Rescuing the Bees

Lifesavers for landscapes and humans in danger

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Translated from German by W. Falkenberg and edited by R. Rosenthal

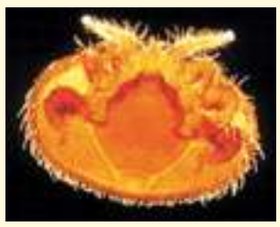
Will bees soon be placed on the endangered species list? Beekeepers are sounding the alarm, for their bee colonies are dying by the dozen. They hold the varroa mite primarily responsible, a pest they fight with chemicals – usually without success. Yet perhaps the solution is not in fighting mites but in strengthening bees. Beekeeper Bettina Präder presents the reasons why bees are dying, and useful approaches to saving them.

The bee year begins in late summer after the end of the honey harvest, when beehives have been fed and are prepared for the coming winter. This is a crucial time, for much depends on guiding the colony properly so that the bees will safely survive the winter. But at least since last fall, there has been a bitter aftertaste to all this. As early as the very beginning of the new bee year, heavy losses of bee colonies were noticed. And this development continued throughout the winter. Press releases about residues of caustic and corrosive chemicals in honey and about bee parasites and diseases lying in wait meant beekeepers would not be enjoying a restful winter. When bee activities resumed during the spring, the real drama concerning the numbers of individual beekeepers' surviving beehives – in various states of the Federal Republic of Germany as well as across Europe – came to light. There are regions now where not a single bee flies.

Bees Are Dying Out

The situation raises many questions, and worries bee-

Little Encyclopedia



Varroa Mite

The *varroa destructor* is a blood sucking parasite from Asia which was probably brought to Germany in 1976. The mite, the size of a pinhead, breeds in the capped brood compartment and sucks the blood from the bee larvae. In doing so, the mite transfers viruses as well as bacteria and fungi to the larvae. The weakened larvae die or develop into bees with crippled wings or abdomen. These bees are able to neither collect nectar nor attend to the brood. The rapid proliferation of the mites leads to a collapse of the colony after two to three years.
Beekeepers attack these parasites with synthetic poisons in order to secure the survival of their bee colonies. Over time, some mites have even become resistant to those chemicals, resulting in substantial and ever-increasing losses hand in hand with enormous economic damage. Landscapes devoid of bees are the consequence.

The diligent activities of bees could soon be a thing of the past. Parasites, pesticides, and profit motivated behaviour of humans lead to the disappearing of bees. Photo by *raum&zeit,* Germany

keepers. There have always been heavy losses of colonies caused by nosematosis – the last time in 1974. Meanwhile, bees have had to contend with various parasites and poisons. Farmers spray insecticides on their crops, for example, which work as poisonous nerve agents on insects. Because of their slow rate of decay, the poisons accumulate in the soil and are transported to blossoms via the plants' sap. The bees carry the plants' nectar and pollen to the beehive, where the highly poisonous chemicals contained in them damage the brood directly.

On top of that, the varroa mite, which appeared in our region in 1976, is responsible for a drastic reduction in the bee population. Since then, bees have needed the attention and care of humans more than ever. Without the assistance of beekeepers, bee colonies today cannot survive.

In providing that assistance, however, beekeepers need to consider whether it should consist exclusively of combative measures. For the varroa mite is only the external feature of an imbalance in the life of a beehive, which – when we look at it more closely – raises a number of questions.

Photo by *Niedersächsisches Landesinstitut für Bienenkunde*

The varroa mite insinuates itself in between the bee's flank and back scales. Then it sucks the bee's hemolymph, the equivalent of its blood – with devastating consequences.

What Are Bees Lacking?

Missing Blossoms

In an initial approach, we have to look at the "colourful splendour" – at the blooms, in other words – from which the bees take their nourishment. Bees thrive on the variety of blooms in the environment. In our impoverished, mechanised landscapes, bees no longer find the necessary variety of nourishment distributed throughout the year and which ensures a healthy development of colonies and sufficient food supply for the winter. Whenever modern agriculture has applied chemical fertilisers and sprays, the diversity of blooms has been noticeably reduced. Extremely early mowing of meadows in spring for silage also decreases plant variety considerably, depriving bees of colourfully blooming and attractive meadow flowers. The clearing and removal of hedges as well as fallow lands contributes additionally to a decreased supply of pollen and nectar.

Unnatural Breeding

A further consideration involves the care of beehives and beekeepers' attitude towards their bees. Many beekeepers only have economic interests at heart: the highest possible honey yield, successful breeding.

In modern beekeeping, it is normal to divide colonies and to increase them based on profit considerations. In the most extreme cases, brooding combs with bees attached are arbitrarily taken from different colonies and plugged together into a new hive in order to breed a derivative colony. The queen is pulled out of worker bee larvae via an artificially created emergency situation and is artificially inseminated with the appropriate equipment. In this kind of treatment, the bee is completely removed from its natural environment.

Fortunately, some beekeepers are reacquiring a consciousness with respect to the natural life and behaviour of bee colonies, the natural swarm becoming desirable once again. Colonies are allowed to build their honeycombs in a natural way, and the young queen is permitted to take her wedding flight towards the sun while being inseminated by several drones. Every unnatural measure by beekeepers constitutes a fundamental interference in the bees' lives, which is always counterbalanced by the bees at the expense of their vitality.

The Tasks of Bees

Examining the tasks of bees been especially pertinent at the end of this year's winter. The best known task of bees is the pollination of our cultivated plants, which they perform very precisely. For bees are bloom-constant; that is, they do not change plant type when visiting several plants, but rather they carry the pollen from bloom to bloom of a single species. Through their activities – and unnoticed by us – they give us rich harvests in our fields and in our fruit and vegetable gardens, as well as the seeds for the coming year. When bees become extinct, fruit blossoms will no longer be fertilised, and there will be no more apples, pears or cherries.

The varroa mite is only the external expression of an imbalance in the life of a bee hive.

While attending to the blooms, bees perform a further task by leaving homeopathically fine quantities of their poison in the environment. Trees and plants do demonstrably better in a landscape rich with bees.

Bees even conduct an intimate relationship with cows: they carry the nectar yeast *(anthomyces reukaufii)* that occurs on some blooms to other plants, which in turn makes its way to the stomachs of cows by way of green fodder and this produces a more efficient digestion. In this way, bees not only ensure the well-being of cows, they also have a positive influence on the quality of the cows' milk. But due to the fact that in our cultural environment cows are often stabled year round, bees and cows unfor-

Poisonous pollen? Increasingly sprayed insecticides do harm to the bees.

At present, German beekeepers expect a loss of 30 – 40 per cent of their bee colonies. Photo by *raum&zeit,* Germany

tunately hardly ever meet on pastures.
And finally, there is a deeper union in the relationship between bees and humans that is important for the entire development of humanity. A review of various mythologies reveals that bees have been considered sacred and worshipped in the most diverse cultures. Such virtues of theirs as affectionate devotion and selflessness in their activities have again and again evoked in humans a response of admiration and amazement. And those characteristics could be a social example for our time.

Perfect Organisation

We can get closer to further hidden tasks when we look at life in a bee hive.
There, many individual bees live together with the queen in a working and living partnership. Except for her wedding flight, this queen spends her entire life in the beehive performing the task of constantly rebuilding the colony by way of her egg-laying. She acts like a centre of intelligence in the bee colony, which picks up impulses from the periphery and from the bees and, thereby, she gives direction to the life and work in the hive. Only through her presence does the colony stay to-

Experiences with *Vita Biosa*

Like many beekeepers, my husband and I, are pondering the question of how we can help the bees in the present situation and what the possibilities are for strengthening and invigorating them. For quite some time we have been incorporating effective microorganisms in the care of our garden and our orchard, these having characteristics that promote growth in plants and strengthen them. The development of this symbiosis of microorganisms is derived from the research of Japanese biologist Teruo Higa.
And then, last spring, we came across a new product, *Vita Biosa. Vita Biosa* is a concentrate obtained from a fermentation process involving lactic-acid cultures and herbs. It contains an essence that is highly alive and that invigorates and strengthens the organism it is introduced to. Furthermore, heavy metals and chemicals contained in organisms are eliminated by the ability of the microorganisms to form antioxidants.
This characteristic is especially interesting for us beekeepers, when we consider the many chemical pesticides with which bees come into contact while visiting the blooms on trees and plants in the fruit and vegetable gardens as well as in fields, and which eventually accumulate in their wax and honey. We, therefore, decided to also employ *Vita Biosa* in the care of our bees after the manufacturer assured us that the concentrate was recommended for such use. We mix it with water in a proportion of 1:1. Last year we sprayed this mixture onto the honeycombs populated by bees, the landing board, and around the hive opening as well as around the beehive generally. We also sprayed the flowering plants that bees pasture on in the periphery of the beehives. Soon after, during the swarming period, we were able to observe how most swarms established themselves close to the beehive whereas in previous years they had been glad to fly a great distance away.
At the conclusion of the bee year, we added *Vita Biosa* to the winter fodder in a concentration of two parts per thousand. This is a simple way of bringing the bees directly into contact with the product. The winter fodder is internally absorbed by all bees, converted, and stored in the honeycombs. The herbal concentrate passes through the entire metabolism of individual bees as well as that of the bee colony. This benefits the winter bees growing up in the colonies.
Even though this application did not prevent us from losing bees, we, nonetheless, found substantial vitality in the bees at the end of the winter, which led to a rapid rebuilding of the colonies without the need for further measures.
Also worth mentioning is the spraying of *Terra Biosa* in the immediate vicinity of a beehive. There were only

The gold pendant from the Iraklion Archaeological Museum in Crete depicts two bees. At that time, (between 2,500 and 1,000 B.C.), bees were considered to be a symbol of woman-oriented community building.

Humans have been harvesting honey for thousands of years. Nowadays, however, the dwellings of the bees are usually built functionally.

gether, only through her does it have a centre. She secures the continued existence of the hive and its survival by providing for an increase in the number of its members via her egg-laying; she passes on life.

The various tasks within the colony are distributed among the bees. They consist in maintaining the living conditions for the living bees and in rearing the next generation. This concentrated image of careful self-preservation in conjunction with the devotion of each individual to its environment is, in the long run, not only important for the bee colony but linked to the very existence and the survival of life on our planet. This may sound exaggerated, but insofar as bees remain alive they perpetuate the reproduction of plants and, thereby, ensure a basic food supply for animals and humans alike.

The Mythology of Bees

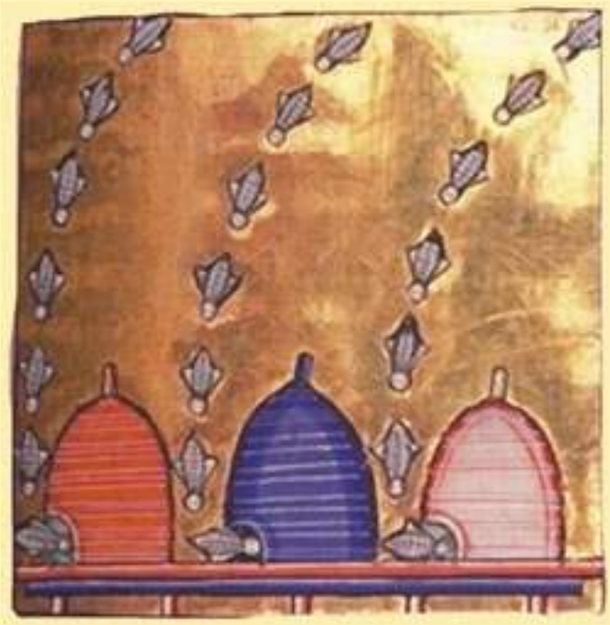
It may imbue us with a sense of reverence when we become aware of how important to our lives are the activities of individual bees and those of their queen. Seemingly, behind the working bees there is a comprehensive being. In old beekeeping literature, we find the term

In the meantime, most beehives are empty. Only through cooperation and a shift in thinking will it still be possible to save the bees.

a few losses in this hive. Even very small colonies with only a few honeycombs survived the winter without difficulty. This example helps us recognize how strongly bees are connected to their habitat.

The application of *Vita Biosa* during the course of one year is certainly not sufficient for us to make far-reaching statements about its effectiveness. And yet I ask myself how our colonies would have survived the winter without our treating them with the herbal and lactic-acid concentrate.

A first picture emerges for me from these few experiences. *Vita Biosa* directly affects the vitality of the bee colonies. Of course, different means of taking care and guiding the colonies also have similar effects. We still try to strengthen our own bees in other ways. And yet we were able to recognise a difference from previous years after only one year of applying *Vita Biosa*. *Vita Biosa* gives the bee colonies a kind of a force envelope which they are missing nowadays and which may enable them to survive. This force envelope may be what is required so that the unhindered communication of messages and impulses within the bee colony can take place once again and bees can once more carry out their task in the environment as mediators between the earthly and spiritual realms. With *Vita Biosa* we are possibly creating a basis, a living fertile field, on which all further bee-strengthening measures can sprout and thrive like good seed. With that, we help the bees overcome their condition of the moment.



