

This form should be used for all taxonomic proposals. Please complete all those modules that are applicable (and then delete the unwanted sections). For guidance, see the notes written in blue and the separate document "Help with completing a taxonomic proposal"

Please try to keep related proposals within a single document; you can copy the modules to create more than one genus within a new family, for example.

MODULE 1: TITLE, AUTHORS, etc

Code assigned:	2015.014a-atD (to be completed by ICTV officers)								
Short title: Creation of 21 new (e.g. 6 new species in the genus 2 Modules attached (modules 1 and 10 are required)		0 new gene 1 ⊠ 6 □	era in the 2 ⊠ 7 □	family <i>Po</i> 3 ⊠ 8 □	apillomavi 4 🔲 9 🔲	iridae 5 □ 10 ⊠			
Author(s):									
Robert Burk, Zigui Chen, Koer	raad van Dooi	slaer and t	he Papill	omavirida	ne Study G	Group			
Corresponding author with e	-mail address	•							
Robert Burk, robert.burk@eins	tein.yu.edu								
List the ICTV study group(s)	that have see	n this pro	posal:						
A list of study groups and contacts http://www.ictvonline.org/subcommin doubt, contact the appropriate schair (fungal, invertebrate, plant, pvertebrate viruses)	nittees.asp . If subcommittee	Papillon	naviridae	Study Gr	oup				
ICTV Study Group comment	s (if any) and	response	of the pr	oposer:					
Date first submitted to ICTV: Date of this revision (if different to above): June 16, 2015 October 21, 2015									
ICTV-EC comments and response of the proposer:									

creating and naming one or more new species.

If more than one, they should be a group of related species belonging to the same genus. All new species must be placed in a higher taxon. This is usually a genus although it is also permissible for species to be "unassigned" within a subfamily or family. Wherever possible, provide sequence accession number(s) for **one** isolate of each new species proposed.

Code 20	code = 2015.014aD (assigned by IC)			
To create 6	new species within:			
Genus Subfamily Family Order	Papillomaviridae	Fill in all that apply. If the higher taxon has yet to be created (in a later module, below) "(new)" after its proposed name. If no genus is specified, enter "unassigned" in the genus box.		
Name of nev	v species:	Representative isola species please)	te: (only 1 per	GenBank sequence accession number(s)
Gammapapillomavirus 22 Gammapapillomavirus 23 Gammapapillomavirus 24 Gammapapillomavirus 25 H		Human papillomaviru Human papillomaviru Human papillomaviru Human papillomaviru	uman papillomavirus 167 uman papillomavirus 172 uman papillomavirus 175 uman papillomavirus 178 uman papillomavirus 184 uman papillomavirus 187	

Reasons to justify the creation and assignment of the new species:

- Explain how the proposed species differ(s) from all existing species.
 - o If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
 - o If criteria for demarcating species need to be defined (because there will now be more than one species in the genus), please state the proposed criteria.
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Code	Code $2015.014bD$ (assigned by ICTV officers)			TV officers)		
To crea	te 1 ne	ew species within:				
				Fill in all that ap		
Genus: Mupapillomavirus			S	If the higher taxon has yet to be		
Subfa	mily:		created (in a later module, bel "(new)" after its proposed nam			
Fa	mily:	Papillomaviridae		If no genus is specified, enter "unassigned" in the genus box.		
(Order:	_				
Name of new species:		Representative isol species please)	late: (only 1 per	GenBank sequence accession number(s)		
Mupapillomavirus 3		Human papillomavi	rus 204	KP769769		

Reasons to justify the creation and assignment of the new species:

- Explain how the proposed species differ(s) from all existing species.
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Code	201	5.014cD	(assigned by IC		
To crea	ate 1 no	ew species within:			
				Fill in all that ap	
	Genus:	Xipapillomavirus			ixon has yet to be
Subfa	amily:				ater module, below) write its proposed name.
Fa	amily:	Papillomaviridae		If no genus is:	
(Order:				in the genus box.
Name o	of new	species:	Representative isol species please)	late: (only 1 per	GenBank sequence accession number(s)
Xipapillomavirus 3		Rangifer tarandus p	Rangifer tarandus papillomavirus 2		

Reasons to justify the creation and assignment of the new species:

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Code 2015.014dD (assigned by IC)			V officers)				
To crea	To create 1 new species within:						
					Fill in all that apply. • If the higher taxon has yet to be created (in a later module, below) write "(new)" after its proposed name.		
Genus: Rhopapillomavirus							
Subfa	Subfamily:						
Fa	mily:	Papillomavi	iridae	If no genus is specified, enter			
(Order:				"unassigned" in the genus box.		
		Represent species ple	ntative isolate: (only 1 per ease)		GenBank sequence accession number(s)		
Rhopapillomavirus 2 Trichechus			s manatus papillo	omavirus 3	KP205502		

Reasons to justify the creation and assignment of the new species:

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 - o If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
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Code 2015.014eD (assigned by IC			CTV officers)			
To crea	ite 1 ne	ew species within:				
					that apply.	
Genus: Taupapillomavirus			us		igher taxon has yet to be	
Subfa	amily:		created (in a later module, be "(new)" after its proposed na			
Fa	amily:	Papillomaviridae		If no genus is specified, enter "unassigned" in the genus box.		
(Order:					
<u> </u>		Representative isol 1 per species please)	` •	GenBank sequence accession number(s)		
Taupapillomavirus 3 Fe		Felis catus papillom	navirus 3	JX972168		

Reasons to justify the creation and assignment of the new species:

- Explain how the proposed species differ(s) from all existing species.
 - o If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
 - o If criteria for demarcating species need to be defined (because there will now be more than one species in the genus), please state the proposed criteria.
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Code	Code $2015.014fD$ (assigned by ICTV offi			CTV officers)		
To crea	te 1 ne					
G	lonus:	Duckannananili	lomanimus	Fill in all that ap • If the higher ta	ply. xon has yet to be	
	Genus: <i>Dyokappapapillomavirus</i> Subfamily:		created (in a later module, below) write "(new)" after its proposed name. If no genus is specified, enter			
Family: <i>Papillomaviridae</i>						ne —
(Order:			"unassigned" in the genus box.		
-		species:	Representative isolat species please)	te: (only 1 per	GenBank sequence accession number(s)	
Dyokappapapillomavirus 2 Rup			Rupicapra rupicapra p	papillomavirus 1	KC876045	

Reasons to justify the creation and assignment of the new species:

- Explain how the proposed species differ(s) from all existing species.
 - o If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
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Code	Code $2015.014gD$ (assigned by ICTV officers)							
To create	e 1 ne							
Ge	enus:	Dyotaupapi	llomavirus (ne	ew)	Fill in all that app • If the higher tax	on has yet to be		
Subfan	nily:					iter module, below) write s proposed name.		
Fan	nily:	D : 111 :			• •	If no genus is specified, enter		
Or	rder:					n the genus box.		
Name of new species: Represer please)			-	sentative isolate: (only 1 per species accession number(s)				
Dyotaupapillomavirus 1 Miniopte		Miniopterus	schreibersii	papillomavirus 1	JQ692938			

Reasons to justify the creation and assignment of the new species:

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Code	de 2015.014hD (assigned by ICTV officers)			CTV officers)		
To crea	te 1 ne	ew species within:				
	enus:	Dyoupsilonpapill	omavirus (new)		apply. taxon has yet to be later module, below) write	
	Subfamily: Family: Papillomaviridae		"(new)" after its proposed name. • If no genus is specified, enter			
	Order:	•		"unassigned" in the genus box.		
Name of new species:		Representative isol per species please)	late: (only 1	GenBank sequence accession number(s)		
Dyoupsilonpapillomavirus 1		Eidolon helvum papillomavirus 1		JX123128		

Reasons to justify the creation and assignment of the new species:

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Code	Code 2015.014iD (assigned by IC			CTV officers)		
To creat	te 1 ne	ew species within:				
				Fill in all tha		
Genus: Dyophipapillomavirus			virus (new)	•	er taxon has yet to be	
Subfar	bfamily:			created (in a later module, below) write "(new)" after its proposed name.		
Far	mily:	Papillomaviridae		If no genus is specified, enter "unassigned" in the genus box.		
0	rder:					
Name of new species:		Representative isol per species please)	late: (only 1	GenBank sequence accession number(s)		
Dyophipapillomavirus 1		Talpa europaea papillomavirus 1		KC460986		

Reasons to justify the creation and assignment of the new species:

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Code	Code $2015.014jD$ (assigned by IC			CTV officers)		
To crea	te 1 ne	ew species within:				
				Fill in all th		
Genus: Dyochipapillomaviru			virus (new)	•	ner taxon has yet to be	
Subfa	Subfamily:			created (in a later module, below) write "(new)" after its proposed name.		
Fa	mily:	Papillomaviridae		If no genus is specified, enter "unassigned" in the genus box.		
(Order:					
Name of new species:		Representative isolate: (onl per species please)		GenBank sequence accession number(s)		
Dyochipapillomavirus 1		Equus asinus papillomavirus 1		KF741371		

Reasons to justify the creation and assignment of the new species:

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Code	201	5.014kD	(assigned by IC				
To crea	te 1 ne	ew species within:					
				Fill in all that ap	•		
Genus: Dyopsipapillomavirus (new			virus (new)	(new) • If the higher taxon has yet to be			
Subfa	Subfamily:			created (in a later module, below) write "(new)" after its proposed name.			
Fa	mily:	Papillomaviridae	?	If no genus is specified, enter "unassigned" in the genus box.			
(Order:						
Name of new species:		Representative isol species please)	ate: (only 1 per	GenBank sequence accession number(s)			
Dyopsipapillomavirus 1		Eptesicus serotinus j	Eptesicus serotinus papillomavirus 1				

Reasons to justify the creation and assignment of the new species:

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Code	<i>201</i>	5.014lD	(assigned by IC				
To crea	te 1 ne	ew species within:					
Genus: <i>Dyoomegapapillo</i> Subfamily:			mavirus (new)	created (in a la	xon has yet to be ater module, below) write		
Fa	mily: <i>Papillomaviridae</i> Order:			 "(new)" after its proposed name. If no genus is specified, enter "unassigned" in the genus box. 			
Name of new species:			Representative isol species please)	late: (only 1 per	GenBank sequence accession number(s)		
Dyoomegapapillomavirus 1			Eptesicus serotinus papillomavirus 2		KC858264		

Reasons to justify the creation and assignment of the new species:

- Explain how the proposed species differ(s) from all existing species.
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Code	201	5.014mD	(assigned					
To crea	ite 1 ne	ew species wit	hin:					
Genus: <i>Treisdeltapapillomaviru</i> Subfamily:			oillomavirus (new)	Fill in all that apply. If the higher taxon has yet to be created (in a later module, below) wi "(new)" after its proposed name.				
Family: <i>Papillomaviridae</i> Order:			idae	If no genus is specified, enter "unassigned" in the genus box.				
Name of new species: Rep		Representative iso please)	late: (only 1 per species	GenBank sequence accession number(s)				
Treisdeltapapillomavirus 1 Rhinolog			Rhinolophus ferrun	nequinum papillomavirus 1	KC858266			

Reasons to justify the creation and assignment of the new species:

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Code	<i>201</i>	5.014nD	(assigned by IC	TV officers)		
To create 1 new species within:						
				Fill in all that ap		
Genus: Treisepsilonpapillo			lomavirus (new)	If the higher taxon has yet to be		
Subfamily:					ater module, below) write s proposed name.	
Fa	Family: Papillomaviridae			If no genus is specified, enter		
C	Order:				in the genus box.	
Name of new species:		Representative isol species please)	ate: (only 1 per	GenBank sequence accession number(s)		
Treiseps	Treisepsilonpapillomavirus 1		Pygoscelis adeliae p	papillomavirus 1	KJ173785	

Reasons to justify the creation and assignment of the new species:

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Code	201	5.014oD	(assigned by IC	(assigned by ICTV officers)			
To crea	ate 1 no	ew species within:					
Genus: Treiszetapapillomaviru			navirus (new)	Fill in all that apply. s (new) Fill in all that apply. If the higher taxon has yet to be			
Subfa	Subfamily:			created (in a later module, below) write "(new)" after its proposed name.			
Fa	amily:	Papillomaviridae		If no genus is specified, enter			
(Order:				in the genus box.		
Name of new species:		Representative isos species please)	late: (only 1 per	GenBank sequence accession number(s)			
Treiszetapapillomavirus 1		Fulmarus glacialis p	papillomavirus 1	KJ452243			

Reasons to justify the creation and assignment of the new species:

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Code	<i>201</i>	5.014pD	(assigned by IC				
To crea	te 1 ne	ew species within:					
Genus: <i>Treisetapapilloma</i> Subfamily:			wirus (new)	created (ir	ner taxon has yet to be n a later module, below) write		
Fa	mily: Order:	Papillomaviridae		 "(new)" after its proposed name. If no genus is specified, enter "unassigned" in the genus box. 			
Name of new species:		Representative isol per species please)		GenBank sequence accession number(s)			
Treisetapapillomavirus 1		Vulpes vulpes papillomavirus 1		KF857586			

Reasons to justify the creation and assignment of the new species:

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creating a new genus

Ideally, a genus should be placed within a higher taxon.

Code	201	15.014qD	(assigned	by ICTV officers)
To crea	ite a new	genus within:		Fill in all that apply.
Sul	ofamily:			If the higher taxon has yet to be created
	Family:	Papillomaviridae		(in a later module, below) write "(new)" after its proposed name.
	Order:			If no family is specified, enter "unassigned" in the family box
naming	a new ger	nus		
Code	201	15.014rD	(assigned	by ICTV officers)
To nam	e the new	v genus: <i>Dyotaupapillom</i>	_ navirus	
		, g , , ,		
Assignin	ng the typ	be species and other speci	es to a new	genus
Code	201	15.014sD	(assigned	by ICTV officers)
To desig	nate the	following as the type sp	ecies of th	e new genus
	papillomo		E\ be	very genus must have a type species. This should a well characterized species although not ecessarily the first to be discovered
are being	moved fr	•	Please ent	eated and assigned to it (Module 2) and any that er here the TOTAL number of species tain:
1		1		
		fy the creation of a new in support of this proposal		ented in the Appendix, Module 9
See Mod	dule 10.			
Origin o	of the ne	w genus name:		
Progress	ion of G	reek alphabetic prefix.		

Reasons to justify the choice of type species:

Single species in genus.

Species demarcation criteria in the new genus:

If there will be more than one species in the new genus, list the criteria being used for species demarcation and explain how the proposed members meet these criteria.

creating a new genus

deally, a	genus	should	be	placed	within	a	higher	taxon.

Code	2015.014	(assigned b	(assigned by ICTV officers)					
To create	a new genus wi	thin:	Fill in all that apply.					
Subfa	mily:		If the higher taxon has yet to be created (in a later module, helps) write "(nam)"					
Fa	mily: Papillon	naviridae	(in a later module, below) write "(new)"after its proposed name.					
C	order:		If no family is specified, enter "unassigned" in the family box					

naming a new genus

Code	2015.014uD	(assigned by ICTV officers)
To name tl	he new genus: Dyoupsilonpapi	llomavirus

Assigning the type species and other species to a new genus

Assigning the type species and other species to a new genus									
Code	2015.014vD	(assigned by ICTV officers)							
To designate the following as the type species of the new genus									
Dyoupsilor	npapillomavirus 1	Every genus must have a type species. This should be a well characterized species although not necessarily the first to be discovered							
are being m	•	r species created and assigned to it (Module 2) and any that Please enter here the TOTAL number of species us will contain:							

Reasons to justify the creation of a new genus:

Additional material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

Origin of the new genus name:

Progression of Greek alphabetic prefix.

Reasons to justify the choice of type species:

Single species in genus.

Species demarcation criteria in the new genus:

If there will be more than one species in the new genus, list the criteria being used for species demarcation and explain how the proposed members meet these criteria.

creating a new genus Ideally, a genus should be placed within a higher taxon.

Code	201	5.014wD	(assigne	d by ICTV	officers)
		genus within:	-		Fill in all that apply. If the higher taxon has yet to be created
Subfamily: Family: <i>Papillomaviridae</i> Order:					(in a later module, below) write "(new)" after its proposed name. If no family is specified, enter "unassigned" in the family box
naming a n	iew gei	nus			
Code	201	15.014xD	(assigne	d by ICTV	officers)
To name t	he nev	v genus: <i>Dyophipapillom</i>	avirus		
Assigning	the typ	be species and other speci	es to a ne	w genus	
Code	201	15.014yD	(assigne	d by ICTV	officers)
are being m	enus wil	I also contain any other new	Please e	be a well c necessarily created and nter here	d assigned to it (Module 2) and any that the TOTAL number of species
		fy the creation of a new in support of this proposal r		esented in	the Appendix, Module 9
See Modul	le 10.				
Origin of	the ne	w genus name:			
Progressio	n of G	reek alphabetic prefix.			
Reasons to	o justif	fy the choice of type spec	cies:		
Single spe	cies in	genus.			
If there will	be more	ation criteria in the new e than one species in the ne e proposed members meet	ew genus,		eria being used for species demarcation

creating a new genus

dea	lly,	a	genu	s sho	<u>ould</u>	be	placed	within	a	highe	er t	axon	

Code	<u> 201</u>	5.014z D	(assigned by ICTV officers)
To create a	new	genus within:	Fill in all that apply.
Subfam	ily:		If the higher taxon has yet to be created (in a later module, helps) write "(nam)"
Fam	ily:	Papillomaviridae	(in a later module, below) write "(new)" after its proposed name.
Oro	der:		If no family is specified, enter "unassigned" in the family box

naming a new genus

Code	2015.014aaD	(assigned by ICTV officers)	
To name the new genus: Dyochipapillomavirus			

