



Resources for insects (other than moths) attracted to light

Prepared by Martin Harvey for BENHS workshop on 9 December 2017

Here are the main recording schemes and identification guides available for the insect groups most frequently found at light traps. There are a lot of schemes involved! Many of them accept records via iRecord (website and app), so that you can add your records for many different species groups in one place.

If you are on Facebook you should join the “Moth trap intruders” group:

<https://www.facebook.com/groups/119091688719071/>

Look out for identification courses/workshops such as those organised by BENHS, Field Studies Council, the recording schemes themselves, and other organisations such as wildlife trusts.

DIPTERA – flies

Craneflies (Diptera: Tipulidae, Limoniidae etc.) and winter gnats (Trichoceridae)

Many species in this group are strongly attracted to light.

- Cranefly Recording Scheme: <http://www.brc.ac.uk/scheme/dipterists-forum-cranefly-recording-scheme> (organisers: John Kramer and Alan Stubbs)
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - Test keys are available from <http://ccw.naturalis.nl/literature.php> – that takes you to a search page; in the "Author" box, enter:
Stubbs Kramer
Then click on "Search literature" to see PDF download links for the keys. Start off with 2016a “[Key to the families](#)”, then 2016b “[Key to the genera of Tipulidae](#)”, then 2016c “[Key to species ... other than Tipula](#)” and 2016d “[Key to the subgenera and species of Tipula](#)”. That covers most of the larger species. Explore 2016e to 2016k for all the smaller species!

Hoverflies (Diptera: Syrphidae)

Not strongly attracted to light, but the occasional individual turns up in traps on a regular basis. The ones I see most frequently are *Episyrphus balteatus* and *Melanostoma scalare*.

- Hoverfly Recording Scheme: <http://www.hoverfly.org.uk/> (organisers: Roger Morris and Stuart Ball)
- Route for records: direct via spreadsheets or with photos via the scheme Facebook group (iRecord is in use but is not the preferred route for the scheme)
- ID resources:
 - Photographic guide book (covers over half the British species): <https://press.princeton.edu/titles/10470.html>
 - BENHS book and keys to all species: <http://www.benhs.org.uk/publications/british-hoverflies-an-illustrated-identification-guide-second-edition/>
 - Help with photos is available via the scheme’s Facebook group: <https://www.facebook.com/groups/609272232450940/>

Soldierflies, snipeflies, horseflies, robberflies and allies (Diptera: Lower Brachycera)

No really nocturnal species, but a few soldierflies (especially *Microchrysa polita*) and snipeflies (especially *Rhagio lineola*) are seen in traps fairly often.

- Soldierflies and Allies Recording Scheme: <http://www.hoverfly.org.uk/> (organiser: Martin Harvey)
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - BENHS book and keys to all species: <http://www.benhs.org.uk/publications/british-soldierflies-and-their-allies-second-edition/>
 - Resources on the recording scheme website: <http://www.brc.ac.uk/soldierflies-and-allies/resources>



- Scheme Facebook group: <https://www.facebook.com/groups/633973796697869/>
- Twitter: [@SoldierfliesRS](https://twitter.com/SoldierfliesRS)

Blowflies (Diptera: Calliphoridae)

Some of these flies are fairly frequent in light-traps, especially the large metallic blue blowflies in genus *Calliphora* and the earthworm parasites that have crinkly golden hairs on the thorax in genus *Pollenia*.

- Calliphoridae Recording Scheme: <http://www.coleoptera.org.uk/aquatic/home> (organiser: Olga Retka)
- Route for records: iRecord and spreadsheets
- ID resources:
 - Steven Falk has produced a very well-illustrated key to blowflies, available as a free download: <http://www.stevenfalk.co.uk/files/21577/testkeytobritishblowflies132016.pdf>

COLEOPTERA – beetles

Dung beetles, chafers and stag beetles (Coleoptera: Scarabaeoidea)

The dung beetle *Aphodius rufipes*, the Cockchafer *Melolontha melolontha* and (if you are within its range) the Stag Beetle *Lucanus cervus* are all strongly attracted to light, but there are some other species to be found as well.

- DUMP Project: <https://dungbeetlemap.wordpress.com/> (focuses on dung beetles but is part of the main recording scheme that also includes chafers and stag beetles; organisers Darren J. Mann, Ceri Watkins, Sally-Ann Spence and Steve Lane)
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - Guide to nocturnal dung beetles and relatives: https://twitter.com/Team_DUMP/status/919553957210488832
 - Further info: <https://dungbeetlemap.wordpress.com/finding-and-recording-dung-beetles/>
 - See also Mark Telfer's website: <http://www.marktelfer.co.uk/beetles/scarabaeoidea/>
- Twitter: [@Team_DUMP](https://twitter.com/Team_DUMP)

Ladybirds (Coleoptera: Coccinellidae)

The most frequent in light traps are the Orange Ladybird and the Harlequin Ladybird, with others occasionally seen.

