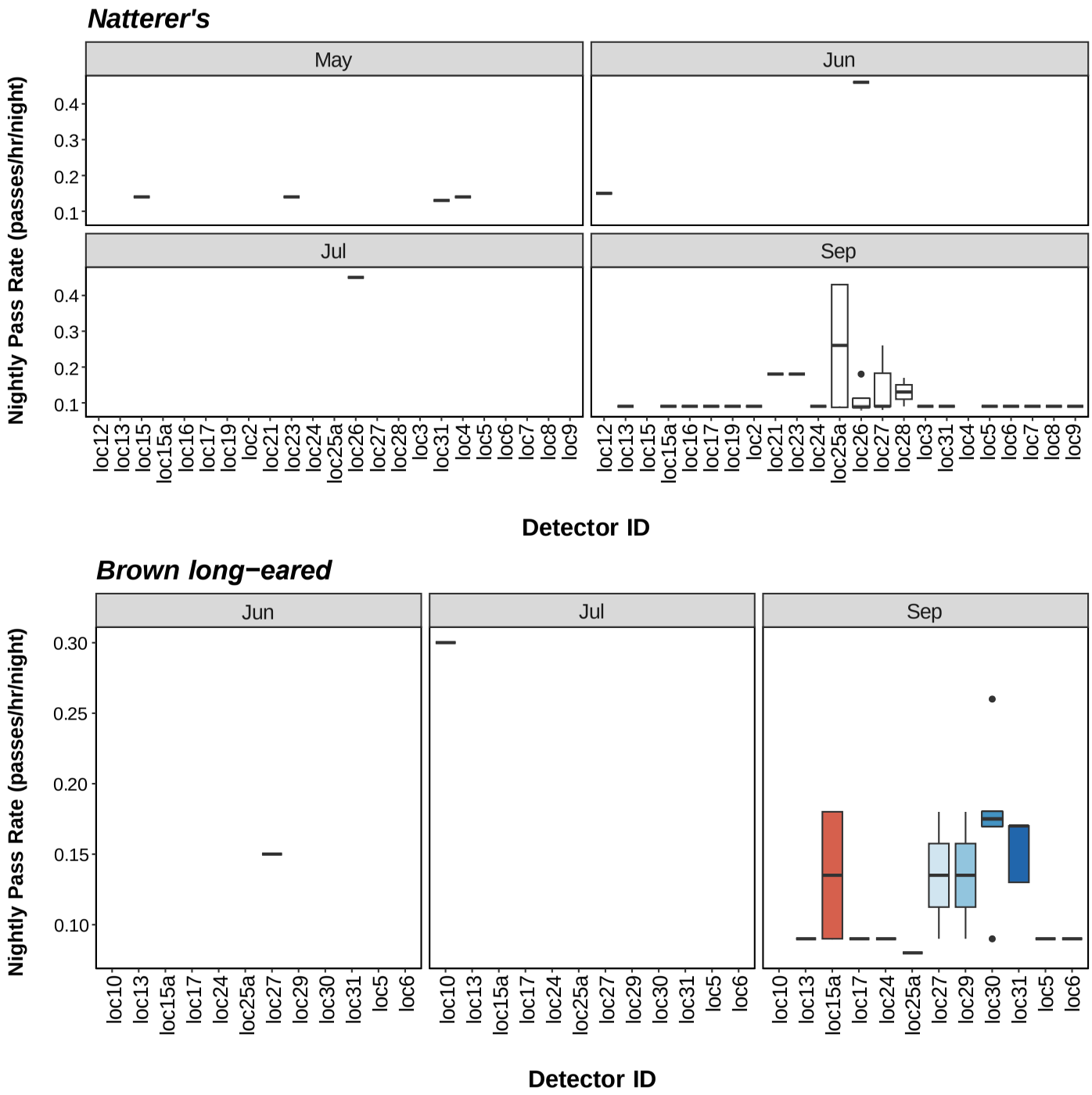
Figure 12. Figures show boxplots for the number of bat passes per hour by detector, for each month. The ‘ box’ shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The ‘ whiskers’ extend from the box and represent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






Daubenton's
May
Jun
Jul
Sep
Nightly Pass Rate (passes/hr/night)
0.0
0.5
1.0
1.5
2.0
loc10 loc11 loc12 loc13 loc14 loc15 loc15a loc16 loc17 loc19 loc1a loc2 loc20 loc21 loc22 loc23 loc24 loc25 loc25a loc26 loc27 loc28 loc29 loc3 loc30 loc31 loc4 loc5 loc6 loc7 loc8 loc9
Detector ID

Nyctalus
May
Jun
Jul
Sep
Nightly Pass Rate (passes/hr/night)
0.0
2.5
5.0
7.5
loc11 loc13 loc14 loc15a loc16 loc17 loc18 loc1a loc22 loc23 loc24 loc26 loc27 loc28 loc3 loc30 loc31 loc4 loc5 loc6 loc7 loc8 loc9
Detector ID


Natterer's
May
Jun
Jul
Sep
Nightly Pass Rate (passes/hr/night)
0.4
0.3
0.2
0.1
loc12 loc13 loc15 loc15a loc16 loc17 loc19 loc2 loc21 loc23 loc24 loc25a loc26 loc27 loc28 loc3 loc31 loc4 loc5 loc6 loc7 loc8 loc9
Detector ID
Brown long−eared
Jun
Jul
Sep
Nightly Pass Rate (passes/hr/night)
0.30
0.25
0.20
0.15
0.10
loc10 loc13 loc15a loc17 loc24 loc25a loc27 loc29 loc30 loc31 loc5 loc6
Detector ID

Bat Activity per Detector Location

Figure 13. Detector ID reference:

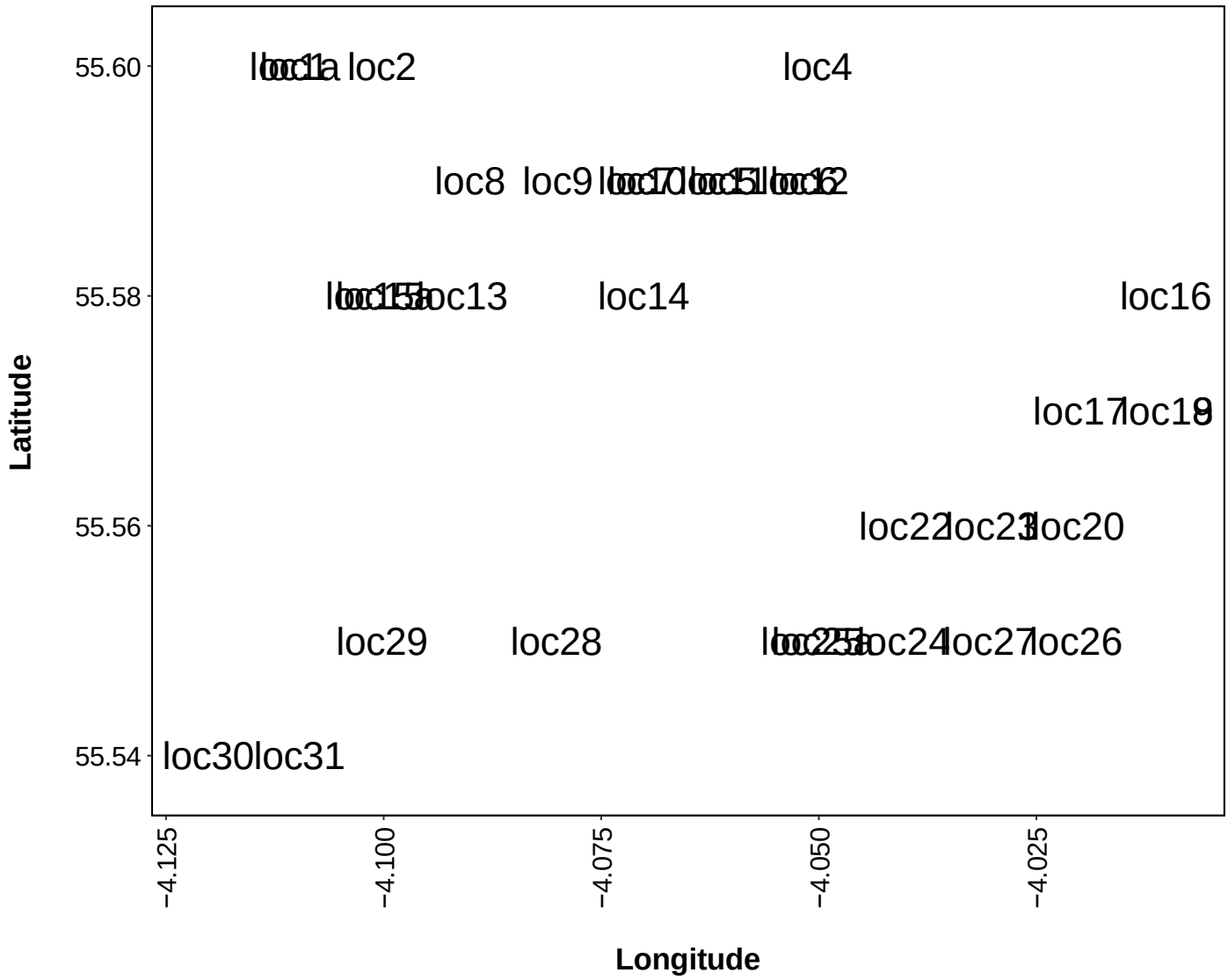
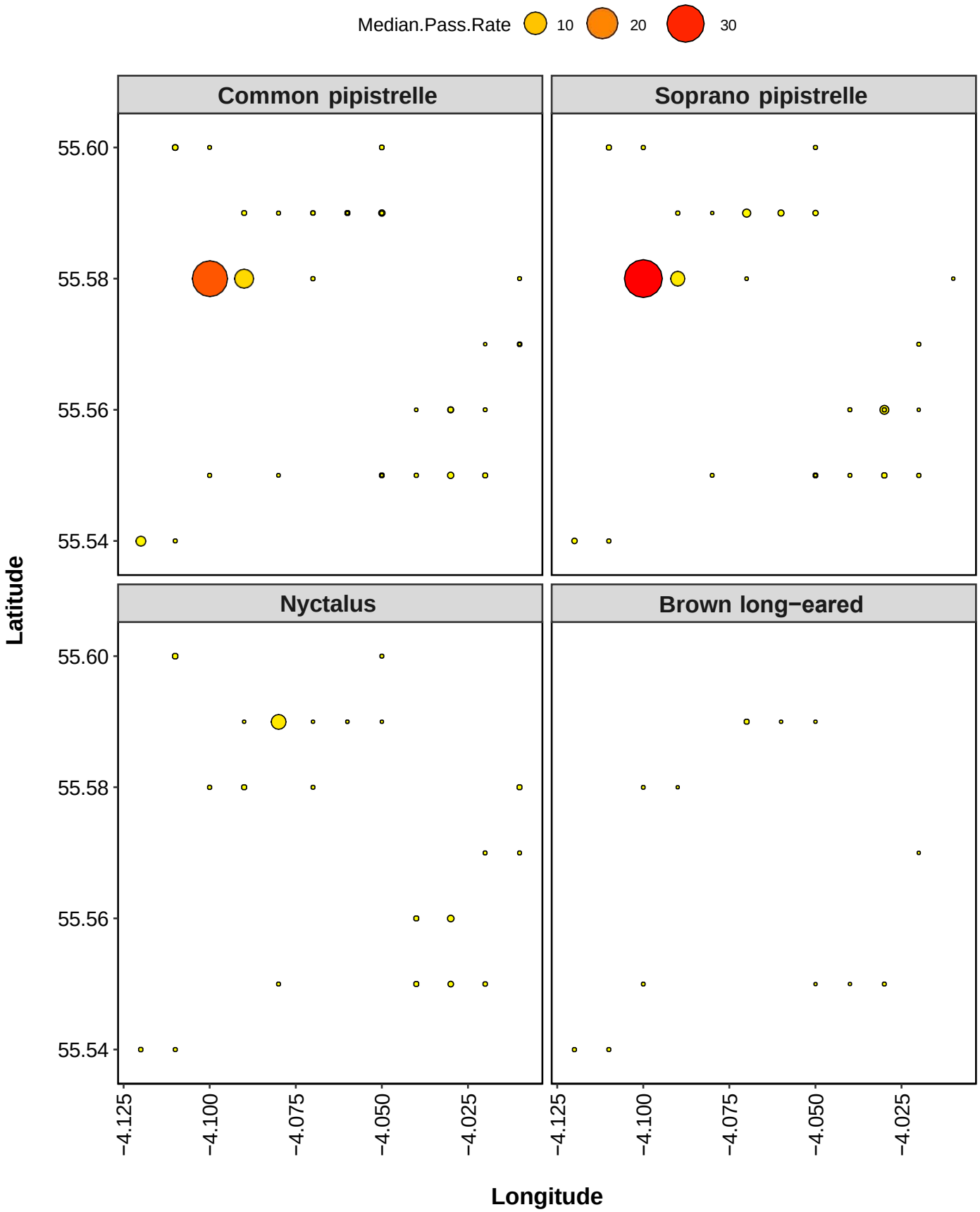


Figure 14. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.