Assigning the type species and other species to a new genus

<u> </u>	and type species and other species						
Code	2015.014abD	(assigned by ICTV officers)					
To designa	To designate the following as the type species of the new genus						
Dyochipap	illomavirus 1	Every genus must have a type species. This should be a well characterized species although not necessarily the first to be discovered					
The new genus will also contain any other new species created and assigned to it (Module 2) and any that are being moved from elsewhere (Module 7b). Please enter here the TOTAL number of species (including the type species) that the genus will contain: 1							

Reasons to justify the creation of a new genus:

Additional material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

Origin of the new genus name:

Progression of Greek alphabetic prefix.

Reasons to justify the choice of type species:

Single species in genus.

Species demarcation criteria in the new genus:

If there will be more than one species in the new genus, list the criteria being used for species demarcation and explain how the proposed members meet these criteria.

creating a new genus ldeally, a genus should be placed within a higher taxon.

Code		15.014acD		ed by I	CTV officers)
To create	e a new	genus within:	_		Fill in all that apply.
Subf	Subfamily: Equily: Panillomaninidae				If the higher taxon has yet to be created
	amily:	Papillomaviridae			(in a later module, below) write "(new)" after its proposed name.
,	Order:				 If no family is specified, enter "unassigned" in the family box
naming a 1	new gei	nus			
Code	201	5.014adD	(assign	ed by I	CTV officers)
To name	the nev	v genus: Dyopsipapillom	avirus		
Assigning	the typ	be species and other speci	ies to a n	ew ger	ius
Code	1	5.014aeD			CTV officers)
To design	ate the	following as the type s	_ pecies of	the ne	ew genus
Dyopsipap	oilloma	virus 1		be a w	genus must have a type species. This should vell characterized species although not sarily the first to be discovered
are being n	noved fr	-	. Please	enter l	d and assigned to it (Module 2) and any that here the TOTAL number of species:
<u>I</u>					
		fy the creation of a new in support of this proposal		resente	ed in the Appendix, Module 9
See Modu	le 10.				
Origin of	the ne	w genus name:			
Progressio	on of G	reek alphabetic prefix.			
Reasons t	o justif	fy the choice of type spe	cies:		
Single spe	cies in	genus.			
If there will	be more	ation criteria in the new e than one species in the n e proposed members meet	ew genus		e criteria being used for species demarcation

creating a new genus

Ideally, a genus should be placed within a higher taxon.

Code	2015.014afD	(assigned by ICTV officers)
To create	a new genus within:	Fill in all that apply.
Subfa	amily:	If the higher taxon has yet to be created (in a later module, helps) write "(nam)"
Family: Papillomaviridae		(in a later module, below) write "(new)" after its proposed name.
Order:		 If no family is specified, enter "unassigned" in the family box
naming a r	new genus	
Code	2015.014agD	(assigned by ICTV officers)

Assigning the type species and other species to a new genus

To name the new genus: Dyoomegapapillomavirus

Assigning	the type species and other specie	es to a new genus				
Code	2015.014ahD	(assigned by ICTV officers)				
To designa	To designate the following as the type species of the new genus					
Dyoomega	papillomavirus 1	Every genus must have a type species. This should be a well characterized species although not necessarily the first to be discovered				
The new genus will also contain any other new species created and assigned to it (Module 2) and any that are being moved from elsewhere (Module 7b). Please enter here the TOTAL number of species (including the type species) that the genus will contain:						
1						

Reasons to justify the creation of a new genus:

Additional material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

Origin of the new genus name:

Progression of Greek alphabetic prefix.

Reasons to justify the choice of type species:

Single species in genus.

Species demarcation criteria in the new genus:

If there will be more than one species in the new genus, list the criteria being used for species demarcation and explain how the proposed members meet these criteria.

creating a new genus Ideally, a genus should be placed within a higher taxon.

Code	201	5.014aiD	(assigne	d by I	CTV officers)
Subfa Fa	To create a new genus within: Subfamily: Family: Papillomaviridae Order:			Fill in all that apply. If the higher taxon has yet to be (in a later module, below) write after its proposed name. If no family is specified, enter	
naming a n	new ger	nus			"unassigned" in the family box
Code	1	5.014ajD	(assigne	d by I	CTV officers)
To name t	he new	y genus: Treisdeltapapill	- lomavirus	,	
Assigning	the tvn	e species and other speci	es to a ne	w gen	us
Code		5.014akD			CTV officers)
Treisdeltag The new ge are being m	papillo	also contain any other nev	w species of the spec	Every be a w neces created nter l	genus must have a type species. This should yell characterized species although not sarily the first to be discovered d and assigned to it (Module 2) and any that here the TOTAL number of species
<u>1</u>	- :4:6				
		y the creation of a new in support of this proposal		esente	d in the Appendix, Module 9
See Modul	le 10.				
Origin of	the nev	w genus name:			
Progressio	n of G1	reek alphabetic prefix.			
Reasons to	o justif	y the choice of type spe	cies:		
Single spe	cies in	genus.			
If there will	be more	tion criteria in the new e than one species in the ne e proposed members meet	ew genus,		e criteria being used for species demarcation

creating a new genus

Ideally, a genus should be placed within a higher taxon.

