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

Code† FT2003.104.P01 To designate the following viruses as species in the genus:

Ophiovirus

belonging to the family° :

Lettuce ring necrosis virus

† Assigned by ICTV officers

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

Author(s) with email address(es) of the Taxonomic Proposal

Valeria Torok (v.a.torok@bba.de)
H. Josef Vetten (h.j.vetten@bba.de)

New Taxonomic Order

Order	
Family	
Genus	***Ophiovirus***
Type Species	***Citrus psorosis virus***
List of Species in the genus	***Citrus psorosis virus***
	Ranunculus white mottle virus
	Tulip mild mottle mosaic virus
List of Tentative Species in the Genus	**none reported**
List of Unassigned Species in the Family	**?**

Argumentation to justify the designation of new species in the genus

Species demarcation criteria in the genus

- Conspicuous difference in CP size
- no or very distant serological relationship between CPs of different species
- no overlap in natural host ranges
- difference in genomic organisation: e.g., number and/or size of ORFs and/or genome segments

Argumentation to justify the designation of new species in the genus

'Mirafiori lettuce virus' (MiLV) (van der Wilk et al., 2002) and LRNV (unpublished data) seem to be the only ophioviruses that have been fully sequenced. Similar to MiLV (the causal agent of lettuce big-vein disease and, based on available sequence data, the closest relative of LRNV), the principal natural host of LRNV appears to be lettuce. However, they differ clearly in the following respects:

- The symptomatology of these two ophioviruses in lettuce is strikingly distinct.
- The amino acid sequence similarities between LRNV and MiLV homologs range from 40 to 70% (the CP amino acid sequence identity/similarity with MiLV is 52%/70%).
- The serological relationship between LRNV and MiLV is only remote (no cross-reactions in DAS-ELISA but weak cross reactions in Western blots).

Although LRNV undoubtedly meets the criteria for considering it a separate ophiovirus, there is no conclusive evidence yet that it actually causes lettuce ring necrosis (LRN). However, we have considerable circumstantial evidence for a close association of LRNV with a particular LRN type. Nevertheless, the etiology of LRN is still unclear due to the observation that we have frequently encountered plants which show LRN-like symptoms but in which no LRNV can be detected. Are there other factors inducing LRN???

List of created Species in the genus

(I am uncertain what is meant here.)

Citrus psorosis virus
Lettuce ring necrosis virus
'Mirafiori lettuce virus' (subject of a separate proposal)
Ranunculus white mottle virus
Tulip mild mottle mosaic virus

References

BOS, L., N. HUIJBERTS (1996). Lettuce ring necrosis, caused by a chytrid-borne agent distinct from lettuce big-vein 'virus'. *Eur. J. Pl. Path.* **102**, 867-873.

CAMPBELL, R.N., H. LOT (1996). Lettuce ring necrosis, a virus-like disease of lettuce: evidence of transmission by *Olpidium brassicae*. *Plant Disease* **80**, 611-615.

ROGGERO, P., M. CIUFFO, A.M. VAIRA, G.P. ACCOTTO, V. MASENGA, R.G. MILNE (2000). An *Ophiovirus* isolated from lettuce with big-vein symptoms. *Arch. Virol*. **145**, 2629-2642.

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VAN DER WILK F., A.M. DULLEMANS, M. VERBEEK, J.F.J.M. VAN DEN HEUVEL (2002). Nucleotide sequence and genomic organization of an ophiovirus associated with lettuce big-vein disease. *J. gen. Virol*. **8**3, 2869–2877.

Annexes: