

Presentation to the Beekeepers Association
Glastonbury 9th August 2008

Is Colony Collapse the price of e.m.f. progress?

Mr Ferguson purchased a Georgian house in Bath. The only problem appeared to be 30 nests of bees sharing the same property. Everything was tried to rid his house of bees, but all efforts failed. Then Mr Ferguson installed a WiFi system; the bees left and never returned. (1)

Similarly, when University Scientists placed a DECT phone near hives, both the weight of the honeycomb and the numbers of bees returning to the hive decreased. During one experiment, no bees at all returned. (2)

The common denominator here is that both WiFi and DECT transmit microwaves, common to mobile phones, TETRA, all similar devices and their transmitters. Microwaves are made up of both electric (like static) fields and magnetic (like magnets) fields.

Bees use the Earth's magnetic field to help them both position themselves and navigate. To do this, they have magnetic materials in their heads, thoraxes and abdomens. (3) These particular magnetic materials can be re-magnetised by a stronger magnetic field (it is one way of making magnets). Once magnetised this stronger field will remain. Subsequently, their particular directional finding mechanisms can inadvertently misdirect them.

Let's put this into some sort of perspective:

Honeybees have been shown to be sensitive to magnetic field differences of (1nT) one thousand millionth of one magnetic unit (the Tesla). (4) The Earth has both an horizontal and vertical magnetic field which the honeybee will both detect and use for positioning. Permitted magnetic field levels from transmitters are roughly 640 times greater than that of the bee's most sensitive level; this is without considering any pulsing and accumulative effects from other nearby transmitters - e.g. mobile phones and WiFi. The Earth's magnetic field is a static field, whereas the transmitters use an oscillating field; these fields have different properties. Imagine you are driving along a strange motorway and, instead of seeing one traffic sign, you see 640!

A problem humans living near transmitters often encounter is acoustic vibration (vibrating pipes, metallic conduits, even bed-springs), sometimes called resonance. Any constant rhythmic variation from a force (wind/electromagnetic/mechanical) can cause resonance in the atomic layout if the recipient/object is “tuned in” to that frequency.

Both the brain and the body of a honeybee can vibrate (resonate) from some of the frequencies used by the Communications Industry. Bees also “waggle-dance” to communicate within the hive; this “waggle-dance” sends vibrations used for communication throughout the honeycomb. (1)(5)

The frequency of vibrations for the honeybees’ “waggle-dance” are set at around 200-300 Hz (vibrations per second). This also is the pulsing frequency used by some mobile phone transmitters. (6) Hence, it is a viable proposition to assume that some hives near transmitters must be continually forced to vibrate, day and night, sending possible inappropriate signals.

The Varroa mite is often mentioned, along with other infestations or diseases, as a cause of the demise of bees. However, colonies of Varroa-resistant bees are also suffering. (7) As both Dr Carlo (8) and Alex Roslin (9) say:

Firstly - the problem is sudden and global, suggesting it is a global source; the coincidence here is the tripling of global microwave background radiation. Secondly – normally with a disease or virus the bees die within or near their hives, but now, in most reported cases, the bees are simply disappearing.

As one bee-keeper said on Spotlight BBC News from the Royal Cornwall County Show (6.6.08) “It is like a giant hoover just comes out of the sky and sucks them up”.

In other situations where bees have maintained their usual numbers, it is reported that their immune systems are collapsing (10) and/or their metabolic rate is suppressed. (2) This is not surprising. I believe the proof has been staring us in the face for years, but it has been overlooked.

When Universities embark upon lengthy research studies concerning microwave radiation and resulting cellular effects, they often use small mammals and/or invertebrates. The resulting data is written up and published. However, in all of the range of research I have studied, one critical conclusion has not been clearly identified: *there is a direct, indisputable correlation between what is shown under experimental conditions and what is already happening within the natural environment.* This is to say, if low-level microwave radiation has been found to suppress the immune system (using everyday levels) *in the Laboratory*, it will also suppress the immune system *outside the Laboratory – in everyday living.*

Exacerbating everything already mentioned is “HAARP”. Using approximately 180 transmitters spread over 30 acres, with a power rating of 3.6 million watts or more, this Alaskan super-transmitter could probably disorientate the best part of a country’s entire bee population if it were aimed in that direction, at an appropriate angle (to reflect from the ionosphere). (11) (12) “HAARP” may be the biggest transmitter in the World, but it is by no means the only super cluster of transmitters to be found. A look at any military site will show this.

Within my capacity as a scientific adviser, I receive many research papers from all over the World and I believe that what is happening to bees is also happening to other living things. I have a plethora of research on:

Butterflies, trees, plants, birds (including white stork, pigeons, sparrows and migratory birds), swamp life, frogs, bats, ants (who use the Earth’s magnetic field for direction) cattle and whales (“HAARP” can be used to communicate to submarines).

The common denominators are: all have suffered from the installation of nearby microwave transmitters (as used by the Mobile Phone Companies), and they either use the Earth’s magnetic field for navigation, or they are exposed to ground-currents (or both).

It seems that this scenario follows the worldwide proliferation of the Communications Industry. I can no longer find a trouble-free country where mobile phones, WiFi, TETRA, blue-tooth, etc., are being used.

Bees use similar thinking mechanisms as humans – that is, they can memorise and organise.(13) (14) If a strong magnet is placed near a hive under construction, a strange-looking comb will be produced. (5)

The bee is this planet's most sensitive proprioceptive animal (using Earth's magnetism and vibration to feel, position and orientate). Clearly, if a cluster of magnetic-wave-transmitting antennae are introduced into the bees' environment, it will try to find a more tolerable territory – possibly exhausting it's energy and dying in the process.

Not only are we interfering with the physical properties of this planet, upon which our evolution has been based, but we are putting at risk the very foundations of our food chains and webs.

As a physicist and teacher of science, if I were asked to devise a mechanism to eliminate bees from the planet, I would suggest the deployment of communications transmitters, using pulsed (modulated) microwaves, which penetrate every part of this planet. There is absolutely nowhere the bees can go to escape such microwaves.

CONCLUSION

I believe that microwaves from the new communications systems are suppressing the immune responses of the bee, leaving them susceptible to infection, causing their magnetic orienting capability to become compromised.

THE WAY FORWARD

There is a new law; it is called the *European Habitat Directive*, which states ***“It is illegal to harm protected species or disrupt their habitat”***.

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Some (Variable) Data for Scientists

- i) Ferromagnetic compounds within the bees' head, thorax and abdomen produce hysteresis loops.
- ii) These magnetic crystals vary in size.
- iii) Earth's horizontal field 1.87×10^{-5} T
Earth's vertical field 4.36×10^{-5} T
Earth's dipole 8.1×10^{22} Am
- iv) Microwaves (as defined by International Standard)
300 MHz to 300 GHz
*Wavelength = 1m to 0.001m
*Length of bee = 2cm
*Mushroom shaped brain = a few millimetres (+)
*Distance between antennae – similar
Therefore: resonance can easily occur with some microwave frequencies.
- v) Transmitters may use side-lobes to increase power.
- vi) Interference patterns can occur with transmitters.
- vii) Bees are known to be sensitive to InT and varying microwave frequencies.
- viii) Honeycomb is within the resonance band.
- ix) Microwaves are used because they are more penetrative to building materials than radio or TV frequencies.

Will the Communications Industry be the Final Straw for Our Planet's Ecosystems?

During a recent visit to Africa, a gentleman took me to a field full of plants and said: *"What do you hear Barrie?"* I replied: *"Nothing"*. He said: *"Normally you and I would not be able to hear each other now, there would be so many bees buzzing, however, since that mobile phone transmitter went up, we haven't seen a single bee."* I received other similar reports concerning bees, birds, even ants during my stay in Africa. It was explained to me that the ants are very important for their symbiotic relationship with plants. The plants produce a sweet substance to feed the ants and in return the ants prevent insects landing on and eating the plant's leaves. Hence, ants guarantee crop safety and harvest.

It appeared that the common denominator in all cases was the proximity of mobile phone transmitters transmitting low-level continuous microwaves with added modulations (pulses) causing cellular distress to species within range. Residents who complained were told that such installations were within 'International Safety Guidelines'; other residents were either totally ignored, mocked or ridiculed.

Yet proof of such effects from low-level microwave irradiation has been known to Government(s) and published since 1932.(1) By 1971 the US Naval Medical Research Institute referenced 2300 research articles listing in excess of 120 illnesses from low-level microwaves.(2) This was reinforced by confirmation from the US Defence Intelligence Agency Documents from 1972-76.(3)

So what does all of this have to do with bees, birds or ants? Well, quite a lot really.

Biologically, apart from some specialist organelles within the cytoplasm or the amount of genetic material etc, all animal and plant cells are very similar; in fact at the atomic and nuclear level, they are identical. Thus, if you are going to affect human cellular activity, you will inevitably affect other animal and plant cells from the same source. In this case according to Government reports, low level microwave irradiation. The reader does not have to look far to discover that many experimental trials, evaluating harmful microwave levels, are carried out on animal cells / tissue first; or even live animals. These reference levels are then applied to human beings. Arguably the World's foremost scientific journal, 'Nature', published an article explaining how oscillating magnetic fields disrupt the magnetic orientation behaviour of migratory birds.(4) The frequencies referred to within this article are well within the modulation frequencies used by the mobile phone industry.

Dr Andrew Goldsworthy, retired Lecturer from Imperial College, London; extends this mechanism to other species in his written 'comment': 'Establishing Why Bees Die Off' dated 13th January 2010.

Prof Karl Richter also extends this explanation and references the plight of bees subjected to such irradiation. He notes that these insects' immune systems have collapsed with many bees suffering five to six infections simultaneously. Interestingly, suppression of the immune system is also described by the US Government as a symptom for humans exposed to low-level microwave irradiation. (5)

Similarly, Prof Ferdinand Ruzicka, who is a bee keeper himself, says: *"The problem only appeared since several transmitters have been installed in the immediate proximity to my hives."*

"Dragnose-Funk" continues: *'According to Ruzicka's observations, the bee colonies are so weakened by the mobile telecommunications radiation that they become more prone to various diseases.'* (6)

In his two-part, 13 page document, Guy Cramer includes the military and its Worldwide use of similar telecommunications transmitters as partly complicit to this cause for the demise of the bee population. In particular he singles out the US multi-transmitting towers in Alaska which can focus anywhere on this Planet by reflecting their transmissions off of the ionosphere. This is otherwise known as HAARP. (7)

Researchers like Colin Buchanan have actually outlined time-lines plotting the demise of bees and its relation to human induced electromagnetic radiation. (8)

Within my presentation to the beekeepers' association at Glastonbury in 2008, I referenced 14 articles explaining why the bees are particularly susceptible to microwave irradiation. I stressed that bees could be exposed to magnetic levels roughly 640 times more powerful than they normally encounter with the Earth's field. The consequences of this can be two-fold: i) the ferromagnetic compounds within their heads, thorax and abdomen can produce hysteresis loops affecting proprioception (spatial awareness); and ii) the very size of the bees antennas, brain and body render it susceptible to resonance (unwanted vibrations). (9) Put simply, I would argue that the bee is disorientated with a failing immune system and like AIDS in humans will become victim of any infections(s) or infestation(s) which came along.

The reader will not be surprised to learn that there is a plethora of research data documenting ill-effects on virtually all animal species from insects to cattle, listing long-term low-level microwave irradiation as the cause. I will reference just a few of the many thousands which exist.

The Research Institute for Nature and Forest clearly state in their publication that: *'.....long-term exposure to higher levels of radiation (GSM) negatively affects the abundance or behaviour of House Sparrows in the wild.'*(10)

Twenty pages of Laboratory Studies citing suppression of the immune system by e.m. radiation upon cows, cats, dogs, hamsters, whales, birds, bees, bats and butterflies were published in Feb 2005. (11)

Prof. Denis Henshaw references in excess of 8000 research articles describing low-level radiation and its effect on animal navigation, plants and health of the animal kingdom.

Prof. Henshaw states that in his estimation, less than 10% of the available scientific evidence is cited by official review bodies; also, in some areas, none of the literature has been cited. (12)

An article published in 'Microwave News' describes how low-level microwave radiation, when modulated, can cause nonthermal neurological effects in both humans and birds. Exactly what the US Government published thirty years earlier and seems to have been 'overlooked'.(13)

Internet researcher Sylvia Wright listed 27 peer reviewed studies showing effects, or possible effects, of low-level irradiation upon seeds and plants. All of these papers had been published in scientific journals. (14)

Remembering that all planetary eco-environmental systems are interconnected, the monetary value of the World's ecosystems has been estimated at 33 Trillion US Dollars annually. (15) With an understanding of the potential risk to nature; should the Global Telecommunications Industry cover our Planet with microwave transmitters, without further investigation or restriction? Could this potential financial loss be sustainable to many poorer countries?

The UK Government are advising populations to switch off all unnecessary lights, drive less, even restrict flying for holidays in order to reduce our carbon footprint. It has been estimated that the annual carbon footprint for the worldwide telecommunications industry is approximately 110.7 million tonnes of CO₂ into our atmosphere. This is equivalent to the use of 29 million vehicles. Simultaneously all of our state schools are 'encouraged' to install wi-fi; virtually turning each school into a full-blown transmitter from the accumulative effect of microwaves. I find this a Governmental regulatory paradox. If for no other reason, than their total and absolute ambivalence on this matter! (16)

Are there solutions? Of course. In 2007 an international group of scientists studied 2000 peer reviews and published research papers. They recommended an acceptable level of radiation, based on the interaction between low-level microwaves and all known cellular processes. This became known as the bio-initiative level. (17)

The problem with this recommended level is that the telecommunications industry would suffer a reduction in profit. Consequently it is seldom adhered to.

There is a recent Legal Instrument. The European Parliament Guideline 2004/35/EG and advice from 21st April 2004, states that the 'causer pays the principle' for damage to animals, plants, natural habitats, water resources and soil. I must state here that I have no training in Law and should the reader wish to pursue this line of inquiry, expert international legal advice should be sought.

However, since Sept 1960, I have received several years of Governmental tuition on all aspects of microwave technology. At that time, microwave research was paramount Worldwide with many papers published; including dangers of irradiation to living tissues from very low-level microwaves.

Knowing what we were all taught in the 60's, forces me to question the total ambivalence of today's Governmental Advisers. The microwaves haven't changed only the colour and shape of the box emitting them.

Opinion

Could all of this potential damage to the Planet's eco-systems be a result of nothing more than Blind Corruption and Intentional Ignorance from our decision makers? Or is it planned? After all, if a country loses most of its pollinating insects (which tend to pollinate Vitamin C type plants), the health and financial status of such a country could be in jeopardy. The 'causer' could then offer a solution – at a price!

An interesting observation may be to look at the countries suffering the most; and those sweeping across such lands, installing a myriad of transmitters.

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