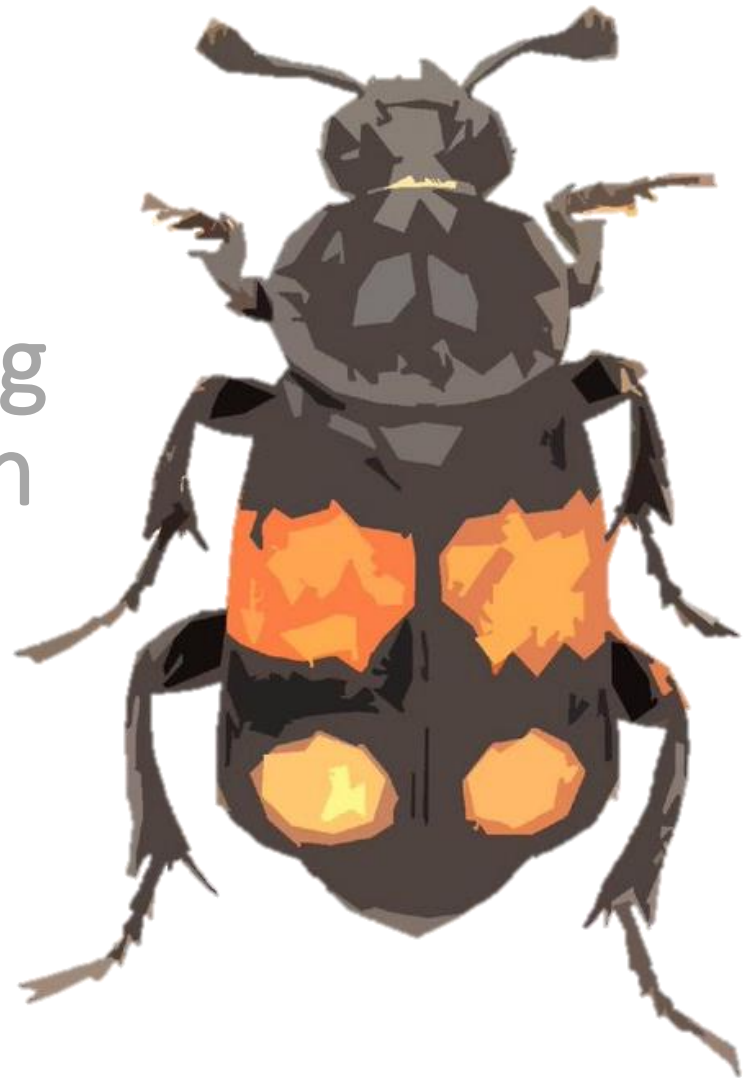


Carri-on Recording:

Establishing a Recording
Scheme & working with
Museums

Ashleigh Whiffin

Silphidae Recording Scheme
National Museums Scotland



Silphidae Recording Scheme

- Started in May 2016
- Co-run by Ashleigh Whiffin, Matthew Esh & Richard Wright
- Current activity:
 - Verifying records on  iRecord
 - Recruiting more recorders
 - Hosting ID workshops
 - Raising awareness via social media





© Mark Telfer



© Ryan Clark



© Per Smiseth



© Ian Andrews

Raising Awareness:



Facebook – picking up records/ID help

Insects & other invertebrates of Britain & Europe
Beetles of Britain & Ireland
Moth Trap Intruders UK



Twitter: @SilphidaeUk

#SilphidaeSunday



Instagram: #CarrionClub



YouTube: UKSilphidae



GIFs

Recruiting Recorders

DISCOVER Wildlife

Wildlife and photography at its best from BBC Wildlife Magazine

NEWS | PHOTOGRAPHY | BRITISH WILDLIFE | ANIMALS | TRAVEL | DIRECTORY

Discover 8 carrion beetles you should look out for

Ashleigh Whiffin discusses why carrion beetles are so important and interesting, and which species you can look out for.

