

Contents

| | |
|---|-----------|
| <i>Glossary</i> | xvii |
| Section 1 Introduction to insect evolution and biology | 1 |
| | |
| The evolution of the arthropods | 3 |
| The origins of insects and other hexapods | 7 |
| Five factors in a winning formula | 8 |
| Interactions with other organisms | 23 |
| Insect structure | 28 |
| Conclusion | 31 |
| Section 2 The insect orders | 35 |
| | |
| Insect groups that predate the evolution of wings | 37 |
| Archaeognatha (bristletails—alternative name: Microcoryphia) | 38 |
| Zygentoma (silverfish and firebrats—alternative name: Thysanura) | 41 |
| The winged insects | 44 |
| Division Palaeoptera | 45 |
| Ephemeroptera (mayflies) | 45 |
| Odonata (dragonflies and damselflies) | 51 |
| Division Neoptera | 59 |
| Superorder Exopterygota (= Hemimetabola) | 60 |
| Polyneoptera | 60 |
| Haplocercata | 60 |
| Dermaptera (earwigs) | 61 |
| Zoraptera (angel insects) | 65 |
| Plecoptera (stoneflies) | 69 |

| | |
|---|-----|
| Orthoptera (grasshoppers and crickets) | 73 |
| Dictyoptera | 84 |
| Blattodea (cockroaches and termites—alternative name: Blattaria) | 85 |
| Cockroaches | 87 |
| Termites | 91 |
| Mantodea (praying mantids) | 98 |
| Xenonomia | 104 |
| Grylloblattodea (ice crawlers—alternative name: Notoptera) | 105 |
| Mantophasmatodea (heel walkers—alternative name: Notoptera) | 108 |
| Eukinolabia | 112 |
| Phasmatodea (stick insects and leaf insects) | 113 |
| Embioptera (webspinners—alternative name: Embiidina) | 118 |
| Paraneoptera (= Acercaria) | 122 |
| Psocodea (barklice, booklice, and true lice) | 123 |
| Hemiptera (true bugs) | 134 |
| Thysanoptera (thrips) | 151 |
| Division Endopterygota (= Holometabola) | 156 |
| Neuropterida | 156 |
| Raphidioptera (snakeflies) | 157 |
| Megaloptera (alderflies, dobsonflies, and fishflies) | 161 |
| Neuroptera (lacewings, antlions, and mantidflies) | 165 |
| Coleopterida | 172 |
| Coleoptera (beetles) | 173 |
| Strepsiptera (strepsipterans) | 189 |
| Antliophora | 196 |
| Mecoptera (scorpionflies) | 197 |
| Siphonaptera (fleas) | 202 |
| Diptera (flies) | 210 |
| Amphiesmenoptera | 227 |
| Trichoptera (caddisflies) | 228 |
| Lepidoptera (butterflies and moths) | 235 |
| Hymenoptera (bees, wasps, and ants) | 255 |

| | | |
|--|------------------------------------|------------|
| | Section 3 Fieldwork | 277 |
| | | |
| | Collecting | 279 |
| | Killing methods and data recording | 296 |
| | Specimen preservation | 298 |
| | Long-term preservation | 299 |
| | | |
| | Subject Index | 303 |
| | | |
| | 3 | 7 |
| | 8 | 23 |
| | 28 | 31 |
| | 35 | 37 |
| | 38 | 41 |
| | 44 | 45 |
| | 45 | 45 |
| | 51 | 59 |
| | 60 | 60 |
| | 60 | 61 |
| | 65 | 65 |
| | 69 | |