- Ladybird Recording Scheme: <http://www.coleoptera.org.uk/coccinellidae/home> (organisers: Helen Roy and Peter Brown)
- Route for records: iRecord or direct via spreadsheets, Ladybirds app: <http://www.brc.ac.uk/article/irecord-ladybirds-mobile-app>
- ID resources:
 - The above website and app include good ID guides
 - FSC chart: <http://www.field-studies-council.org/publications/pubs/ladybirds-identification-chart.aspx>
 - Ladybirds naturalists' handbook: <https://pelagicpublishing.com/products/ladybirds-naturalists-handbooks-helen-roy>
- Twitter: [@ukladybirds](https://twitter.com/ukladybirds)

Sexton beetles/burying beetles (Silphidae)

Species in genus *Nicrophorus* plus *Necrodes littoralis* are the most frequent in light traps.

- Silphidae Recording Scheme: <http://www.coleoptera.org.uk/silphidae/home> (organisers Ashleigh Whiffin, Matt Esh and Richard Wright)
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - An identification key for this group can be found in [Beetle News Vol. 1 No. 3](#) (PDF download)
 - A new draft interactive ID guide compiled by Richard Wright is available: <https://goo.gl/FMVZ3i>
- Twitter: [@SilphidaeUk](https://twitter.com/SilphidaeUk)



Soldier beetles (Coleoptera: Cantharidae)

Not strongly attracted to light but quite a large proportion of the species turn up occasionally, with *Rhagonycha fulva* being the most frequent in my experience.

- Soldier Beetles Recording Scheme: <http://www.coleoptera.org.uk/buprestidae/home> (organiser: Keith Alexander)
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - Pictorial guide by Mark Gurney: <http://www.coleoptera.org.uk/buprestidae/news/new-guide-soldier-beetles>
 - Further keys are available via Mark Telfer's website: <http://www.markgtelfer.co.uk/beetles/cantharidae/>

Ground beetles (Coleoptera: Carabidae)

The Strawberry Seed Beetle *Harpalus rufipes* is a regular light-trap visitor, and the small species *Bradycellus verbasci* can be very abundant. A fairly small range of other species turn up occasionally, including on occasions uncommon species such as *Ophonus ardosiacus*, which disperses at night when conditions are warm and muggy.

- Ground Beetle Recording Scheme: <http://www.coleoptera.org.uk/carabidae/home> (organiser: Mark Telfer)
- Route for records: direct via spreadsheets (iRecord is not currently in use but records added to iRecord will be made available to the recording scheme when required)
- ID resources:
 - RES key: <http://www.field-studies-council.org/publications/pubs/the-carabidae-%28ground-beetles%29-of-britain-and-ireland.aspx>
 - Essential annotations for the above key, and lots more resources, are available via Mark Telfer's website: <http://www.markgtelfer.co.uk/beetles/carabidae-ground-beetles/>

Weevils (Coleoptera: Curculionoidea)

Not strongly attracted to light but a few species seem to turn up regularly, including *Barynotus obscurus* and *Curculio glandium*.

- Weevil Recording Scheme: <http://www.coleoptera.org.uk/curculionoidea/home> (organisers: Mark Gurney, Colin Campbell, Adrian Fowles)
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - Mark Gurney is compiling a set of downloadable illustrated identification guides: <http://www.coleoptera.org.uk/curculionoidea/home>
 - Weevils are included in vol. 4 of Andrew Duff's *Beetles of Britain and Ireland*: <http://www.coleoptera.org.uk/curculionoidea/books>
 - There are RES keys to weevils, summarised on Mark Telfer's website: <http://www.markgtelfer.co.uk/beetles/curculionoidea-weevils/>
 - Twitter: [@WeevilRS](https://twitter.com/WeevilRS)

Longhorn beetles (Coleoptera: Cerambycidae)

The large conifer-feeding *Arhopalus rusticus* is quite strongly attracted to light, and *Phymatodes testaceus* is seen occasionally, plus a few others once or twice.

- Longhorn Beetle Recording Scheme: <http://www.coleoptera.org.uk/cerambycidae/home> (organisers: Wil Heeney and Katy Potts)
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - A pdf key to longhorn beetles can be downloaded from Mike Hackston's website: <https://sites.google.com/site/mikesinsectkeys/Home/keys-to-coleoptera/cerambycidae>
 - Longhorn beetles are included in vol. 4 of Andrew Duff's *Beetles of Britain and Ireland*: <http://www.coleoptera.org.uk/curculionoidea/books>



- Facebook: <https://www.facebook.com/groups/1577096312614327>
- Twitter: [@NLonghornRS](https://twitter.com/NLonghornRS)

Water beetles (Coleoptera: various families)

A few species are regulars in light-traps, including the Great Diving Beetle *Dytiscus marginalis*, and *Ilybius fuliginosus*.

- Aquatic Coleoptera Recording Scheme: <http://www.coleoptera.org.uk/aquatic/home> (organiser: Garth Foster)
- Route for records: direct via spreadsheets and specimens (records added to iRecord will be made available to the recording scheme when required)
- ID resources:
 - There is an AES guide to the larger water beetles: <https://shop.amentsoc.org/the-larger-water-beetles-of-the-british-isles.html>
 - RES key part 1: [http://www.field-studies-council.org/publications/pubs/key-to-adults-of-the-water-beetles-of-britain-and-ireland-\(part-1\).aspx](http://www.field-studies-council.org/publications/pubs/key-to-adults-of-the-water-beetles-of-britain-and-ireland-(part-1).aspx)
 - RES key part 2: [http://www.field-studies-council.org/publications/pubs/keys-to-adults-of-the-water-beetles-of-britain-and-ireland-\(part-2\).aspx](http://www.field-studies-council.org/publications/pubs/keys-to-adults-of-the-water-beetles-of-britain-and-ireland-(part-2).aspx)
 - Water beetles are also included in in vol. 1 of Andrew Duff's *Beetles of Britain and Ireland*: <http://www.pemberleybooks.com/product/beetles-of-britain-and-ireland.-vol.-1-sphaeriusidae-to-silphidae/23532/>

TRICHOPTERA – caddisflies

Caddisflies (Trichoptera)

Quite a large proportion of this group are attracted to light, even at distance from water bodies.

- Caddisfly Recording Scheme: <http://www.brc.ac.uk/schemes/RRS/trichoptera.htm> (organiser Ian Wallace)
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - FSC key (to families only): [http://www.field-studies-council.org/publications/pubs/guide-to-the-adult-caddisflies-or-sedge-flies-\(trichoptera\).aspx](http://www.field-studies-council.org/publications/pubs/guide-to-the-adult-caddisflies-or-sedge-flies-(trichoptera).aspx)
 - RES key to species: [http://www.field-studies-council.org/publications/pubs/the-adult-trichoptera-\(caddisflies\)-of-britain-and-ireland.aspx](http://www.field-studies-council.org/publications/pubs/the-adult-trichoptera-(caddisflies)-of-britain-and-ireland.aspx)

NEUROPTERA – lacewings

Lacewings (Neuroptera)

Another group that comes well to light, with a good proportion of species likely to be found in light-traps.

- Lacewing Recording Scheme: <http://lacewings.myspecies.info/> (organiser: Colin Plant)
- Route for records: direct via spreadsheets (iRecord is in use in some counties; records added to iRecord will be made available to the recording scheme when required)
- ID resources:
 - FSC key: [http://www.field-studies-council.org/publications/pubs/a-key-to-the-adults-of-british-lacewings-and-their-allies-\(neuroptera,-megaloptera,-raphidioptera-and-mecoptera\).aspx](http://www.field-studies-council.org/publications/pubs/a-key-to-the-adults-of-british-lacewings-and-their-allies-(neuroptera,-megaloptera,-raphidioptera-and-mecoptera).aspx)

HYMENOPTERA – ants, bees, wasps

Ants, bees and wasps (Hymenoptera: aculeata)

Not generally thought of as nocturnal creatures, but some social wasps and ants are regularly attracted, with the Hornet having become commoner in recent years to the extent that it is becoming a hazard when mothing in woodland.

- Bees, Wasps and Ants Recording Society: <http://www.bwars.com/>



- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - See: <http://www.bwars.com/content/key-works-identifying-bees-wasps-and-ants>
 - Facebook group: <https://www.facebook.com/groups/1590641777855221/>
 - Twitter: [@bwars2000](https://twitter.com/bwars2000)
 - Online guide to social wasps (by Trevor and Dilys Pendleton): <http://www.eakringbirds.com/eakringbirds2/insectswaspsidentification.htm>
 - A more technical key to social wasps (Dvorak and Roberts): http://www.aemnp.eu/PDF/46_0/46_0_221.pdf

Ichneumon wasps (Hymenoptera: parasitica)

There are quite a lot of nocturnal species among the ichneumons, including the relatively distinctive winter-flying *Ophion obscuratus*.