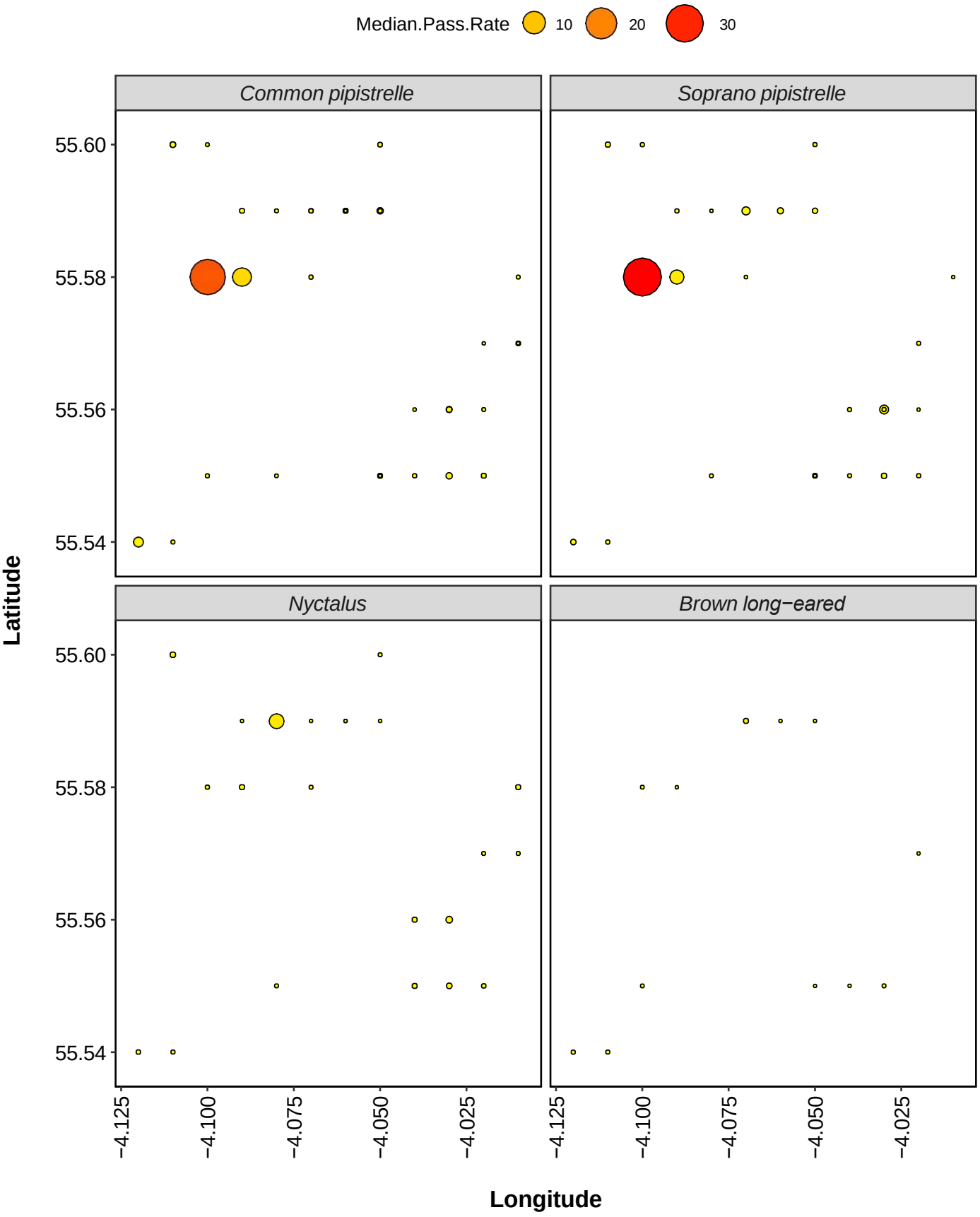
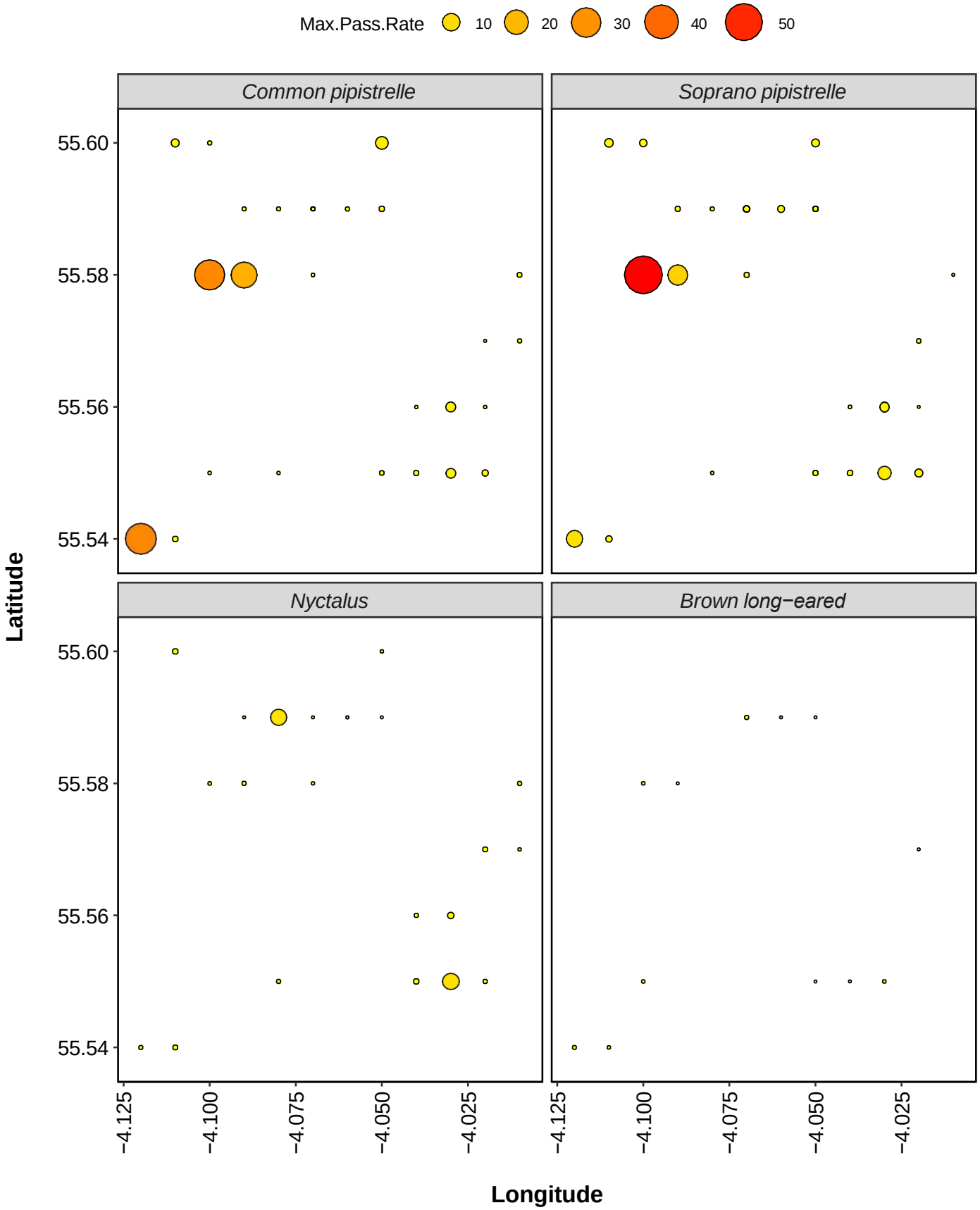

Median.Pass.Rate
10
20
30
Common pipistrelle
Soprano pipistrelle
Nyctalus
Brown long−eared
55.60
55.58
55.56
55.54
−4.125
−4.100
−4.075
−4.050
−4.025
Latitude
Longitude

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



PART 2B: Includes absences

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

Nightly Bat Pass Rate (Bat passes per hour)

Median Per Detector

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

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

Species	Detector ID	Median Pass Rate
Brown long-eared	loc1	0.0
Brown long-eared	loc10	0.0
Brown long-eared	loc11	0.0
Brown long-eared	loc12	0.0
Brown long-eared	loc13	0.0
Brown long-eared	loc14	0.0
Brown long-eared	loc15	0.0
Brown long-eared	loc15a	0.0
Brown long-eared	loc16	0.0
Brown long-eared	loc17	0.0
Brown long-eared	loc18	0.0
Brown long-eared	loc19	0.0
Brown long-eared	loc1a	0.0
Brown long-eared	loc2	0.0
Brown long-eared	loc20	0.0
Brown long-eared	loc21	0.0
Brown long-eared	loc22	0.0
Brown long-eared	loc23	0.0
Brown long-eared	loc24	0.0
Brown long-eared	loc25	0.0
Brown long-eared	loc25a	0.0
Brown long-eared	loc26	0.0
Brown long-eared	loc27	0.0
Brown long-eared	loc28	0.0
Brown long-eared	loc29	0.0
Brown long-eared	loc3	0.0
Brown long-eared	loc30	0.0
Brown long-eared	loc31	0.0
Brown long-eared	loc4	0.0
Brown long-eared	loc5	0.1
Brown long-eared	loc6	0.0
Brown long-eared	loc7	0.0
Brown long-eared	loc8	0.0
Brown long-eared	loc9	0.0
Common pipistrelle	loc1	0.0
Common pipistrelle	loc10	0.0
Common pipistrelle	loc11	0.0
Common pipistrelle	loc12	0.0
Common pipistrelle	loc13	5.0
Common pipistrelle	loc14	0.0
Common pipistrelle	loc15	0.0
Common pipistrelle	loc15a	23.1
Common pipistrelle	loc16	0.0
Common pipistrelle	loc17	0.0
Common pipistrelle	loc18	0.1

