

## **Method Statement – Bedfordshire Invertebrate Group (BIG)**

### **Introduction**

*“Entomologists are uncomfortable killing insects, and we don’t take it lightly. If we did, we wouldn’t be very good at our jobs. Most entomologists are deeply concerned about environmental issues, and have thought long and hard about why we’re doing what we’re doing.”* Joe Ballenger and Nancy Miorelli

This quote nicely sums up the way most entomologists feel about the vexed subject of collecting and killing insects. It seems paradoxical that at a time when great concern is being expressed about the state of our wild insect populations, entomologists who often are leading the cause for better insect conservation are at the same time taking and killing sawflies and other insects in order to study what is happening to insect populations. So, why is the collection of specimens necessary?

Whilst some invertebrate species can, with considerable practice, be identified in the field, many require examination of microscopic features to be able to distinguish individual species. These features are impossible to see on a live, active insect, so in order to be able to accurately identify the insect a specimen is required. These “voucher” specimens can then be checked with the aid of identification keys. Some of the characters used are so subtle, that comparison with previously collected specimens may be needed to confirm the correct identity.

Entomologists need to have access to a reliably named reference collection of voucher specimens; otherwise, they would be unable to identify many species. Many entomologists build up a small reference collection of their own, or if there is a good museum collection accessible to them, they may take their specimens along to the museum for comparison. Not infrequently, even with access to a reference collection, entomologists will end up having to send their specimen to a leading authority for a final confirmation of the species.

### **Responsible collecting and conservation**

In order to get governments and national conservation bodies to act, detailed data must be presented relating to specific species or groups of species. Accurate identification of species allows the monitoring of changes in population sizes or species distributions so that declines in range or numbers can be detected early on. Without detailed data based on accurately identified species records, conservationists would remain ignorant of what changes may be taking place and thus unable to put in place actions to safeguard populations.

Whenever specimens are not required for scientific research, most entomologists will endeavour to identify as many species as possible in the field. The most experienced species recorders can confidently identify a considerable range of species in the field, often by capturing specimens and closely inspecting them with a hand lens. Even so, they will still need to take some specimens that cannot be identified in this way. Such collection is always done with restraint and with special regard to scarce species that may be present in an area.

Where scarce species are collected, although the taking of a few specimens may be regrettable, it means site managers can be made aware of the special species present on their site, so that they can be protected by managing the site appropriately. In this context specimen collection is a very valuable service to the cause of insect conservation.

All records of our invertebrate fauna are useful and can contribute to our understanding of the distribution of the species throughout the British Isles. The aim is to have a dataset that is internationally recognised as an important and valuable source of data and can be used both nationally and internationally when investigating the challenges faced by our invertebrate fauna.

For some people, killing and collecting is unacceptable. As noted, there are a good number of species that can be recorded from good quality photographs without collection of specimens. BIG are happy to support such individuals and help them to identify as many species as possible by identifying from photographs. We regard the work of such recorders as valuable and fully respect the personal decision not to collect insects.

For a few individuals, the desire for a deeper understanding of the invertebrate fauna will lead on to the need for collecting reference specimens. Because of the considerable commitment of time and equipment required to make and maintain an accurately identified collection of voucher specimens, it is always likely that numbers of people collecting specimens will remain very low. This group believes that the responsible collecting of specimens in line with the “Code for Collecting Insects and other Invertebrates” does not threaten invertebrate populations and we will support individuals who wish to improve their ability to identify and study the British invertebrate fauna. The following methodology is adapted from the Code for Collecting Insects and other Invertebrates produced by the Joint Committee for the Conservation of Invertebrates.

## **Method**

### **1.0 Collecting—General**

- 1.1 No more specimens than are strictly required for a specific purpose should be captured or killed.
- 1.2 Individuals of readily identified species should not be killed, nor removed from the wild, unless required as voucher specimens or for scientific or educational study.
- 1.3 If the accumulation of scientific data is not a specific aim, consideration should be given to photography as an alternative to collecting.
- 1.4 Species that do not occur in abundance should not be taken year after year from the same locality.
- 1.5 Specimens for exchange or disposal to other entomologists should be taken only when required for identification or scientific purposes.
- 1.6 Collecting from the wild for sale or other commercial purposes is strictly forbidden.
- 1.7 Do as little damage to the habitat as possible.
- 1.8 Collections should be properly housed, and their future value should be safeguarded. The owner’s Will should provide for the appointment of a scientific executor, who can offer the collection to a learned society or a museum.

