



s e a / k a y a k i n g

# FIELD INSECT IDENTIFICATION FLOWCHART

## Rapid Order-Level Identification (Field Sorting Guide)

START

| -- Does the specimen have SIX legs?

|  
| NO → Not an insect  
| (likely spider, mite, centipede etc.)

YES

| -- Does it have wings?

| NO

| -- Body long with many similar segments?

| YES → Possibly larval insect  
| (beetle larva, caterpillar etc.)

| NO

| -- Rear of body has forceps-like pincers?

| YES → Dermaptera (Earwigs)

| NO

| -- Jumping hind legs enlarged?

| YES → Orthoptera  
| (grasshoppers, crickets)

| NO → Wingless insects  
| (silverfish, springtails etc.)

# WINGED INSECT IDENTIFICATION

Does the insect have ONE pair of wings?

|  
YES

|  
→ Diptera  
(True flies)

Look for small balancing organs called HALTERES

|  
NO

|  
Does it have TWO pairs of wings?

|  
YES

## NEXT STEP — WING STRUCTURE

Front wings hard like shell?

|  
YES → Coleoptera  
(Beetles)  
Elytra cover abdomen

Wings covered in scales?

|  
YES → Lepidoptera  
(Butterflies & moths)

Wings membranous with narrow waist?

|  
YES → Hymenoptera  
(Bees, ants, wasps)

Front wings half-hardened / half-membranous?

|  
YES → Hemiptera  
(True bugs)

Two long pairs of narrow wings  
with very large eyes?

|  
YES → Odonata

(Dragonflies & damselflies)

Hairy wings, moth-like,  
often near water?

|  
YES → Trichoptera  
(Caddisflies)

Delicate lace-like wings  
with long antennae?

|  
YES → Neuroptera  
(Lacewings, antlions)

## QUICK FIELD CHECKLIST

### The "Five-Feature Rule"

Professional entomologists often confirm identification using these five characters:

1. Leg count
2. Wing count
3. Wing texture
4. Antennae shape
5. Body segmentation

This usually allows **order-level identification in under 10 seconds**.

## RAPID VISUAL SHORTCUTS (FIELD HACKS)

### Hard wing covers?

→ Beetle.

### One wing pair only?

→ Fly.

### Scaled wings + proboscis?

→ Butterfly or moth.

### Wasp waist?

→ Hymenoptera.

### Shield-shaped body?

→ True bug.

**Huge eyes + strong flight?**

→ Dragonfly.

## **TUTOR EXERCISE (VERY EFFECTIVE)**

Give students **10 mixed specimens** and have them answer only:

How many wings?

How many legs?

What wing type?

Students usually reach **correct order identification within minutes.**

## **OPTIONAL FIELD SORTING METHOD USED BY ENTOMOLOGISTS**

When processing a **mixed sweep-net sample**:

Sort into trays labelled:

BEETLES

FLIES

BUGS

WASPS/BEES

MOTHS

OTHER

LARVAE

This dramatically speeds up **laboratory identification later.**