Species	Detector ID	Median Pass Rate
Common pipistrelle	loc19	0.0
Common pipistrelle	loc1a	0.0
Common pipistrelle	loc2	0.0
Common pipistrelle	loc20	0.1
Common pipistrelle	loc21	0.0
Common pipistrelle	loc22	0.0
Common pipistrelle	loc23	0.1
Common pipistrelle	loc24	0.1
Common pipistrelle	loc25	0.1
Common pipistrelle	loc25a	0.1
Common pipistrelle	loc26	0.1
Common pipistrelle	loc27	0.3
Common pipistrelle	loc28	0.0
Common pipistrelle	loc29	0.0
Common pipistrelle	loc3	0.0
Common pipistrelle	loc30	0.5
Common pipistrelle	loc31	0.1
Common pipistrelle	loc4	0.1
Common pipistrelle	loc5	0.0
Common pipistrelle	loc6	0.0
Common pipistrelle	loc7	0.0
Common pipistrelle	loc8	0.1
Common pipistrelle	loc9	0.0
Daubenton’s	loc1	0.0
Daubenton’s	loc10	0.1
Daubenton’s	loc11	0.0
Daubenton’s	loc12	0.0
Daubenton’s	loc13	0.0
Daubenton’s	loc14	0.1
Daubenton’s	loc15	0.0
Daubenton’s	loc15a	0.4
Daubenton’s	loc16	0.1
Daubenton’s	loc17	0.1
Daubenton’s	loc18	0.0
Daubenton’s	loc19	0.0
Daubenton’s	loc1a	0.0
Daubenton’s	loc2	0.0
Daubenton’s	loc20	0.1
Daubenton’s	loc21	0.1
Daubenton’s	loc22	0.0
Daubenton’s	loc23	0.1
Daubenton’s	loc24	0.1
Daubenton’s	loc25	0.0
Daubenton’s	loc25a	0.1
Daubenton’s	loc26	0.0
Daubenton’s	loc27	0.0
Daubenton’s	loc28	0.0
Daubenton’s	loc29	0.1
Daubenton’s	loc3	0.0
Daubenton’s	loc30	0.0
Daubenton’s	loc31	0.0
Daubenton’s	loc4	0.0
Daubenton’s	loc5	0.1
Daubenton’s	loc6	0.1
Daubenton’s	loc7	0.1
Daubenton’s	loc8	0.1
Daubenton’s	loc9	0.0

Species	Detector ID	Median Pass Rate
Natterer’s	loc1	0.0
Natterer’s	loc10	0.0
Natterer’s	loc11	0.0
Natterer’s	loc12	0.0
Natterer’s	loc13	0.0
Natterer’s	loc14	0.0
Natterer’s	loc15	0.0
Natterer’s	loc15a	0.0
Natterer’s	loc16	0.0
Natterer’s	loc17	0.0
Natterer’s	loc18	0.0
Natterer’s	loc19	0.0
Natterer’s	loc1a	0.0
Natterer’s	loc2	0.0
Natterer’s	loc20	0.0
Natterer’s	loc21	0.0
Natterer’s	loc22	0.0
Natterer’s	loc23	0.0
Natterer’s	loc24	0.0
Natterer’s	loc25	0.0
Natterer’s	loc25a	0.0
Natterer’s	loc26	0.0
Natterer’s	loc27	0.0
Natterer’s	loc28	0.0
Natterer’s	loc29	0.0
Natterer’s	loc3	0.0
Natterer’s	loc30	0.0
Natterer’s	loc31	0.0
Natterer’s	loc4	0.0
Natterer’s	loc5	0.0
Natterer’s	loc6	0.0
Natterer’s	loc7	0.0
Natterer’s	loc8	0.0
Natterer’s	loc9	0.0
Nyctalus	loc1	0.0
Nyctalus	loc10	0.0
Nyctalus	loc11	0.0
Nyctalus	loc12	0.0
Nyctalus	loc13	0.0
Nyctalus	loc14	0.0
Nyctalus	loc15	0.0
Nyctalus	loc15a	0.0
Nyctalus	loc16	0.0
Nyctalus	loc17	0.0
Nyctalus	loc18	0.1
Nyctalus	loc19	0.0
Nyctalus	loc1a	0.0
Nyctalus	loc2	0.0
Nyctalus	loc20	0.0
Nyctalus	loc21	0.0
Nyctalus	loc22	0.0
Nyctalus	loc23	0.0
Nyctalus	loc24	0.0
Nyctalus	loc25	0.0
Nyctalus	loc25a	0.0
Nyctalus	loc26	0.0
Nyctalus	loc27	0.0

Species	Detector ID	Median Pass Rate
Nyctalus	loc28	0.0
Nyctalus	loc29	0.0
Nyctalus	loc3	0.0
Nyctalus	loc30	0.0
Nyctalus	loc31	0.0
Nyctalus	loc4	0.0
Nyctalus	loc5	0.0
Nyctalus	loc6	0.0
Nyctalus	loc7	0.0
Nyctalus	loc8	0.0
Nyctalus	loc9	0.0
Soprano pipistrelle	loc1	0.2
Soprano pipistrelle	loc10	0.0
Soprano pipistrelle	loc11	0.0
Soprano pipistrelle	loc12	0.1
Soprano pipistrelle	loc13	2.6
Soprano pipistrelle	loc14	0.0
Soprano pipistrelle	loc15	0.1
Soprano pipistrelle	loc15a	31.1
Soprano pipistrelle	loc16	0.0
Soprano pipistrelle	loc17	0.1
Soprano pipistrelle	loc18	0.0
Soprano pipistrelle	loc19	0.0
Soprano pipistrelle	loc1a	0.3
Soprano pipistrelle	loc2	0.1
Soprano pipistrelle	loc20	0.0
Soprano pipistrelle	loc21	0.0
Soprano pipistrelle	loc22	0.0
Soprano pipistrelle	loc23	0.1
Soprano pipistrelle	loc24	0.0
Soprano pipistrelle	loc25	0.3
Soprano pipistrelle	loc25a	0.0
Soprano pipistrelle	loc26	0.0
Soprano pipistrelle	loc27	0.3
Soprano pipistrelle	loc28	0.0
Soprano pipistrelle	loc29	0.0
Soprano pipistrelle	loc3	0.0
Soprano pipistrelle	loc30	0.1
Soprano pipistrelle	loc31	0.1
Soprano pipistrelle	loc4	0.0
Soprano pipistrelle	loc5	0.1
Soprano pipistrelle	loc6	0.0
Soprano pipistrelle	loc7	0.0
Soprano pipistrelle	loc8	0.2
Soprano pipistrelle	loc9	0.0

Nightly Bat Pass Rate (Bat passes per hour)

Mean per Detector

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

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

Species	Detector ID	Mean Pass Rate
Brown long-eared	loc1	0.0
Brown long-eared	loc10	0.0
Brown long-eared	loc11	0.0
Brown long-eared	loc12	0.0
Brown long-eared	loc13	0.0
Brown long-eared	loc14	0.0
Brown long-eared	loc15	0.0
Brown long-eared	loc15a	0.0
Brown long-eared	loc16	0.0
Brown long-eared	loc17	0.0
Brown long-eared	loc18	0.0
Brown long-eared	loc19	0.0
Brown long-eared	loc1a	0.0
Brown long-eared	loc2	0.0
Brown long-eared	loc20	0.0
Brown long-eared	loc21	0.0
Brown long-eared	loc22	0.0
Brown long-eared	loc23	0.0
Brown long-eared	loc24	0.0
Brown long-eared	loc25	0.0
Brown long-eared	loc25a	0.0
Brown long-eared	loc26	0.0
Brown long-eared	loc27	0.0
Brown long-eared	loc28	0.0
Brown long-eared	loc29	0.1
Brown long-eared	loc3	0.0
Brown long-eared	loc30	0.0
Brown long-eared	loc31	0.0
Brown long-eared	loc4	0.0
Brown long-eared	loc5	0.1
Brown long-eared	loc6	0.0
Brown long-eared	loc7	0.0
Brown long-eared	loc8	0.0
Brown long-eared	loc9	0.0
Common pipistrelle	loc1	0.1
Common pipistrelle	loc10	0.0
Common pipistrelle	loc11	0.0
Common pipistrelle	loc12	0.1
Common pipistrelle	loc13	6.6
Common pipistrelle	loc14	0.0
Common pipistrelle	loc15	0.1
Common pipistrelle	loc15a	19.6
Common pipistrelle	loc16	0.1
Common pipistrelle	loc17	0.0
Common pipistrelle	loc18	0.2
Common pipistrelle	loc19	0.0
Common pipistrelle	loc1a	0.3

Species	Detector ID	Mean Pass Rate
Common pipistrelle	loc2	0.0
Common pipistrelle	loc20	0.1
Common pipistrelle	loc21	0.2
Common pipistrelle	loc22	0.0
Common pipistrelle	loc23	0.5
Common pipistrelle	loc24	0.2
Common pipistrelle	loc25	0.1
Common pipistrelle	loc25a	0.1
Common pipistrelle	loc26	0.2
Common pipistrelle	loc27	0.5
Common pipistrelle	loc28	0.0
Common pipistrelle	loc29	0.0
Common pipistrelle	loc3	0.1
Common pipistrelle	loc30	4.1
Common pipistrelle	loc31	0.1
Common pipistrelle	loc4	0.6
Common pipistrelle	loc5	0.0
Common pipistrelle	loc6	0.0
Common pipistrelle	loc7	0.0
Common pipistrelle	loc8	0.1
Common pipistrelle	loc9	0.0
Daubenton’s	loc1	0.0
Daubenton’s	loc10	0.2
Daubenton’s	loc11	0.2
Daubenton’s	loc12	0.1
Daubenton’s	loc13	0.1
Daubenton’s	loc14	0.1
Daubenton’s	loc15	0.0
Daubenton’s	loc15a	0.3
Daubenton’s	loc16	0.1
Daubenton’s	loc17	0.1
Daubenton’s	loc18	0.0
Daubenton’s	loc19	0.0
Daubenton’s	loc1a	0.0
Daubenton’s	loc2	0.1
Daubenton’s	loc20	0.1
Daubenton’s	loc21	0.1
Daubenton’s	loc22	0.1
Daubenton’s	loc23	0.1
Daubenton’s	loc24	0.1
Daubenton’s	loc25	0.0
Daubenton’s	loc25a	0.2
Daubenton’s	loc26	0.1
Daubenton’s	loc27	0.5
Daubenton’s	loc28	0.0
Daubenton’s	loc29	0.1
Daubenton’s	loc3	0.2
Daubenton’s	loc30	0.1
Daubenton’s	loc31	0.0
Daubenton’s	loc4	0.1
Daubenton’s	loc5	0.2
Daubenton’s	loc6	0.2
Daubenton’s	loc7	0.2
Daubenton’s	loc8	0.1
Daubenton’s	loc9	0.0
Natterer’s	loc1	0.0
Natterer’s	loc10	0.0