- Nocturnal Ichneumonoidea Recording Scheme: <http://nocturnalichs.myspecies.info/> (organiser: Gavin Broad)
- Route for records: direct via spreadsheets and specimens (records added to iRecord will be made available to the recording scheme when required)
- ID resources:
 - There are a number of keys linked from the scheme website: <http://nocturnalichs.myspecies.info/biblio>
 - In particular, see the key to nocturnal species: <http://nocturnalichs.myspecies.info/node/38> (also available with additional photos from Malcolm Storey, see final bullet below)
 - See also the NHM “beginner’s guide” to 38 relatively distinctive ichneumon species: <http://www.nhm.ac.uk/content/dam/nhmwww/take-part/identify-nature/british-ichneumonid-wasps-id-guide.pdf>
 - Malcolm Storey provides additional resources, including a version with added photos of the key to genera in Gavin Broad’s key for nocturnal species, plus a version of Stigenberg and Ronquist’s *Keys to the Western Palearctic Meteorini* that includes a group of nocturnal braconid wasps: http://www.bioimages.org.uk/ichneumon_files.htm

HEMIPTERA – true bugs

True bugs (Hemiptera)

A few of the shieldbugs, especially Forest Shieldbug *Pentatoma rufipes* and Birch Shieldbug *Elasmotethus interstinctus* are regular light-trap visitors, and some of the water bugs, especially the lesser water boatmen in family Corixidae, can be very numerous. Western Conifer Seed-bug *Leptoglossus occidentalis* is a recent colonist that has become widespread. It is large and spectacular, and most often seen in the autumn.

- There are three schemes, covering Terrestrial true bugs, Aquatic true bugs, and Leafhoppers. For details see: <http://www.britishbugs.org.uk/recording.html>
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - The British Bugs website has excellent photographic resources: <https://www.britishbugs.org.uk>
 - Online key to families and subfamilies of leafhoppers: <http://www.ledra.co.uk/keys.html>
 - Twitter: [@BritishBugs](https://twitter.com/BritishBugs) (Tristan Bantock)

ORTHOPTERA – crickets, grasshoppers, earwigs

Crickets, grasshoppers, earwigs (Orthoptera)

Dark Bush-cricket *Pholidoptera griseoptera* and Oak Bush-cricket *Meconema thalassinum* are the most frequent of this group in my experience. Common Earwig *Forficula auricularia* and Lesser Earwig *Labia minor* are also seen fairly often.

- Orthoptera Recording Scheme: <https://www.orthoptera.org.uk/> (organisers: Bjorn Beckmann and Peter Sutton)



- Route for records: iRecord or direct via spreadsheets, grasshoppers app: <http://www.brc.ac.uk/article/irecord-grasshoppers-mobile-app>
- ID resources:
 - The above app includes good ID guides
 - ID guides to download: <https://www.orthoptera.org.uk/node/1035>
 - Twitter: [@GrasshopperSpot](https://twitter.com/GrasshopperSpot)

EPHEMEROPTERA – mayflies

Mayflies (Ephemeroptera)

Not very many species are attracted to light, but a few can be numerous, and if you are near the river Thames or Wye you may see good numbers of the large, rare species *Ephemera lineata*, which is very strongly attracted.

- Mayfly Recording Scheme: <https://www.brc.ac.uk/schemes/RRS/ephemeroptera.htm> (organiser: Craig MacAdam)
- Route for records: iRecord or direct via spreadsheets
- ID resources:
 - FSC key: <http://www.field-studies-council.org/publications/pubs/a-pictorial-guide-to-british-ephemeroptera.aspx>

OTHER SPECIES

Some further species that are frequent at light-traps but fall outside the above recording schemes:

Diptera – flies

- Yellow Dung-fly *Scathophaga stercoraria* (family Scathophagidae) – check for dark antennae to help rule out other similar species in the genus: <http://scathophagidae.myspecies.info/scathophagid-checklist/scathophaga-stercoraria>
- Window gnats, genus *Sylvicola* (family Anisopodidae) – see the online key http://www.online-keys.net/infusions/keys/keys_print.php?key_no=1 and Steven Falk's photos <https://www.flickr.com/photos/63075200@N07/collections/72157632255623734/>
- St Mark's flies, several species (family Bibionidae) – see Steven Falk's photos <https://www.flickr.com/photos/63075200@N07/collections/72157632177517531/>

Coleoptera – beetles

- *Lagria hirta* (family Tenebrionidae) – a distinctive hairy beetle: <http://www.thewcg.org.uk/tenebrionidae/0230G.htm>
- Glow-worm *Lampyris noctiluca* (family Lampyridae) – males are attracted to light-traps (presumably thinking they've found a very large female!). Glow-worm is part of the Soldier beetle recording scheme (see above) but also has its own survey project: <http://glowworms.org.uk/>
- *Dasytes aeratus* (family Dasytidae) is a small, dark, rather cylindrical beetle that is quite often seen at light: <http://www.thewcg.org.uk/dasytidae/0382.htm>
- *Oedemera femoralis* (family Oedemeridae) is a distinctive elongate beetle. It was considered quite scarce but seems to be getting more frequent at light, especially in autumn: <https://www.biolib.cz/en/taxon/id421283/>

For a full list of national recording schemes see <http://www.brc.ac.uk/recording-schemes>