

What Kind Of Queen?

Italian, Carniolan, Caucasian, or Russian?

Jennifer Berry

A Little Background

Honey bees were first introduced into this country in the early 1600s by settlers from Europe. The race of bees that traveled by boat to the Americas was *Apis mellifera mellifera*, commonly known as the Dark, German, or Black bee. The German bee was predominant for decades but later lost ground to the imported Italian honey bee because of certain, undesirable characteristics. Beekeepers were annoyed with the temperament of the German bee. It was defensive, nervous on the comb and would boil out of the colony when disturbed. It was also very susceptible to European Foul Brood, which swept the country in the early 1900s. Colony losses were severe enough to spark a move towards the Italian honey bee. Today in the U.S., *Apis m. mellifera* is very uncommon and probably doesn't even exist in its pure form.

The Italian honey bee, *Apis mellifera ligustica*, is still the dominant player in the bee industry today. When you order package bees and queens from commercial sources the bee you more than likely will receive is the Italian honey bee: aka the "three banded Italian." These bees became popular for numerous reasons. First, they tend to be a semi gentle bee, not overly defensive or nervous on the comb. Second, Italians can handle most of the climatic variety that the Americas offer. Third, they don't use a tremendous amount of propolis and finally, swarming is not on the top of their list. The main complaint surrounding the Italian honey bee is their propensity to produce a ton of bees. This is fantastic while plants are bearing nectar and pollen but not so much when the blooms have disappeared. Unfortunately, the trend to produce wall to wall progeny continues into the Summer and Fall. This equates to more mouths to feed which in turn means dwindling honey stores which translates to either less honey removed by the beekeeper or more trips to the apiary to feed sugar

syrup. In the past the Italians were the reigning monarch in the U.S. but in recent decades they've been challenged. The Carniolans along with the Russians are gaining in popularity.

Carniolans, *Apis mellifera carnica*, are a dark, grey bee that originated in Slovenia. The Carniolan gained popularity because of its gentle disposition and resistance to brood diseases. The other advantage they have over the Italian is their ability to "flow with the flow." In other words they build up quickly in the late Winter in time for the Spring flow then shut down brood production when nectar and pollen become scarce. The Carniolans overwinter in smaller clusters and hence honey stores are conserved. The only disadvantage is their tendency to swarm more readily when the brood nest becomes overcrowded.

Sue Cobey's breeding program developed the "New World Carniolan." Over decades queens in her program have been evaluated and selected for their ability to resist pests and diseases while still exhibiting important traits like overwintering ability, gentleness, increased brood and honey production.

Another western honey bee, the Caucasian, *Apis mellifera caucasica*, originates from the high valleys of the Central Caucasus. This is a geopolitical region located between Europe, Asia and the Middle East. The Caucasian is a race of gentle, dark bees that aren't bothered when beekeepers open their hive. They are slow to expand in the Spring but eventually can reach fairly large populations by mid Summer. They do have a few negative attributes which is probably what has kept them from gaining too much ground. Probably the most annoying to beekeepers is their tendency to collect and use propolis. Over the years beekeepers have selected against this trait due to the difficulty it added while working colonies; sticky hive tools, fingers, or gloves in warm weather while in



cooler temperatures frames, lids, and inner covers cemented together. Caucasians are also inclined to drift, and robbing behavior can be bothersome. You won't find them very often anymore for these reasons.

The newest arrivals on the scene are the Russian bees which have been growing in popularity over the years. They are a mixed hybrid of *Apis mellifera* and come from Primorsky region of far-eastern Russia. In the mid-1800s settlers brought European bees, perhaps several races in all, to this area which were already inhabited by the native Indian honey bee, *Apis cerana*, the original host of *Varroa destructor*. It is believed that these initial populations of European honey bees became infested with *Varroa* and over time developed resistance in order to survive. Hence Russian bees have been exposed to *Varroa* mites longer than other races of *A. mellifera*. In 1997 Dr. Thomas Rinderer, USDA Bee Lab Researcher, imported these bees into North America. In 2007 the Russian Honey bee Breeders Association was formed. The purpose of the association "is to maintain and



Battery Box.