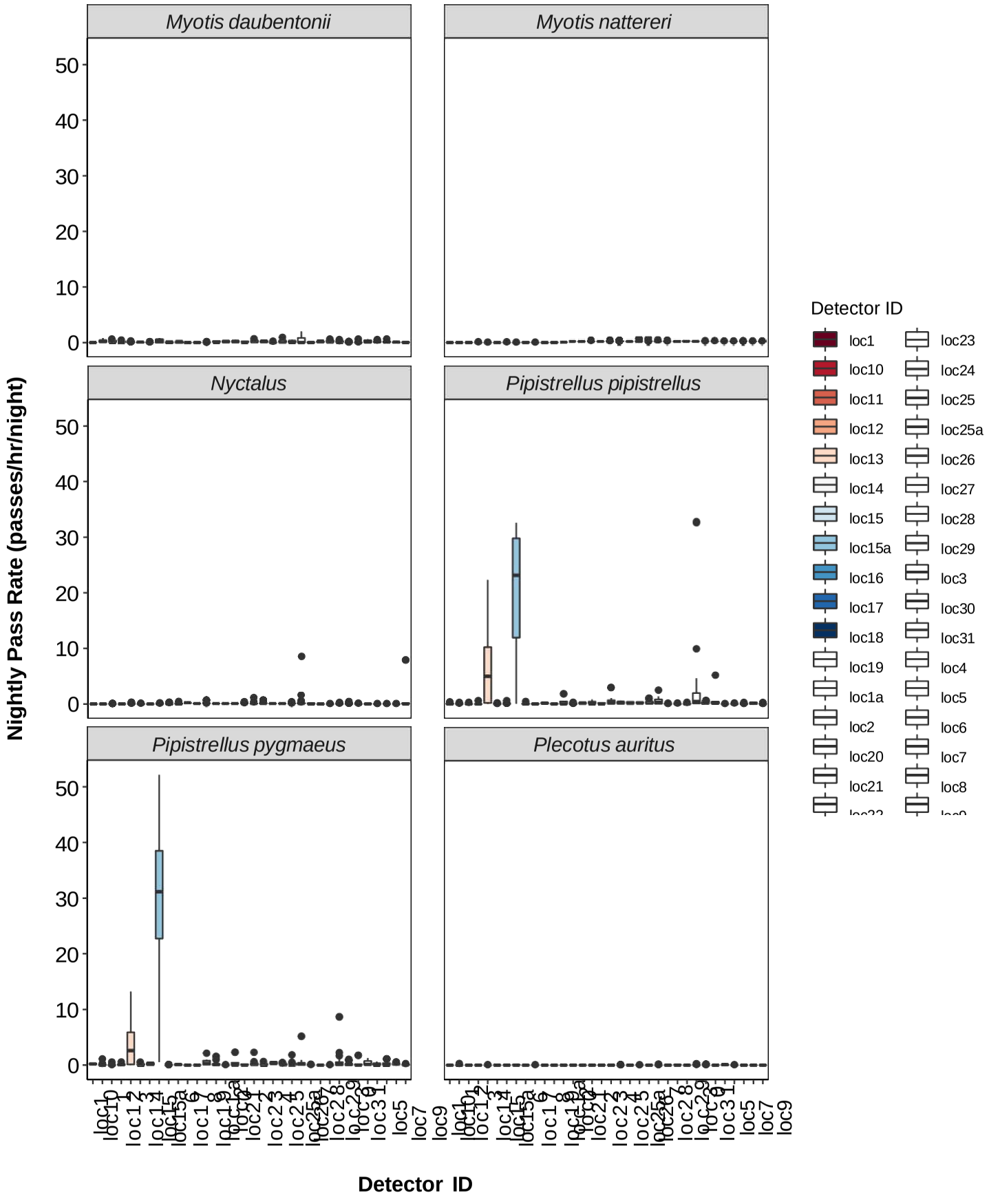
Species	Detector ID	Mean Pass Rate
Natterer’s	loc11	0.0
Natterer’s	loc12	0.0
Natterer’s	loc13	0.0
Natterer’s	loc14	0.0
Natterer’s	loc15	0.0
Natterer’s	loc15a	0.0
Natterer’s	loc16	0.0
Natterer’s	loc17	0.0
Natterer’s	loc18	0.0
Natterer’s	loc19	0.0
Natterer’s	loc1a	0.0
Natterer’s	loc2	0.0
Natterer’s	loc20	0.0
Natterer’s	loc21	0.0
Natterer’s	loc22	0.0
Natterer’s	loc23	0.0
Natterer’s	loc24	0.0
Natterer’s	loc25	0.0
Natterer’s	loc25a	0.1
Natterer’s	loc26	0.1
Natterer’s	loc27	0.0
Natterer’s	loc28	0.0
Natterer’s	loc29	0.0
Natterer’s	loc3	0.0
Natterer’s	loc30	0.0
Natterer’s	loc31	0.0
Natterer’s	loc4	0.0
Natterer’s	loc5	0.0
Natterer’s	loc6	0.0
Natterer’s	loc7	0.0
Natterer’s	loc8	0.0
Natterer’s	loc9	0.0
Nyctalus	loc1	0.0
Nyctalus	loc10	0.0
Nyctalus	loc11	0.0
Nyctalus	loc12	0.0
Nyctalus	loc13	0.0
Nyctalus	loc14	0.0
Nyctalus	loc15	0.0
Nyctalus	loc15a	0.0
Nyctalus	loc16	0.1
Nyctalus	loc17	0.1
Nyctalus	loc18	0.1
Nyctalus	loc19	0.0
Nyctalus	loc1a	0.1
Nyctalus	loc2	0.0
Nyctalus	loc20	0.0
Nyctalus	loc21	0.0
Nyctalus	loc22	0.1
Nyctalus	loc23	0.1
Nyctalus	loc24	0.1
Nyctalus	loc25	0.0
Nyctalus	loc25a	0.0
Nyctalus	loc26	0.0
Nyctalus	loc27	0.5
Nyctalus	loc28	0.1
Nyctalus	loc29	0.0

Species	Detector ID	Mean Pass Rate
Nyctalus	loc3	0.0
Nyctalus	loc30	0.0
Nyctalus	loc31	0.0
Nyctalus	loc4	0.0
Nyctalus	loc5	0.0
Nyctalus	loc6	0.0
Nyctalus	loc7	0.0
Nyctalus	loc8	0.0
Nyctalus	loc9	1.3
Soprano pipistrelle	loc1	0.2
Soprano pipistrelle	loc10	0.1
Soprano pipistrelle	loc11	0.1
Soprano pipistrelle	loc12	0.1
Soprano pipistrelle	loc13	3.8
Soprano pipistrelle	loc14	0.1
Soprano pipistrelle	loc15	0.1
Soprano pipistrelle	loc15a	30.4
Soprano pipistrelle	loc16	0.0
Soprano pipistrelle	loc17	0.1
Soprano pipistrelle	loc18	0.0
Soprano pipistrelle	loc19	0.0
Soprano pipistrelle	loc1a	0.5
Soprano pipistrelle	loc2	0.3
Soprano pipistrelle	loc20	0.0
Soprano pipistrelle	loc21	0.6
Soprano pipistrelle	loc22	0.1
Soprano pipistrelle	loc23	0.3
Soprano pipistrelle	loc24	0.1
Soprano pipistrelle	loc25	0.3
Soprano pipistrelle	loc25a	0.1
Soprano pipistrelle	loc26	0.2
Soprano pipistrelle	loc27	0.7
Soprano pipistrelle	loc28	0.0
Soprano pipistrelle	loc29	0.0
Soprano pipistrelle	loc3	0.0
Soprano pipistrelle	loc30	1.1
Soprano pipistrelle	loc31	0.2
Soprano pipistrelle	loc4	0.4
Soprano pipistrelle	loc5	0.4
Soprano pipistrelle	loc6	0.2
Soprano pipistrelle	loc7	0.3
Soprano pipistrelle	loc8	0.2
Soprano pipistrelle	loc9	0.1

Nightly Bat Passes (Bat passes per hour)

Per Detector - Figures

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


Myotis daubentonii
Myotis nattereri
Nyctalus
Pipistrellus pipistrellus
Pipistrellus pygmaeus
Plecotus auritus
Nightly Pass Rate (passes/hr/night)
Detector ID
Detector ID
loc1
loc10
loc11
loc12
loc13
loc14
loc15
loc15a
loc16
loc17
loc18
loc19
loc1a
loc2
loc20
loc21
loc23
loc24
loc25
loc25a
loc26
loc27
loc28
loc29
loc3
loc30
loc31
loc4
loc5
loc6
loc7
loc8

Survey Effort

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

Month	Detector ID	No of Survey Nights
May	loc1	4
May	loc10	3
May	loc12	1
May	loc13	2
May	loc14	2
May	loc15	6
May	loc2	2
May	loc20	1
May	loc21	1
May	loc22	1
May	loc23	4
May	loc24	4
May	loc25	6
May	loc26	7
May	loc27	5
May	loc28	2
May	loc30	5
May	loc31	4
May	loc4	4
May	loc5	1
May	loc6	2
May	loc7	1
May	loc8	2
Jun	loc10	2
Jun	loc11	1
Jun	loc12	2
Jun	loc13	2
Jun	loc14	1
Jun	loc15	4
Jun	loc16	2
Jun	loc17	3
Jun	loc18	2
Jun	loc1a	4
Jun	loc2	1
Jun	loc20	1
Jun	loc22	3
Jun	loc23	3
Jun	loc24	3
Jun	loc26	5
Jun	loc27	5
Jun	loc28	2
Jun	loc29	1
Jun	loc30	4
Jun	loc31	5
Jun	loc4	1
Jun	loc9	4
Jul	loc10	3
Jul	loc12	1
Jul	loc14	1
Jul	loc15	2
Jul	loc16	1
Jul	loc18	1
Jul	loc1a	2

Month	Detector ID	No of Survey Nights
Jul	loc2	1
Jul	loc24	1
Jul	loc26	3
Jul	loc27	3
Jul	loc28	1
Jul	loc3	1
Jul	loc30	2
Jul	loc31	2
Jul	loc4	2
Sep	loc10	5
Sep	loc11	7
Sep	loc12	4
Sep	loc13	12
Sep	loc14	8
Sep	loc15a	12
Sep	loc16	7
Sep	loc17	8
Sep	loc19	3
Sep	loc1a	11
Sep	loc2	11
Sep	loc20	2
Sep	loc21	8
Sep	loc22	8
Sep	loc23	11
Sep	loc24	12
Sep	loc25a	12
Sep	loc26	11
Sep	loc27	13
Sep	loc28	5
Sep	loc29	4
Sep	loc3	5
Sep	loc30	12
Sep	loc31	11
Sep	loc4	4
Sep	loc5	6
Sep	loc6	7
Sep	loc7	7
Sep	loc8	9
Sep	loc9	8

Nightly Bat Pass Rate for each Month

Median Per Detector

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

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

Species	Detector ID	Jul	Jun	May	Sep
Brown long-eared	loc1	NA	NA	0.0	NA
Brown long-eared	loc10	0.0	0.0	0.0	0.0
Brown long-eared	loc11	NA	0.0	NA	0.0
Brown long-eared	loc12	0.0	0.0	0.0	0.0
Brown long-eared	loc13	NA	0.0	0.0	0.0
Brown long-eared	loc14	0.0	0.0	0.0	0.0
Brown long-eared	loc15	0.0	0.0	0.0	NA
Brown long-eared	loc15a	NA	NA	NA	0.0
Brown long-eared	loc16	0.0	0.0	NA	0.0
Brown long-eared	loc17	NA	0.0	NA	0.0
Brown long-eared	loc18	0.0	0.0	NA	NA
Brown long-eared	loc19	NA	NA	NA	0.0
Brown long-eared	loc1a	0.0	0.0	NA	0.0
Brown long-eared	loc2	0.0	0.0	0.0	0.0
Brown long-eared	loc20	NA	0.0	0.0	0.0
Brown long-eared	loc21	NA	NA	0.0	0.0
Brown long-eared	loc22	NA	0.0	0.0	0.0
Brown long-eared	loc23	NA	0.0	0.0	0.0
Brown long-eared	loc24	0.0	0.0	0.0	0.0
Brown long-eared	loc25	NA	NA	0.0	NA
Brown long-eared	loc25a	NA	NA	NA	0.0
Brown long-eared	loc26	0.0	0.0	0.0	0.0
Brown long-eared	loc27	0.0	0.0	0.0	0.0
Brown long-eared	loc28	0.0	0.0	0.0	0.0
Brown long-eared	loc29	NA	0.0	NA	0.0
Brown long-eared	loc3	0.0	NA	NA	0.0
Brown long-eared	loc30	0.0	0.0	0.0	0.0
Brown long-eared	loc31	0.0	0.0	0.0	0.0
Brown long-eared	loc4	0.0	0.0	0.0	0.0
Brown long-eared	loc5	NA	NA	0.0	0.1
Brown long-eared	loc6	NA	NA	0.0	0.0
Brown long-eared	loc7	NA	NA	0.0	0.0
Brown long-eared	loc8	NA	NA	0.0	0.0
Brown long-eared	loc9	NA	0.0	NA	0.0
Common pipistrelle	loc1	NA	NA	0.0	NA
Common pipistrelle	loc10	0.0	0.1	0.0	0.0
Common pipistrelle	loc11	NA	0.3	NA	0.0
Common pipistrelle	loc12	0.0	0.3	0.0	0.0
Common pipistrelle	loc13	NA	0.1	0.1	7.7
Common pipistrelle	loc14	0.0	0.0	0.0	0.0
Common pipistrelle	loc15	0.0	0.1	0.0	NA
Common pipistrelle	loc15a	NA	NA	NA	23.1
Common pipistrelle	loc16	0.1	0.2	NA	0.0
Common pipistrelle	loc17	NA	0.0	NA	0.0
Common pipistrelle	loc18	0.1	0.2	NA	NA

Species	Detector ID	Jul	Jun	May	Sep
Common pipistrelle	loc19	NA	NA	NA	0.0
Common pipistrelle	loc1a	0.0	1.1	NA	0.0
Common pipistrelle	loc2	0.3	0.1	0.1	0.0
Common pipistrelle	loc20	NA	0.1	0.1	0.0
Common pipistrelle	loc21	NA	NA	0.0	0.0
Common pipistrelle	loc22	NA	0.0	0.1	0.0
Common pipistrelle	loc23	NA	0.1	0.0	0.4
Common pipistrelle	loc24	0.0	0.1	0.1	0.2
Common pipistrelle	loc25	NA	NA	0.1	NA
Common pipistrelle	loc25a	NA	NA	NA	0.1
Common pipistrelle	loc26	0.0	0.1	0.1	0.1
Common pipistrelle	loc27	0.0	0.6	0.1	0.3
Common pipistrelle	loc28	0.1	0.0	0.0	0.0
Common pipistrelle	loc29	NA	0.0	NA	0.0
Common pipistrelle	loc3	0.3	NA	NA	0.0
Common pipistrelle	loc30	1.7	1.7	0.1	0.6
Common pipistrelle	loc31	0.1	0.3	0.1	0.0
Common pipistrelle	loc4	0.2	5.2	0.0	0.0
Common pipistrelle	loc5	NA	NA	0.0	0.0
Common pipistrelle	loc6	NA	NA	0.0	0.0
Common pipistrelle	loc7	NA	NA	0.0	0.0
Common pipistrelle	loc8	NA	NA	0.1	0.2
Common pipistrelle	loc9	NA	0.0	NA	0.0
Daubenton’s	loc1	NA	NA	0.0	NA
Daubenton’s	loc10	0.0	0.1	0.6	0.2
Daubenton’s	loc11	NA	0.0	NA	0.0
Daubenton’s	loc12	0.0	0.0	0.0	0.1
Daubenton’s	loc13	NA	0.1	0.0	0.0
Daubenton’s	loc14	0.0	0.1	0.1	0.1
Daubenton’s	loc15	0.0	0.1	0.0	NA
Daubenton’s	loc15a	NA	NA	NA	0.4
Daubenton’s	loc16	0.0	0.0	NA	0.1
Daubenton’s	loc17	NA	0.1	NA	0.1
Daubenton’s	loc18	0.0	0.0	NA	NA
Daubenton’s	loc19	NA	NA	NA	0.0
Daubenton’s	loc1a	0.0	0.0	NA	0.0
Daubenton’s	loc2	0.0	0.0	0.1	0.1
Daubenton’s	loc20	NA	0.0	0.0	0.2
Daubenton’s	loc21	NA	NA	0.0	0.1
Daubenton’s	loc22	NA	0.0	0.0	0.0
Daubenton’s	loc23	NA	0.0	0.2	0.2
Daubenton’s	loc24	0.3	0.0	0.1	0.1
Daubenton’s	loc25	NA	NA	0.0	NA
Daubenton’s	loc25a	NA	NA	NA	0.1
Daubenton’s	loc26	0.0	0.1	0.0	0.2
Daubenton’s	loc27	0.0	0.0	0.0	0.9
Daubenton’s	loc28	0.0	0.0	0.1	0.0
Daubenton’s	loc29	NA	0.1	NA	0.0
Daubenton’s	loc3	0.0	NA	NA	0.1
Daubenton’s	loc30	0.0	0.0	0.0	0.1
Daubenton’s	loc31	0.0	0.0	0.0	0.0
Daubenton’s	loc4	0.0	0.0	0.0	0.0
Daubenton’s	loc5	NA	NA	0.0	0.1
Daubenton’s	loc6	NA	NA	0.1	0.1
Daubenton’s	loc7	NA	NA	0.7	0.1
Daubenton’s	loc8	NA	NA	0.1	0.1
Daubenton’s	loc9	NA	0.0	NA	0.0

Species	Detector ID	Jul	Jun	May	Sep
Natterer’s	loc1	NA	NA	0.0	NA
Natterer’s	loc10	0.0	0.0	0.0	0.0
Natterer’s	loc11	NA	0.0	NA	0.0
Natterer’s	loc12	0.0	0.1	0.0	0.0
Natterer’s	loc13	NA	0.0	0.0	0.0
Natterer’s	loc14	0.0	0.0	0.0	0.0
Natterer’s	loc15	0.0	0.0	0.0	NA
Natterer’s	loc15a	NA	NA	NA	0.0
Natterer’s	loc16	0.0	0.0	NA	0.0
Natterer’s	loc17	NA	0.0	NA	0.0
Natterer’s	loc18	0.0	0.0	NA	NA
Natterer’s	loc19	NA	NA	NA	0.0
Natterer’s	loc1a	0.0	0.0	NA	0.0
Natterer’s	loc2	0.0	0.0	0.0	0.0
Natterer’s	loc20	NA	0.0	0.0	0.0
Natterer’s	loc21	NA	NA	0.0	0.0
Natterer’s	loc22	NA	0.0	0.0	0.0
Natterer’s	loc23	NA	0.0	0.0	0.0
Natterer’s	loc24	0.0	0.0	0.0	0.0
Natterer’s	loc25	NA	NA	0.0	NA
Natterer’s	loc25a	NA	NA	NA	0.0
Natterer’s	loc26	0.0	0.0	0.0	0.0
Natterer’s	loc27	0.0	0.0	0.0	0.1
Natterer’s	loc28	0.0	0.0	0.0	0.0
Natterer’s	loc29	NA	0.0	NA	0.0
Natterer’s	loc3	0.0	NA	NA	0.0
Natterer’s	loc30	0.0	0.0	0.0	0.0
Natterer’s	loc31	0.0	0.0	0.0	0.0
Natterer’s	loc4	0.0	0.0	0.0	0.0
Natterer’s	loc5	NA	NA	0.0	0.0
Natterer’s	loc6	NA	NA	0.0	0.0
Natterer’s	loc7	NA	NA	0.0	0.0
Natterer’s	loc8	NA	NA	0.0	0.0
Natterer’s	loc9	NA	0.0	NA	0.0
Nyctalus	loc1	NA	NA	0.0	NA
Nyctalus	loc10	0.0	0.0	0.0	0.0
Nyctalus	loc11	NA	0.0	NA	0.0
Nyctalus	loc12	0.0	0.0	0.0	0.0
Nyctalus	loc13	NA	0.3	0.1	0.0
Nyctalus	loc14	0.1	0.0	0.0	0.0
Nyctalus	loc15	0.0	0.0	0.0	NA
Nyctalus	loc15a	NA	NA	NA	0.0
Nyctalus	loc16	0.0	0.3	NA	0.0
Nyctalus	loc17	NA	0.1	NA	0.0
Nyctalus	loc18	0.0	0.1	NA	NA
Nyctalus	loc19	NA	NA	NA	0.0
Nyctalus	loc1a	0.1	0.3	NA	0.0
Nyctalus	loc2	0.0	0.0	0.0	0.0
Nyctalus	loc20	NA	0.0	0.0	0.0
Nyctalus	loc21	NA	NA	0.0	0.0
Nyctalus	loc22	NA	0.3	0.0	0.0
Nyctalus	loc23	NA	0.3	0.0	0.0
Nyctalus	loc24	0.4	0.6	0.0	0.0
Nyctalus	loc25	NA	NA	0.0	NA
Nyctalus	loc25a	NA	NA	NA	0.0
Nyctalus	loc26	0.0	0.0	0.0	0.0
Nyctalus	loc27	0.3	0.5	0.0	0.0

Species	Detector ID	Jul	Jun	May	Sep
Nyctalus	loc28	0.1	0.2	0.0	0.0
Nyctalus	loc29	NA	0.0	NA	0.0
Nyctalus	loc3	0.0	NA	NA	0.0
Nyctalus	loc30	0.0	0.0	0.0	0.0
Nyctalus	loc31	0.3	0.0	0.0	0.0
Nyctalus	loc4	0.0	0.1	0.0	0.0
Nyctalus	loc5	NA	NA	0.0	0.0
Nyctalus	loc6	NA	NA	0.0	0.0
Nyctalus	loc7	NA	NA	0.0	0.0
Nyctalus	loc8	NA	NA	0.0	0.0
Nyctalus	loc9	NA	4.0	NA	0.0
Soprano pipistrelle	loc1	NA	NA	0.2	NA
Soprano pipistrelle	loc10	0.0	0.1	0.0	0.0
Soprano pipistrelle	loc11	NA	0.0	NA	0.0
Soprano pipistrelle	loc12	0.1	0.0	0.1	0.1
Soprano pipistrelle	loc13	NA	0.1	0.0	3.6
Soprano pipistrelle	loc14	0.0	0.0	0.1	0.0
Soprano pipistrelle	loc15	0.1	0.0	0.2	NA
Soprano pipistrelle	loc15a	NA	NA	NA	31.1
Soprano pipistrelle	loc16	0.0	0.0	NA	0.0
Soprano pipistrelle	loc17	NA	0.1	NA	0.1
Soprano pipistrelle	loc18	0.0	0.0	NA	NA
Soprano pipistrelle	loc19	NA	NA	NA	0.0
Soprano pipistrelle	loc1a	0.1	0.6	NA	0.2
Soprano pipistrelle	loc2	0.0	0.0	0.0	0.2
Soprano pipistrelle	loc20	NA	0.0	0.0	0.0
Soprano pipistrelle	loc21	NA	NA	0.1	0.0
Soprano pipistrelle	loc22	NA	0.0	0.0	0.0
Soprano pipistrelle	loc23	NA	0.1	0.0	0.1
Soprano pipistrelle	loc24	0.0	0.0	0.1	0.0
Soprano pipistrelle	loc25	NA	NA	0.3	NA
Soprano pipistrelle	loc25a	NA	NA	NA	0.0
Soprano pipistrelle	loc26	0.0	0.0	0.0	0.2
Soprano pipistrelle	loc27	0.0	0.0	0.4	0.3
Soprano pipistrelle	loc28	0.1	0.0	0.1	0.0
Soprano pipistrelle	loc29	NA	0.0	NA	0.0
Soprano pipistrelle	loc3	0.0	NA	NA	0.0
Soprano pipistrelle	loc30	0.1	0.0	0.1	0.3
Soprano pipistrelle	loc31	0.0	0.0	0.1	0.2
Soprano pipistrelle	loc4	0.0	0.0	0.1	1.0
Soprano pipistrelle	loc5	NA	NA	0.1	0.3
Soprano pipistrelle	loc6	NA	NA	0.0	0.2
Soprano pipistrelle	loc7	NA	NA	0.0	0.0
Soprano pipistrelle	loc8	NA	NA	0.1	0.2
Soprano pipistrelle	loc9	NA	0.0	NA	0.1

Nightly Bat Pass Rate for each Month

Mean per Detector

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

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

Species	Detector ID	Jul	Jun	May	Sep
Brown long-eared	loc1	NA	NA	0.0	NA
Brown long-eared	loc10	0.1	0.0	0.0	0.0
Brown long-eared	loc11	NA	0.0	NA	0.0
Brown long-eared	loc12	0.0	0.0	0.0	0.0
Brown long-eared	loc13	NA	0.0	0.0	0.0
Brown long-eared	loc14	0.0	0.0	0.0	0.0
Brown long-eared	loc15	0.0	0.0	0.0	NA
Brown long-eared	loc15a	NA	NA	NA	0.0
Brown long-eared	loc16	0.0	0.0	NA	0.0
Brown long-eared	loc17	NA	0.0	NA	0.0
Brown long-eared	loc18	0.0	0.0	NA	NA
Brown long-eared	loc19	NA	NA	NA	0.0
Brown long-eared	loc1a	0.0	0.0	NA	0.0
Brown long-eared	loc2	0.0	0.0	0.0	0.0
Brown long-eared	loc20	NA	0.0	0.0	0.0
Brown long-eared	loc21	NA	NA	0.0	0.0
Brown long-eared	loc22	NA	0.0	0.0	0.0
Brown long-eared	loc23	NA	0.0	0.0	0.0
Brown long-eared	loc24	0.0	0.0	0.0	0.0
Brown long-eared	loc25	NA	NA	0.0	NA
Brown long-eared	loc25a	NA	NA	NA	0.0
Brown long-eared	loc26	0.0	0.0	0.0	0.0
Brown long-eared	loc27	0.0	0.0	0.0	0.0
Brown long-eared	loc28	0.0	0.0	0.0	0.0
Brown long-eared	loc29	NA	0.0	NA	0.1
Brown long-eared	loc3	0.0	NA	NA	0.0
Brown long-eared	loc30	0.0	0.0	0.0	0.1
Brown long-eared	loc31	0.0	0.0	0.0	0.0
Brown long-eared	loc4	0.0	0.0	0.0	0.0
Brown long-eared	loc5	NA	NA	0.0	0.1
Brown long-eared	loc6	NA	NA	0.0	0.0
Brown long-eared	loc7	NA	NA	0.0	0.0
Brown long-eared	loc8	NA	NA	0.0	0.0
Brown long-eared	loc9	NA	0.0	NA	0.0
Common pipistrelle	loc1	NA	NA	0.1	NA
Common pipistrelle	loc10	0.0	0.1	0.0	0.1
Common pipistrelle	loc11	NA	0.3	NA	0.0
Common pipistrelle	loc12	0.0	0.3	0.0	0.0
Common pipistrelle	loc13	NA	0.1	0.1	8.8
Common pipistrelle	loc14	0.0	0.0	0.0	0.1
Common pipistrelle	loc15	0.0	0.2	0.0	NA
Common pipistrelle	loc15a	NA	NA	NA	19.6
Common pipistrelle	loc16	0.1	0.2	NA	0.0
Common pipistrelle	loc17	NA	0.0	NA	0.0
Common pipistrelle	loc18	0.1	0.2	NA	NA
Common pipistrelle	loc19	NA	NA	NA	0.0
Common pipistrelle	loc1a	0.0	1.0	NA	0.1

