



How to tell a Bee

Great Sunflower Project

And thanks to the photographers – some of which are not attributed. Let me know if I've got one of yours posted.

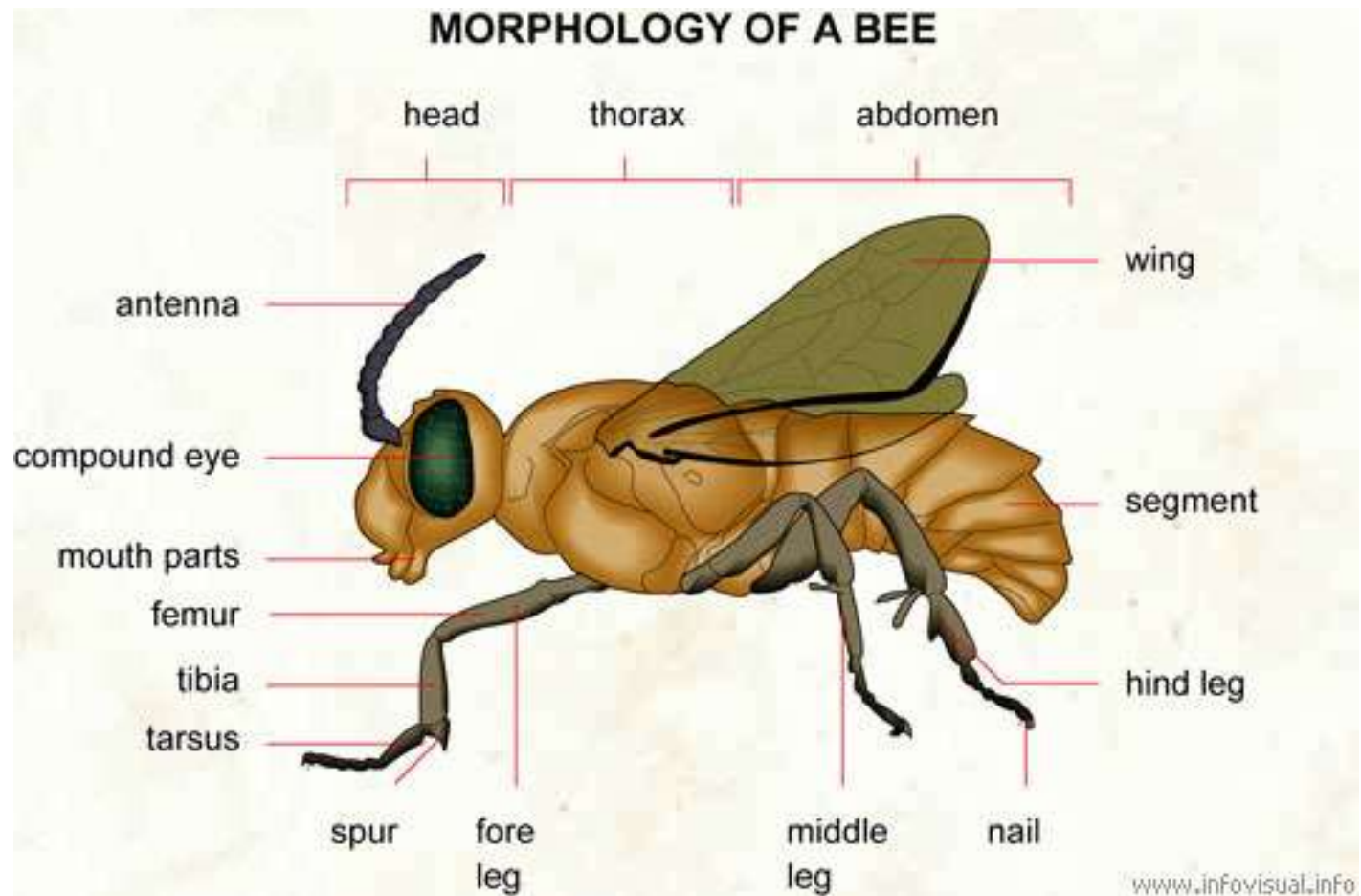
Bees get confused with other insects

- Particularly,
 - Flies
 - Wasps
 - Hawkmoths

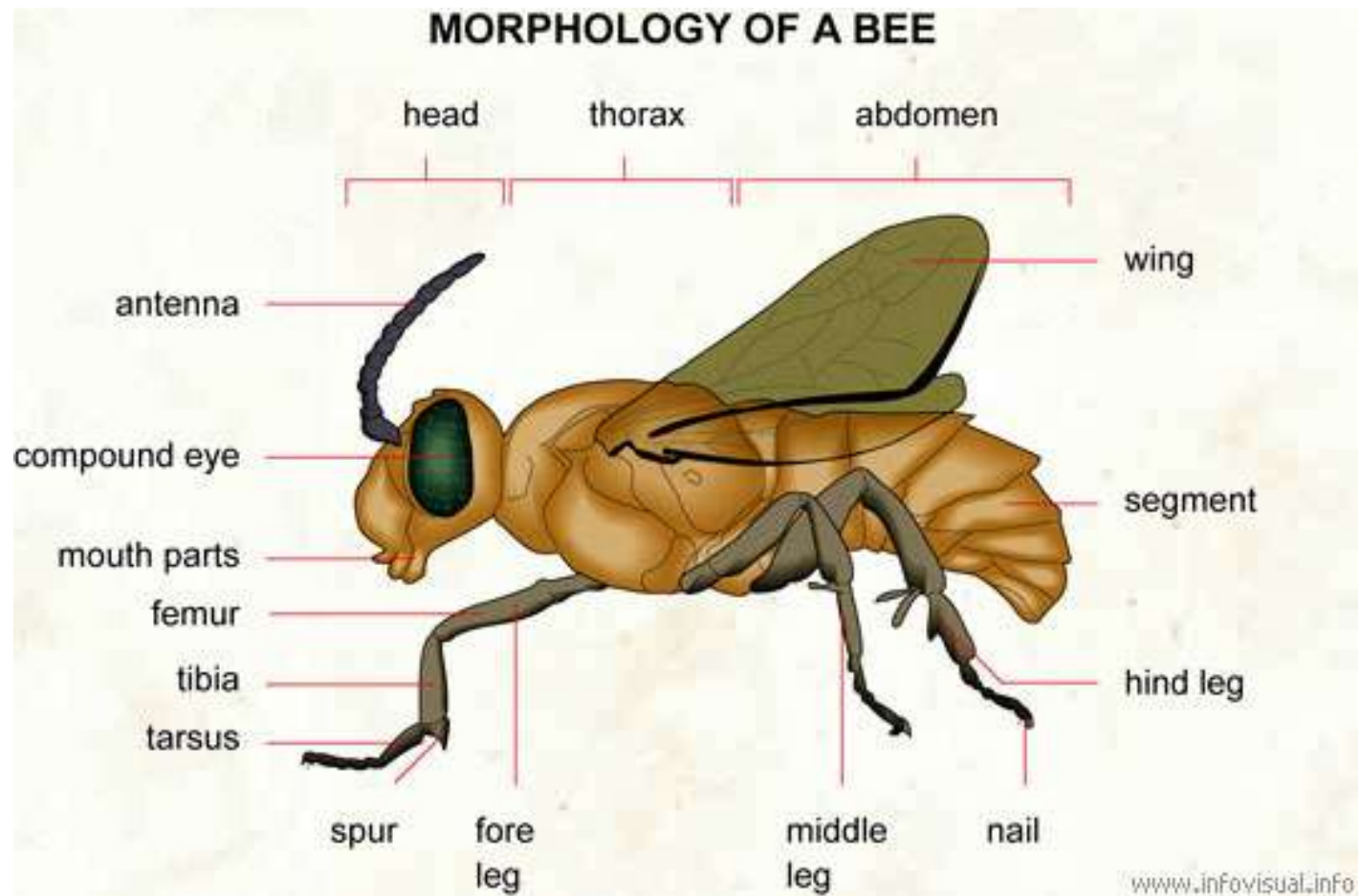
So, to tell if you are seeing a bee

- First, try to see how many wings the insect has on each side.
- Bees and wasps have two per side
- Flies have one per side

Let's start by looking at the different parts of a bee



Notice that there are 2 wings on each side,
the shape of the antennae and where the
eyes are



Comparing bees, flies and wasps

- I'm going to give you some things that I look at to tell these groups apart in the next few slides. Of course, there is an exception to almost every rule.