Individual Queen Cages

improve the various lines of Russian honey bees through propagation and selective breeding.”

The Russian bee is a dark bee that overwinters in small clusters and can withstand harsh Winter conditions. They are good honey producers but shut down brood production earlier than Italians which is good for conserving honey stores. Russians are inclined to build numerous queen cells during the brood season and can swarm more readily than some other bees.

Finally, I'd like to mention the Minnesota Hygienic, which isn't a race of bees but rather a line of queens selected for a particular trait. Developed by Dr. Marla Spivak at the University of Minnesota, hygienic bees will detect, uncap, and remove infested or infested brood from the combs. Bees with this behavior reduce the incidence of diseases like American foulbrood and limit reproduction and therefore population growth of mites and small hive beetles. These queens are commercially available.

While thumbing through the bee journals you will notice numerous ads selling queens. To a new beekeeper this can be a bit overwhelming. How do you know which queen is best for you, or your location? This is when a local mentor comes in handy. Talk with them or other members in your club to see which queens they've been purchasing over the years. You will quickly find out that beekeepers can be opinionated, especially when it comes to a race or line of bees they've been keeping. Actually, if you stay in beekeeping long enough, so will you. Now, you may receive conflicting stories about which queens to purchase and hence your path becomes even more unclear. So experiment. Purchase several different queens from different breeders and make your own decision. Another way to narrow the selection process is to find a queen breeder that fits your particular beekeeping philosophy.

After you muffle through and fig-

ure out which queen you want to purchase you need to order her sooner than later. By now it's March. Most early queens are already sold but they should be available later in the year. If you prefer to re-queen in the Fall you still have plenty of time.

If you have never received queens in the mail let me give you a few pointers. Depending on who you purchase your queen from will determine how she arrives. If you are ordering a few queens they usually arrive in a sturdy, cardboard, postal envelope or box. Holes are cut for ventilation and the queens will be in individual cages (wooden or plastic) inside. If you are purchasing a large number of queens they're usually shipped in a battery box; a cardboard box with wired mesh windows. Inside the queens are securely housed in individual cages. The main difference between the two methods is the location of the attendants. In the envelope, the attendants are placed inside the cage with the queen. In the battery box, they're shook directly into the box and then sealed. Hence there are live, free flying bees inside the box but outside the queen cages. It's usually not a good idea to open the box inside unless you like buzzing bees at windows and lights. The battery box is supplied with queen candy which the attendants consume and then feed to the queens. Cages with attendants have the queen candy inside at one end.

If you are unable to install your queen when she arrives, take the cage

out of the envelope and place a few drops of water directly on the screen towards the end where the candy is located. Not too much water, you don't want to drown them. This will help the nurse bees consume the candy and feed it to the queen. Then place the queen back in the envelope and keep it out of direct sunlight and away from any heat source. If your queens arrive in a battery box, lightly squirt water through the wired opening to hydrate the bees; again not too much. It is also a good idea to place your queen(s) someplace where the cat, dog, ferret, gerbil, rabbit, or snake will not have access. I've heard numerous stories about the horrible demise of queens due to a quick swipe of the paw or snap of a jaw.

Before installing a queen it is a good idea to remove the attendants. Several years ago Wyatt Magnum conducted research which showed acceptance rates increased when queens were introduced without attendants. Removing these attendants can be tricky if you're not used to handling bees/queens. If your queen is in a wooden cage, both ends will have a cork plug securely in place. Remove the plug on the end without the queen candy and let the attendants out. Preferably you want to have the cage in some sort of clear bag, queen muff, or veil covering because the queen may shoot out of the hole and take off flying. This can be disturbing when you watch your newly purchased queen fly off into the wild blue yonder. If she escapes the cage just carefully grab her by the thorax and gently place her head into the hole of the cage. She will be grateful to return to the cage if it means being released from the Giant Fingers. Plastic cages have a cap but usually the candy is in that part of the cage. There is a second plastic cap that is attached to the cage. Gently remove it and allow the bees to exit. If you are

Description	1876 price	Adjusted 2007 price
10 frame colony with imported Italian queen	\$18.00	\$346.55
10 frame colony with a home raised tested queen	\$14.00	\$269.54
One queen tested specially	\$5.00	\$96.26
One queen tested specially with bees	\$15.00	\$288.79
Tested queen from imported mother	\$4.00	\$77.01
4-full size nuc with warranted queen	\$6.00	\$115.52

brand spanking new at beekeeping you may want to just leave the attendants in the cage and install her. Once you feel confident picking up queens then you can attempt this. If the queens are in a battery box you don't have to worry about removing attendants. Just open the box next to the hive and insert the queen.

Here is how I introduce a queen. Open the colony, find the old queen and remove her. Open one end of the queen cage and remove the attendants then replace the cork or plastic cap. I take a small amount of honey with my hive tool and touch the corner of the screen. The queen will usually immediately start to feed on the honey. When inserting the queen cage, I prefer to put the queen-candy side down. This way there is no chance of the queen-candy melting and seeping down, entombing the queen. Since there aren't any attendants, no dead bodies could possibly block the candy. After several days I personally release the queen from her cage. I want to see the queen emerge from her cage, walk out onto the comb and be greeted, lovingly, by her new court. If bees are balling the cage (layers of worker bees curled up around the cage, biting and trying to sting the new queen) I leave her for another day or two. Take care with this newest member. Remember without her there's no colony.

I'm going to change the subject for just a minute, but I promise there is a point. Recently it seems our souring economy has been on everyone's mind. Turn on the radio, TV or computer and you're bombarded with doom and gloom: stock market down again, raising unemployment, foreclosures, failed bailouts, company closures, corporate thieves and increasing crime rates. Driving around Athens, Georgia I see the direct results of our failing economy. Folks standing on the roadside with large orange signs that read, "Going out of business, 60-80% off, everything must go." It's the topic of conversation at dinner parties and lunch socials. Friends in the restaurant business are wondering how they can hold on for another month. Houses still on the market for over a year have new "for sale" signs reading "Price Lowered."

With all this concern about the economy one would think that the interest in beekeeping would also take a downturn. It doesn't seem to be the trend, so far. Maybe it's due to all the headlines about CCD or the desire to save money by making one's own honey. Who knows? But we, as consumers, are still wary of carelessly letting go of our hard earned money. Purchasing beekeeping equipment, bees and queens may still be on our list but we want more reassurance

that the product is good.

Where am I going you ask? Last year I was invited to speak at the Western Reserve Beekeepers Association, in Medina Ohio. One of the highlights of my trip was a tour of the A.I. Root Company; you know the place they make all of those fabulous candles. I saw first hand how votives, pillars, and tapers were made, colored and scented. It was a fascinating tour. But more interesting was the building that A.I. Root built back in 1869. It is still standing and houses this amazing company. While on the tour Kim Flottum, tour master and editor of this magazine, handed me the fourth issue of *Gleanings* magazine dated 1876. I sat down and gently began to thumb through it. One thing that caught my eye was the advertisements for queens and bees. A few of those are in that yellow chart. Just for fun, I converted the 1876 price to today's (actually 2007) to see if the industry has kept up with inflation, which is where those numbers come from on the chart. Now granted I'm over simplifying a bit, but it seems to me that we're getting queens and bees today at a steal. Maybe our beekeeping dollar isn't hurting so bad.

See ya! **BC**

Jennifer Berry is the Research Coordinator at the University of GA Bee Lab.