6th April 2018

Ashleigh Whiffin / Silphidae Recording Scheme

Share     

A a -



BBC Wildlife
@WildlifeMag

New on the website - discover 8 carrion beetles you should look out for. Just in time for @SilphidaeUk's #SilphidaeSunday!

ow.ly/y0wu30jIPxm



@AshWhiffin



12:33 PM - 6 Apr 2018

Species Attracted to Light



*Nicrophorus
vespilliodes*



*Nicrophorus
investigator*



*Nicrophorus
humator*



*Necrodes
littoralis*



*Nicrophorus
vestigator*



*Nicrophorus
vespillo*



*Nicrophorus
interruptus*



Recruiting Moth Recorders

Recruiting Moth Recorders

- Reaching out via social media
- Attended Butterfly Conservation (BC) Scottish Recorders Meeting
- Producing articles for BC newsletters



Could we...

kill two *bugs* with one stone?

Calliphoridae and Rhiniidae Recording Scheme Protocol for trapping project 2019



The aim of the project is to record blow fly species attracted to carrion in order to produce up to date distribution maps and learn about the seasonality of different species. The results of the experiment will contribute to papers published in peer reviewed journals and the data will be made available for future research through the NBN Atlas. The results will contribute to a PhD thesis.

Any specimens or photographs (for species that can be identified from them) of Calliphoridae and Rhiniidae with a date, location and habitat information will be gratefully received and used for distribution mapping and modelling. However, as blow flies attracted to carrion are the focus of this study, we recommend the following protocol to target these species in particular.

Trap design – we recommend a plastic bottle trap (modified after Hwang & Turner, 2005) due to its low cost and ease of operation; baited with macerated chicken or pig liver mixed with water (in a 1:1 ratio, e.g. 50 g liver in 50 ml water). You will need: two plastic bottles (1.5 or 2.0 litre preferred), small plastic pot for bait, old tights, sticky tape, scissors and some string or wire to fix it to fence post or hang it off the branch of a small tree so that the entry holes are approximately 1m off the ground.

One bottle holds the bait and attracts the flies to enter the trap through access holes; these holes can be made by simply cutting two intersecting lines of about 1-2 cm length in a cross shape and then pushing in the triangles of plastic that are created. The second bottle sits above the first, held in place by sticky tape, and is where the flies are retained after they are captured. The trap works on the principle that flies tend to move upwards, towards the light, and therefore concentrate in the higher chamber.

A barrier to stop the flies getting caught or falling into the bait mixture will produce cleaner specimens. Some mesh or netting over the bait (e.g. cut from old tights) should be used to prevent direct fly contact with the bait, minimise eggs being laid and larvae developing.

If a trap is to be set for a short period of time or is to be put out in winter, it may be an advantage to keep the liver out of the fridge for a few (2-3) days to enhance its odour production before baiting the trap.

Trapping duration – we suggest that traps be left in situ for up to one week in summer months and possibly longer, up to two weeks, in early spring, late autumn or winter months. Trapping duration depends on local weather and other conditions. If the trap can be checked regularly then it can be collected when a reasonable number of flies have been captured. The key is to leave the trap out long enough to collect blow fly species that are locally present, but not so long that the condition of the specimens might deteriorate if they die before collection.



... and work with other schemes

Identification Keys

First interactive key!

Key to British Silphidae (Burying beetles and allies)

- Pattern exactly as in (1) *Dendroxena quadrimaculata*
 Pronotum orange and elytra black (2) *Oiceoptoma thoracicum*
 Black with orange markings on elytra (3) 2
 None of above, generally uniform colour, mainly dark 6
- Hind tibiae curved (4) *Nicrophorus vespillo*
 Hind tibiae straight 3
- Pronotum with long golden pubescence around all margins (5) *Nicrophorus vespillo*
 Pronotum glabrous, without any long golden pubescence 4
 Club of antenna black (6) *Nicrophorus vespilloides*
 Club of antenna largely orange (7) 5
- All visible abdominal tergites with golden pubescence (8) *Nicrophorus interruptus*
 Anterior orange elytral marking widely separated *Nicrophorus investigator*
 Only terminal abdominal segment with golden pubescence (9) *Nicrophorus investigator*
 Anterior orange elytral markings often almost continuous across suture *Nicrophorus investigator*
- Antennae with a very well-defined rounded club (7) 7
 Antennae expanded apically, but without such a club 8
- Elytral epipleura black as rest of elytra *Nicrophorus humator*
 Elytral epipleura orange (10) (side view) *Nicrophorus germanicus*
- Head and mandibles elongate (11) 9
 Head and mandibles not elongate 10
- Elytra with raised longitudinal lines (12) *Silpha avarata*
 Elytra without raised longitudinal lines (13) *Silpha laevigata*
- Antennae with terminal segments orange (14) *Necrodes littoralis*
 Antennae uniformly dark 11
- Scutellum with some golden pubescence (15), may also be present on elytra and pronotum 12
 Scutellum, elytra and pronotum without golden pubescence 15
- Anterior margin of pronotum rounded (16). Usually covered with dense pubescence *Aclypea opaca*
 Anterior margin of pronotum emarginate (17). Pubescence usually less dense 13

1

Key Start

The first page separates the species and groups with obvious markings from those without

Click on the arrow to go to the next part of the key or the species account

Species of *Nicrophorus* with orange markings on the elytra

All others

Dendroxena quadrimaculata

Oiceoptoma thoracicum

Link available on the scheme page:
<http://www.coleoptera.org.uk/silphidae/home>

Nicrophorus species with orange markings

Clubs of antennae = **Black**
Thorax = **Hairless**



N. vespilloides



Long yellow hairs at front margin of thorax

Hairs over most of thorax



N. vestigator

Hind tibia = straight

Hairs only at front of thorax



N. vespillo

Hind tibia = curved

No yellow hairs on thorax



N. investigator

Front orange band = continuous

Yellow hairs on final abdominal segment



N. interruptus

Front orange band = interrupted

Yellow hairs on all abdominal segments

Training Recorders



3 workshops hosted so far:

- Edge Hill University
- Liverpool World Museum
- Berrycroft Hub

Upcoming:

- FSC Biolinks (Matt)
- Fife Records Centre (Ash)

Nicrophorus species: **Ecology**

Forests
Diurnal
April-Nov



N. vespilloides

Widespread & abundant

Fields
?Nocturnal
April-Oct



N. vestigator

Scarce

Fields
Nocturnal/
Crepuscular
May-Sept



N. vespillo

Widespread



N. humator

Widespread & abundant

Forests/Fields
Nocturnal
March-Sept



N. investigator

Widespread

All Types
Crepuscular
May-Sept



N. interruptus

Local

Fields
Sometimes Forests
Crepuscular
July-Sept

Dendroxena quadrimaculata



The Caterpillar Hunter



- Predatory on lepidopteran larvae
- Associated with Oak trees
- Active: **April-July***