Flies and Wasps are confusing because they often look like bees

They have similar sizes (small, medium, or large)

They have similar colors (black, yellow, blue, or green)

Flies can have stripes (some actually are thought to imitate the patterns of bees!)

Here's what I look at to tell a bee from a fly

Bees

- Longer, thinner antennae
- Pretty large eyes on the side of the head
- Four wings
- Hairy (some bees)
- Carry loads of pollen

Flies

- Short, thick antennae
- Large eyes in the front of the head
- Two wings
- Have hairs but aren't "hairy"
- Have pollen stick to their body but don't carry loads

I also notice how they fold their wings when the pause

Bees often (**but not always**) fold their wings over their back



Flies hold their wings out at a bit of an angle



Photo by John Maxwell from
www.njaudubon.org/centers/Rancocas

And I look at how they fly

Bees don't hover



Photo from beespotter.org

Flies can hover



Photo from elkhornslough.org

Wasps are harder to differentiate from bees

- Bees and wasps are more closely related than flies and bees so, it isn't surprising that they can look similar.
- Both have 2 wings on a side and they are often the same sizes, shapes and colors.
- In general, I think of wasps as looking more armored which makes them seem meaner (and heck, wasps are often carnivores while bees are always vegetarians).

Here's what I look at to tell a wasp from a bee

Bees

- Usually a broader body and a wider abdomen
- Face hairs are dull
- Body is Hairy (though not always)
- Carry pollen
- Usually their exoskeleton is one color (except sometimes stripes on the abdomen)

Wasps

- Narrower bodies and sometimes a very pinched abdomen
- Face often have shiny or metallic hairs
- Very few hairs
- Don't carry pollen loads though they can have pollen grains stuck to them
- Have patterns or designs in their exoskeleton

**LET'S LOOK AT SOME PHOTOS OF
BEES...**

Bees

Eyes are on the sides of head

Body is often rounded

Hairy (especially on their legs and/or on their abdomen)

Carry pollen – either on their legs or on their abdomen

4 wings (can be hard to see all 4)

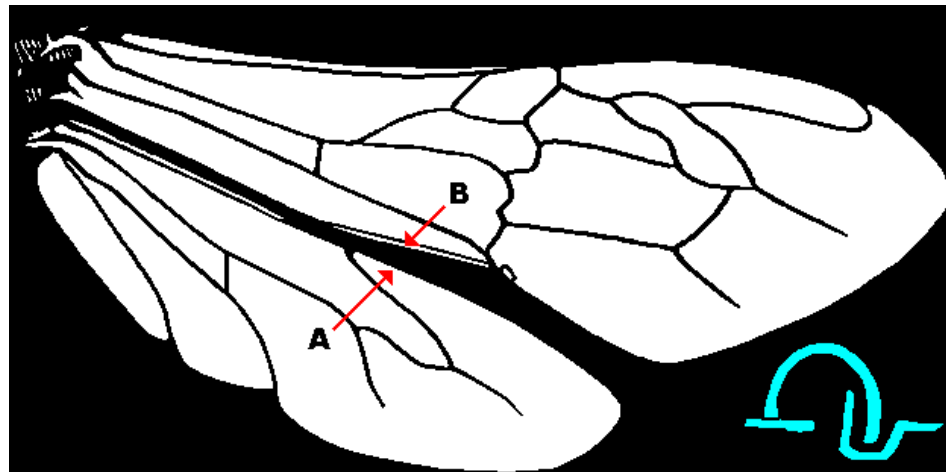


Photo by P



Bee wings

It can be hard to tell that bees have two wings because they actually hook together on the margin. There are hooks (like in blue) along the margins marked A and B.

