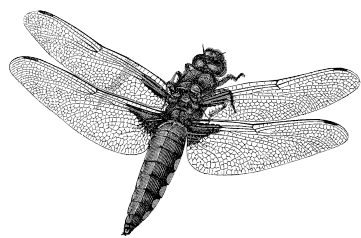


Identifying British Insects and Arachnids

Until now, individuals wishing to identify British insects have found it difficult to track down the specialist keys published in obscure literature, whereas the popular guides are often misleadingly simplistic, covering only a fraction of the species. This book bridges the gap, providing expert guidance through the taxonomic maze. It contains an introduction to each group of organisms, and over 2000 references selected as being the most useful and up-to-date for accurate identification, together with notes on their relevance and coverage. A further chapter covers the understanding and retrieval of scientific references, with advice on using libraries and other information services. This will be an essential reference book for anyone involved in insect and arachnid identification, from interested amateurs to professionals dealing with unfamiliar groups.

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Identifying British Insects and Arachnids:

an annotated bibliography of key works

EDITED BY

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Contents

Introduction [viii]

Acknowledgements [xiii]

Sources of information [1]

JULIE M. V. HARVEY

Collembola: the springtails [21]

PETER C. BARNARD

Protura: the proturans [23]

PETER C. BARNARD

Diplura: the two-tailed bristletails [24]

PETER C. BARNARD

Thysanura: the silverfish and firebrats [25]

PETER C. BARNARD

Archaeognatha: the bristletails [26]

PETER C. BARNARD

Ephemeroptera: the mayflies or up-winged flies [27]

STEPHEN J. BROOKS

Odonata: the dragonflies and damselflies [30]

STEPHEN J. BROOKS

Plecoptera: the stoneflies [33]

STEPHEN J. BROOKS

Phasmida: the stick-insects [36]

JUDITH A. MARSHALL

Orthoptera: the grasshoppers, crickets and bush-crickets [38]

JUDITH A. MARSHALL

Dermaptera: the earwigs [40]

JUDITH A. MARSHALL

Blattodea: the cockroaches [42]

JUDITH A. MARSHALL

Psocoptera: the booklice and barklice [44]

JON H. MARTIN

Phthiraptera: the lice [47]

CHRISTOPHER H.C. LYAL

Thysanoptera: the thrips [51]

JON H. MARTIN

Hemiptera: the true bugs [54]

JON H. MARTIN & MICK D. WEBB

Neuroptera: the lacewings [76]

PETER C. BARNARD

Megaloptera: the alderflies [78]

PETER C. BARNARD

Raphidioptera: the snakeflies [79]

PETER C. BARNARD

Coleoptera: the beetles [80]

PETER M. HAMMOND & STUART J. HINE

Strepsiptera: the stylops [139]

PETER M. HAMMOND & STUART J. HINE

Mecoptera: the scorpionflies [140]

PETER C. BARNARD

Trichoptera: the caddisflies [141]

PETER C. BARNARD

Lepidoptera: the moths and butterflies [145]

MARK S. PARSONS, GADEN S. ROBINSON, MARTIN R. HONEY &
DAVID J. CARTER

Diptera: the flies [171]

NIGEL P. WYATT & JOHN E. CHAINEY

Siphonaptera: the fleas [194]

THERESA M. HOWARD

Hymenoptera: the bees, wasps and ants [196]

JOHN S. NOYES, MIKE G. FITTON, DONALD L.J. QUICKE,
DAVID G. NOTTON, GEORGE R. ELSE, NIGEL D.M. FERGUSSON,
BARRY BOLTON, SUZANNE LEWIS & LARAINÉ C. TAREL

Class Arachnida: the spiders, harvestmen, pseudoscorpions
and mites [320]

Pseudoscorpiones: the pseudoscorpions [322]

PAUL D. HILLYARD

Opiliones: the harvestmen [324]

PAUL D. HILLYARD

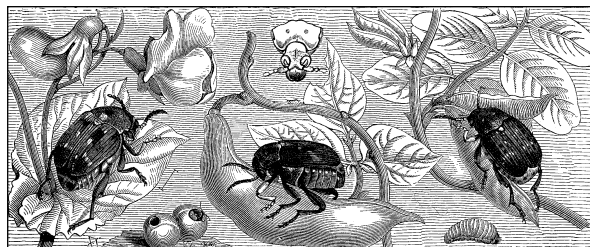
Araneae: the spiders [326]

