



Beginner's Guide to Identifying Insects in the Field

1 Major Insect Orders

Understanding the major orders helps you start identifying insects in the field. Below are the most common groups you'll encounter in the UK.

Order	Common Name	Key Notes
Coleopte	Beetles	Hard forewings (elytra), chewing mouthparts, diverse shapes and
Lepidopt	Butterflies &	Two pairs of scaled wings, coiled proboscis, metamorphosis from
Diptera	Flies &	One pair of wings (hind wings reduced to halteres), sucking or
Hymeno ptera	Bees, Wasps, Ants	Two pairs of wings, narrow waist (wasps & bees), social or solitary species.
Hemipte ra	True Bugs	Piercing-sucking mouthparts, half-winged forewings (hemelytra), include aphids & shield bugs.
Odonata	Dragonflies & Damselflies	Two pairs of long, membranous wings, large compound eyes, predatory.
Orthopte	Grasshoppers,	Long hind legs for jumping, chewing mouthparts, often stridulate
Blattode	Cockroaches	Flattened body, long antennae, chewing mouthparts, mostly

Tip: Focus on **Coleoptera**, **Lepidoptera**, **Diptera**, **Hymenoptera**, and **Hemiptera** for your first field surveys — they are the most noticeable.

2 Key Visual Characteristics

When identifying insects, pay attention to:

1. **Wings**
 - Number: 2 or 4?
 - Texture: Scaled, membranous, hardened?
 - Shape: Broad, narrow, folded?

2. **Body Segments**

- Head, thorax, abdomen
- Note length and width ratios

3. **Antennae**

- Short vs long
- Clubbed, filiform (threadlike), or feathery?

4. **Legs**

- Jumping legs (Orthoptera)
- Claws and tarsi (beetles, ants)
- Swimming legs (aquatic insects)

5. **Mouthparts**

- Chewing (beetles, grasshoppers)
- Sucking (aphids)
- Piercing (mosquitoes, shield bugs)
- Lapping (bees)

6. **Behaviour & Habitat**

- Flying vs crawling
- Flower visitor vs leaf-dweller
- Nocturnal vs diurnal

Quick rule: Combine **physical traits + behaviour + habitat** for best ID success.

3 **Simple ID Flowchart**

A beginner-friendly flowchart helps narrow down the order quickly.

Step 1: Does it have wings?

- Yes → Go to Step 2
- No → Likely beetle larva, caterpillar, or wingless insect (Collembola, Silverfish)

Step 2: How many pairs of wings?

- 2 pairs → Step 3
- 1 pair → Diptera (flies, mosquitoes)

Step 3: Forewings hard/elytra?

- Yes → Coleoptera (beetles)
- No → Step 4

Step 4: Scales on wings?

- Yes → Lepidoptera (butterflies & moths)
- No → Step 5

Step 5: Narrow “wasp waist”?

- Yes → Hymenoptera (bees, wasps, ants)
- No → Hemiptera (true bugs)

Tip: Use flowchart **with habitat clues** — e.g., flowers → likely pollinator (bees, hoverflies), under logs → beetles, near water → dragonflies or aquatic larvae.

4 Field Observation Tips

Practical skills are just as important as ID:

A. Before You Go

- Bring a notebook, pencils, and magnifier
- Pack a small container or jar (for careful temporary observation)
- Take a camera for photographing live insects

B. Observation Techniques

- Watch movement patterns (flying, crawling, jumping)
- Note size, colour patterns, wing shape
- Look at antennae and legs

C. Habitat Awareness

- Look in specific microhabitats:
 - Under logs, leaves, stones
 - On flowers and grasses
 - Along ponds, streams, or coastal margins
- Observe seasonal patterns

D. Ethical Practices

- Avoid harming insects
- Return specimens to their habitat
- Record data carefully

E. Recording Your Observations

- Note date, location, weather, and habitat
- Sketch or photograph the insect
- Use your field notes for ID later

✓ Summary

- Start with **major orders** and physical traits
- Use the **ID flowchart** to narrow down
- Combine **visual, behavioural, and habitat clues**
- Record carefully and ethically
- Practice consistently in different habitats

Mastery comes from repeated field observation and cross-referencing with guides and digital resources.