Species	Detector ID	Jul	Jun	May	Sep
Common pipistrelle	loc2	0.3	0.1	0.1	0.0
Common pipistrelle	loc20	NA	0.1	0.1	0.0
Common pipistrelle	loc21	NA	NA	0.0	0.2
Common pipistrelle	loc22	NA	0.0	0.1	0.0
Common pipistrelle	loc23	NA	0.2	0.0	0.8
Common pipistrelle	loc24	0.0	0.1	0.1	0.2
Common pipistrelle	loc25	NA	NA	0.1	NA
Common pipistrelle	loc25a	NA	NA	NA	0.1
Common pipistrelle	loc26	0.1	0.2	0.2	0.3
Common pipistrelle	loc27	0.1	0.5	0.3	0.7
Common pipistrelle	loc28	0.1	0.0	0.0	0.0
Common pipistrelle	loc29	NA	0.0	NA	0.0
Common pipistrelle	loc3	0.3	NA	NA	0.0
Common pipistrelle	loc30	1.7	1.4	0.1	7.1
Common pipistrelle	loc31	0.1	0.4	0.1	0.1
Common pipistrelle	loc4	0.2	5.2	0.1	0.1
Common pipistrelle	loc5	NA	NA	0.0	0.0
Common pipistrelle	loc6	NA	NA	0.0	0.0
Common pipistrelle	loc7	NA	NA	0.0	0.1
Common pipistrelle	loc8	NA	NA	0.1	0.1
Common pipistrelle	loc9	NA	0.0	NA	0.0
Daubenton’s	loc1	NA	NA	0.0	NA
Daubenton’s	loc10	0.0	0.1	0.5	0.1
Daubenton’s	loc11	NA	0.0	NA	0.2
Daubenton’s	loc12	0.0	0.0	0.0	0.2
Daubenton’s	loc13	NA	0.1	0.0	0.0
Daubenton’s	loc14	0.0	0.1	0.1	0.1
Daubenton’s	loc15	0.0	0.1	0.0	NA
Daubenton’s	loc15a	NA	NA	NA	0.3
Daubenton’s	loc16	0.0	0.0	NA	0.1
Daubenton’s	loc17	NA	0.1	NA	0.1
Daubenton’s	loc18	0.0	0.0	NA	NA
Daubenton’s	loc19	NA	NA	NA	0.0
Daubenton’s	loc1a	0.0	0.0	NA	0.0
Daubenton’s	loc2	0.0	0.0	0.1	0.1
Daubenton’s	loc20	NA	0.0	0.0	0.2
Daubenton’s	loc21	NA	NA	0.0	0.1
Daubenton’s	loc22	NA	0.0	0.0	0.1
Daubenton’s	loc23	NA	0.0	0.3	0.1
Daubenton’s	loc24	0.3	0.0	0.1	0.1
Daubenton’s	loc25	NA	NA	0.0	NA
Daubenton’s	loc25a	NA	NA	NA	0.2
Daubenton’s	loc26	0.0	0.1	0.1	0.2
Daubenton’s	loc27	0.0	0.1	0.0	0.9
Daubenton’s	loc28	0.0	0.0	0.1	0.0
Daubenton’s	loc29	NA	0.1	NA	0.0
Daubenton’s	loc3	0.0	NA	NA	0.2
Daubenton’s	loc30	0.0	0.0	0.1	0.1
Daubenton’s	loc31	0.0	0.0	0.0	0.0
Daubenton’s	loc4	0.0	0.0	0.0	0.2
Daubenton’s	loc5	NA	NA	0.0	0.3
Daubenton’s	loc6	NA	NA	0.1	0.2
Daubenton’s	loc7	NA	NA	0.7	0.1
Daubenton’s	loc8	NA	NA	0.1	0.1
Daubenton’s	loc9	NA	0.0	NA	0.1
Natterer’s	loc1	NA	NA	0.0	NA
Natterer’s	loc10	0.0	0.0	0.0	0.0

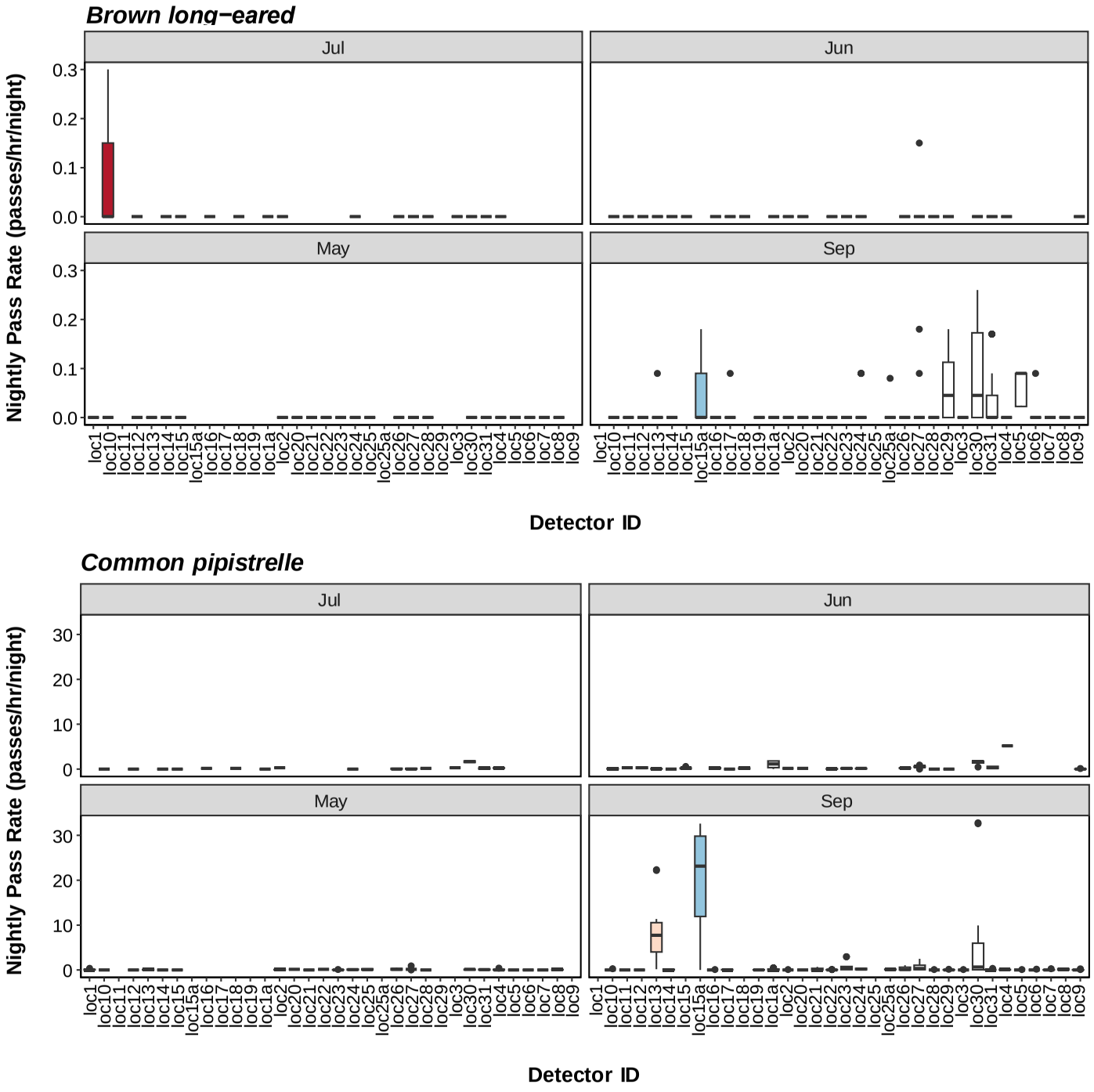
Species	Detector ID	Jul	Jun	May	Sep
Natterer’s	loc11	NA	0.0	NA	0.0
Natterer’s	loc12	0.0	0.1	0.0	0.0
Natterer’s	loc13	NA	0.0	0.0	0.0
Natterer’s	loc14	0.0	0.0	0.0	0.0
Natterer’s	loc15	0.0	0.0	0.0	NA
Natterer’s	loc15a	NA	NA	NA	0.0
Natterer’s	loc16	0.0	0.0	NA	0.0
Natterer’s	loc17	NA	0.0	NA	0.0
Natterer’s	loc18	0.0	0.0	NA	NA
Natterer’s	loc19	NA	NA	NA	0.0
Natterer’s	loc1a	0.0	0.0	NA	0.0
Natterer’s	loc2	0.0	0.0	0.0	0.0
Natterer’s	loc20	NA	0.0	0.0	0.0
Natterer’s	loc21	NA	NA	0.0	0.0
Natterer’s	loc22	NA	0.0	0.0	0.0
Natterer’s	loc23	NA	0.0	0.0	0.0
Natterer’s	loc24	0.0	0.0	0.0	0.0
Natterer’s	loc25	NA	NA	0.0	NA
Natterer’s	loc25a	NA	NA	NA	0.1
Natterer’s	loc26	0.1	0.1	0.0	0.0
Natterer’s	loc27	0.0	0.0	0.0	0.1
Natterer’s	loc28	0.0	0.0	0.0	0.1
Natterer’s	loc29	NA	0.0	NA	0.0
Natterer’s	loc3	0.0	NA	NA	0.0
Natterer’s	loc30	0.0	0.0	0.0	0.0
Natterer’s	loc31	0.0	0.0	0.0	0.0
Natterer’s	loc4	0.0	0.0	0.0	0.0
Natterer’s	loc5	NA	NA	0.0	0.0
Natterer’s	loc6	NA	NA	0.0	0.0
Natterer’s	loc7	NA	NA	0.0	0.0
Natterer’s	loc8	NA	NA	0.0	0.0
Natterer’s	loc9	NA	0.0	NA	0.0
Nyctalus	loc1	NA	NA	0.0	NA
Nyctalus	loc10	0.0	0.0	0.0	0.0
Nyctalus	loc11	NA	0.0	NA	0.0
Nyctalus	loc12	0.0	0.0	0.0	0.0
Nyctalus	loc13	NA	0.3	0.1	0.0
Nyctalus	loc14	0.1	0.0	0.0	0.0
Nyctalus	loc15	0.0	0.0	0.0	NA
Nyctalus	loc15a	NA	NA	NA	0.0
Nyctalus	loc16	0.0	0.3	NA	0.0
Nyctalus	loc17	NA	0.3	NA	0.0
Nyctalus	loc18	0.0	0.1	NA	NA
Nyctalus	loc19	NA	NA	NA	0.0
Nyctalus	loc1a	0.1	0.3	NA	0.0
Nyctalus	loc2	0.0	0.0	0.0	0.0
Nyctalus	loc20	NA	0.0	0.0	0.0
Nyctalus	loc21	NA	NA	0.0	0.0
Nyctalus	loc22	NA	0.3	0.0	0.0
Nyctalus	loc23	NA	0.5	0.0	0.0
Nyctalus	loc24	0.4	0.5	0.0	0.0
Nyctalus	loc25	NA	NA	0.0	NA
Nyctalus	loc25a	NA	NA	NA	0.0
Nyctalus	loc26	0.0	0.1	0.0	0.0
Nyctalus	loc27	0.2	2.2	0.0	0.0
Nyctalus	loc28	0.1	0.2	0.0	0.0
Nyctalus	loc29	NA	0.0	NA	0.0

