

Template for Taxonomic Proposal to the ICTV Executive Committee Creating Unassigned Species in an existing Family

Code † To remove the following species in the genus *Parapoxvirus* in the family *Poxviridae*: *Squirrel parapoxvirus*

Code To rename the species *Squirrel parapoxvirus* as *Squirrel poxvirus*

Code † To assign the following species as unassigned species in the family *Poxviridae*: *Squirrel poxvirus*

† Assigned by ICTV officers

° leave blank if inappropriate or in the case of an unassigned genus

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Old Taxonomic Order

Order	
Family	<i>Poxviridae</i>
Subfamily	<i>Chordopoxvirinae</i>
Genus	<i>Parapoxvirus</i>
Species	<i>Squirrel parapoxvirus</i>

New Taxonomic Order

Order	
Family	<i>Poxviridae</i>
Unassigned Species	<i>Squirrel poxvirus</i>

ICTV-EC comments and response of the SG

The format but not the substance of the proposals above was adjusted following comment at the Kingston (June 2007) meeting of the EC.

Species demarcation criteria in the genera

Based on recent analyses of poxvirus genomic sequence, poxvirus genera and species will have 40-77% and 78-99% percent identity at the DNA sequence level, respectively (Lefkowitz et al., 2006).

Argumentation to justify the designation of unassigned species in the family

Although squirrel parapoxvirus (SPPV) is classified as a parapoxvirus, it is antigenically distinct from representative isolates of the species, *Orf virus* (ORFV) (Sands et al., 1984). Also only 2 of 27 mAbs raised against ORFV cross reacted with SPPV (Housawi et al., 1998), whereas 17/27 mAbs cross-reacted with both *Pseudocowpox virus* and *Bovine papular stomatitis virus* and 6/17 cross-reacted with *Sealpoxvirus*. Southern blot hybridization analysis failed to detect three known parapoxvirus genes, two of which have been found so far only in the genus *Parapoxvirus*. Comparative sequence analysis of the SPPV ortholog of vaccinia virus ORF F13L, which encodes a major outer envelop protein, and ORF E4L, which encodes the RNA polymerase 30 kDa subunit, placed the SPPV sequences on a separate branch of the tree distinct from known parapoxviruses (Thomas et al., 2003). Taken together this data suggest that SPPV does not belong in the genus parapoxvirus.

List of created Unassigned Isolates in the family

California harbor seal poxvirus		(SPV)
Cotia virus	[1060872]	(CPV)
Dolphin poxvirus		(DOV)
Embu virus		(ERV)
Grey kangaroo poxvirus		(KXV)
Marmosetpox virus		(MPV)
Molluscum-like poxvirus		(MOV)
Mule deer poxvirus		(DPV)
Nile crocodile poxvirus		(CRV)
Quokka poxvirus		(QPV)
Red kangaroo poxvirus		(KPV)
Salanga poxvirus		(SGV)
Spectacled caiman poxvirus		(SPV)
Squirrel poxvirus		(SPV)
Yoka poxvirus		(YKV)

References

1. Housawi, F.M.T., Roberts, G.M., Gilray, J.A., Pow, I., Reid, H.W., Nettleton, P.F., Sumption, K.J., Hibma, M.H., and Mercer, A.A. (1988). The reactivity of monoclonal antibodies against orf virus with other parapoxviruses and the identification of a 39 kDa immunodominant protein. *Arch Virol* 143: 2289-2303.
2. Lefkowitz, E. J., C. Wang and C. Upton (2006). "Poxviruses: past, present and future." *Virus Research* 117: 105-118.
3. Sands, J.J., Scott, A.C. and Harkness, J.W. (1984) Isolation in cell culture of a poxvirus from the red squirrel (*Sciurus vulgaris*). *Vet Rec* 114: 117-118.
4. Thomas, K., Tompkins, D.M., Sainsbury, A.W., Wood, A.R., Dalziel, R., Nettleton, P.F., and McInnes. (2003) A novel poxvirus lethal to red squirrels (*Sciurus vulgaris*). *J. Gen Virol.* 84: 3337-3341.

Annexes:

Maximum Parsimony Branch-and-Bound Trees Amino Acid Alignments

