

## The Bee-EMF timeline

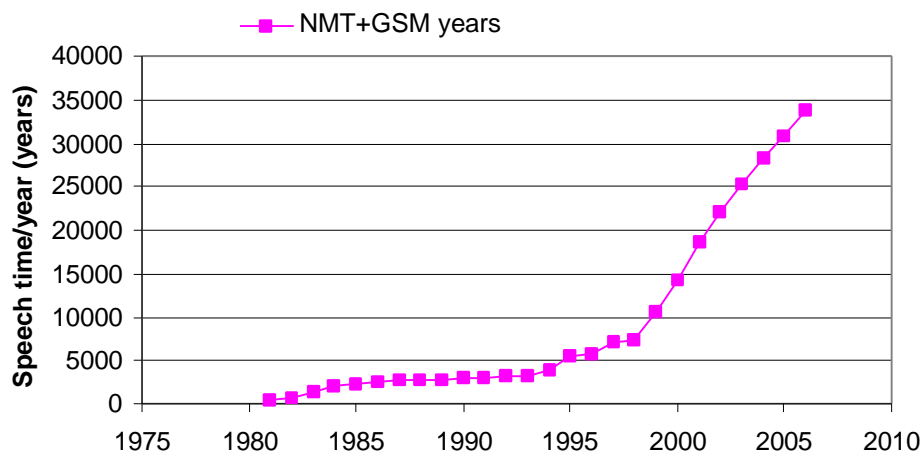
Ö Hallberg Hallberg Independnet Research 2008. Bee timeline by Paul Doyon.

1940's:	studies done in the 1940's on the navigational ability of the honeybee
1973	Karl von Frisch won the Nobel prize
1974	Russian researchers Eskov and Sapozhnikov found that bees generate electromagnetic signals with a modulation frequency between 180 and 250 Hz
1976	Ulrich Warnke publishes a report "Effects of electric charges on honeybees." It included the finding that "Bees in strong electric field became aggressive, stinging each other to death; communication was disturbed....Bees left the hive if they could."
1980	Journal of Experimental Biology 86,1-8 (1980) publishes a report on "Orientation of Demagnetized Bees" which concludes that "The orientation of honey bee dances is affected by the earth's magnetic field."
1982	State University of New York publishes Electromagnetism and Life Robert O. Becker and Andrew A. Marino
1990	Sharp decline in number of commercial bee colonies in US begins. Between 1990 and 1996 one quarter are lost
1992	According to a statement from the French parliament in 2007 the unexplained die-off of bees in France dates from 1992.



1995	The decline in bee colonies accelerates in France.
1996	Something of a panic takes hold in the USA with the publication of this work: Our Forgotten Pollinators: Protecting the Birds and Bees By Mrill Ingram, Gary Nabhan and Stephen Buchmann PANNA, San Francisco, CA <a href="http://www.pmac.net/birdbee.htm">http://www.pmac.net/birdbee.htm</a>  "A pollination crisis is flaring,"
1997	"a weakening and abnormal mortality rate amongst bee colonies in France".
1999	CCD. Our team began to investigate the origin of this syndrome at the end of 1999
2000	Winter: CCD starts in northern Spain
2001	A scientific study "Magnetite-based magnetoreception 2001" affirms the "sensitivity to electric fields and their role in navigation across wide range of species."
2002	"Beekeepers in Canada are experiencing an increasing incidence of unexplained and substantial colony mortality"
2003	"Bee losses in France 2003"  "Until recently, the normal death rate for bees during the winter months was one in 10. Now, says Vincent Clair of the French National Bee Surveillance Unit, the death rate is six in 10."

2004	Vogel offers as evidence - that mobile phone masts have caused the demise of his bee colonies - the fact that his son's colonies, which were placed behind aluminum shielding, have survived. (Aluminum is known to block microwave radiation.)
2005	Four out of eight colonies were exposed to DECT phone base stations which were put into the hive and constantly emitted radiation. "  The report found statistically significant differences in the performance of bees subjected to EM radiation exposure.
2005	"The American Beekeeping Federation estimates that about 50 percent of the honey bee colonies in California have been killed or severely weakened"
2006	The effects of electromagnetic radiation from the mobile phone network on insects.) Ecosistemas. 2006/1
2008	A major article on these "sudden mysterious losses" in the New York Times begins a wave of press coverage worldwide and CCD begins to enter public consciousness



**Figure 1.** Annual speech time per year in Sweden via mobile phone handsets.

The magnitude of detected infectious agents in adult bees suggests that honey bees might be exhibiting some type of immunosuppression; however, researchers have yet to see any measurable effects on the honey bee immune system.

#### Comment

A parallel among humans is the melanoma epidemic. This can be explained in detail by assuming a reduction in skin repair efficiency due to body-resonant radiation.

1. Hallberg Ö. A reduced repair efficiency can explain increasing melanoma rates. *European Journal of Cancer Prevention*. 2008;17:147-152. [Journal PubMed](#)