



This key includes typical adult (**not larval**) members of all the Orders (major divisions) of the insects with more than 100 free-living species in Britain, and all those whose species are mostly more than 5mm long. Where particular families key out separately from the rest of their orders (e.g. ants, ground-hoppers), these are named. It omits a few very small and specialised groups, such as parasitic insects (fleas, lice etc.) which most naturalists seldom see (and can usually recognise). It also omits some atypical insects, e.g. wingless members of groups which are usually fully-winged, such as wingless flies. For these, you should consult the keys in one of the more advanced works. The number in brackets after the name of groups is an indication of the number of British species likely to key out there. Note that to see many of the features it is necessary to tease the wings open gently to examine their structure.

- 1 Wings clearly visible (often folded flat over back when not flying) **2**
Wings absent or minute **27**
- 2 One pair of wings present; hind wings absent or reduced to scale-like or pin-like structures. **3**
Two pairs of wings well developed. In many groups, hind pair hidden underneath front pair when not flying. **7**
- 3 Wings hard and plate-like (elytra) **4**
Wings membranous **6**
- 4 Pronotum extending toward tip of abdomen as a long point. Body shape grasshopper-like, hind legs with broadened flattened thighs, enlarged for jumping. **Orthoptera (Tetrigidae - ground-hoppers) (3)**
Pronotum less extended. Not grasshopper-like. Hind legs not usually with thickened, flattened thighs **5**
- 5 Body ending in a pair of curved pincers. Forewings a pair of short soft flaps. **Dermoptera (earwigs) (8)**
Body not ending in curved pincers. Forewings longer and toughened or brittle. **Coleoptera (beetles) (4000)**
- 6 End of abdomen with 2 or 3 long threadlike filaments. Wings with very many fine, richly-branched veins, Hind wings scale-like or completely absent. **Ephemeroptera (mayflies) (50)**
End of abdomen without long threads. Wing veins more simple. Hind wings pin-like (halteres). **Diptera (two-winged flies) (5500)**
- 7 Small, slender insects, less than 5mm long, either yellow or blackish. Both pairs of wings narrow but fringed with long hairs (longer than width of wing), so appearing featherlike. **Thysanoptera (thrips or thunderflies) (200)**
Wings not fringed with long hairs. Often larger or less slender. **8**
- 8 Front wings horny or leathery, at least in part. **9**
Both pairs of wings entirely membranous. **13**
- 9 Front wing leathery at base and membranous at tip. Scutellum (behind pronotum) forming a backward-pointing triangle, wing membranes overlapping, forming a forward-pointing triangle, and leathery part of forewings forming triangles at sides. No jaws, but sucking/piercing mouthparts (beak). **Hemiptera: Heteroptera (true bugs) (550)**
Fore wings of the same texture throughout, usually meeting in a straight line down the middle of the back, not showing the 4-triangles pattern. With beak or with jaws. **10**

- 10 Forewings held more or less flat over back, often with rows of pits or grooves, but without veins. Always with jaws and not a beak. **11**
Forewings usually held tent-like over the back, with many veins visible. Either jaws or a beak. **12**
- 11 Body ending in a pair of strong curved pincers. Forewings a pair of short, soft flaps. **Dermoptera (earwigs) (8)**
Body not ending in curved pincers. Forewings usually longer and toughened or brittle. **Coleoptera (beetles) (4000)**
- 12 Beak, no jaws. Antennae usually small, on underside of head (and not visible from above). **Hemiptera: Homoptera: Auchenorrhyncha (froghoppers, leafhoppers etc) (450)**
Jaws, no beak. Antennae longer, clearly visible from above. **Orthoptera (grasshoppers & crickets) (30)**
- 13 Wings usually coloured and patterned with a covering of minute, dust-like scales. Mouthparts modified into a thin, coiled, drinking-tube, the proboscis. Large compound eyes usually present. **Lepidoptera (butterflies and moths) (2500)**
Wings not patterned with coloured scales, usually transparent, though sometimes hairy or with dark mottling. Mouthparts are either jaws or a straight beak. **14**
- 14 Very complex net-like wing venation, at least 10 cross-veins running back from leading edge of wing. **15**
Less complex venation, usually less than 10 cross-veins at wing edge. **20**
- 15 Tip of abdomen with 2 or 3 long thread-like tails arising at the hind corners. **16**
Tip of abdomen with short appendages or none at all, or a single egg-laying tube on the midline. **17**
- 16 Forewings much larger than hind wings. When at rest, wings held upright over back. 2 or 3 tails at tip of abdomen. **Ephemeroptera (mayflies) (50)**
Fore and hind wings about equal size. Wings rolled or flattened over back at rest. Tip of abdomen with 2 tails. **Plecoptera (stoneflies) (40)**
- 17 Antennae very short, much shorter than head width. Compound eyes very large. Wings large and with very complex net-veining. Body at least 25mm long. **Odonata (dragonflies & damselflies) (45)**
Antennae longer than head width. Eyes usually smaller. Body usually smaller. **18**
- 18 Feet with 3 segments. Wings rolled or flattened over back, so veins are hard to see. **Plecoptera (stoneflies) (40)**
Feet with 5 segments. Wings usually held tent-like over the back, with many veins visible. **19**
- 19 Head with downward-pointing beak, with small jaws at tip. Wings clear, marked with black-brown blotches. Tail tip with orange-brown club held curved over back (m) or tapered and yellowish (f). **Mecoptera (scorpionflies) (3)**
Head not drawn into a beak. Tail tip neither clubbed nor yellow and tapered. **Neuroptera**
- 20 Head drawn out into a downward-pointing beak, with small jaws set at end of it. Wings clear, marked with black-brown blotches. Tail tip with an orange-brown club held curved over back (male) or tapered and yellowish (female). **Mecoptera (scorpionflies) (3)**
Head not drawn into a beak. Tail tip neither clubbed nor yellow and tapered. **21**
- 21 Wings some shade of brown, covered in hairs. Fore wings usually longer, narrower and tougher than hind wings. Body and legs also often hairy, legs often with brown spurs at joints. **Trichoptera (caddisflies) (200)**
Wings usually transparent, not conspicuously hairy. Fore and hind wings usually of similar texture. Hind wings often much smaller than fore wings. **22**

