



The Africanised strain of bees resulted from an attempt to increase honey production.

*features*

PEOPLE • FASHION • BOOKS • HEALTH • LIFESTYLE • RECIPES • MUSIC • ART

# Unveiling the myth of Africanised bees

PART 1

JO-ANNE NINA SEWLAL

GENERALLY, bees are well-tolerated by humans because they are a source of honey and for their role as pollinators. But they are regarded as having a “dark side” when reference is made to Africanised or killer bees.

Over the decades since their existence, some misconceptions about this species have developed on their value to the environment and the bee-keeping industry, which I hope to clear up in this two-part article. This article will introduce the species, while next week’s article will focus on why we should not regard Africanised bees as enemies.

First of all why focus on bees? Well, it is because of these tiny creatures’ ability to carry out pollination. Pollination is considered an ecosystem service which is a role carried out by species as well as ecosystems, making human life both possible and worth living and cannot be replicated by human activities. Their role as pollinators mean that they play a major role in food security on a global scale, pollinating an estimated three-quarters of the world crop species, which is valued at an estimat-

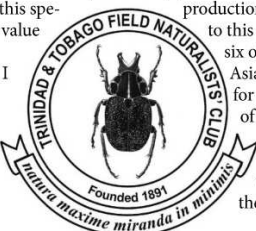
ed US\$500 billion. Not only do bees play a vital role in our food security, but it is estimated that pollinating insects inclusive of bees, butterflies and beetles, are responsible for 1.4 billion jobs worldwide.

Globally there is an estimated 20,000 species of bees with one species, *Apis mellifera* commonly called the “European honey bee” being the most common species and well known due to prolific honey production. Commercial honey production however, is not limited to this single species and about six other species in South Asia are reared in that region for commercial production of honey. But what about the African honey bee *Apis mellifera scutellata* which is a subspecies of the European honey bee? To clarify, there exists over ten such subspecies in Africa, so they can all correctly be referred to as African honey bees. In this context, the term “Africanised” honey bees refer to the subspecies *scutellata* in its introduced range.

How then can one tell the Africanised honey bees apart from the common honey bee? They can easily be distinguished from each other by analysing their DNA and enzymes.



Africanised bees spread through South and Central America at a rate of 300 to 500 km annually.



TRINIDAD AND TOBAGO  
FIELD NATURALISTS' CLUB

BEES continues on Page 4B

## FEATURES

# Can't tell if a bee is 'Africanised' or not

BEES from Page 1B

But a more low-tech approach would be to measure 20 structures on their bodies, some of which are microscopic. So basically you cannot tell if a bee is "Africanised" or not. It is best to treat all bees you encounter as "Africanised".

But we seem to be straying from the point, which is how did Africanised honey bees come to be (pardon the pun)? Tropical beekeepers were faced with a problem, in that the European subspecies introduced into the Americas were not as productive as they were in their native temperate regions like North America. Brazilian scientist Dr Warwick Kerr decided to do something about this and in 1956 imported some colonies of *Apis mellifera scutellata* to his country for experimentation to breed a more productive strain.

This subspecies was selected on his trip to Southern Africa and based on a criteria of productivity and viability. It was his hope that

through experimentation and selective breeding this African subspecies, which was more productive but more aggressive than their European cousins, could be made accessible to Brazilian beekeepers. An accidental swarming cut his breeding experiments short.

This African subspecies quickly interbred or hybridised with the European bees, as all subspecies can interbreed with each other. The Africanised honey bees spread rapidly through South and Central America at a rate of almost 300 to 500 km annually, reaching North America in 1990. This rapid hybridisation was made possible due to genetics in that many of the genes found in African subspecies were dominant over the European subspecies.

The African subspecies is generally more defensive compared to their European counterparts. But how did the African subspecies get these traits in the first place? This is due to a number of factors, both natural and influenced by human



The European honeybee  
*Apis mellifera*.

activities. The method of honey collection is believed to be one such contributing factor. In Africa, honey is collected through "honey hunting" expeditions. So that almost the entire hive is destroyed. Compared to beekeeping practices with the European subspecies where minimal disturbance of the hives is encouraged, African subspecies are also exposed to a wider range of predators such as birds, reptiles and mammals inducing them to be more defensive

as a way of survival. Other natural selection pressures include availability of resources and climatic stresses, both of which could serve to drive natural selection for the highly defensive nature of the African subspecies.

**NOTE:** In last week's article TT birders flock to Cuba, photographer credits were inadvertently omitted and are as follows: Cuban Tody –David Southall, Bee hummingbird –Jessica

Rozek and group of birdwatchers –Aly Ollivierre.

For more info, contact the Trinidad and Tobago Field Naturalists' Club at [admin@tfn.org](mailto:admin@tfn.org) or visit our website at [www.tfn.org](http://www.tfn.org) and our Facebook or YouTube pages. The club's next monthly meeting will be held today at St Mary's College, Port of Spain. Lecture: Land snails of Trinidad & Tobago by Mike Rutherford. All lectures are free to the public.



National Day of Spain  
October 12th 1492 - 2017

Enhorabuena al Gobierno de España y a la comunidad española en su Día Nacional.

Congratulations to the Government of Spain and its people on their National Day.

Repsol, Angostura Limited  
Level 5 Eleven Albion, Corner Dere & Albion Streets  
Port of Spain, Trinidad and Tobago, W.I.  
Tel: 868.235.5062 Fax: 868.235.3533

[repsol.com](http://repsol.com)

