

# The Western Honey Bee:

1. Taxonomy
2. Various Breeds and Hybrids
3. Characteristics

*Apis mellifera*





The European honey bee or Western honey bee (*Apis mellifera*) is a species of honey bee. The genus *Apis* is Latin for "bee", and *mellifera* comes from the Latin *meli-* "honey" and *ferre* "to bear" — hence the scientific name means "honey-bearing bee".

The name was coined in 1758 by Carolus Linnaeus who, realizing that the bees do not bear honey, but nectar, tried later to correct it to *Apis mellifica* ("honey-making bee") in a subsequent publication. However, according to the rules of synonymy in zoological nomenclature, the older name has precedence. Some people who are unaware of this still use the incorrect subsequent spelling.

As of October 28, 2006, the Honey Bee Genome Sequencing Consortium fully sequenced and analyzed the genome of *Apis mellifera*.



Taxonomy: \tak-'sä-nə-mē\ the study of the general principles of scientific classification, especially the orderly classification of plants and animals according to their presumed natural relationships.



Kingdom

Phylum

Class

Subclass

Order

Suborder

Family

Genus

Species

Subspecies





Are these two animals the same species?



# DOG VARIATIONS



Affenpinscher



Deerhound



Lundehund



Greyhound



Lhasa Apso



Siberian Husky



Dalmatian



Lion Dog



Karelian  
Bearhound



Welsh Corgi



Afghan Hound



Västgöta Spitz



Kanaan Dog



Miniature  
Pinscher



Chow-chow



King Charles  
Spaniel



Cao fila



Entlebücher  
Sennenhund



Collie



Kelpie



Beagle



Pointer



Pug



Belgian  
Sheepdog

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# Italian Honey Bee

## *Apis Mellifera Linguistica*



Photograph by Ken Thomas





# Italian Honeybees

- Probably the most common race of honeybees.
- Colonies are usually large and winter well.
- Very good honey producers.
- Usually gentle and non-aggressive.
- Swarming instinct is not especially strong.
- Minimum propolis.
- Keep a clean hive and are quick to get rid of the wax moth.
- Queens lay all through the summer, so a large amount of stores are used for brood rearing.
- Italian bees have a strong tendency to rob.
- Yellow coloring with bands on the abdomen.



# Carniolan *Apis Mellifera Carnica*



[http://en.wikipedia.org/wiki/File:Apis\\_mellifera\\_carnica\\_worker\\_hive\\_entrance\\_3.jpg](http://en.wikipedia.org/wiki/File:Apis_mellifera_carnica_worker_hive_entrance_3.jpg)





# Carniolan Bees

- A very gentle race of bees.
- Probably the best wintering bees.
- Little use of propolis.
- Builds up very rapidly in the spring.
- Summer brood rearing depends on pollen and nectar flow.
- Usually not inclined to rob.
- These bees tend to swarm more. Probably due to rapid spring build up.
- Not as productive as Italians.



# Caucasian Honeybee

## *Apis mellifera caucasica*



Photo by Unknown





# Caucasian Bees

- Very gentle bees.
- Do not swarm excessively.
- Brood buildup is later in the spring.
- A good honey producer, not exceptional.
- Caucasians produce and use a good deal of propolis.
- Brown in color.



# Caucasian Bees (continued)

## Pros

- Colonies reach full strength in mid-summer, which is good for areas where the highest nectar flow is in mid-summer and fall
- While in its native area, a better honey producer than the European dark bee
- Ability to pollinate red clover and to collect nectar from flowers requiring a longer tongue
- Natural cohabitation of queens, double queen hives are possible
- Able to work cool and wet areas including foggy and drizzly weather





# Caucasian Bees (continued)

## Cons

- Colonies do not reach full strength until mid-summer, which is an undesirable trait for areas with the highest nectar flow in the spring (Utah).
- The high use of propolis may be seen as undesirable as it makes hive management more difficult. Frames and hive boxes are glued together more substantially.
- Over wintering in northern climates not good due to susceptibility to nosema inclined to drifting and robbing



# Apis mellifera mellifera

## The European Dark Bee



(c) by Gerald Vogeltanz  
www.fotos.cc



# Apis mellifera mellifera

## The European Dark Bee



# European Dark Bee

The European dark bee (*Apis mellifera mellifera*) was domesticated in modern times, and taken to North America in colonial times. These small, dark-colored honey bees are sometimes called the German black bee, although they occurred originally from Britain to eastern Central Europe.

There are three main subspecies, namely

*mellifera* (brown bee)

*lehzeni* (heathland bee)

*nigra* (black bee)

These have local variants, such as the Pomeranian Brown, the Alps Black, or the Black Scandinavian. All of the subspecies belong to the 'M' lineage of *Apis mellifera*.





# European Dark Bee (continued)

Availability in the US is minimal as most beekeepers switched to the Italian bee (*mellifera ligustica*) during the 1800's. Most likely as beekeepers started to use the Italian bee the genetic lines of the German bee and the Italian bee merged to create the bee we know today as Italian here in America.

The European dark bee can be distinguished from other subspecies by their stocky body, abundant thoracal and sparse abdominal hair which is brown, and overall dark coloration; in *nigra*, there is also heavy dark pigmentation of the wings. Overall, when viewed from a distance, they should appear blackish, or in *mellifera*, rich dark brown. The aggressive feral hybrids with other subspecies can be distinguished by the lighter, yellowish banding on the sides of the abdomen, but this is often difficult. For breeding pure dark bees according to the standard, details of the wing veins are nowadays considered to be the only reliable distinguishing character.

Source: <http://www.douglasfarm.com/otherbreeds.htm>





# Hybrid Bees

Some popular hybrids are:

1. **Starline** - Italian hybrid - marketed for vigor and strong honey production.
2. **All-Star** - Italian hybrid - marketed for its vigor and strong honey production.
3. **All American** - Italian hybrid - marketed for its vigor and strong honey.
4. **Kona Queen** - Italian hybrid - Hawaiian Italian or Cordovan bee marketed for its strong honey production in warm climates. Several reports of low mite resistance.



# Hybrid Bees (continued)

Some popular hybrids are:

5. **Midnight** - hybrid of Caucasian and Carniolan
6. **Yugo** - Yugoslavian Carniolan and USDA Russian hybrid
7. **Buckfast** - Developed by Brother Adam of Buckfast Abbey
8. **Russian** - Imported to US through a USDA research project
9. **Cordova** - Italian bee - selected for color and gentleness



# Buckfast Bees (Hybrid)

- Developed by brother Adam at Buckfast Abbey, Devon, England.
- Very rapid spring build up.
- Very gentle bees.
- Low tendency to swarm.
- Low consumption of winter stores.
- Well adapted to areas with damp cold winters.
- Excellent honey producers.
- Inclined to rob.





# Midnight and Starline Hybrids

## **Midnight Bees**

Hybrid bee.

Very gentle.

Developed for hobbyist beekeepers.

Not as productive as the Italian or Starline races.

## **Starline Bees**

Hybrid bee based on Italian stock.

Rapid spring build up.

Gentle.

Winter well.

Good honey producers.



# Russian Bees



Picture by Dwight





# Russian Queen



Picture by RICHARD  
LINDERHILL





# Russian Bees (Hybrid)

The Russian bees are a dark bee with more grey than yellow when compared to the Carniolan strain. They use less propolis than typical Italian honey bees. The bees show exceptional winter hardiness, smaller clusters, and produce a decent nectar haul per bee.

Demonstrate resistance to both varroa and tracheal mites but not to diseases.

Source: <http://www.douglasfarm.com/otherbreeds.htm>





# Behaviorally selected recessive traits

- Minnesota Hygienic - resistant to American Foulbrood, Chaulkbrood and show some resistance to Varoa.
- VSH (Varoa Sensitive Hygienic) - have been tested for good resistance to Varoa. They have not been tested for disease resistance.



# Packages of Honeybees





# Packages of Honeybees

- To ensure your order make sure you have your order done by March 1st.