Code	201	5.014alD	(assigned	I by ICTV officers)
To create	a new	genus within:	_	Fill in all that apply.
Subfa	amily:			 If the higher taxon has yet to be created (in a later module, below) write "(new)"
	Family: Papillomaviridae			after its proposed name.
(Order:			 If no family is specified, enter "unassigned" in the family box
naming a n	new gei	nus		
Code	201	5.014amD	(assigned	l by ICTV officers)
To name t	he nev	v genus: <i>Treisepsilonpap</i>	oillomaviru	us
Assigning	the typ	be species and other speci	es to a new	v genus
Code	201	5.014anD	(assigned	l by ICTV officers)
To design	ate the	following as the type s	_ pecies of th	he new genus
		llomavirus 1	b	Every genus must have a type species. This should be a well characterized species although not necessarily the first to be discovered
The new ge	enus wil	l also contain any other nev	w species cr	reated and assigned to it (Module 2) and any that
		om elsewhere (Module 7b) rpe species) that the gen		ater here the TOTAL number of species
1	g me ty	pe species) that the gen	us will con	itam:
		fy the creation of a new in support of this proposal		sented in the Appendix, Module 9
See Modul	le 10.			
Origin of	the ne	w genus name:		
Progressio	n of G	reek alphabetic prefix.		
Reasons to	o justif	fy the choice of type spe	cies:	
Single spe	cies in	genus.		
If there will	be more	ation criteria in the new e than one species in the ne e proposed members meet	ew genus, li	ist the criteria being used for species demarcation ria.

creating a new genus ldeally, a genus should be placed within a higher taxon.

rabany, a gor		did be placed within a high	T taxon.			
Code	201	5.014aoD	(assign	ed by I	CTV officers)	
To create a new genus within: Subfamily: Family: Papillomaviridae Order:				 Fill in all that apply. If the higher taxon has yet to be created (in a later module, below) write "(new)" after its proposed name. If no family is specified, enter 		
					"unassigned" in the family box	
naming a r	new ger	nus				
Code	201	5.014apD	(assign	ed by I	CTV officers)	
To name t	he nev	y genus: Treiszetapapillo	- omaviru:	s		
Assigning	the typ	e species and other speci	ies to a n	new ger	us	
Code		5.014aqD			CTV officers)	
To design	ı	A	_ necies of	f the ne	ow geniis	
	To designate the following as the type species of Treiszetapapillomavirus 1			Every genus must have a type species. This should be a well characterized species although not necessarily the first to be discovered		
are being m	noved fr	· · · · · · · · · · · · · · · · · · ·	. Please	enter l	d and assigned to it (Module 2) and any that nere the TOTAL number of species:	
1						
		by the creation of a new in support of this proposal		resente	d in the Appendix, Module 9	
See Modul	le 10.					
Origin of	the ne	w genus name:				
Progressio	n of G	reek alphabetic prefix.				
Reasons to	o justif	y the choice of type spe	cies:			
Single spe	cies in	genus.				
If there will	be more	e than one species in the new e proposed members meet	ew genus		e criteria being used for species demarcation	

creating a new genus Ideally, a genus should be placed within a higher taxon.

Code	201	5.014ar D	(assigned	by ICTV officers)
Subfa Fa	a newnmily: amily: Drder:	genus within: Papillomaviridae		Fill in all that apply. If the higher taxon has yet to be created (in a later module, below) write "(new)" after its proposed name. If no family is specified, enter "unassigned" in the family box
naming a r	iew gei	nus		
Code	201	15.014asD	(assigned	by ICTV officers)
To name t	he nev	v genus: Treisetapapillo	mavirus	
Assigning	the typ	be species and other speci	ies to a nev	v genus
Code		15.014atD		I by ICTV officers)
Treisetapa The new ge are being m	enus wil	I also contain any other nev	w species c . Please er	Every genus must have a type species. This should be a well characterized species although not necessarily the first to be discovered reated and assigned to it (Module 2) and any that ater here the TOTAL number of species
Additional n	naterial	fy the creation of a new in support of this proposal		sented in the Appendix, Module 9
See Modul	le 10.			
Origin of	the ne	w genus name:		
Progressio	n of G	reek alphabetic prefix.		
Reasons to	o justif	fy the choice of type spe	cies:	
Single spe	cies in	genus.		
If there will	be more	ation criteria in the new e than one species in the ne e proposed members meet	ew genus, I	ist the criteria being used for species demarcation ria.

MODULE 10: **APPENDIX**: supporting material

additional material in support of this proposal

References:

Bernard, H.U., Burk, R.D., Chen, Z., van Doorslaer, K., Hausen, H. & de Villiers, E.M. (2010). Classification of papillomaviruses (PVs) based on 189 PV types and proposal of taxonomic amendments. Virology 401, 70-79.

Stamatakis, A. (2006). RAxML-VI-HPC: maximum likelihood-based phylogenetic analyses with thousands of taxa and mixed models. *Bioinformatics* 22, 2688-2690.

Annex:

Include as much information as necessary to support the proposal, including diagrams comparing the old and new taxonomic orders. The use of Figures and Tables is strongly recommended but direct pasting of content from publications will require permission from the copyright holder together with appropriate acknowledgement as this proposal will be placed on a public web site. For phylogenetic analysis, try to provide a tree where branch length is related to genetic distance.

These proposals update the last version of the *Papillomaviridae* family nomenclature (ICTV Master Species List 2014 v3.xls) based on recently reported viral genomes. No metagenomic sequences are considered for inclusion. The basis of classifying PV species and genera is presented in the reference, Bernard et al. (2010). The Study Group proposes a significant expansion of the family *Papillomaviridae*. To achieve this, the names of genera are continued based on the Greek alphabet (*Alphapapillomavirus* through *Omegapapillomavirus*), followed by recommencement with a Dyo- and Treis- prefix from *Dyodeltapapillomavirus* onwards to avoid confusion with the most medically important genera *Alphapapillomavirus*, *Betapapillomavirus* and *Gammapapillomavirus*.

