Template for Taxonomic Proposal to the ICTV Executive Committee
To create a new Genus in an existing Family

Code†	**2005.212V.04**	To create a new genus in the family*	***Birnaviridae***
Code†	**2005.213V.04**	To name the new genus*	***Blosnavirus***
Code†	**2005.214V.04**	To designate the species As the type species of the new genus*	***Blotched snakehead virus***
Code†	**2005.215V.04**	To designate the following as species of the new genus*:	***Blotched snakehead virus***
Code†		To designate the following as tentative species in the new genus*:	**No tentative species in the new genus**

† Assigned by ICTV officers
* repeat these lines and the corresponding arguments for each genus created in the family

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

bernard.delmas@jouy.inra.fr

Old Taxonomic Order

Family ***Birnaviridae***
Unassigned species in the family ***Blotched snakehead virus***

New Taxonomic Order

Family ***Birnaviridae***
Genus ***Blosnavirus***
Type Species ***Blotched snakehead virus***

ICTV-EC comments and response of the SG

Argumentation to choose the type species in the genus

The Blotched Snakehead virus (BSNV) will be the unique species in the new genus

Species demarcation criteria in the genus

Not relevant

List of Species in the created genus

No additional species

List of Tentative Species in the created genus

No tentative species

Argumentation to create a new genus:

BSNV, the only representative of the new proposed genus *Blosnavirus* has been isolated from cultured cells originating from a tropical fish, the Blotched Snakehead fish (*Channa lucius*).
BSNV is serologically unrelated to Infectious Pancreatic Necrosis Virus (IPNV), the type species of the genus *Aquabirnavirus*.
BSNV also grows in other cultured cells than IPNV.
Sequence analysis shows that the gene arrangement of the genomic segment A of BSNV is different from other birnaviruses. There is an additional polypeptide (named X) present in the polyprotein encoded by the segment A, between the capsid precursor of VP2, (pVP2) and VP4, the protease.
Protein sequence analysis shows that BSNV VP2, the only component of the capsid, has 37 to 47% sequence identity with the representatives of the 3 other genus, aqua-1, avi- and entomobirnavirus. Similarly, the polymerase of BSNV has 22 to 50 % sequence identity with its birnavirus homologues. In VP3, an abundant protein in the virions, the percentage of identity varies from 22 to 36 with its homologs.
We can thus conclude that the specificities found in BSNV in regard to all other members of the Birnaviridae family justify the creation of a new genus.

Origin of the proposed genus name

Blosnavirus. We propose to keep a trace of the name of the type species virus in the proposed genus: *Blosnavirus* for *Blo*tched *Sna*kehead *Virus*. An alternative could be to name this genus *Betaquabirnavirus* and to rename the genus *Aquabirnavirus* by the new name *Alphaquabirnavirus*. We believe that the interest of our proposition is that, in the future, if additional aquatic birnaviruses being unrelated to the previous ones will be described, we will not have to continue the list of genus by the too strange names gammaquabirnavirus, deltaquabirnavirus and epsilonaquabirnavirus. That will also prevent the assignment of a non aquatic birnavirus in an x-aquabirnavirus genus.

References

BSNV, the type species of a new genus:
1. John KR, Richards RH. Characteristics of a new birnavirus associated with a warm-water fish cell line. J Gen Virol. 1999 Aug;80 (Pt 8):2061-5.
2. Da Costa B, Soignier S, Chevalier C, Henry C, Thory C, Huet JC, Delmas B. Blotched snakehead virus is a new aquatic birnavirus that is slightly more related to avibirnavirus than to aquabirnavirus. J Virol. 2003 Jan;77(1):719-25.

VP2 is the only capsid protein:
3. Coulibaly F, Chevalier C, Gutsche I, Pous J, Navaza J, Bressanelli S, Delmas B, Rey FA. The birnavirus crystal structure reveals structural relationships among icosahedral viruses. Cell. 2005 Mar 25;120(6):761-72.

Annexes: