

INTRODUCTION

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The European honeybee, *Apis mellifera* belongs to the great order Hymenoptera, of which it has been estimated that some 100,000 species exist in the world to day, this order can for convenience be subdivided fairly naturally in to two sub-orders, the Symphyta and the Apocrita.

A subspecies of *Apis mellifera*, known as *adansonii*, is found widely distributed in Africa, so far very little seems to be known about its behaviour, but it may be suspected that it will be found to be some what intermediate between that *Apis indica* and the typical western honeybee.

Today two subspecies of *Apis mellifera* are recognizable each with a number of more or less distinct races, these are : the western honeybee (subspecies *A.m. mellifera* and the African honeybee subspecies *A.m. adansonii*).

Some workers have recognized further subspecies, but the author prefers to regard those that are additional to the ones listed above as races rather than subspecies who are aware that the word “races” is used by some systematists to mean subspecies, but here he use it to represent a lower category. It is, of course, only a matter of opinion where one draws the line, (**Butler, 1954**)

The four most important races of the western honeybee are :

- 1) *Apis mellifera mellifera*, the southern form of Lehzeni, which possesses similar characteristics in a rather less well pronounced form. It occurs throughout central Europe north of the Alps. Colonies of this race are to be found in the Netherlands,

Belgium and Northern France.

- 2) *Apis mellifera carnica*, the Carniolan bees, whose short grayish-white body give it a most attractive appearance. This race possesses a decidedly longer tongue than the two preceding ones. Its chief habitats are in Austria and in parts of the Balkan countries.
- 3) *Apis mellifera ligustica*, the well-known Italian honeybee, which is distinguishable from all other races by the beautiful yellow bands on the workers' abdomens. Its home is in the Italian peninsula from whence it has been widely distributed in large numbers to many parts of the world including Britain, America, Australia, and New Zealand. It is not as hardy under British conditions as some of the more northern races.
- 4) *Apis mellifera caucasia*, the Caucasian honeybee. This race has its home in parties of the Caucasian mountains and has an attractive gray colour and a long tongue. Many, if not all, strains belonged this race have been tried in Britain have shown an unfortunate tendency to collect a large amount of resin (propolis) from various plants and to use it to glue the interior fittings of their hives together.

From other honey bee strain also :

- Buckfast bee, this strain produced from Italian queens mated with native blackbees. The best of these crosses formed the base of Brother Adam's new bee. This strain surviving in Bonn, France and West-Germany, (Adam 1983, Osterlund, 1983 and

Zimmer 1987).

- Starline bee, this strain produced from Italian queens mated with native Carniolan drones this strain reared in America, **(Sugden and Furgala, 1983).**
- Midnite bee, this strain reared from Carniolan queens mated with native Italian drones, this strain surviving in France and America.

The aim of this research is to evaluate various characters of different honeybee hybrids in the Egyptian apiaries. The races of honeybee queens were imported from different localities of the world.

These commercial races were, Carniolan, Starline, Buckfast and Midnite. The F₁ hybrids of honeybee strains of the virgin queens (open feeding) were evaluated as well as the following: some biometric characters of queens and workers, brood rearing activity, queen rearing activity, honey production, royal jelly excretion and pollen gathering activity.

These experiments were carried out in the apiary and laboratory of Moshtohor, Faculty of Agriculture, Zagazig University, Benha Branch. These trials were conducted during (1993 and 1994).