Papillomavirus taxa are defined on the basis of phylogenetic distances among the L1 DNA sequences. In addition, the species name also reflects the host organism from which the papillomavirus was isolated. A phylogenetic tree is shown below. The genetic relatedness criteria for defining species and genera are not absolute, but require curation and review by the papillomavirus advisory committee. For instance, intergeneric identities range from about 46-67%, interspecies identities from about 55-78%, and intraspecies identities from about 66-89%. The current proposals are in line with this criterion.

We are proposing 10 new genera and 21 new species. This proposal is supported by the phylogenetic tree based on 116 papillomavirus L1 nucleotide sequences from all proposed and existent papillomavirus species (Fig. 1).

A complete list of papillomavirus genera (49) and species (116) is shown in Table 1.

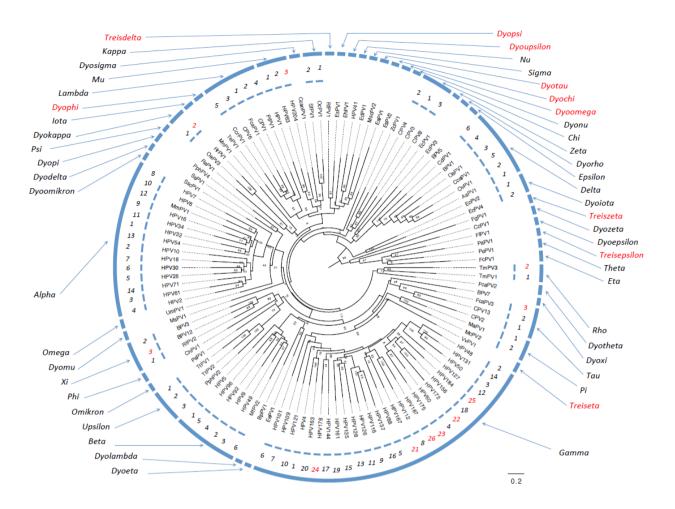


Fig. 1. Phylogenetic tree of papillomavirus species and genera. A maximum likelihood (ML) tree was constructed using RAxML v8.2.3 (Stamatakis, 2006) with optimized parameters based on the aligned L1 ORF nucleotide sequences of 116 papillomavirus types representing species and genera. Numbers on or near branches indicate ML bootstrap percentages based on 1000 repeats. The bar indicates the nucleotide substitution of 0.2 changes per site. The names of new species and genera are highlighted in red.

Table 1. Official and proposed genera and species in family *Papillomaviridae*

Genus	Species name	Greek alphabet	Papillomavirus type	PV type	NCBI#
Alphapapillomavirus	Alphapapillomavirus 1	α1	Human papillomavirus 32 *	HPV32	X74475
Alphapapillomavirus	Alphapapillomavirus 2	α2	Human papillomavirus 10 *	HPV10	X74465
Alphapapillomavirus	Alphapapillomavirus 3	α3	Human papillomavirus 61 *	HPV61	U31793
Alphapapillomavirus	Alphapapillomavirus 4	α4	Human papillomavirus 2 *	HPV2	X55964
Alphapapillomavirus	Alphapapillomavirus 5	α5	Human papillomavirus 26 *	HPV26	X74472
Alphapapillomavirus	Alphapapillomavirus 6	α6	Human papillomavirus 30 *	HPV30	X74474
Alphapapillomavirus	Alphapapillomavirus 7	α7	Human papillomavirus 18 *	HPV18	AY262282
Alphapapillomavirus	Alphapapillomavirus 8	α8	Human papillomavirus 7 *	HPV7	X74463
Alphapapillomavirus	Alphapapillomavirus 9	α9	Human papillomavirus 16 *	HPV16	K02718
Alphapapillomavirus	Alphapapillomavirus 10	α10	Human papillomavirus 6 *	HPV6	X00203
Alphapapillomavirus	Alphapapillomavirus 11	α11	Human papillomavirus 34 *	HPV34	X74476
Alphapapillomavirus	Alphapapillomavirus 12	α12	Macaca mulata papillomavirus 1 *	MmPV1	M60184
Alphapapillomavirus	Alphapapillomavirus 13	α13	Human papillomavirus 54 *	HPV54	U37488
Alphapapillomavirus	Alphapapillomavirus 14	α14	Human papillomavirus 71 *	HPV71	AB040456
			Human papillomavirus 5 *	HPV5	
Betapapillomavirus	Betapapillomavirus 1 Betapapillomavirus 2	β1 β2	Human papillomavirus 9 *	HPV5 HPV9	M17463 X74464
Betapapillomavirus Betapapillomavirus	• •	-			
Betapapillomavirus	Betapapillomavirus 3	β3	Human papillomavirus 49 *	HPV49	X74480
Betapapillomavirus	Betapapillomavirus 4	β4	Human papillomavirus 92 *	HPV92	AF531420
Betapapillomavirus	Betapapillomavirus 5	β5	Human papillomavirus 96 *	HPV96	AY382779
Betapapillomavirus	Betapapillomavirus 6	β6	Macaca fascicularis papillomavirus 2 *	MfPV2	GU01453
Gammapapillomavirus	Gammapapillomavirus 1	γ1	Human papillomavirus 4 *	HPV4	X70827
Gammapapillomavirus	Gammapapillomavirus 2	γ2	Human papillomavirus 48 *	HPV48	U31789
Gammapapillomavirus	Gammapapillomavirus 3	γ3	Human papillomavirus 50 *	HPV50	U31790
Gammapapillomavirus	Gammapapillomavirus 4	γ4	Human papillomavirus 60 *	HPV60	U31792
Gammapapillomavirus	Gammapapillomavirus 5	γ5	Human papillomavirus 88 *	HPV88	EF467176
Gammapapillomavirus	Gammapapillomavirus 6	γ6	Human papillomavirus 101 *	HPV101	DQ08008
Gammapapillomavirus	Gammapapillomavirus 7	γ7	Human papillomavirus 109 *	HPV109	EU541442
Gammapapillomavirus	Gammapapillomavirus 8	γ8	Human papillomavirus 112 *	HPV112	EU541442
Gammapapillomavirus	Gammapapillomavirus 9	γ9	Human papillomavirus 116 *	HPV116	FJ804072
Gammapapillomavirus	Gammapapillomavirus 10	γ10	Human papillomavirus 121 *	HPV121	GQ84544
Gammapapillomavirus	Gammapapillomavirus 11	γ11	Human papillomavirus 126 *	HPV126	AB646346
Gammapapillomavirus	Gammapapillomavirus 12	γ12	Human papillomavirus 127 *	HPV127	HM01157
Gammapapillomavirus	Gammapapillomavirus 13	γ13	Human papillomavirus 128 *	HPV128	GU22570
Gammapapillomavirus	Gammapapillomavirus 14	γ14	Human papillomavirus 131 *	HPV131	GU11763
Gammapapillomavirus	Gammapapillomavirus 15	γ15	Human papillomavirus 135 *	HPV135	HM99998
Gammapapillomavirus	Gammapapillomavirus 16	γ16	Human papillomavirus 137 *	HPV137	HM99998
Gammapapillomavirus	Gammapapillomavirus 17	γ17	Human papillomavirus 144 *	HPV144	HM99999
Gammapapillomavirus	Gammapapillomavirus 18	γ18	Human papillomavirus 156 *	HPV156	JX429973
Gammapapillomavirus	Gammapapillomavirus 19	γ19	Human papillomavirus 161 *	HPV161	JX413109
Gammapapillomavirus	Gammapapillomavirus 20	γ20	Human papillomavirus 163 *	HPV163	JX413107
Gammapapillomavirus	Gammapapillomavirus 21	γ21	Human papillomavirus 167 *	HPV167	KC862318
Gammapapillomavirus	Gammapapillomavirus 22	γ22	Human papillomavirus 172 *	HPV172	KF006399
Gammapapillomavirus	Gammapapillomavirus 23	γ23	Human papillomavirus 175 *	HPV175	KC10872
Gammapapillomavirus	Gammapapillomavirus 24	γ24	Human papillomavirus 178 *	HPV178	KJ130020
Gammapapillomavirus	Gammapapillomavirus 25	γ25	Human papillomavirus 184 *	HPV184	HG53053
 Gammapapillomavirus	Gammapapillomavirus 26	γ26	Human papillomavirus 187 *	HPV187	KR816174
 Deltapapillomavirus	Deltapapillomavirus 1	δ1	Alces alces papillomavirus 1 *	AaPV1	M15953
Deltapapillomavirus	Deltapapillomavirus 2	δ2	Odocoileus virginianus papillomavirus 1 *	OvPV1	M11910
Deltapapillomavirus	Deltapapillomavirus 3	δ3	Ovis aries papillomavirus 1 *	OaPV1	U83594
	Deltapapillomavirus 4	δ4	Bos taurus papillomavirus 1 *	BPV1	X02346
Deltananillomavirus					
Deltapapillomavirus Deltapapillomavirus	Deltapapillomavirus 5	δ5	Capreolus capreolus papillomavirus 1 *	CcaPV1	EF680235