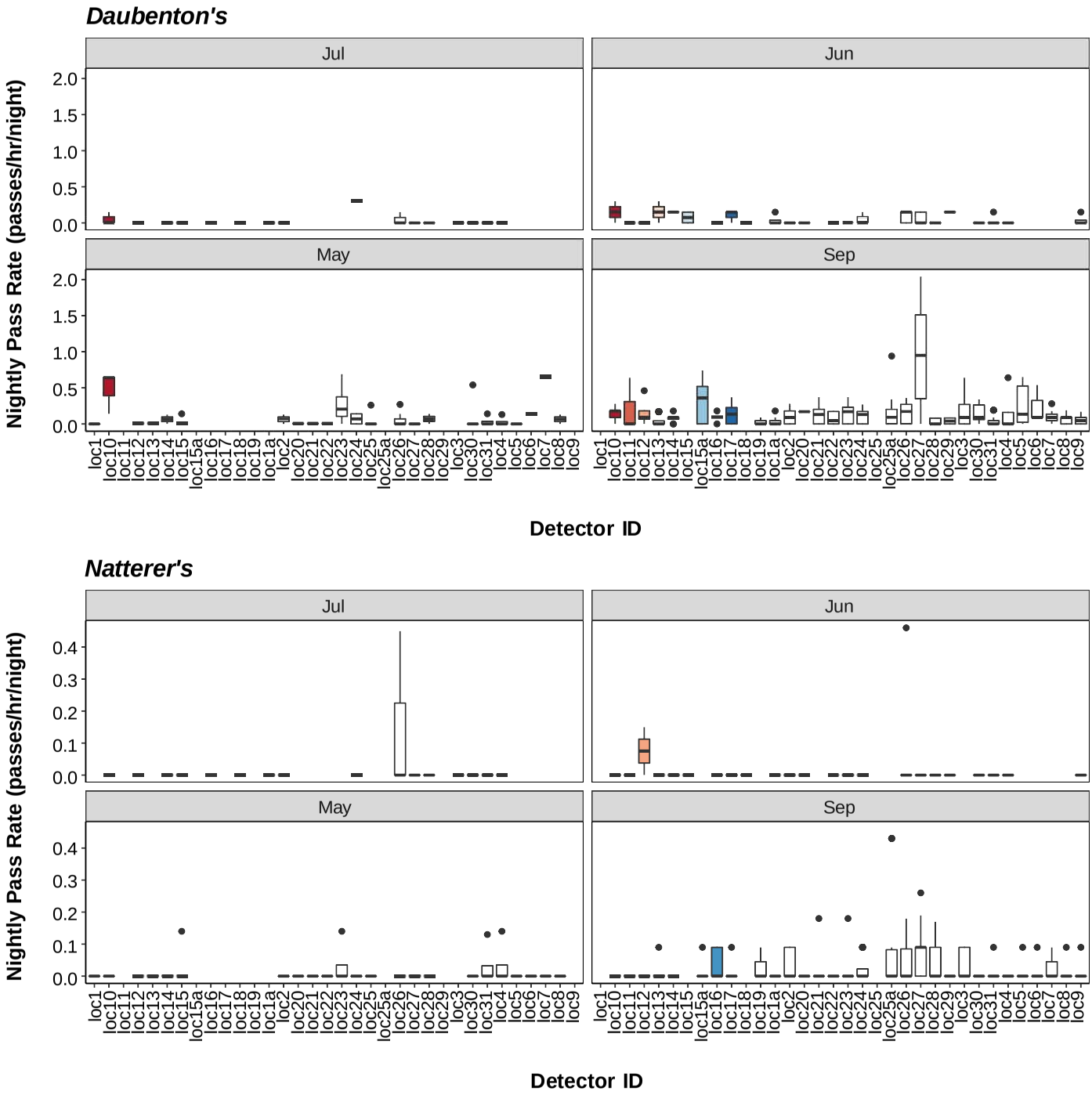
Species	Detector ID	Jul	Jun	May	Sep
Nyctalus	loc3	0.0	NA	NA	0.0
Nyctalus	loc30	0.0	0.0	0.0	0.0
Nyctalus	loc31	0.3	0.0	0.0	0.0
Nyctalus	loc4	0.0	0.1	0.0	0.0
Nyctalus	loc5	NA	NA	0.0	0.0
Nyctalus	loc6	NA	NA	0.0	0.0
Nyctalus	loc7	NA	NA	0.0	0.0
Nyctalus	loc8	NA	NA	0.0	0.0
Nyctalus	loc9	NA	4.0	NA	0.0
Soprano pipistrelle	loc1	NA	NA	0.2	NA
Soprano pipistrelle	loc10	0.0	0.1	0.0	0.2
Soprano pipistrelle	loc11	NA	0.0	NA	0.1
Soprano pipistrelle	loc12	0.1	0.0	0.1	0.2
Soprano pipistrelle	loc13	NA	0.1	0.0	5.0
Soprano pipistrelle	loc14	0.0	0.0	0.1	0.1
Soprano pipistrelle	loc15	0.1	0.1	0.2	NA
Soprano pipistrelle	loc15a	NA	NA	NA	30.4
Soprano pipistrelle	loc16	0.0	0.0	NA	0.0
Soprano pipistrelle	loc17	NA	0.1	NA	0.1
Soprano pipistrelle	loc18	0.0	0.0	NA	NA
Soprano pipistrelle	loc19	NA	NA	NA	0.0
Soprano pipistrelle	loc1a	0.1	0.9	NA	0.4
Soprano pipistrelle	loc2	0.0	0.0	0.0	0.5
Soprano pipistrelle	loc20	NA	0.0	0.0	0.0
Soprano pipistrelle	loc21	NA	NA	0.1	0.6
Soprano pipistrelle	loc22	NA	0.0	0.0	0.1
Soprano pipistrelle	loc23	NA	0.3	0.0	0.3
Soprano pipistrelle	loc24	0.0	0.0	0.2	0.1
Soprano pipistrelle	loc25	NA	NA	0.3	NA
Soprano pipistrelle	loc25a	NA	NA	NA	0.1
Soprano pipistrelle	loc26	0.0	0.0	0.1	0.3
Soprano pipistrelle	loc27	0.0	0.0	0.5	1.1
Soprano pipistrelle	loc28	0.1	0.0	0.1	0.0
Soprano pipistrelle	loc29	NA	0.0	NA	0.0
Soprano pipistrelle	loc3	0.0	NA	NA	0.0
Soprano pipistrelle	loc30	0.1	0.4	0.1	1.9
Soprano pipistrelle	loc31	0.0	0.1	0.1	0.4
Soprano pipistrelle	loc4	0.0	0.0	0.1	0.9
Soprano pipistrelle	loc5	NA	NA	0.1	0.5
Soprano pipistrelle	loc6	NA	NA	0.0	0.2
Soprano pipistrelle	loc7	NA	NA	0.0	0.3
Soprano pipistrelle	loc8	NA	NA	0.1	0.2
Soprano pipistrelle	loc9	NA	0.0	NA	0.1

