

beenome

Beenome is the fanciful name given to the honeybee genome. Working out the details of the genetic code for *Apis mellifera* has been a reality, however. The complete genetic sequence of the honeybee was published in 2006, just 3 years after the **Human Genome Project** completed its sequence of the human genome in April 2003.

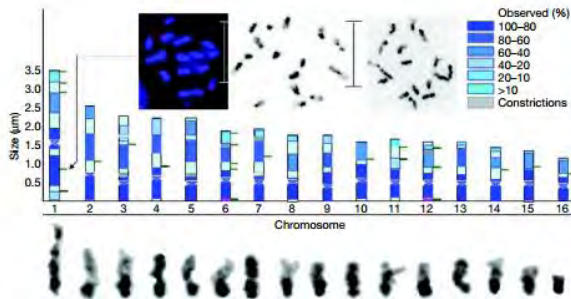


Figure 2 | Chromosomal spreads, ideogram and karyotype of *Apis mellifera*. The ideogram (in blue) shows average chromosome lengths, percentages seen only in early prophase spreads. Lines chromosomes represent BACs shown by FISH to bind i



Having such extensive data on an organism allows analysis of many aspects of its biology and even extends to tracking - by means of cellular and mitochondrial DNA - the migrations of the honeybee across the planet over the reaches of deep time. Although it made its journey many millions of years before any human ever took a breath, *Apis mellifera*, like *Homo sapiens*, also came out of Africa and spread across Asia and Europe. The first humans *walked* to the Americas from Asia or floated across the Pacific 15,000 years ago, however. Only much later (1600's) did the honeybee travel across the Atlantic, carried by men in wooden sailing ships.

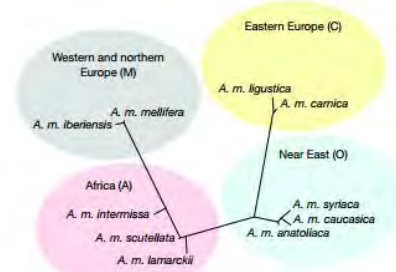


Figure 10 | Population genetic structure of honeybees collected from native ranges in Europe, Africa and the Near East. Neighbour-joining tree using Nei genetic distance⁸¹. Ten geographical subspecies (N = 9–21 individuals each) can be partitioned into four regional groups. Branches separating regional groups are supported by 100% bootstrap.



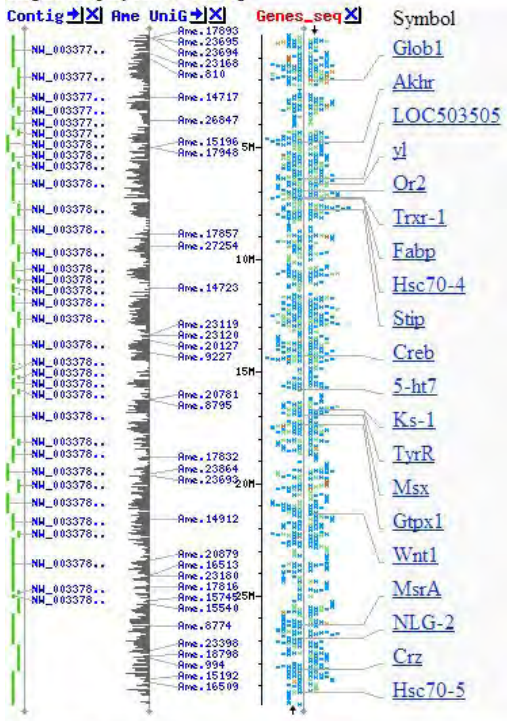
Of course, most honeybee genetic research is directed toward understanding the physiology and behavior of these highly social organisms. Many questions remain regarding how and why bees do what they do, why colony members follow specific social roles (and why these roles change for an individual over time), why certain colonies appear to handle various pests better than others. Understanding the code being used to direct behavior of the many millions of cells that comprise a bee gives information useful to begin to understand the *emergent realities of honeybee function and how a colony coordinates its activities within the hive.*

[Apis mellifera \(honey bee\) Annotation Release](#)

Chromosome: [LG1] LG2 LG3 LG4 LG5 LG6 LG7 L

Master Map: Genes On Sequence

Region Displayed: 0-30M bp



Summary of Maps:

Map 1: Contig

Region Displayed: 0-30M bp

Total Contigs On Chromosome: 43



The attached references give insight into this massive project. A link to the excellent *NIH Human Genome Project* website is also included.

imagessays.com -> beename