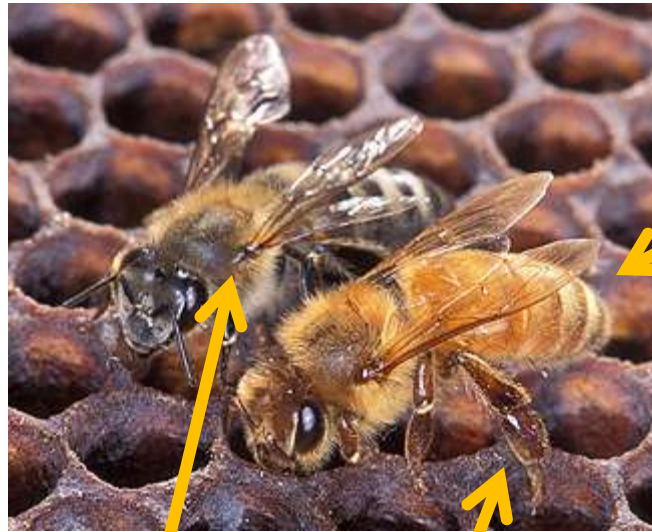


Now, to identify our bee groups...

- The green ones are easy – they are green. Remember that there are also green flies and wasps though.
- There are some easy ways to identify our other three groups:
 - Honey bees
 - Bumble bees
 - Carpenter bees

To identify a **honey bee**, I look for these things:

Most people are surprised to learn that honey bees come in several different colors from gold to nearly black – all of these are honey bees!

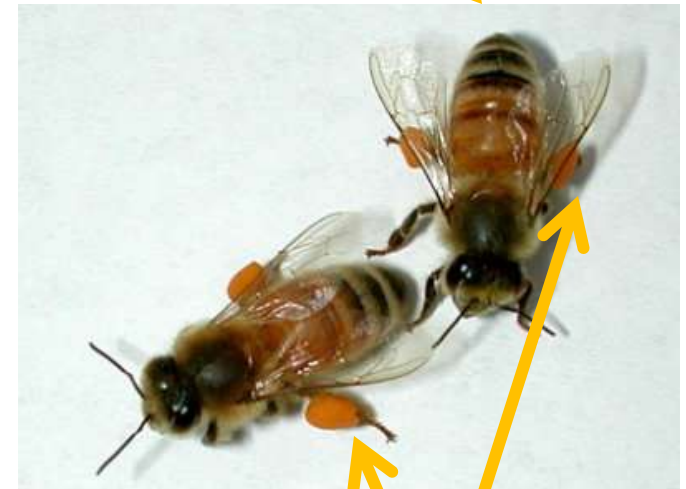


Fuzzy thorax

Enlarged, flattened plates on hind leg

Honey bees fly methodically from flower to flower and make a buzz when they fly

Stripes on abdomen



Carry moist pollen in clumps on hind legs

To identify a **bumble bee**, I look for these things:

Characteristics:

Medium to large, robust body shape
(workers smaller than queens)

Mostly black, with some yellow, white or red stripes

Entire body fuzzy

Has flattened plate on upper hind leg for carrying moist clumps of pollen

Make a low buzzing sound when flying

“Bumbling” flying pattern



Bumble bee photos



Photo from www.bentler.us

Photos by Kathy Keatley Garvey



To identify a **carpenter bee**, I look for these things:

Characteristics:

- These are big bees!
- Unlike bumble bees, the top of the abdomen is not hairy
- Usually these are all black, though some have some gold/brown
- Very fast fliers that make a fairly loud buzz. They also look like they are hovering some times – they are always bigger than flies so, you won't confuse them.
- Splay their wings like flies while landed (Bumble bees fold them neatly over the back).



Photo by Mike Boone



Photo by Ginny
Stibolt

So, let's get some practice telling these
all apart.

I'll put up a photo and you see if you can tell
what it is. Your options will be: fly, wasp,
bumble bee, honey bee, green bee, carpenter
bee and other bee.