- 22 Feet with 4 or 5 segments. Hind wings smaller than fore wings. Body usually tough, often shiny and metallic or furry and strongly coloured. Legs hard and chunky.
Hymenoptera (bees, wasps, ants, sawflies and parasitica) (6500)
 Feet with 1-5 segments. Legs and antennae thin and weak. **23**
- 23 Feet always with 3 segments. Hind wings about as large as fore wings, rolled or flattened on surface of back. Wings translucent or dark, but unpatterned. **Plecoptera (stoneflies)** (40)
 Feet with 1-5 segments. Hind wings smaller than forewings. Wings usually held tent-like over the back. **24**
- 24 Feet always with 5 segments **25**
 Feet with 1-3 segments **26**
- 25 **(3 choices)**
 Dark brown or black insects with thick veins on dark brown or blackish wings. Head much broader than long, attached to thorax by a very short thick neck. **Megaloptera (alderflies)** (3)
 Blackish insects with front part of thorax extremely elongate (at least 3x as long as wide) forming a long thin neck with round or square, rather flattened, head. Wings clear with dark veins. **Raphidioptera (snakeflies)** (5)
 Body green, pale brown or white. Wing membranes clear or pale brown, sometimes marked with brown or blackish, veins extremely fine and with fine hairs or bristles. Eyes usually bright metallic colour in life. **Neuroptera (lacewings)** (60)
- 26 Wings with many veins visible, and often with pale and dark mottling. At least 12 antennal segments, often many more. With tiny jaws, and no beak. No pipes at rear of abdomen. **Psocoptera (barklice)** (70)
 Wings with few veins and usually completely transparent. Never more than 10 antennal segments. A piercing beak, no jaws. Abdomen often with a pair of pipes at rear, which secrete honeydew. **Homoptera (aphids etc.)** (500)
- 27 Antennae absent. The forelegs pointing forward. Eyes small and dark, but clearly visible. Body slender and spindle-shaped. White or pale yellowish. Less than 2mm long. **Protura** (20)
 Antennae present (sometimes small and on underside of head). Usually larger, darker, and differently shaped. **28**
- 28 Large insects, at least 10mm long when adult. Hind legs with thick, flattened thighs for jumping (as in couplet 4). **Orthoptera (grasshoppers & crickets)** (30)
 Often smaller. Hind legs not modified grasshopper-like. **29**
- 29 Tip of abdomen with tails or pincers **30**
 Tip of abdomen without prominent appendages **32**
- 30 Abdomen with a pair of hard pincers **Dermaptera (earwigs)** (8)
 Abdomen with 1, 2 or 3 rather delicate tails at tip **31**
- 31 **(3 choices)**
 Abdomen tip with a single forked appendage, in life folded under the abdomen and used for flicking the animal into the air. Antennae often curled up. Less than 5mm long, very variable in shape and colour. Usually in moist places. **Collembola (springtails)** (150?)
 Abdomen tip with 2 tails. White animals, less than 8mm long, with straight antennae (very similar to the tails). Delicate insects living in soil, rotting wood, dead leaves etc. **Diplura (2-pronged bristletails)** (12?)
 Abdomen tip with 3 tails, animal dark, often larger, with thinner antennae. Living indoors, on rocky shores, in leaf litter etc. **Thysanura (silverfish, bristletails)** (10)
- 32 Abdomen with a narrow waist. Body tough and often smooth, shiny and sculpted. **33**
 Abdomen more broadly attached to thorax. Usually more delicately built. **34**

- 33** Antennae with 11 or 12 segments, the first segment about as long as the rest together, so antennae are 'elbowed'. A waist formed of 1 or 2 discrete segments (like small beads between the larger thorax and abdomen). Large head and jaws, acid gland or sting at tail tip, but no long pointed egg-laying tube.
Hymenoptera: Formicidae (ants) (40)
 Antennae often with more than 12 segments, all similar in size and shape. Waist formed as a constriction between abdomen and thorax. Jaws often smaller, no sting. (though pointed egg-laying tube often present). **Hymenoptera: Parasitica (parasitic wasps)** (3000, rather few wingless)
- 34** Body covered in scales or hairs. Mouthparts a coiled proboscis. Usually more than 8mm long.
Lepidoptera (wingless female moths, mainly family Geometridae)
 Not covered in scales or hairs. Mouthparts either small jaws or a straight beak. Seldom more than 6mm long. **35**
- 35** Head round, wider than thorax. Whole animal rather flattened dorsoventrally. At least 12 antennal segments, often many more. Antennae very slender. With tiny jaws, and no beak. No pipes at rear of abdomen. Often indoors in dry places. **Psocoptera (booklice and barklice)** (70)
 Head narrower than thorax. Never more than 10 antennal segments. A piercing beak, no jaws.
 Abdomen often with a pair of pipes at rear, which secrete honeydew. Feed on sap of plants.
Homoptera (aphids etc.) (500)