### **2.0 Collecting—Rare, Local and Endangered Species**

- 2.1 It is illegal to collect certain listed invertebrate species or forms except under licence from the relevant authority. Other taxa listed as being of ‘Conservation Concern’ should not be collected except with the utmost restraint. A pair of specimens of any such taxon should be considered sufficient for a personal collection. Species in greatest danger should not be collected at all for this purpose.
- 2.2 The collection of rare or local species from sites where they are already known to occur should be avoided, except for the purpose of survey or other scientific study.
- 2.3 Newly discovered localities for rare species should be reported to the appropriate conservation organisations, records centres and organisers of recording schemes.

### **3.0 Collecting—Trapping**

3.1 The catch in a trap should be released after being examined, except for any specimens that must be killed for voucher purposes or for an ecological or other scientific study. The release should be made in the same locality, but away from the immediate trap site. The catch should preferably be kept in cool shady conditions and released in long grass, or other cover.

3.2 Live trapping, for instance in traps filled with egg-tray material, is always to be preferred to the killing of the catch.

3.3 If a trap used for scientific purposes is found to be catching rare or local species unnecessarily, it should be re-sited.

3.4 Light traps should be sited with care so as not to annoy or confuse other people or to waste police time.

### **4.0 Collecting—Permissions and Conditions**

4.1 Prior to visiting a site, BIG will always seek permission from the landowner and obtain appropriate permit(s) for access and/or collecting on any site controlled by a conservation body, such as a the wildlife trust, local authority, Natural England, Forest Enterprise or National Trust. (Collecting on an SSSI requires permission both from the owner and from Natural England).

4.2 BIG will establish with the landowner prior to visiting any out of bounds areas such as ground breeding bird sites, or other rare species habitats to avoid adversely affecting conservation of other taxonomic groups. BIG will always comply with any conditions laid down by the granting of access and the permission to collect.

4.3 BIG will report any findings to the landowner in the form of a species list as a minimum.

### **5.0 Recording—General**

5.1 Full and relevant data should be kept together with all specimens retained, i.e. as attached data labels in the case of dry mounted collections. These data may be repeated and amplified in databases, notebooks and other media.

5.2 Species lists, together with any other data, will be lodged with the relevant county and national recording schemes if the landowner does not specifically object. If possible, the data should be entered on a database, such as iRecord, compatible with the National Biodiversity Network.

### **6.0 Collecting—Protecting the Environment**

6.1 Harm to nesting vertebrates and to vegetation, particularly ground nesting birds, or rare or fragile plants, will be avoided. In the event that protected species are encountered whilst on site, BIG members will move to other areas so as to avoid disturbance.

6.2 When ‘beating’ trees or shrubs or sweeping herbaceous layers, attendees will not thrash with such vigour as to cause damage.

6.3 When working dead wood or bark, attendees will leave a substantial proportion untouched in the locality. Where practicable, detached bark and worked material should be replaced.

6.4 Overturned stones and logs will be gently replaced in their original positions unless very deeply embedded.

6.5 Damage to aquatic habitats from over-vigorous use of water nets or kick sampling will be avoided. Water-weed and moss which have been worked for invertebrates will be replaced, together with the unwanted animals.

6.6 ‘Sugar’ or other lure substances will not be applied to tree trunks or other surfaces where it could harm lichens or other epiphytes or where it would be unsightly.

6.7 Uprooting plants or digging up turf without permission from the landowner is illegal. Plant species listed as fully protected by law, will not be collected in any way. For invertebrates in short turf, damage to the habitat can be avoided by the use of a 'suction sampler'.

6.8 Litter from vertebrate nests or roosts should be collected only in compliance with the laws applying to the species concerned.

6.9 The Country Code and all bylaws that apply to the site will be adhered to at all times.

## **7.0 Health and Safety, Insurance etc.**

7.1 All collectors and surveyors will look after their own safety and that of anyone else who may be affected by what they are doing. BIG provides a general risk assessment supplemented by risks identified by the landowner and all attendees must have read the risk assessment prior to entering the site

7.2 If any activity might cause suspicion or confusion the relevant authorities, such as the police or coastguard, will be notified beforehand.

7.3 BIG attendees are insured against public liability by Bedfordshire Natural History Society (BNHS) of which BIG is an Affiliated Group.

7.4 BIG attendees may wish to consider personal insurance against illness caused by zoonoses such as Lyme Disease and Weil's Disease.