Nightly Bat Pass Rate for each Month

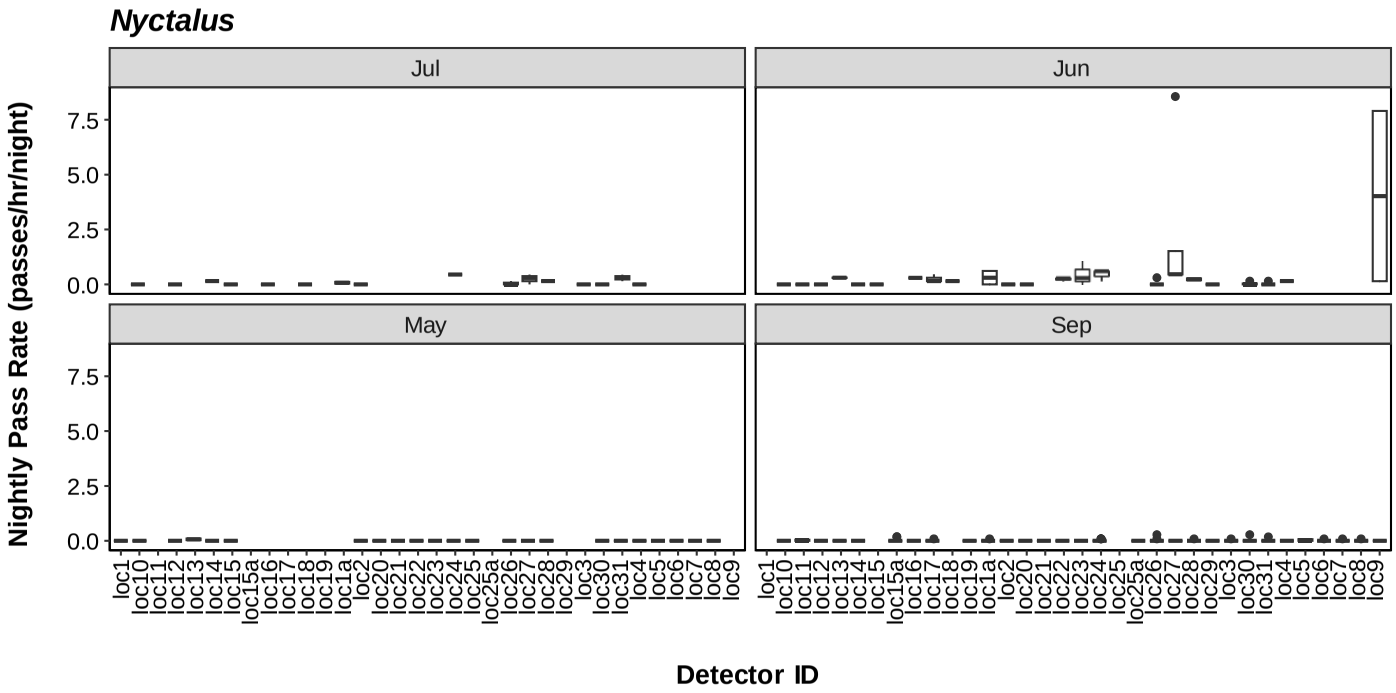
Per Detector - Figures

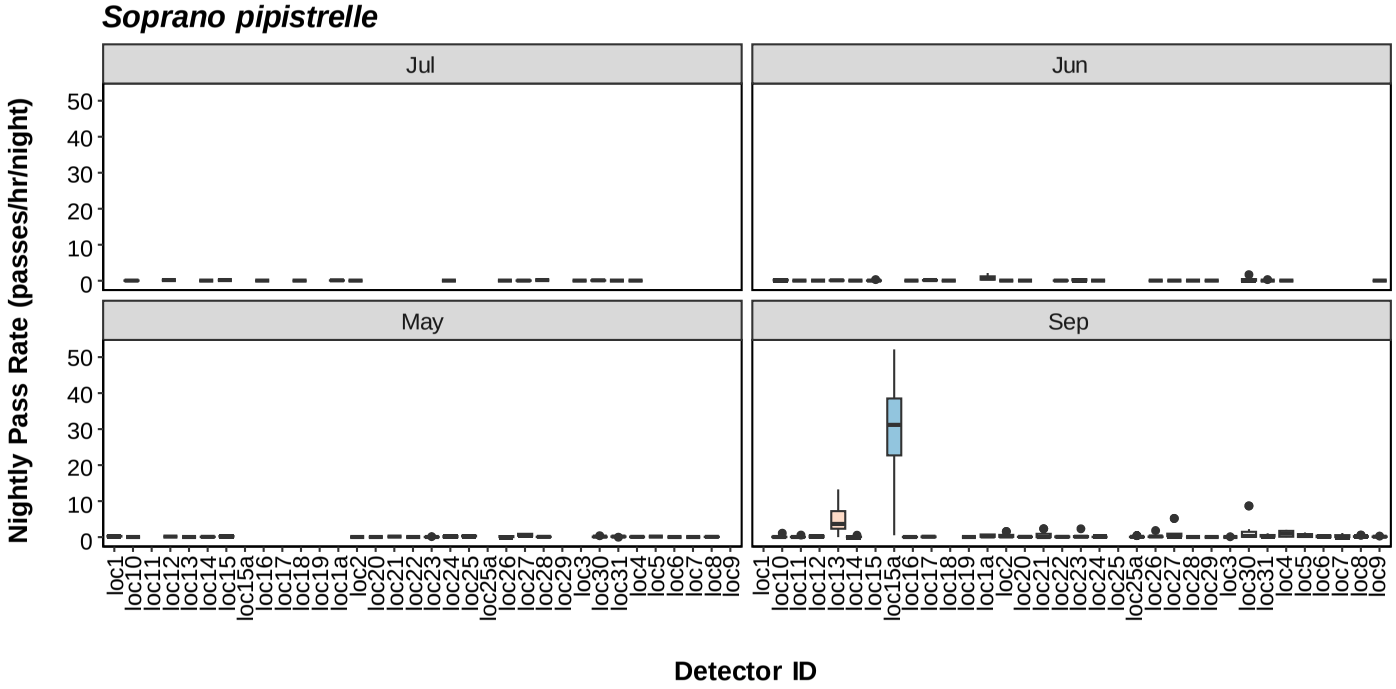
Figure 17. Figures show boxplots for the number of bat passes per hour by detector, for each month. The ‘ box’ shows the interquartile range, which is where the middle 50% of the data lie. The line dividing the box is the median, the mid-point of the data. The ‘ whiskers’ extend from the box and represent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




Daubenton's
Jul
Jun
May
Sep
Nightly Pass Rate (passes/hr/night)
0.0
0.5
1.0
1.5
2.0
loc1 loc10 loc11 loc12 loc13 loc14 loc15 loc15a loc16 loc17 loc18 loc19 loc1a loc2 loc20 loc21 loc22 loc23 loc24 loc25 loc25a loc26 loc27 loc28 loc29 loc3 loc30 loc31 loc4 loc5 loc6 loc7 loc8 loc9
Detector ID

Natterer's
Jul
Jun
May
Sep
Nightly Pass Rate (passes/hr/night)
0.0
0.1
0.2
0.3
0.4
loc1 loc10 loc11 loc12 loc13 loc14 loc15 loc15a loc16 loc17 loc18 loc19 loc1a loc2 loc20 loc21 loc22 loc23 loc24 loc25 loc25a loc26 loc27 loc28 loc29 loc3 loc30 loc31 loc4 loc5 loc6 loc7 loc8 loc9
Detector ID


Nyctalus
Jul
Jun
May
Sep
Nightly Pass Rate (passes/hr/night)
0.0
2.5
5.0
7.5
loc1 loc10 loc11 loc12 loc13 loc14 loc15 loc15a loc16 loc17 loc18 loc19 loc1a loc2 loc20 loc21 loc22 loc23 loc24 loc25 loc25a loc26 loc27 loc28 loc29 loc3 loc30 loc31 loc4 loc5 loc6 loc7 loc8 loc9
Detector ID


Soprano pipistrelle
Jul
Jun
May
Sep
Nightly Pass Rate (passes/hr/night)
0
10
20
30
40
50
loc1 loc10 loc11 loc12 loc13 loc14 loc15 loc15a loc16 loc17 loc18 loc19 loc1a loc2 loc20 loc21 loc22 loc23 loc24 loc25 loc25a loc26 loc27 loc28 loc29 loc3 loc30 loc31 loc4 loc5 loc6 loc7 loc8 loc9
Detector ID

Bat Activity per Detector Location

Figure 18. Detector ID reference:

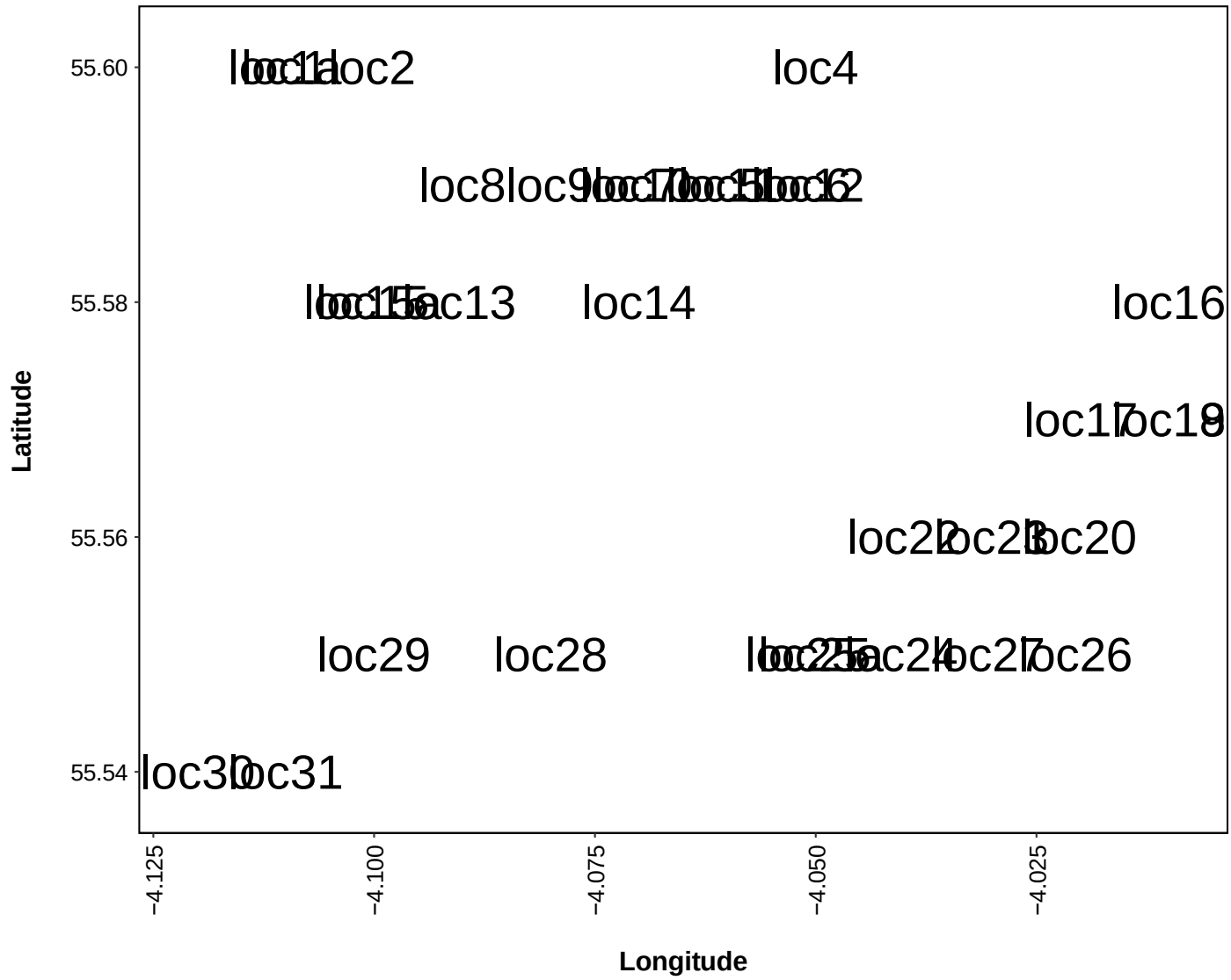


Figure 19. Median Nightly Pass Rate (bat passes/hr/night) throughout the survey period - represented by the size and colour of the point at each detector location.

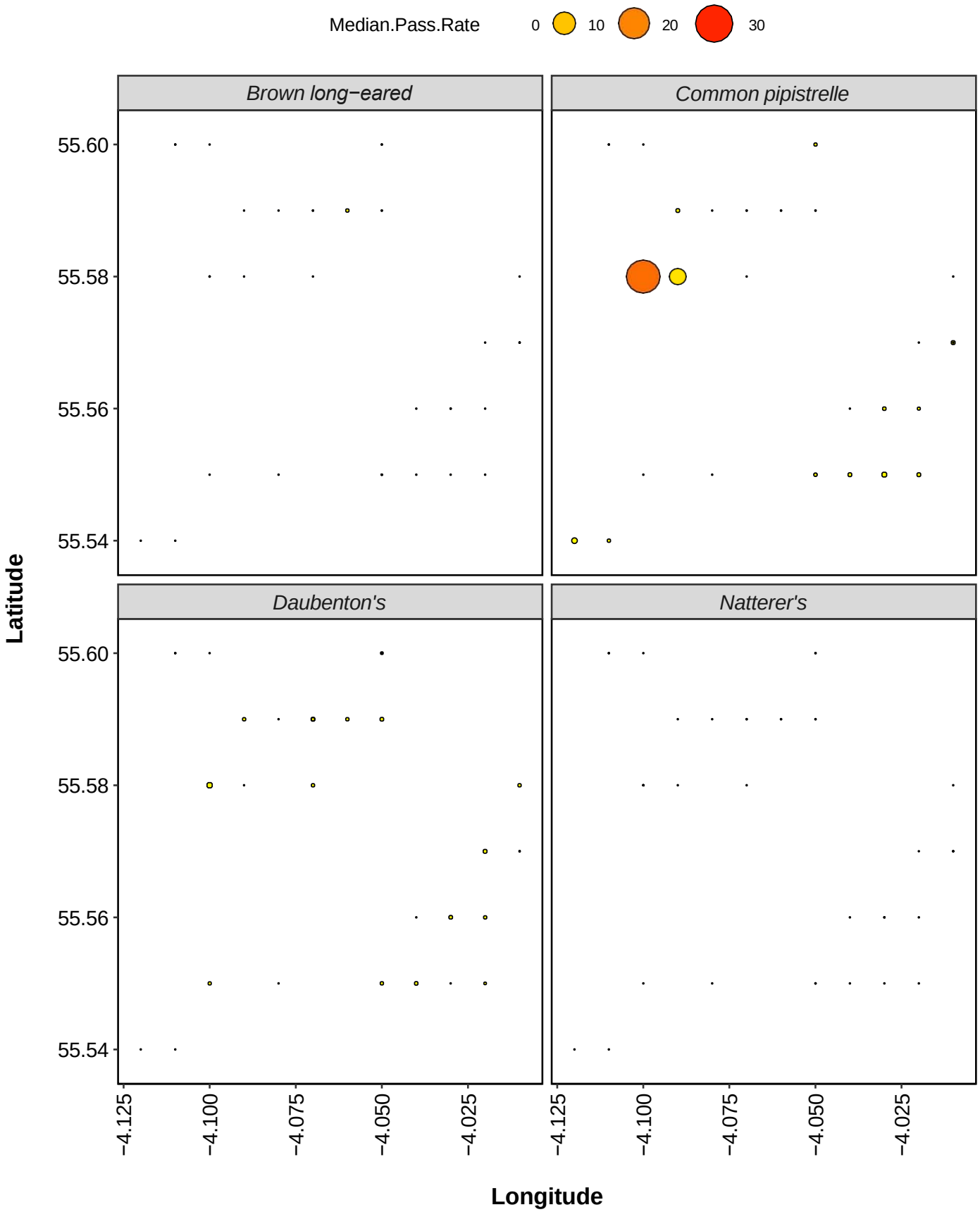


Figure 20. Maximum Nightly Pass Rate (bat passes/hr/night) recorded in a single night throughout the survey period - represented by the size and colour of the point at each detector location.