Rare species



Silpha carinata

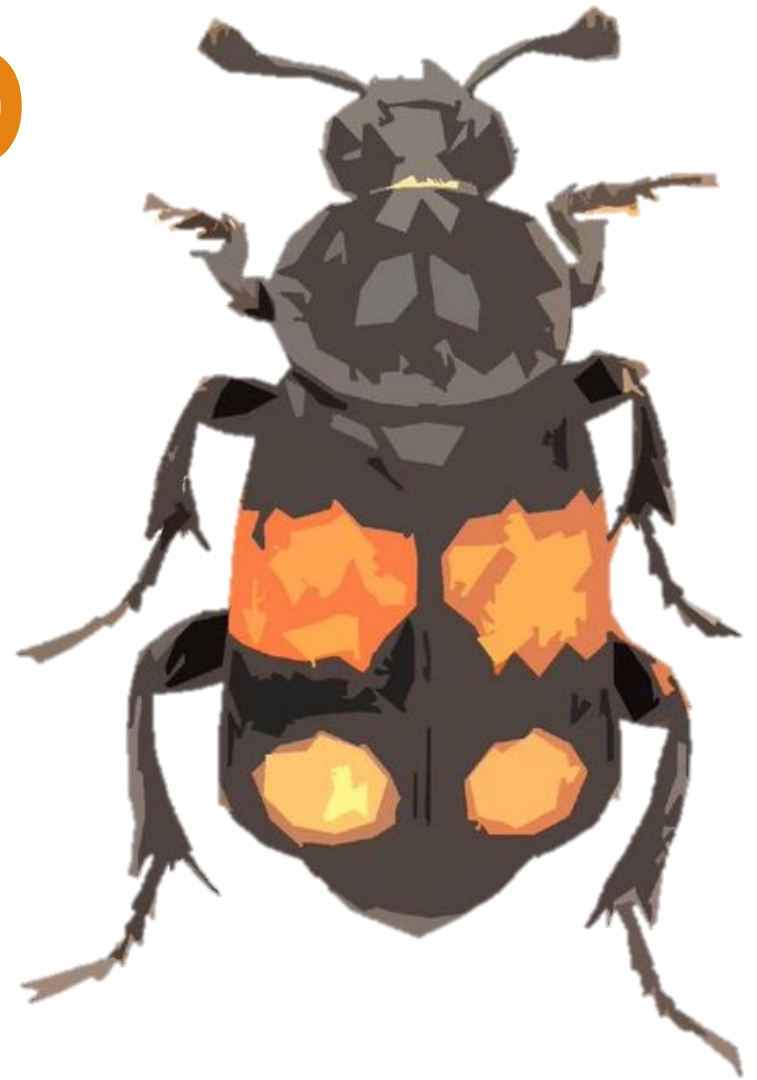


Great Ridge Wood, Wiltshire

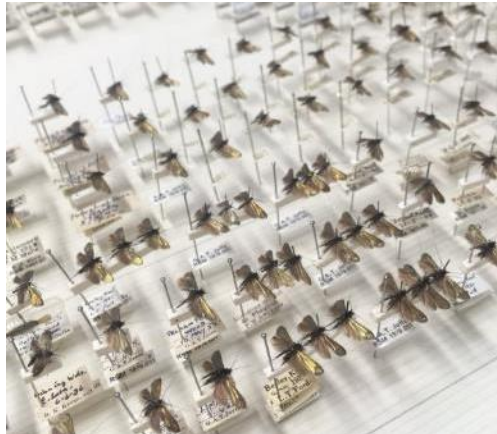
So how do museums fit in?

Ashleigh Whiffin

Silphidae Recording Scheme
National Museums Scotland



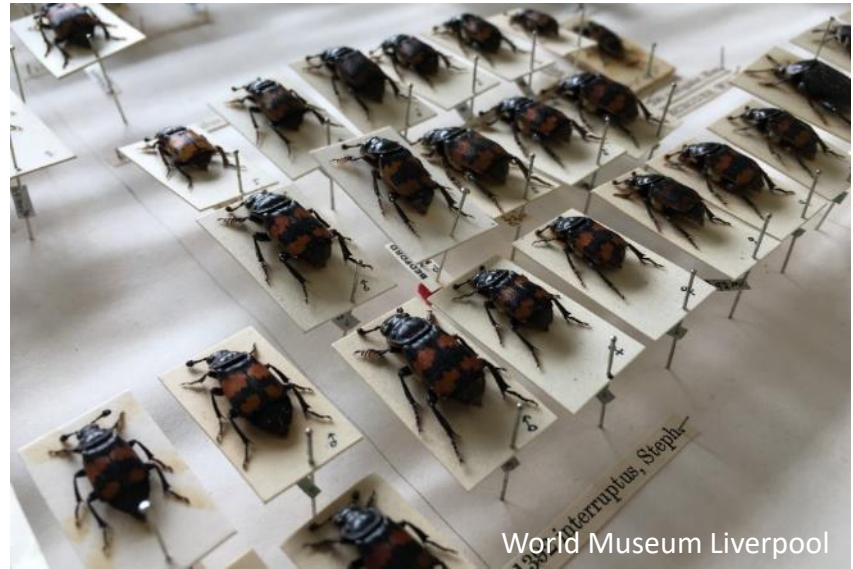
Museum Collections



Museum Collections



National Museums Scotland



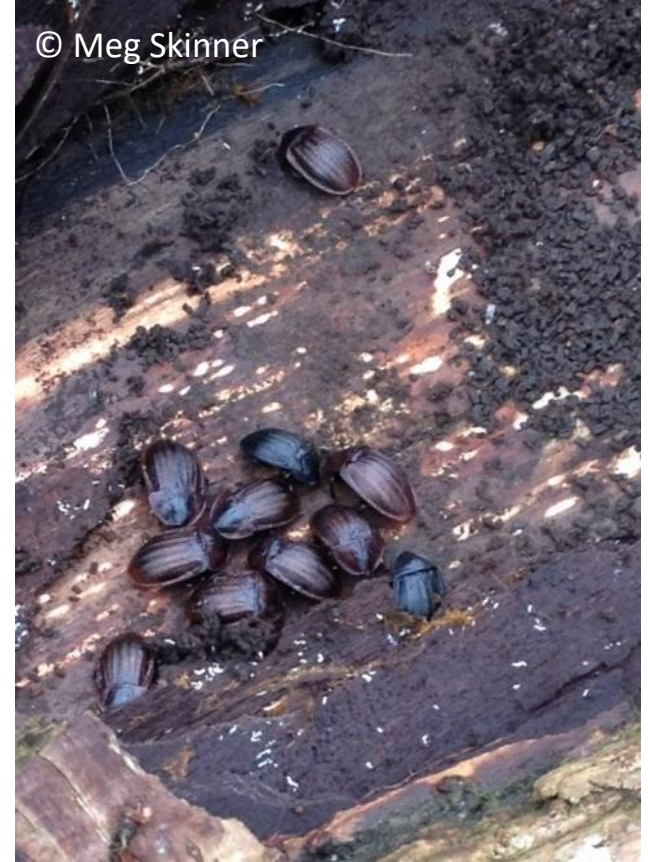
World Museum Liverpool



Bristol Museum



Assisting with Research



Phosphuga atrata

Network of recorders to call upon if voucher specimens needed.

Assisting with Research



Donations of larval specimens will help me to create a key larvae...

