



Thai sacbrood virus (TSBV) - A potential threat to Indian honey bee

M.R. Srinivasan*, S. Kuttalam and K. Ramaraju

Department of Agricultural Entomology, Tamil Nadu Agricultural University, Coimbatore - 641 003,
 Tamil Nadu

Apiculture is an important source of additional income for small and marginal farmers and landless labourers. Beekeeping made rapid strides in Southern India during the second half of the twentieth century and it got established as a major activity of the cottage industry sector. The Indian bee, *Apis cerana indica* Fab., has been one of the important domesticated species utilized for commercial beekeeping. During 1991-92, the catastrophic outbreak of *Thai sacbrood virus* (TSBV) disease resulted in the destruction of more than 90 per cent of the then existing bee colonies in the South India causing a drastic drop in the honey production. TSBV disease was first observed in 1976 in Thailand on *Apis cerana* causing 100 per cent mortality (Bailey *et al.*, 1982). In India, this disease first appeared in 1978 to 1985 in North India and had virtually wiped out colonies of *A. cerana indica* (Shah and Shah, 1988) and in nineties caused havoc in South India. At present the disease infects 5 to 30% of the colonies in Kanyakumari district of Tamil Nadu which is the beekeeping hub of South India having about 2 lakh colonies reared by about twenty thousand beekeepers (Survey report- TNAU, 2014).

A similar virus which infects *Apis mellifera* colonies worldwide is Sacbrood Virus (SBV) which is less virulent compared to TSBV. Both viruses primarily affects honeybee broods, and results in larval death. Infected larvae change colour from pearly white to pale yellow, and shortly after death they dry out, forming a dark brown scale. Several methods have been developed, such as immunodiffusion assays, radioimmunoassay, enzyme-linked immunosorbent assay (ELISA), and RT-PCR for the diagnosis of the viruses. However management of the TSBV is a challenge to scientists. So far, apiary hygiene is the only measure recommended for preventing spread of the disease. Evolving useful antiviral principles, breeding honeybees for resistance to TSBV and other effective management methods will save the beekeeping industry from the clutches of this disease.

*Correspondence E-mail: mrsrini@tnau.ac.in