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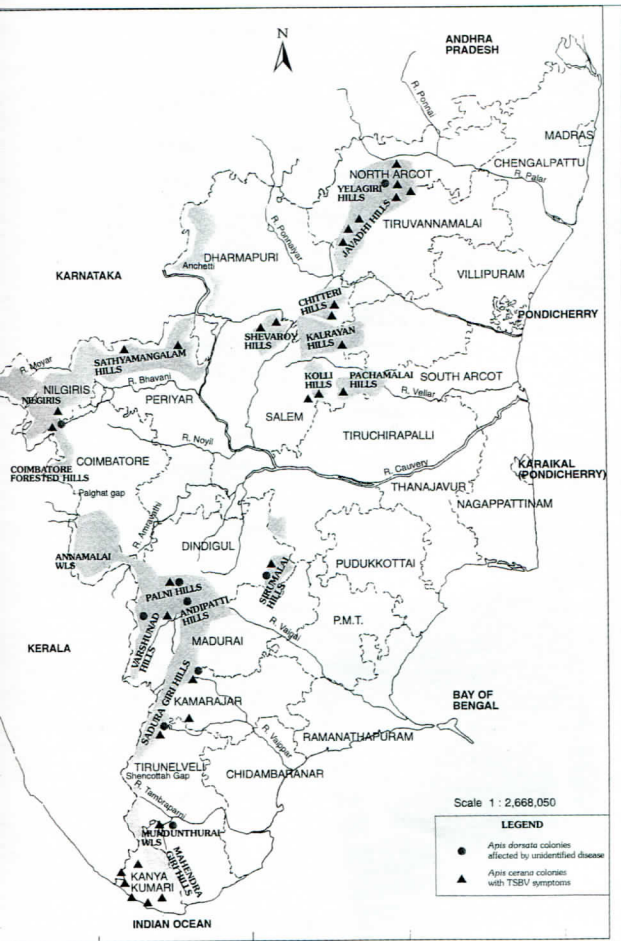


TAMIL NADU • TREES

**SPECIAL SUPPLEMENT
STOP PESTICIDES
KILLING BEES
AND PEOPLE**

DESTROYING BEEKEEPERS - THAI SACBROOD VIRUS

The situation in Tamil Nadu, South India



Thai Sacbrood Virus (TSBV) attacks honeybees at the larval stage. It first struck colonies of honeybees in South India in 1991. At present the three southern states of Karnataka, Kerala and Tamil Nadu have been affected by this disease. The Kanyakumari beekeepers were the first to suffer the disease in Tamil Nadu.

According to them intensive migratory beekeeping has been one of the main reasons for the spread to other areas of the state. Many Kanyakumari beekeepers also feel that the disease has connections to the simultaneous efforts of introducing *Apis mellifera*. According to tribal people in some hill areas, boxes with bees were brought from the plains and that is when the disease struck.

Due to this virus the natural colonies of *Apis cerana* have significantly reduced in the forests also. While honey hunting of rock bees some tribal people have also

noticed the symptoms of TSBV in *Apis dorsata*. The occurrence of a disease in *Apis dorsata* is a cause for concern. Though the symptoms identified are similar to those for *Apis cerana*, samples of brood combs need to be collected and the disease identified. The map shows the different areas where disease has struck in the state. It is obvious that there are very few disease-free areas.

IDENTIFICATION

The virus attacks at the larval and early pupal stage only and can be reasonably identified with the following indications:

- The diseased larvae lie on the cell wall with pointed tips towards the cap.
- The larvae perish and form a mucous-like substance. With a matchstick this substance can be pulled out to 3-5 mm lengths.
- In the advanced stage it dries up and can be removed as scales.
- Two tiny black spots can be seen on affected larvae.
- The affected brood gives a strong urine/ammonia odour.
- Affected larvae can be seen on the bottom-board and outside.
- Pale yellow lines of mucous can be seen on



Disused hive boxes - an aftermath of the Thai Sacbrood Virus

the bottom-board where bees have dragged themselves.

- The colony has a restless and aggressive look when the top cover is removed.

EXPERIMENTAL STEPS

Local beekeepers have tried treating with herbal plants, *Azadirachta indica* (veppam), turmeric, etc. in the hope of finding a remedy. Requeening was also tried but it is effective only for a short period.

Scientists from the Central Bee Research and Training Institute, Pune, visited but apart from encouraging beekeepers to take up *Apis mellifera* beekeeping there have been no other steps.

Reports from Himachal Pradesh - a Himalayan state in North India where the disease struck earlier - show that the TSBV has a cycle of approximately five years. As yet, no treatment is available to address this disease. Some disease control steps can be:

- Record the time the disease has been present.
- Enforce a complete ban on the movement of colonies from one place to another.
- Generate awareness amongst beekeepers of the symptoms and the need for isolation of affected colonies.
- Generate new strains of bee populations in areas like the Nilgiris, which is as yet free from the disease.
- Provide assistance and monitoring so that disease-resistant colonies may be reared in the future.

CURRENT POSITION

According to beekeepers in Kanyakumari, 40-50% of colonies becoming diseased are now able to recover. In 1994 beekeepers extracted some honey from these hives. Some beekeepers' main aim during this period has been to multiply these colonies. But the disheartening fact is that a few large-scale beekeepers have changed their business to different fields such as agriculture, taken up salaried jobs, or gone abroad. Some beekeepers have even committed suicide, unable to repay large loans. Others are watching, waiting and hoping for the best in a year or two.

This article is from an excellent field survey of beekeeping in Tamil Nadu undertaken by Keystone, a group for ecodevelopment initiatives in India.

Keystone
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A close look at a disease-infected bee colony of *Apis cerana*