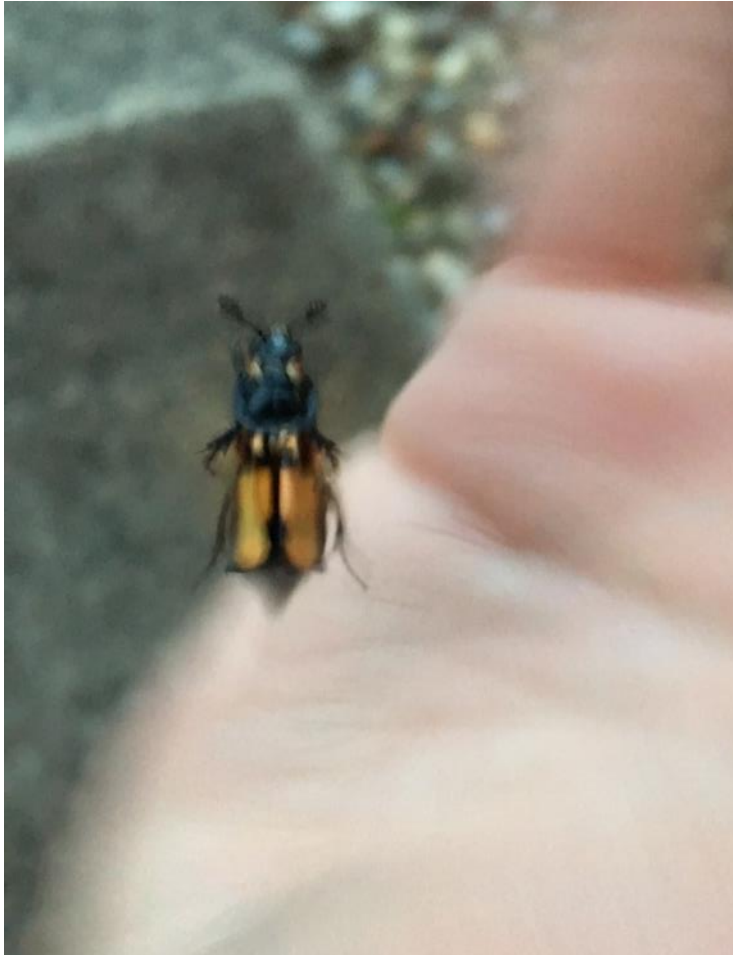
The Challenges

Ashleigh Whiffin

Silphidae Recording Scheme
National Museums Scotland



Record Shots



Record Shots



Data Analysis

- Previously on hold until we had enough records to play with
- Currently exploring different approaches

If you have any recommendations or can offer help – please let us know!



What I've learnt:

There is never enough TIME to do everything!

- Work as a team & share the load
- Seek advice from other NRS organisers
- Be realistic about your targets
- Set aside some time for **other life activities**



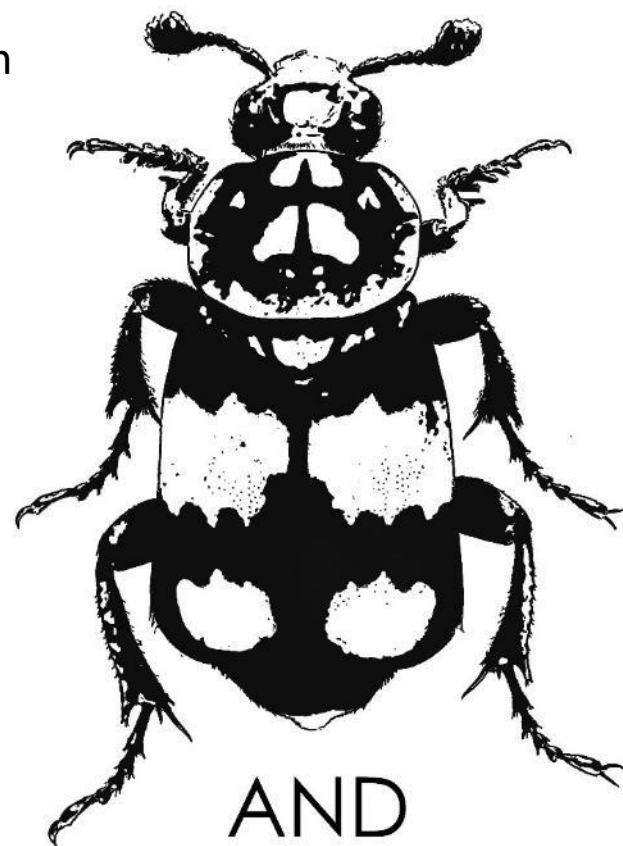
The scheme would like to thank:

Martin Harvey (BRC), Jodey Peyton (BRC), Darren Mann (OUMNH), Max Barclay (NHM), Helen Roy (CEH), Tony Hunter (WML), Gary Hedges (NML), Bonnie Griffin (Bristol Museum), Jeanne Robinson (Hunterian), Sally-Ann Spence (Berrycroft Hub), Richard Loxton, Ed Ivimey-Cook, and **all our brilliant recorders!**



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KEEP CALM



AND CARRION RECORDING

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