



Ground Beetle Recording Scheme

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Notes for recorders, including notes on use of the new Recording Form (RA29 v.2)

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Why record ground beetles?

The Ground Beetle Recording Scheme (GBRS) collects and collates information on the distribution and ecology of ground beetles (Coleoptera: Carabidae) in Britain and the Channel Islands. Its main aim is:

- To map the distributions of all species at 10 × 10 km resolution across Britain and the Channel Islands,

but also:

- To record distribution information at fine scale (up to 10 × 10 m) where possible,
- To record distributions afresh on at least an annual basis so as to track changing distributions over time, and
- To collect and collate records with full dates to allow increased understanding of the adult activity periods and life-cycles of British carabids.

How should I send my records in?

My preference is for people to computerise their own records using standard biological recording software, and send them in to the recording scheme in electronic format. I have recently switched from using Recorder 3.3 to MapMate, so I can accept records most easily from other MapMate users, but also from Recorder 3 users. Recorder 3 users should contact me for a copy of my instructions on exporting carabid records from Recorder 3.3. Later this year (2002) I will also be able to accept records from Recorder 2000 users. For users of other recording software, I have no off-the-shelf advice, but am willing to work out how we can exchange records. Any recorders using spreadsheets or databases of their own devising for their carabid records, please contact me for some guidelines on how to export records in a suitable format.

The ultimate repository of carabid records is on the GBRS database held at the Biological Records Centre, CEH Monks Wood. This uses a simple database model on an industry-standard Oracle system, and with more or less 'massaging' of data, can import records from any other database.

Records are also welcome on standard recording cards/forms:

- the revised 'field recording' form (RA29 v.2) for a list of species from a single locality, or
- one of the single-species cards produced by the Biological Records Centre (BRC), ideally the GEN12.

Cards can be ordered on-line at <http://www.brc.ac.uk/brcRecordCard.shtm>, and are free.

It can be much more time-consuming to process records received on paper in any other format. Often this involves me transcribing the records onto standard recording cards. However, if you have records in a card index system for example, and they are clearly laid out and legibly written, it should be possible to input them directly - please check with me first.

The new recording form

The new recording form replaces the double-sided A5 record card (the old RA29), which was first printed in 1974, and is now out of print. The new card includes completely updated species nomenclature, and lists the species in taxonomic sequence. Although it should not matter to most recorders, it is worth noting that the BRC numbers for carabids have been completely revised. I would prefer recorders to switch to the new card, but it will not cause any problems if records are still submitted on remaining stocks of the old card.

Printing

My intention with this recording form is that most recorders will print off or photocopy as many copies as they need. To view and print the recording form, you will need to have Adobe® Acrobat Reader® (currently at version 5.0.1) installed on your computer. This software is available as a free download from Adobe's web-site at <http://www.adobe.com/products/acrobat/readstep.html>. The form has been set up with margins of 1 cm on all four sides. Some printers may require wider margins than this, in which case check your printer options to see if it is possible to reduce the form to fit the page. Anyone who would prefer to be sent copies from BRC, please ask.

The checklist

The sequence and nomenclature of the recording form follow the on-line British carabid checklist by Martin Luff and Andrew Duff on *The Coleopterist* web-site: <http://coleopterist.org.uk/>, version dated 28th February 2002. The on-line checklist includes synonyms and thus allows anyone (or anyone with access to the internet!) to trace the name-changes. There are three species where the recording card currently differs from the Luff and Duff checklist:

Nebria gyllenhali I have retained this name, which will be familiar to most British coleopterists; I'm not convinced that the change to *N. rufescens* is valid.

Harpalus laevipes Introduced by nomenclatural work in North America, this name replaces *Harpalus quadripunctatus*.

Ophonus laticollis Recent, and as yet unpublished, taxonomic work establishes this as a valid replacement name for the species formerly known as *Ophonus punctatulus* (and also as *Ophonus nitidulus*).

If any recorders need some guidance with the new checklist, I will be happy to help, and can post a copy of the checklist to anyone who does not have internet access.

Aggregates

I have included three aggregate taxa on the card:

Asaphidion flavipes agg.¹ (includes *A. curtum*, *A. flavipes* s.s.² and *A. stierlini*),

Pterostichus nigrita agg. (includes *P. nigrita* s.s. and *P. rhaeticus*) and

Calathus melanocephalus agg. (includes *C. cinctus* and *C. melanocephalus* s.s.).

In each case, records can be submitted for the aggregate or, preferably, for the segregate species.

