

X. 5. EMERGENCE OF BLUETONGUE VIRUS SEROTYPES FROM HOST AND VECTOR (*CULICOIDES*) IN INDIA WITH SPECIAL REFERENCE TO TAMIL NADU STATE

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Bluetongue an arthropod borne orbiviral infection was found to be transmitted by *Culicoides* the biting midges. The wide spread of this devastating disease is attributed to the vector in particular. The emergence of Bluetongue virus serotypes in Tamil Nadu has become common during the past years due to uncommon climatic conditions. The existence of various serotypes not reported so far in Tamil Nadu is attributed to the same reason. Out of the 904 blood samples and 50 catches of *Culicoides* screened 154 samples were found positive for BT and out of them a total of four isolates were obtained in BHK₂₁ cells (BTV-S, BTV-T, BTV-K, BTV-ST). Isolation of Bluetongue virus from the *Culicoides* yielded one isolate Out of the 24 states in India only 11 state were reported to have been infected with BT.

The infection of BT was found to be more pronounced in the southern and south western states of India and were found to be less pronounced in the north eastern states. Isolates were initially adapted to embryonating chicken eggs and these isolates were confirmed by coverslip cultures of BHK₂₁ cells using IFAT which showed characteristic green fluorescence. These isolates were further confirmed by RT-PCR which yielded the expected amplicon size of 495 bp.

BlastN nucleotide homology studies revealed that the sequences of two local BTV isolates viz., BTV-S (Gen Bank Accession number : AY 359960) and BTV-T (Gen Bank Accession number : AY 350061) possessed 100 % homology against BTV-1 of Australian isolate and 18 of South African isolate respectively. Isolates that obtained from other three places of Tamil Nadu (BTV-T, BTV-G and BTV-K) were grouped as BTV-18 based on sequencing datas. The isolates were confirmed by Institute of Animal Health, Pirbright

The isolates were further confirmed by serotyping from Arboviral laboratory, Institute of Animal Health Pirbright, UK and found as BTV-1, BTV-18. BTV-1 also the *Culicoides* vector employed for virus isolation were identified as *Culicoides Oxystoma*, *Culicoides orenials*, *Culicoides Peregrinus*, *Culicoides imicola*, *Culicoides anophelis* was prevalent in eight states of India and BTV-18 and BTV-4 to be prevalent in six states followed by BTV-12, 16 and 17 in five states. BTV-21, BTV-22 and BTV-24 were not reported so far from India. A total of 16 serotypes of BT were reported from Tamil Nadu and 21 serotypes of BTV were reported from India.