

# How to distinguish between honey bees and other insects.

## What is a bee?

Bees have evolved special hairs (scopa) to collect and transport pollen on their bodies. Bees, in general, have hairy bodies with branching hairs for collecting the pollen. There are a small number of bees that do not collect pollen on their bodies and thus do not have hairy bodies.

Bees have 6 legs and 2 pairs of wings (Fig 1). What appears to be a constriction between the thorax and abdomen is really between the 1st and 2nd abdominal segments. The 1st abdominal segment (the propodeum) is fused to the end of the thorax. The term mesosoma is used to describe the combination of thorax and propodeum while metasoma is used for the abdomen.

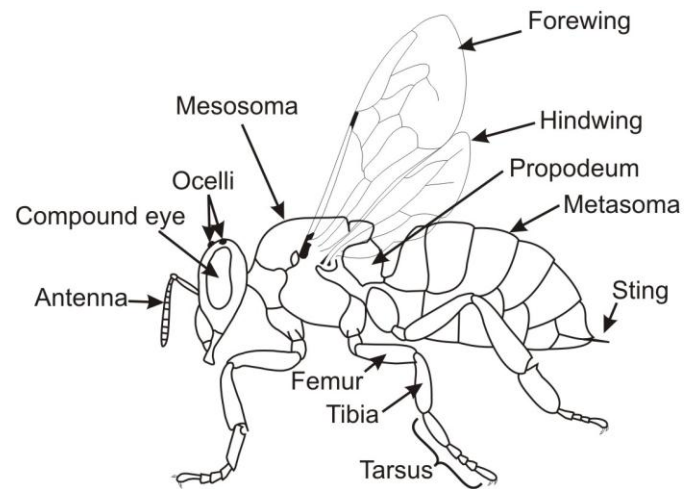


Fig. 1. General structure of a bee

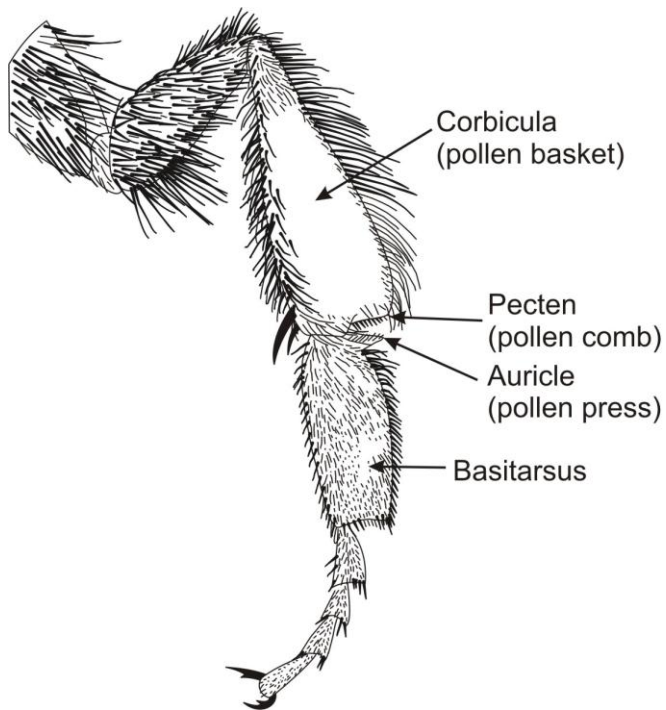


Fig 2. Leg structure of a bumble bee

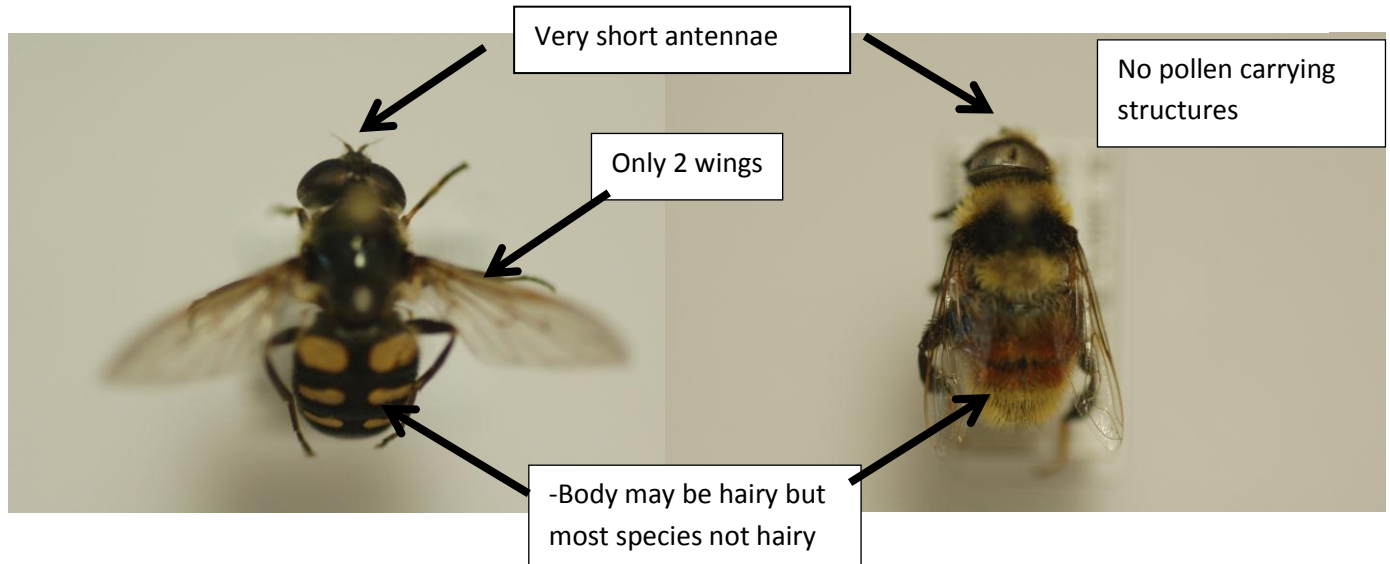
