



17th October 2018

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cc:

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Dear Victoria and all,

Coach House at Marble Hill Park, Twickenham, TW1 2NL – September 2018 Bat Detector Survey – Addendum Report to support FOA Ecology Combined Bat Survey Report 2016-2018

Proposals Background

The Coach House comprises part of the Marble Hill Park scheme. The Coach / Stable Block (referred to as B1 in the main bat report) will not to be demolished, but instead it will be retained, and works will be limited changes, comprising:

- remodelling of the existing ground floor
- the construction of a new external door to the east façade
- a new single storey extension to the west façade
- refurbishment of the ground floor windows (including local remove a small amount of climbing plant around the windows to gain unobstructed access and carry out the repairs to the windows; however, there is no intension to remove the climbing plant)
- operation of the new, extended cafe

To clarify, no work is proposed to the existing main roof, i.e. the gable roof above the main two storey stable block volume.

Ecology Background

On account of the proposed structural works to the Coach House, this building was subject to bat survey work for this current planning application between 2016 and 2018, with the main findings of such are given as follows:



Survey work 2016 - 2017

No roosting bats were identified (observed and / or detected) to emerge from the Coach House, during the initial dusk emergence bat detector survey on 22nd September 2016.

However, Nathusius' pipistrelle passes also detected, specifically 2 passes (at 30 minutes and 46 minutes after sunset) on 22nd September detector survey of the Coach House, the latter of which (at 19:44 pm, i.e. 46 minutes after sunset) included a single characteristic Nathusius' pipistrelle advertisement call (a call which is made by a male individual most frequently during the mating season) detected by surveyor positioned at the south-eastern corner of the Coach House.

It is known from research internationally that Nathusius' pipistrelle male bats can make advertisement calls either during songflight (i.e. whilst on the wing) at a mating site or else whilst stationary within the mating roost itself at the mating site.

It is relevant, however, that research has shown (John Russ, www.nathusius.org.uk/) that in England, this species characteristically calls from a stationary mating roost site, instead of using song-flight to attract a mate.

It should be re-iterated however that only a single advertisement call was detected, as opposed to constant mating calls throughout the duration of this survey.

Only a single faint Nathusius' echolocation pass (no social calling) was encountered during the July 2017 bat activity survey, namely at listening stop LS-G, i.e. along the park's southern boundary adjacent to the River Thames. No Nathusius' pipistrelle social calls were associated with this single Nathusius' pipistrelle pass.

Further, no Nathusius' echolocation or social calls were detected during any of the other 2017 bat survey work either in the vicinity of the Coach House or elsewhere.

16th July 2018 Survey

For the 16th July 2018 dusk survey, emergence of small numbers of pipistrelle bats from building B1, the Coach House, was observed, specifically 3 soprano pipistrelles from eastern (front) elevation (in the region of the central gable façade).

The Coach house has therefore been confirmed to support a small non-breeding soprano pipistrelle summer roost in 2018.

In terms of Nathusius pipistrelle activity, however, no Nathusius' pipistrelle passes were encountered during this survey.

Rationale for September 2018 Pipistrelle Mating Detector Survey

Given the detection of ad hoc Nathusius' pipistrelle passes during the September-timed 2017 bat detector survey work in the vicinity of the Coach House, it was recommended that an additional bat detector survey be conducted during the pipistrelle mating window in order to investigate the presence or likely absence of a Nathusius' pipistrelle mating site / roost at or close to the Coach House.



The September-timing of this additional detector survey also sought to determine whether the Coach House is used during the autumn transitional period by roosting bats in general.

Methodology

On the dusk of the 10th September 2018 a bat detector survey was undertaken by a team of 3no. experienced bat surveyors alongside 3no. un-manned positions (each comprising a night-vision video camera and supplementary infra-red lighting with a static bat detector), to adequately cover of sections of the building with bat roost features.

In terms of methodology, in accordance with recently published guidelines (Collins, 2016) and best practice the dusk 'emergence' survey commenced 20 minutes before sunset and continued until emergence was considered to have finished (i.e. 1.5 hours after sunset).

The surveyor team used a variety of bat detectors, including time-expansion (Pettersson D240X), full spectrum (Batlogger) and frequency division devices (Anabat Express), with all bat calls being recorded (using Roland R-05 recorder for Pettersson D240X detector or the Batlogger and Anabat Express themselves). Following the surveys, the bat recordings were analysed using the relevant bat analysis software packages (i.e. BatSound, Bat Explorer and Analook), to species level where possible.