PAUL D. HILLYARD

Acari: the mites and ticks [330]

ANNE S. BAKER

Index [345]



Introduction

The first move in identifying a British insect is often to look it up in a general colour guide, of which Michael Chinery's (1993) *Insects of Britain and northern Europe* is one of the best known and most comprehensive. But even that excellent book cannot cover more than a small fraction of the British insect species: in fact it illustrates less than 800 of the *ca.* 23 500 species currently known from the British Isles. Indeed, most of them could not be recognised from such illustrations, because the characters separating many closely related species are subtle, and often require the use of a good hand-lens at the very least. So where does one turn next for more information?

Those who are already knowledgeable about a group of insects will know all the relevant literature on that group, and for a colourful and well-known group one or two books may be all that is needed. But it is more likely that the necessary literature will consist of a handful of standard textbooks, coupled with a more-or-less extensive pile of separate papers, written by many different authors over a long period of time, and gleaned from a wide variety of scientific journals. The expert often forgets how long it has taken to accumulate all this literature, and for the beginner just starting out, or even for an experienced entomologist who is searching for keys to an unfamiliar group, the process can be slow and painful.

This book is therefore designed to point the way into the huge mass of literature which is necessary for the identification of British insects and arachnids, the latter being included because they are often studied by entomologists. It has been prepared by the staff of the Entomology Department of The Natural History Museum, which constitute the largest collection of insect systematists in the world. Previous guides to the literature have covered wider areas than the British Isles (and have therefore been less detailed) and have not given much guidance or recommendation on the value of the references. In this book almost every reference has a comment which outlines its main reason for being included and, armed with all this

literature, anyone can build up their own library to equal anything that the expert uses.

But it is one thing to give a list of references to the beginner, and quite a different matter to know exactly how to gather all those books and papers together. Again, the expert can easily forget how one's favourite books have been out of print for some time, that easy access to a specialist library containing all the relevant journals is taken for granted, and that colleagues have been sending free reprints of their scientific papers over the years. Hence the reason for including a vital chapter in this book on 'Sources of information', written by the Entomology Librarian at The Natural History Museum. This shows the layman how to understand references, how to find them and obtain copies, which libraries and other information sources to consult, how to find out-of-print books, and much more.

Following that first chapter, each order of insects, together with the main groups of arachnids, has a chapter to itself. The size of each chapter is of course related to the number of references needed, which in turn is loosely linked to the number of species in each group (which ranges from two in the Thysanura to over 7000 in the Hymenoptera). In each case the number of British species is given (or a good approximation, where there is no recent checklist), then a brief account of the general biology of the group, a note on the important general references, and a summary of the higher classification down to family level (except for the Acari). For the five larger orders with over 1000 species (Hemiptera, Coleoptera, Diptera, Lepidoptera and Hymenoptera) the chapter is subdivided in accordance with the taxonomic subgroups, each of which may be further divided, with its own biological summary and lists of references. A glance at these larger orders will show the uneven coverage of the existing literature, and highlights how some groups are, for one reason or another, more popular and better known. For example, one might need only one or two books to identify the butterflies, or even many families of larger moths, but the study of many of the parasitic Hymenoptera entails the gathering of large numbers of isolated scientific papers, many not written in English. A book such as this can only represent the situation as it stands, but it is hoped that the emphasis on gaps in our knowledge may prompt some workers to try to fill them! A comparison of the chapters will also show that different groups have demanded different treatments: Lepidoptera taxonomy, except for the smaller families, is so advanced that much work now concentrates on biology, distribution and so on, and references on these topics are therefore covered in greater detail than in other chapters.

Apart from including the arachnids, some readers may be wondering why

the Collembola and Protura are here as well, as many recent texts on entomology have placed them firmly outside the true insects. In fact they have been moved in and out of the Insects with amusing regularity over recent years, and their systematic relationship with the former members of the artificial group 'Apterygota', such as Diplura and Thysanura, is still far from settled. Traditionally their literature has been linked to that of entomology and, as discussed in the Collembola chapter, the most recent textbook places this group back among the insects in the broad sense, albeit in a very isolated position.