Bumble bee





Carpenter bee



Notice that the abdomen is shiny, unlike on the bumble bee which is hairy.



Honey bee





I can't tell whether this is a bumble bee or carpenter bee, so I would say Don't Know. If I had to, I'd guess carpenter bee because of the shiny abdomen.





Photo by Cynthia McAlister

Sphecid wasp



Note how
un-hairy
this wasp
is...



Bee (You'd enter Don't Know)



Notice how hairy it is and how long and slender the antennae are.



Photo by Cynthia McAlister

Flower fly!



Note that the wings are splayed.

It's eyes are huge and on top of the head and gosh, what are those stubby antennae!

Photo by Cynthia McAlister



Bee (You'd enter Don't know)



Notice that they eyes are on the side of the head, the antennae are fairly slender and that it is hairy. The stripes on the abdomen are bands of hair which you wouldn't see on a wasp.



Green bee (now, that was easy!)

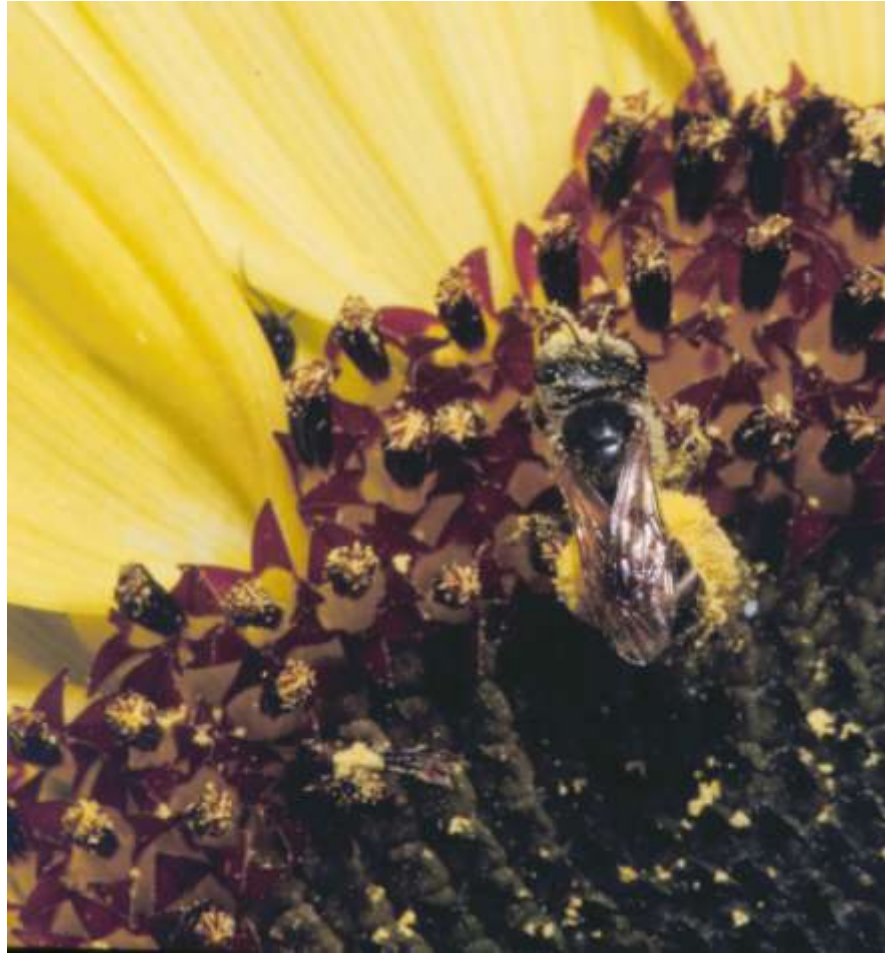




Bee (Enter Don't know)



Notice that it is carrying pollen in the hairs on its legs and that it has its wings folded over its back.



Bee (Enter Don't know)



While this resembles a fly, notice that it is carrying large clumps of pollen on its legs and that its wings are neatly folded over its back

Good Job!

We'll post more test photos later!



Unknown
bees
Photo by
Adrienne
Dupont