The bumble bees and honey bees carry the pollen on their hindlegs (Fig 2.). The outer surface of the tibia has a corbicula to carry the pollen ball. Pollen is collected on all the hairs of the body and legs. It uses the inner surface of the basitarsus to concentrate the pollen then the opposite leg combs out the pollen (using the pecten) and compacts it into a ball (using the auricle). The ball is placed into the corbicula and held there by a margin of stiff hairs.

# Other insects that people confuse for bees

## 1. Hover Flies or Flower Flies (Order: Diptera, Family Syrphidae)

These flies are very common on flowers and frequently do a great deal of hovering. None of the syrphid flies bite man.

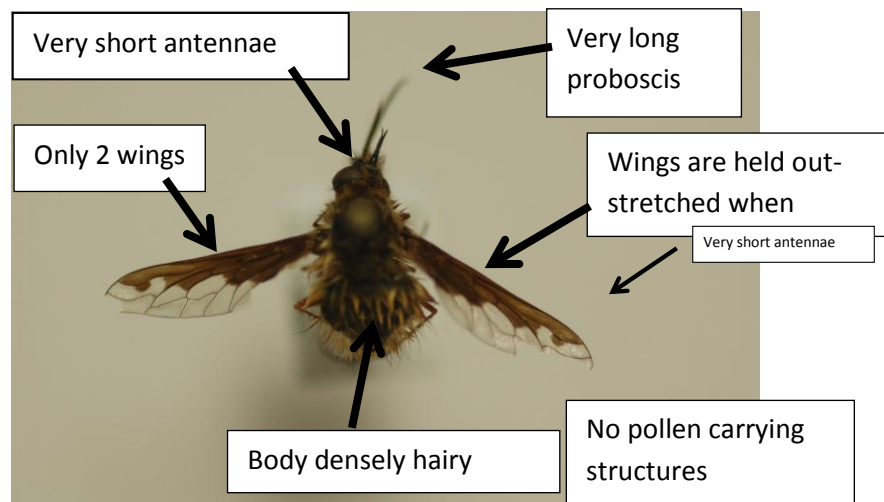
Distinguishing characters:



## 2. Bee Fly (Order: Diptera, Family Bombyliidae)

Stout bodied, densely hairy flies. Long slender proboscis. Larvae are parasitic on bees. They crawl into bee nest cells, wait until the host has completed feeding then they consume it.