In a book of this size, which contains well over 2000 references, there are certain to be some errors and omissions, and the editor or contributors will be grateful to receive any comments or additions which could be included in a future edition. References up to the end of 1997 are included, with a few early ones from 1998 also appearing.

Entomological journals

Entomological papers appear in a wide range of scientific journals, but the main British journals devoted entirely to entomology are listed here.

Entomologist's Gazette

Entomologist's Monthly Magazine

Entomologist's Record & Journal of Variation

Entomological societies

There are a great many local natural history societies in Britain, details of which can usually be obtained from Public Libraries, but the following are the important national ones, together with a list of their main serial publications.

Amateur Entomologists' Society

Publishes *Bulletin of the Amateur Entomologists' Society*.

British Entomological and Natural History Society

The society for the field entomologist whose journal, *British Journal of Entomology and Natural History*, includes reports on field meetings and the annual exhibition as well as many articles on identification. The latter frequently includes photographs of new species and unusual aberrations. Also publishes a number of book titles.

Royal Entomological Society

Predominantly professional society; publishes *Antenna*, *Handbooks for the Identification of British Insects*, *Systematic Entomology*, *Physiological Entomology*, *Ecological Entomology*, *Medical & Veterinary Entomology*, and *Insect Molecular Biology* (the last five in collaboration with Blackwell Science, Oxford). Also publishes a range of book titles.

General entomological references

As this book is largely intended for the reader who is moving on from basic texts to more specialised ones, the following list of references is not comprehensive. However, some of the more important ones are given, with a note on their significance where this is not obvious from the title. Many other useful series, such as the *Naturalists' Handbooks*, *Handbooks for the Identification of British Insects* (published by the Royal Entomological Society) and the *AIDGAP* keys (published by the Field Studies Council), are listed in their appropriate chapters throughout this book.

Alford, D.V. 1991. *A colour atlas of pests of ornamental trees, shrubs, and flowers*. Wolfe Publishing, London.

Bevan, D. 1987. *Forest insects: a guide to insects feeding on trees in Britain*. Forestry Commission Handbook no. 1. HMSO, London.

Chinery, M. 1993. *Insects of Britain and northern Europe*. (3rd edn). Collins Field Guide, HarperCollins, London.
The best field guide of its kind.

Fry, R. & Lonsdale, D. 1991. *Habitat conservation for insects – a neglected green issue*. Amateur Entomologists' Society, Middlesex.

Gaedike, R. 1997. Bibliographie der Bestimmungstabellen europäische Insekten (1991–1995). *Nova Supplementa Entomologica* 9: 3–142.
A useful listing of European literature. See also earlier publications in the same series by Gaedike in *Beiträge zur Entomologie*: (1976) 26(1): 49–166; (1981) 31(2): 235–304; (1986) 36(1): 261–319; (1988) 38(1): 239–76; (1992) 42(1): 55–195.

Gullan, P.J. & Cranston, P.S. 1994. *The insects: an outline of entomology*. Chapman & Hall, London.
Now widely regarded as the best general textbook on entomology but does not include systematics.

Hollis, D. (Ed.) 1980. *Animal identification: a reference guide; Vol. 3, Insects*. British Museum (Natural History) and John Wiley, London and Chichester.
This work provides a list of the key references, with few comments, which enable a biologist to identify insects from around the world.

Kirby, P. 1992. *Habitat management for invertebrates: a practical handbook*. Joint Nature Conservation Committee/Royal Society for the Protection of Birds/National Power, Sandy.

Richards, O.W & Davies, R.G. 1977. *Imms' general textbook of entomology*. (10th edn) Chapman & Hall, London.

Although well known, this is now looking very outdated, and Gullan & Cranston (1994) is recommended as a general textbook.

Shirt, D. (Ed.) 1987. *British red data books: 2. Insects*. Nature Conservancy Council, Peterborough.

Summary of the status of threatened insects in Britain.

Sims, R.W., Freeman, P. & Hawksworth, D.L. 1988. *Key works to the fauna and flora of the British Isles and northwestern Europe*. 5th edn. Clarendon Press, Oxford.

Systematics Association Special Volume 33.

Provides references to books and periodical papers, which help to identify organisms (including insects) from the British Isles and north-western Europe. Becoming outdated, and has only a limited range of comments and other information.

Smith, K.G.V. & Smith V. 1983. *A bibliography of the entomology of the smaller British offshore islands*. Classey, Faringdon.

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