Ireland and the Channel Islands

Although the Ground Beetle Recording Scheme is not intended to cover Ireland, this recording form could be used for Irish recording, and I have included *Agonum lugens* (the only Irish carabid which is not on the British list) on the form to ensure that all the Irish carabids are covered.

Three additional species of carabids have been recorded from the Channel Islands, according to a checklist of the carabids of the Channel Islands prepared by Charles David, which he kindly sent to me in August 2002:

- *Bembidion elongatum* (Dejean) (Guernsey and Jersey)
- *Harpalus sulphuripes* Germar (Chausey Islands, France)
- *Parophonus maculicornis* Duft. (Jersey)

These species are not included on the recording form, but anyone lucky enough to find them may use the “Comments and other species” box.

What grid reference should I give?

Please give the grid reference of the smallest grid square which encompasses the area you sampled. If all your sampling was done at a point (e.g. pitfall trapping) or within a very small area, please try to give a 6-figure grid reference (e.g. TL201799) or GPS reading. If you wandered a little more widely but stayed within a single 1-km square (i.e., a 1 × 1 km grid square) please give the 4-figure grid reference: e.g., TL20-79- (often written as just TL2079). If you cover several adjacent 1-km squares, it would be good to try and keep separate lists for each square, but failing that, please submit the records for the 10-km square with a 2-figure grid reference, e.g. TL2--7-- (or TL27). If you are recording near the boundary between two 10-km squares, it is essential to keep separate records for each square. BRC happens to be situated about 200 m from the intersection of four different 10-km squares, so a lunchtime walk can result in filling out four separate record cards!

¹ agg. = aggregate

² ‘s.s.’ = ‘*sensu stricto*’ or ‘in the narrow sense’.

Please do not give 'central grid references', as have sometimes been used for nature reserves and other sites. These tend to be 6-figure grid references for a central point of the reserve, whereas the records submitted may come from anywhere within the reserve, and not necessarily even within the same 10-km square as the central grid reference.

GPS Grid references

Quite a few entomologists have now started using hand-held GPS (Global Positioning System - satellite technology) to determine their location. The best you can do when using a 1:50,000 or 1:25,000 map is to read off a '6-figure' grid reference (e.g. TL201799) which refers to a 100 × 100 m square of the National Grid. In contrast, GPS units give 10-figure grid references, referring to a 1 × 1 m square. However, under normal use, their accuracy is only to about plus or minus 10 m - the last digit of the northings and eastings is thus spurious. I have left space on the card for 8-figure grid references from GPS users.

Vice-counties

The system of vice-counties was decided upon by H.C. Watson in 1852, who divided Britain into units of roughly equal area for botanical recording purposes. His system was later extended to Ireland by Praeger. Vice-counties have been widely adopted by naturalists in preference to the ever-changing administrative counties: vice-county boundaries will not move!

It is very useful to include the vice-county (VC) as well as the grid reference with each record. With both, it becomes possible to check that grid references are not wildly inaccurate, and to sort records into counties, which is useful when providing information to county recorders and local records centres. So - whenever possible - please enter the VC, as well as the grid reference, on your records.

VC maps may be viewed on-line at <http://www.brc.ac.uk/brcMaps.shtml>, and the same web-page also gives details of obtaining a free paper copy of the Ray Society VC maps (Britain at a scale of 10 miles to 1 inch, as two 34" × 43" sheets) from BRC.

Do I need to send in absolutely all my records?

I am interested in absolutely all carabid records. For example, if you have 200 records of *Pterostichus madidus* from your back garden, I would be more than happy to receive all 200 records, with full dates. That's because I'm keen to build up information on the adult emergence periods of British carabids. However, if you don't feel you have time to submit all those records, please submit one record for the locality for each year as a minimum.

Likewise, if you record the same species from several different sites within a single 10-km square, I would expect the majority of recorders to submit records from each site. However, if all you feel able to do is to submit one record per 10-km square, I will accept that.

Date(s)

The form allows for a date range to be given, which should be particularly useful when filling out records from pitfall traps. A date range should also be given for nocturnal recording or light-trapping where records span two dates.

Larval records and records of dead beetles

As the database continues to grow it will become increasingly valuable as a source of information on the adult activity periods of different carabids. However, records of larvae, made at times of year when the adults are not present, would obscure any patterns. Please submit any larval records but add a note to make it clear that they are larval records.

Beetle fragments can persist for long after the beetle has died, and some carabids are recognisable even from quite small fragments. If submitting records based on identifying such remains, please specify that the record was based on a dead adult, and just give the year of the record (or month if you think death was very recent). Again, giving a precise date might obscure patterns of seasonality in the dataset.