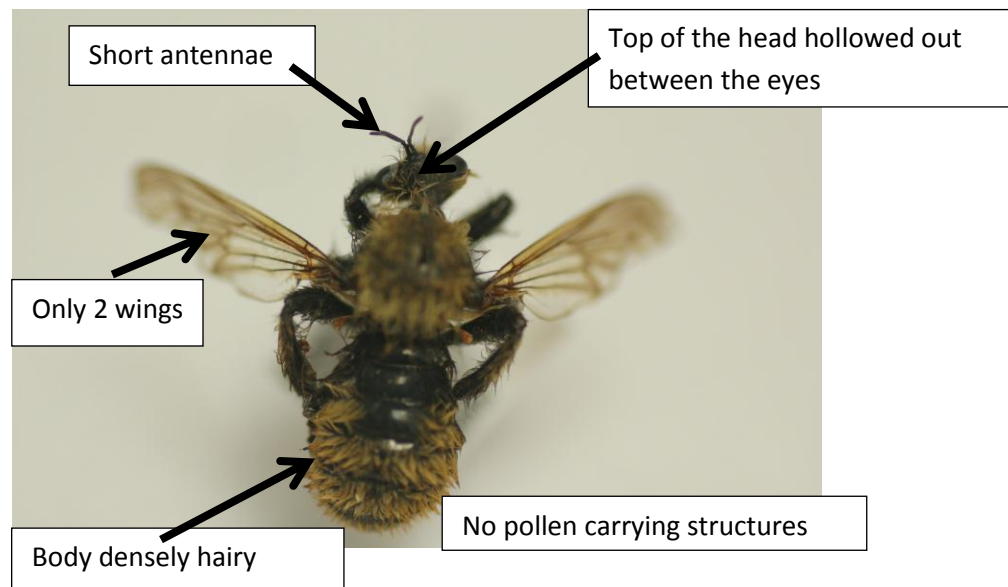
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### 3. Robber Fly (Order: Diptera, Family Asilidae)

These flies are predaceous on a variety of insects including wasps, bees, dragonflies, grasshoppers and other insects. Bodies hairy with long powerful legs.

Distinguishing characters:

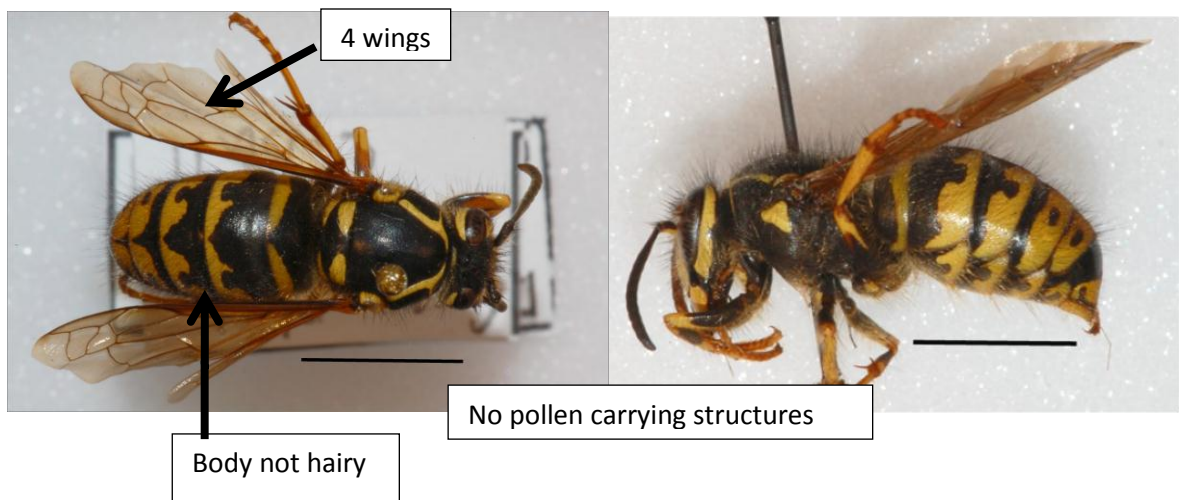


#### 4. Yellowjacket wasps (Order: Hymenoptera, Family: Vespidae)

The yellowjackets are very well known insects because of their conspicuous nests and for their ability to sting. Buck *et al.* (2008) presents an excellent pictured key for the identification of Vespinae found in northwest North America, including the species located in Newfoundland and Labrador.

Buck, M., Marshall, S.A. and Cheung D.K.B. 2008. Identification Atlas of the Vespidae (Hymenoptera, Aculeata) of the northeastern Nearctic region. *Canadian Journal of Arthropod Identification* 5: 492 pp. Available online at [http://www.biology.ualberta.ca/bsc/ejournal/bmc\\_05/bmc\\_05.html](http://www.biology.ualberta.ca/bsc/ejournal/bmc_05/bmc_05.html)

Distinguishing characters:



#### 5. Hummingbird Moth (Order: Hymenoptera, Family: Sphingidae)

Heavy bodied diurnal moths with clear wings. Strong fliers that hover in front of flowers; extend their proboscis into the flower thus resembling a humming bird.

Distinguishing characters:

