Template for Taxonomic Proposal to the ICTV Executive Committee
To create a new Genus

Code†	**FT2003.153P**	To create a new genus
Code†	**FT2003.154P**	To name the new genus* ***Endornavirus***
Code†	**FT2003.155P**	To designate the species ***Vicia faba endornavirus*** As the type species of the new genus*
Code†	**FT2003.156P**	To designate the following as species of the new genus*:

Phaseolus vulgaris endornavirus **(PVuV)**
Oryza rufipogon endornavirus **(ORV)**
Oryza sativa endornavirus **(OSV)**
Vicia faba endornavirus **(VFV)**

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

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New Taxonomic Order

Order
Family:
Genus: ***Endornavirus***
Type Species
List of Species in the genus
Phaseolus vulgaris endornavirus **(PVuV)**
Oryza rufipogon endornavirus **(ORV)**
Oryza sativa endornavirus **(OSV)**
Vicia faba endornavirus **(VFV)**
List of Tentative Species in the Genus
List of Unassigned Species in the Family

ICTV-EC comments and response of the SG

Argumentation to choose the type species in the genus

Species demarcation criteria in the genus

List of Species in the created genus

Phaseolus vulgaris endornavirus **(PVuV)**
Oryza rufipogon endornavirus **(ORV)**
Oryza sativa endornavirus **(OSV)**
Vicia faba endornavirus **(VFV)**

List of Tentative Species in the created genus

Argumentation to create a new genus:

Linear double-stranded RNAs (dsRNAs) have frequently been identified in various healthy plants from algae to higher plants. These dsRNAs have important common properties that differ from those of conventional viruses. They are present at a constant low concentration in cytoplasm of host plants. Most of these dsRNAs have no obvious effect on the phenotype of the host plant, except for one associated with male sterility in broad bean (*Vicia faba*), and may survive in cooperation with their host cells. Their transmission relies essentially on cell division and their copy numbers are regulated stringently. The most probable mode of dsRNA transmission is via seeds, since all other attempts (for example, mechanical inoculation, graft transmission and aphid transmission) failed to transmit dsRNA to dsRNA-free plants.

The size of these endogenous dsRNAs varies from 1.5 kilo base (kb) to 20 kb. While smaller dsRNAs (about 2.0 kb) are usually found with virus-like particles and already recognized as viruses (family *Partitiviridae*, genera *Alphacryptovirus* and *Betacryptovirus*), larger ones (more than 10 kb) are not associated with distinct virus-like particles. Thus, these large endogenous dsRNAs can be regarded as RNA plasmids. Although the large endogenous dsRNAs have been found in healthy plants such as alfalfa, barley, broad bean (*Vicia faba*), common bean (*Phaseolus vulgaris*), pepper and rice, three of these dsRNAs, cultivated rice dsRNA [13,952 nucleotides (nt)], wild rice (*O. rufipogon*) dsRNA (13,936 nt) and broad been dsRNA (17,635 nt), have been sequenced entirely.

All three dsRNAs encode only one long open reading frame (ORF) in their coding strands, which have similar nucleotide and amino acid sequences to each other. Conserved motifs for RNA-dependent RNA polymerase (RdRp) and RNA helicase (Hel) are found within all of these ORFs. Membrane-bound RdRp activity associated with the dsRNA has been detected in broad bean leaves and rice cultured cells and has been characterized biochemically. Therefore, these large dsRNAs are RNA replicons that can replicate independently of their host genomes. A site-specific discontinuity (nick) that divides one long ORF was detected in the coding strand of each of these three dsRNAs. The biological implications of these site-specific nicks remain unknown; however, they may be involved in regulation of dsRNA replication.

Phylogenetic analyses of the RdRp and Hel motifs of these three dsRNAs indicate that they share a common ancestor with a group (superfamily) of single-stranded RNA viruses (Gibbs *et al*., 2000). These large plasmid-like dsRNA replicons may constitute a novel virus family, which would belong to the alpha-like supergroup of RNA viruses. As it is clear the dsRNAs form a distinct group, we propose that they be nominated as a new virus genus and we suggest the name *Endornavirus* (*endo*, from Greek: within, and *RNA*) for this genus.

Origin of the proposed genus name

These dsRNAs have been called ‘endogenous dsRNAs’.
Endo means ‘within’ in Greek.

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Annexes: a PDF file of the most important reference (Gibbs *et al*., 2000)