In the fifteenth century, clever beekeepers had the idea of hollowing out tree trunks and carrying the portable "bee hiding places" into the proximity of their farmhouses.

"Bien" for it, which is described as the helmsman in the bee organism who is filled with wisdom. The *Bien* sends instructions to the earth, which are received by the queen and passed on to the bees. The bee, as a small messenger of the large *Bien,* carries on its flights these instructions as messages into the environment.
It is questionable whether bees can still fulfill their task as messengers sufficiently well and whether the environment is prepared to receive their messages. Today's state of imbalance and one-sidedness in the environment, stemming from human interference, has repercussions for the entire bee colony. The production-oriented use of our agricultural areas, in which bees are only a sweet addendum, make the external living conditions of bees more difficult to the extent that bees are facing emergency situations caused by missing fundamentals of life.

Healing Powers of Bees

Actually, bees are healthy and wholesome or healing beings imbued with the ability to heal. They live exclusively on delicate and minute substances like the perfume, nectar, and pollen of blossoms. All substances that humans derive from bees – honey, pollen, sealing resins, royal jelly, propolis, bee poison – have healing characteristics. Looked at this way, bees are from their origins healthy and effect health.
What makes them sick are the imbalances in their habitat created by us humans, which they try to rebalance at the expense of their vitality. That is, the problems of today's bees, their susceptibility to varroa mites and other bee diseases and their dramatic dying off, in fact originate from short-sighted and consumption-oriented human behaviour.
Our attitudes towards bees and our handling of them must be called into question, as well as our interference with the environment. The issue is not the simplistic combating of bee diseases. The issue is rather one of finding reconstructive measures for the future that will return the bees to a healthy ecological equilibrium in which they can once again find the conditions that are appropriate for them.
In the future, we will have to work for lasting changes to the bees' environment. And for that we need a new holistic approach in our handling of creation. We humans must find and realize this approach by coming together and mutually inspiring one another in the exchange of our knowledge and abilities.
Only through that can a far-reaching cultural impulse be developed for humans and bees as well as for bees and the environment.

Bibliography

• Gerstung, F.: „Der Bien und seine Zucht", Paul Wetzel Verlag, Freiburg i. B. + Leipzig, 1902
• Herold, E., Leibold, G.: „Heilwerte aus dem Bienenvolk", Ehrenwirth Verlag, München, 1996
• Pfeiffer, Martin W.: „Regenwurm – Kuh – Biene in ihrer Beziehung zur Pflanze und zum Menschen" aus: „Die Landwirtschaftliche Individualität – ein Bild des Menschen" im Selbstverlag Martin W. Pfeiffer, Borchen 1975
• Steiner, R.: „Über das Wesen der Bienen", Arbeitervorträge von 1923, Rudolf Steiner Verlag, Dornach, Schweiz, 1978
• Sattler, Friedrich, Eckhard von Wistinghausen: „Der Landwirtschaftliche Betrieb" Biologisch Dynamisch, Eugen Ulmer Verlag, Stuttgart, 1985
• Higa, Teruo: „Eine Revolution zur Rettung der Erde", OLV Verlag, Xanten, 2002
• „Der Schweizerische Bienenvater", Fachbuch für Imker, Verlag Sauerländer, Aarau, Schweiz, 1985

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was born in Essen, Germany, in 1961 and grew up in an environment shaped by coal mines and the steel industry, which led her to join the ecology movement during her youth.
She studied agricultural science at the Technical University of Munich/Weihenstephan from 1980 to 1986, during which time she made her first contacts with organic farming. Practical activities in agriculture and beekeeping followed, in harmony with natural bee-specific methods, at the Fischermühle in Rosenfeld in 1989.
Between 1990 and 1996, she lived and worked with her family in the Demeter farming community on Lake Constance. Since 1998 she has been involved with continuing education and co-organising the "Study Groups for a Harmonious Development of Humans and the Earth," which motivated her to undertake her own studies on bees, their habitat, and their relationship with humans.