Limitations

The dusk detector survey was undertaken during the pipistrelle mating window (Collins, 2016), during which period pipistrelle mating roosts may be identified.

In addition, every effort was made to schedule the detector survey visit during suitable weather conditions, i.e. mild, dry and non-windy conditions. Indeed, as demonstrated in the weather table provided in the appendix, the weather conditions are considered to have been suitable.

To summarise, taken together, the detector survey alongside the 2016 to summer 2018 bat survey work, are considered to be robust and enable the survey conclusions to be reliably drawn.

Results

During this survey the emergence of two pipistrelle bats from the eastern (front) elevation and one pipistrelle from the southern (side) elevation was observed:

- soprano pipistrelle sp. x 1no. – 19:40 pm (11 minutes after sunset) – flew from vicinity of the roof valley (between the main roof slope and the southern side of the triangular central gable) of the eastern (front) elevation and then headed southwards
- soprano pipistrelle sp. x 1no. – 19:49 pm (20 minutes after sunset) – flew from the vicinity of the climbing plant at first floor level of the southern (side) elevation off to the south-east
- common pipistrelle x 1no. – 20:12 pm (43 minutes after sunset) – flew from the area close to the base of the second from the north window on the first floor of the eastern (front) elevation



In terms of incidental bat activity, modest to moderate activity dominated by common pipistrelle and soprano pipistrelle (commuting and foraging) bats was encountered during the detector survey work, comprising predominantly of passes by single pipistrelle bats, though on occasion two individuals were detected simultaneously.

The 'early' timings of some of these incidental pipistrelle bat passes (i.e. none of which were observed to emerge from the Coach House), in particular the earliest soprano pipistrelle passes, indicate the presence of a nearby roost or roosts. Indeed, such 'early' soprano pipistrelle passes were also encountered during earlier FOA Ecology surveys of the Coach House and neighbouring tree Arb. tree T12 as well as by Furesfen Ecology in their Coach House detector surveys in August and September 2011.

A small number of unidentifiable pipistrelle sp. bat passes (with peak frequently between common and soprano pipistrelle) were also encountered. More particularly, a single unidentifiable pipistrelle sp. pass with a peak of c. 40-41 kHz (FM/qCF-shaped call), which is intermediate between common and Nathusius' pipistrelle, was detected though was unobserved. Specifically, this unseen pass was detected at 48 minutes after sunset and comprised solely of echolocation calls with no social / advertisement calling detected. Given the call shape, it is possible that this unidentified pipistrelle sp. pass may pertain to Nathusius' pipistrelle, if this individual bat was flying along a habitat edge or in a cluttered environment.

In addition, occasional *Nyctalus* sp. (noctule or Leislars') passes were detected. To clarify, for the *Nyctalus* species passes, all these passes were detected at times outside (later than) these species typical emergence windows and so do not pertain to bats emerging from the surveyed building.

The full survey data is provided in the table in Appendix 1.

Conclusions

Soprano and common pipistrelle roosts

The 10th September 2018 dusk survey of the Coach house has confirmed that this building also supports small non-breeding soprano pipistrelle and common pipistrelle day roosts in the autumn period, alongside a soprano pipistrelle day roost in summer months.

It is possible that the identified common pipistrelle and soprano pipistrelle roosts may be used at other times in the season, for example as a transitional roost in spring.

In addition, it cannot be entirely discounted that this individual common and / or soprano pipistrelle or small numbers of common pipistrelle and / or soprano pipistrelle may potentially use this building during the hibernation season.

Nationally and at the county level, the common pipistrelle and the soprano pipistrelle are both common and widespread; both species are nonetheless fully protected. In addition, soprano pipistrelle is a National BAP species.

Based upon the roost status scale of ecological importance given in the Bat Mitigation Guidelines (Mitchell-Jones 2004), the identified common pipistrelle and soprano pipistrelle



roosts in the Coach House is considered to possess low conservation importance, as follows:

- Low conservation importance – on the basis that specific sections of the Coach House support small numbers of non-breeding common and soprano pipistrelle bat(s)

Nathusius' pipistrelle

In terms of *Nathusius' pipistrelle* activity, however, only a single unidentified pipistrelle species pass which may pertain to *Nathusius pipistrelle* was detected; the pass comprised solely of echolocation calls with no social / advertisement calling detected.

Accordingly, it is concluded that no evidence has been gained to support the presence of a *Nathusius' pipistrelle* mating site / mating roost either at or nearby to the Coach House during 2018. In conclusion, therefore, *Nathusius' pipistrelle* mating roosts are currently likely absent from the Coach House.

Recommendations

Proposed Works

No works are proposed at or in close proximity to the identified soprano pipistrelles' and common pipistrelle's emergence locations, ***assuming no removal of climbing plant from around the edge of or close to the first floor windows / wall sections, no works to the second storey main gable roof (and its central decorative gable), and no works to second storey eaves on eastern and southern elevations.***

Based upon the above assumptions, no bat licence is deemed necessary in respect of the proposed works to the Coach House; instead a non-licensed method statement (to include the preparation of a formal external light spillage minimisation strategy for the Coach House) will be sufficient to ensure that the proposed works minimise risk of any legal offences being committed (in particular in relation to disturbance of a bat or bats in its / their roost[s]); the measures therefore are designed to ensure that the works do not materially disturb or have any other indirect effects on the identified pipistrelle roosts in the Coach House.

Non-licensed Bat Method Statement

Adoption of the prescriptions bulleted in the following non-licensed bat method statement is required to minimise risk of any legal offences being committed in relation to disturbance of roosting bats:

- Scaffolding platforms / poles and other structures, if any, associated with the works to the Coach House will not physically obscure the identified roost sites and / or bat flight lines on the southern and eastern elevations; this is to allow for adequate access to these sites by roosting bats and flight lines (to and from these roost sites) throughout the duration of, and after completion of the works, i.e. to avoid obscuring / blocking the roost access points / immediate flight lines



- Preparation of a formal external light spillage minimisation strategy for the Coach House – to be prepared in accordance with the Guidance Note 08/18 'Bats and artificial lighting in the UK: Bats and the Built Environment series, Bat Conservation Trust & Institution of Lighting Professionals, as far as is practicable; it is advised that preparation of this strategy is formalised as a planning condition.
- Noise / vibration levels during the Coach House works will be minimised as far as reasonably practicable along and in the immediately vicinity of the eastern and southern elevations of the Coach House by taking all reasonable measures to minimise unnecessary noise, including no positioning of radios close to the identified roost sites, no machinery idling and use of non-percussive instead of percussive tools, where-ever practicable.
- Avoid use of chemicals and dust-generating operations close to the public toilet block.

Formalisation of Roosting Bat Contractor Awareness & Protocol:

In addition to the sensitive working methods stated above to reduce as far as practicable disturbance of any roosting bat or bats that may be present in the Coach House during the works to this building, it will be necessary for Roosting Bat Contractor Awareness & Protocols to be formalised as part of the site induction / tool box talk.

As a formal part of the site induction, the contractors will be instructed as to the steps to be taken in the event that a bat or bats is / are found during the proposed works, i.e. works to cease immediately, the project ecologist will be directly contacted and they will advise as to how to proceed, and in particular will liaise with Natural England regarding the possible need for the works to be resumed only once a bat licence has been applied for from, and granted by, Natural England.



Appendix 1 – Bat Detector Survey Data

Weather:

Weather conditions for each detector survey are provided in the table below:

Survey type and time of dusk/dawn	Survey Date	Weather
Dusk 19:29	10/09/2018	Max temp. 18°C, Min temp. 17°C, dry, 7/8 cloud cover, light mild wind (6 mph south-westerly), moderate to high humidity (70%)

Results:

Results are summarised below for each survey position during this dusk survey.

Dusk Detector Survey – 10th September 2018

Survey position A: Northern half of west (rear) elevation of the Coach house

Time	Species detected	Comments
19:37-19:49	Soprano Pipistrelle	Occasional observed pass flying to the north-west of surveyor's position in the garden and subsequent unseen passes every 5 minutes, 8-20 minutes after sunset.
19:49	Common Pipistrelle	Observed pass from the north-east of the coach house, flying over the roof top towards the south-west, 20 minutes after sunset.
19:52 - 20:01	Soprano Pipistrelle	Observed repeated passes to the north-west of the couch house and surveyor's position within the garden and occasional unseen passes every 5 minutes, 23-32 minutes after sunset.
20:01	Common Pipistrelle	Pass unseen, 32 minutes after sunset.
20:03	<i>Nyctalus</i> sp. (possibly Leislers') & Soprano pipistrelle	Pass unseen, 34 minutes after sunset.
20:06	Common Pipistrelle	Observed pass overhead and over the coach house roof from the north-west to the south-east, 37 minutes after sunset.



Time	Species detected	Comments
20:06	Soprano Pipistrelle	Observed pass at eave level in the western courtyard from the south-east towards the north-west, 37 minutes after sunset.
20:07	Soprano Pipistrelle	Pass unseen, 38 minutes after sunset.
20:12	Common Pipistrelle	Pass unseen, 43 minutes after sunset.
20:14	Common Pipistrelle	Two passes unseen, 45 minutes after sunset.
20:16	Soprano Pipistrelle	Pass unseen, 47 minutes after sunset.
20:17 - 20:26	Common Pipistrelle	Occasional observed brief pass between surveyor and coach house between north and south directions and occasional unseen passes every 5 minutes, 48-57 minutes after sunset.
20:27	Soprano Pipistrelle	Two passes unseen, 58 minutes after sunset.
20:32	Pipistrelle sp.	Social call recorded 1 hour 3 minutes after sunset.
20:38	Common Pipistrelle	Pass unseen, 1 hour 9 minutes after sunset.
20:39	Soprano Pipistrelle	Pass unseen, 1 hour 10 minutes after sunset.
20:42	Common Pipistrelle	Two passes unseen, 1 hour 13 minutes after sunset.
20:42	<i>Nyctalus</i> sp.	Pass unseen, 1 hour 13 minutes after sunset.
20:43	Common Pipistrelle	Pass unseen, 1 hour 14 minutes after sunset.
20:44	Common Pipistrelle	Pass unseen, 1 hour 15 minutes after sunset.
20:48	Soprano Pipistrelle	Pass and social call unseen, 1 hour 19 minutes after sunset.
20:56	Soprano Pipistrelle	Pass and social call unseen, 1 hour 27 minutes after sunset.

Survey position B: Southern half of west (rear) elevation of the Coach house

Time	Species detected	Comments
20:37	Soprano Pipistrelle	Unseen, 8 minutes after sunset.
20:42	Soprano Pipistrelle	Unseen, 13 minutes after sunset, 5 passes
20:44	Common pipistrelle	Unseen, 15 minutes after sunset
20:45	Soprano	Unseen, 16 minutes after sunset



Time	Species detected	Comments
	Pipistrelle	
20:47	Common pipistrelle	Unseen
20:48	Common pipistrelle	Unseen
20:48	Soprano Pipistrelle	Seen, social calling, flew from south to north at height above the yard to the rear of the Coach House, 2 passes
20:49	Soprano Pipistrelle	Unseen, 3 passes
20:55	Soprano Pipistrelle	Seen, flew from south to north at height above the yard to the rear of the Coach House, 4 passes
20:56	Soprano Pipistrelle	Seen, flew from south to north at height above the yard to the rear of the Coach House, 25 passes
21:04	<i>Nyctalus</i> sp.	Unseen
21:15	Common pipistrelle	Unseen, 20 passes
21:35	Soprano Pipistrelle	Unseen, numerous social calls

Survey position C: Northern elevation of the Coach house

Time	Species detected	Comments
19:37 - 19:49	Soprano Pipistrelle	Several passes unseen every 5 minutes, 8 - 20 minutes after sunset.
19:49	Soprano pipistrelle & Common pipistrelle	Pass unseen, 20 minutes after sunset.
19:51 - 19:56	Soprano Pipistrelle	Several observed passes and subsequent unseen passes every 2 minutes, 22 - 26 minutes after sunset.
19:56	Soprano pipistrelle & Common pipistrelle	Observed pass above surveyor's position flying in circles and foraging in the garden to the north of the coach house, 26 minutes after sunset.
19:57	Soprano Pipistrelle	Three passes unseen, 26 minutes after sunset.
19:58	Common Pipistrelle	Pass unseen, 27 minutes after sunset.
20:01	Soprano Pipistrelle	Two passes and social call unseen, 30 minutes after sunset.
20:02	Common	Pass unseen, 31 minutes after sunset.



Time	Species detected	Comments
	Pipistrelle	
20:02	Pipistrelle sp.	Pass unseen, 31 minutes after sunset.
20:04	<i>Nyctalus</i> sp. (possibly Leislars') & Soprano pipistrelle	Pass unseen, 33 minutes after sunset.
20:04	Common Pipistrelle	Two observed passes above the roof of the coach house, initially flying from the north to south and then looping above the roof back towards the north, 33 minutes after sunset.
20:04	Common pipistrelle & Soprano pipistrelle	Pass unseen, 33 minutes after sunset.
20:05 – 20:06	Common Pipistrelle	Five passes unseen, 34 - 35 minutes after sunset.
20:06	Common pipistrelle & Soprano pipistrelle	Pass unseen, 35 minutes after sunset.
20:07	Soprano Pipistrelle	Pass unseen, 36 minutes after sunset.
20:07	Common pipistrelle	Pass unseen, 36 minutes after sunset.
20:07	Common pipistrelle & Soprano pipistrelle	Pass unseen, 36 minutes after sunset.
20:10 - 20:15	Common pipistrelle	Several observed passes flying in several directions over the roof of the coach house and in the garden to the north by surveyor's position passes per 5 minutes, 39 - 44 minutes after sunset.
20:16	Soprano Pipistrelle	Pass unseen, 45 minutes after sunset.
20:17 - 20:20	Common pipistrelle	Pass unseen per minute, 46 - 49 minutes after sunset.
20:21- 20:22	Pipistrelle sp.	Three social calls and passes unseen, 50-51 minutes after sunset.
20:24 - 20:27	Common pipistrelle	Pass unseen per minute, 53 - 56 minutes after sunset.
20:32	Soprano Pipistrelle	Two passes and social call unseen, 1 hour 1 minute after sunset.
20:33	Soprano Pipistrelle	Pass and social call unseen, 1 hour 2 minutes after sunset.
20:38	Common pipistrelle	Pass unseen, 1 hour 7 minutes after sunset.



Time	Species detected	Comments
20:39	Soprano Pipistrelle	Pass unseen, 1 hour 8 minutes after sunset.
20:42	Common pipistrelle	Two passes unseen, 1 hour 11 minutes after sunset.
20:42	Common pipistrelle & <i>Nyctalus</i> sp.	Pass unseen, 1 hour 11 minutes after sunset.
20:43 - 20:46	Common pipistrelle	Occasional passes unseen, 1 hour 12 - 15 minutes after sunset.
20:48	Soprano Pipistrelle	Two passes and social calls unseen, 1 hour 17 minutes after sunset.
20:49 - 20:52	Pipistrelle sp.	Social call unseen per minute, 1 hour 18 - 20 minutes after sunset.
20:54	Soprano Pipistrelle	Pass unseen, 1 hour 22 minutes after sunset.
20:56	Soprano Pipistrelle	Pass unseen, 1 hour 24 minutes after sunset.
20:57	Common pipistrelle & Soprano pipistrelle	Pass unseen, 1 hour 25 minutes after sunset.

Survey position D: Southern half of East (front) Elevation

Time	Species detected	Comments
19:40	Soprano pipistrelle	Emergence, from vicinity of the roof valley (between the main roof slope and the southern side of the triangular central gable) and then headed southwards – 11 minutes after sunset.
19:45	Soprano pipistrelle	Unseen, 16 minutes after sunset
19:47	Common pipistrelle	Seen, flew from north to south, commuting flight. 18 minutes after sunset
19:49	Soprano pipistrelle	Unseen
19:51	Common pipistrelle	Unseen, close
19:52	Pipistrelle sp.	Unseen, social
19:56	Common pipistrelle	Unseen
20:03	<i>Nyctalus</i> sp.	Unseen, close. 34 minutes after sunset



Time	Species detected	Comments
	(possibly Leislars')	
20:06	Common pipistrelle	Unseen
20:11	Common pipistrelle	Unseen
20:12	Common pipistrelle	Unseen, close, foraging including feeding buzz
20:12	Common pipistrelle	Unseen, close, foraging, several passes
20:14	Soprano pipistrelle	Unseen
20:16	Soprano pipistrelle	Unseen
20:17	Pipistrelle sp. PF = 40 kHz (intermediate between common and Nathusius' pipistrelle)	Unseen. 48 minutes after sunset; no social calling
21:30	Common pipistrelle	Unseen, close
21:31	Common pipistrelle	Unseen, close
21:36	Common pipistrelle	Unseen
21:38	Soprano pipistrelle	Unseen
21:38	Soprano pipistrelle	Unseen
21:40	Soprano pipistrelle	Unseen, social
21:41	Soprano pipistrelle	Unseen, social
21:42	Common pipistrelle	Unseen, foraging
21:47	Soprano pipistrelle	Unseen



Survey position E: Northern half of East (front) Elevation

Time	Species detected	Comments
19:39	Soprano Pipistrelle	Two passes unseen, 10 minutes after sunset.
19:47	Common pipistrelle	Pass unseen, 18 minutes after sunset.
19:48	Common pipistrelle	Pass unseen, 19 minutes after sunset.
19:55	Soprano Pipistrelle	Pass unseen, 26 minutes after sunset.
20:03	<i>Nyctalus</i> sp. (possibly Leislers')	Pass unseen, 34 minutes after sunset.
20:06	Common pipistrelle	Pass unseen, 37 minutes after sunset.
20:07	<i>Nyctalus</i> sp.	Pass unseen, 38 minutes after sunset.
20:11	Common pipistrelle	Pass unseen, 42 minutes after sunset.
20:12	Common pipistrelle	Observed to emerged from the area close to the base of the second from the north window on the first floor. 43 minutes after sunset
20:16	Soprano pipistrelle	Observed to circle at height above the building to the right of the chimney. 47 minutes after sunset.
20:30	Common pipistrelle	Pass unseen, 1 hour 1 minute after sunset.
20:31	Common pipistrelle	Pass unseen, 1 hour 2 minutes after sunset.
20:34	Pipistrelle Sp.	Two passes unseen, 1 hour 5 minutes after sunset.
20:42	<i>Nyctalus</i> sp.	Pass unseen, 1 hour 13 minutes after sunset.
20:49	Common pipistrelle	Pass unseen, 1 hour 20 minutes after sunset.

Survey position F: Southern Elevation

Time	Species detected	Comments
19:32	Soprano pipistrelle	Unseen, 3 minutes after sunset
19:35	Soprano pipistrelle	Unseen, 6 minutes after sunset
19:37	Soprano pipistrelle	Unseen, 8 minutes after sunset



Time	Species detected	Comments
19:39	Soprano pipistrelle	Observed at the south-east corner of the building flying off to the south-west. 10 minutes after sunset.
19:47	Common pipistrelle	Unseen
19:49	Soprano pipistrelle	Observed to emerge from the vicinity of the climbing plant at first floor level of the southern façade off to the south-east, possible emergence. 20 minutes after sunset.
19:52	Soprano pipistrelle	Observed foraging close to the southern facade, social call
19:56	Soprano pipistrelle	Observed flying from close to the chimney and off to the south
19:56	Common pipistrelle	Observed flying from the south-west into the courtyard to the north
20:00	Soprano pipistrelle	Unseen, social call
20:03	<i>Nyctalus</i> sp.	Unseen, close, 34 minutes after sunset.
20:04	Soprano pipistrelle	Unseen
20:06	Common pipistrelle	Unseen
20:07	Common pipistrelle	Unseen
20:08	Common pipistrelle	Unseen, social call
20:10	Pipistrelle sp.	Unseen, social call
20:11	Common pipistrelle	Unseen
20:12	Common pipistrelle	Unseen, foraging
20:12	Soprano pipistrelle	Unseen, social call
20:14	Soprano pipistrelle	Unseen, social call
20:16	Soprano pipistrelle	Unseen
20:17	Pipistrelle sp. PF = 41 kHz	Unseen, 48 minutes after sunset
20:29	Common pipistrelle	Unseen, social call
20:30	Common pipistrelle	Unseen, social call
20:30	Soprano pipistrelle	Unseen
20:31	Common pipistrelle	Unseen
20:32	Soprano	Unseen



Time	Species detected	Comments
	pipistrelle	
20:35	Soprano pipistrelle	Unseen
20:37	Common pipistrelle	Unseen
20:38	Soprano pipistrelle	Unseen
20:39	Soprano pipistrelle	Unseen, social
20:40	Soprano pipistrelle	Unseen, social
20:41	Soprano pipistrelle	Unseen, social
20:42	<i>Nyctalus</i> sp.	Unseen
20:44	Common pipistrelle	Unseen, social call
20:47	Soprano pipistrelle	Unseen, social
20:48	Soprano pipistrelle	Unseen, social



Indicative Bat Emergence Locations:

Eastern (front) elevation

19:40	Soprano pipistrelle	Emergence, from vicinity of the roof valley (between the main roof slope and the southern side of the triangular central gable) and then headed southwards – 11 minutes after sunset.
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Eastern (front) elevation

20:12	Common pipistrelle	Observed to emerged from the area close to the base of the second from the north window on the first floor. 43 minutes after sunset
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Southern (side) elevation

19:49	Soprano pipistrelle	Observed to emerge from the vicinity of the climbing plant at first floor level of the southern façade off to the south-east, possible emergence. 20 minutes after sunset.
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