Source

If you have used the recording form for records abstracted from the literature, or from a museum collection, please give further details of the source. If any recorder is willing to put in some time on this exercise, I can supply details of which museums and journal runs have been covered already, and which still need doing.

Habitat

Habitat information will not be computerised, because the focus of the scheme is on distributions and adult emergence periods. However, if you want to add any habitat information to the recording form, there is a box to do so. It is often really useful to have some indication of the habitat or collecting technique, especially if you are collecting from an unusual situation (such as indoors).

Recorder, Determiner and Compiler

The recorder is the person or persons who found the beetle, or ran the traps which caught the beetles. I use 'recorder' rather than 'collector' because not every record is based on a collected specimen. The determiner is the person or persons who identified the beetles. The compiler is the person who filled out the card. If you carried out all three roles, it is enough to just write your name in once and initial the other two boxes. BRC will allocate code numbers to recorders/determiners/compiler using the greyed-out cells.

Identification service

All recorders are welcome to submit specimens to me for identification. I prefer carded specimens, but am willing to accept specimens in alcohol too if they are individually tubed. Batches of up to 20 specimens can be sent without advance

warning, but please check with me if sending more than that. Specimens must have locality and date data attached. If you think you know what species it is, no matter how tentatively, please add a determination label - it is really valuable for me to see where identification problems can arise. I will return all specimens to you as a matter of routine, but if there's anything I'd like to add to my collection, I may ask for a duplicate. Finally, though I might deal with your specimens pretty quickly, I might not - please be patient!

For identification of carabids, I still recommend Lindroth's (1974) Royal Entomological Society Handbook over any more recent identification texts. I have prepared a guide to the identification literature for carabids, available to anyone who is interested.

Misidentifications

There is an established process for correcting identification errors in the database. If you discover that you have submitted a record that was misidentified, please let me know and I will make the necessary corrections to the database.

What happens to my records?

Firstly, I will check over all records and I may ask for further information, or ask to see specimens, to confirm exceptional records. Secondly, records will be computerised as necessary, and validated. The validation process involves running automated checks on dates and locality information, e.g. checking that the grid reference matches the vice-county. If any problems are found which cannot easily be solved, you may be contacted again to help resolve them.

Validated records are then added to the Ground Beetle Recording Scheme database held at the Biological Records Centre (BRC), which provides a secure long-term computer archive for the records. BRC also provides archive storage of the record cards in fire-proof filing cabinets.

What do I do if I think my records might already have been submitted?

Duplicate records are absolutely no problem. In the past, efforts have been made in biological recording to reduce duplicate records, which are a waste of computer memory, but in the present day, computer memory is cheap enough that we need not worry as much. I would rather have your records twice (or more times) than not at all, so if in doubt, (re-)submit! Of course, any duplication of records means that there has been some duplication of effort, and in future, a smoothly coordinated National Biodiversity Network should allow us to enter records only once, but use them many times.

How does the GBRS inter-relate with Local Records Centres and County Recorders?

It has to be said that things are in a bit of a pickle here! A few county recorders and a few Local Records Centres (LRCs) are very good at collating and computerising records, and then forwarding checked and validated datasets to the national scheme. I

would like to promote similar arrangements with other county recorders and LRCs, but they are not currently in place. In return, I can help by scrutinising local datasets and helping to check records.

If you have submitted records to an LRC or a county beetle recorder, and you are wondering whether they have been forwarded on to the GBRS, the answer is 'probably not!'. Please either submit your records directly to me, or put me in touch with whoever holds your records locally.

Policy on use of records and access to records

Records entered into the Ground Beetle Recording Scheme database will be used, where appropriate, as follows:

- to improve understanding of the distributions, natural history and ecology of British carabids,
- to promote entomology, and in particular the study of carabid beetles,
- to conserve carabids and their habitats.

It is intended that records will be made available to all with appropriate safeguards, including via the internet using the National Biodiversity Network's Gateway website: www.searchnbn.net. However, the following exceptions apply:

1. Information on the localities of species considered vulnerable to over-collecting will be released at the discretion of the scheme organiser,
2. Information may not be released if there is considered to be a reasonable chance of one or more of the following occurring:
 - failure to give suitable credit or acknowledgement of the use of GBRS data,
 - misinterpretation of GBRS data in any way, but particularly in such a way as to harm the objectives of use stated above,
 - abuse of the GBRS dataset in such a way as to glean personal information about the people contributing to the dataset,
 - unauthorised sale or distribution of GBRS data.

Commercial organisations, e.g. developers, requiring data for environmental assessments will be expected to pay commercial rates for access to recording scheme data.