Epsilonpapillomavirus	Epsilonpapillomavirus 1	ε1	Bos taurus papillomavirus 5 *	BPV5	AF457465
Zetapapillomavirus	Zetapapillomavirus 1	ζ1	Equus caballus papillomavirus 1 *	EcPV1	AF498323
Etapapillomavirus	Etapapillomavirus 1	η1	Fringilla coelebs papillomavirus 1 *	FcPV1	AY057109
Thetapapillomavirus	Thetapapillomavirus 1	θ1	Psittacus erithacus papillomavirus 1 *	PePV1	AF420235
Iotapapillomavirus	Iotapapillomavirus 1	ι1	Mastomys natalensis papillomavirus 1 *	MnPV1	U01834
Kappapapillomavirus	Kappapapillomavirus 1	к1	Oryctolagus cuniculus papillomavirus 1 *	OcPV1	AF227240
Kappapapillomavirus	Kappapapillomavirus 2	к2	Sylvilagus floridanus papillomavirus 1 *	SfPV1	K02708
		λ1	Felis catus papillomavirus 1 *	FcaPV1	AF480454
Lambdapapillomavirus	Lambdapapillomavirus 1	λ1	Canis familiaris oral papillomavirus 1 *	CPV1	D55633
Lambdapapillomavirus	Lambdapapillomavirus 2	λ2		CPV1 CPV6	
Lambdapapillomavirus	Lambdapapillomavirus 3		Canis familiaris papillomavirus 6 *		FJ492744
Lambdapapillomavirus	Lambdapapillomavirus 4	λ4	Procyon lotor papillomavirus 1 *	PIPV1	AY763115
Lambdapapillomavirus	Lambdapapillomavirus 5	λ5	Crocuta crocuta papillomavirus 1 *	CcrPV1	HQ585856
Mupapillomavirus	Mupapillomavirus 1	μ1	Human papillomavirus 1 *	HPV1	V01116
Mupapillomavirus	Mupapillomavirus 2	μ2	Human papillomavirus 63 *	HPV63	X70828
Mupapillomavirus	Mupapillomavirus 3	μ3	Human papillomavirus 204 *	HPV204	КР769769
Nupapillomavirus	Nupapillomavirus 1	v1	Human papillomavirus 41 *	HPV41	X56147
Xipapillomavirus	Xipapillomavirus 1	ξ1	Bos taurus papillomavirus 3 *	BPV3	AF486184
Xipapillomavirus	Xipapillomavirus 2	ξ2	Bos taurus papillomavirus 12 *	BPV12	JF834523
Xipapillomavirus	Xipapillomavirus 3	ξ3	Rangifer tarandus papillomavirus 2 *	RtPV2	KC810012
Omikronpapillomavirus	Omikronpapillomavirus 1	01	Phocoena spinipinnis papillomavirus 1 *	PsPV1	AJ238373
Pipapillomavirus	Pipapillomavirus 1	π1	Mesocricetus auratus papillomavirus 1 *	MaPV1	E15111
Pipapillomavirus	Pipapillomavirus 2	π2	Mastomys coucha papillomavirus 2 *	McPV2	DQ664501
Rhopapillomavirus	Rhopapillomavirus 1	ρ1	Trichechus manatus latirostris papillomavirus 1 *	TmPV1	AY609301
Rhopapillomavirus	Rhopapillomavirus 2	ρ2	Trichechus manatus papillomavirus 3	TmPV3	KP205502
Sigmapapillomavirus	Sigmapapillomavirus 1	σ1	Erethizon dorsatum papillomavirus 1 *	EdPV1	AY684126
Taupapillomavirus	Taupapillomavirus 1	τ1	Canis familiaris papillomavirus 2 *	CPV2	AY722648
Taupapillomavirus	Taupapillomavirus 2	τ2	Canis familiaris papillomavirus 13 *	CPV13	JX141478
Taupapillomavirus	Taupapillomavirus 3	τ3	Felis catus papillomavirus 3 *	FcaPV3	JX972168
Upsilonpapillomavirus	Upsilonpapillomavirus 1	υ1	Tursiops truncatus papillomavirus 1 *	TtPV1	EU240894
Upsilonpapillomavirus	Upsilonpapillomavirus 2	υ2	Tursiops truncatus papillomavirus 2 *	TtPV2	AY956402
 Upsilonpapillomavirus	Upsilonpapillomavirus 3	υ3	Phocoena phocoena papillomavirus 2 *	PphPV2	GU117622
Phipapillomavirus	Phipapillomavirus 1	ф1	Capra hircus papillomavirus 1 *	ChPV1	DQ091200
Chipapillomavirus	Chipapillomavirus 1	χ1	Canis familiaris papillomavirus 3 *	CPV3	DQ295066
Chipapillomavirus	Chipapillomavirus 2	χ2	Canis familiaris papillomavirus 4 *	CPV4	EF584537
Chipapillomavirus	Chipapillomavirus 3	χ3	Canis familiaris papillomavirus 8 *	CPV8	HQ262536
Psipapillomavirus	Psipapillomavirus 1	ψ1	Rousettus aegyptiacus papillomavirus 1 *	RaPV1	DQ366842
Omegapapillomavirus	Omegapapillomavirus 1	Ψ1 ω1	Ursus maritimus papillomavirus 1 *	UmPV1	EF536349
Dyodeltapapillomavirus	Dyodeltapapillomavirus 1		Sus scrofa papillomavirus 1 *	SsPV1	EF395818
Dyoepsilonpapillomavirus		dyo-δ1	Francolinus leucoscepus papillomavirus 1 *	FIPV1	EU188799
	Dyoepsilonpapillomavirus 1	dyo-ε1	• • •		
Dyozetapapillomavirus	Dyozetapapillomavirus 1	dyo-ζ1 dyo-η1	Caretta caretta papillomavirus 1 *	CcPV1	EU493092
Dyoetapapillomavirus	Dyoetapapillomavirus 1		Erinaceus europaeus papillomavirus 1 *	EePV1	FJ379293
Dyothetapapillomavirus	Dyothetapapillomavirus 1	dyo-θ1	Felis catus papillomavirus 2 *	FcaPV2	EU796884
Dyoiotapapillomavirus	Dyoiotapapillomavirus 1	dyo-ι1	Equus caballus papillomavirus 2 *	EcPV2	EU503122
Dyoiotapapillomavirus	Dyoiotapapillomavirus 2	dyo-ι2	Equus caballus papillomavirus 4 *	EcPV4	JQ031032
Dyokappapapillomavirus	Dyokappapapillomavirus 1	dyo-к1	Ovis aries papillomavirus 3 *	OaPV3	FJ796965
Dyokappapapillomavirus	Dyokappapapillomavirus 2	dyo-к2	Rupicapra rupicapra papillomavirus 1 *	RrPV1	KC876045
Dyolambdapapillomavirus	Dyolambdapapillomavirus 1	dyo-λ1	Bettongia penicillata papillomavirus 1 *	BpPV1	GU220391
Dyomupapillomavirus	Dyomupapillomavirus 1	dyo-μ1	Morelia spilota papillomavirus 1 *	MsPV1	HQ262535
Dyonupapillomavirus	Dyonupapillomavirus 1	dyo-v1	Zalophus californianus papillomavirus 1 *	ZcPV1	HQ293213
Dyoxipapillomavirus	Dyoxipapillomavirus 1	dyo-ξ1	Bos taurus papillomavirus 7 *	BPV7	DQ217793
Dyoomikronpapillomavirus	Dyoomikronpapillomavirus 1	dyo-o1	Saimiri sciureus papillomavirus 1 *	SscPV1	JF304765
Dyopipapillomavirus	Dyopipapillomavirus 1	dyo-π1	Phocoena phocoena papillomavirus 4 *	PphPV4	GU117623
Dyorhopapillomavirus	Dyorhopapillomavirus 1	dyo-ρ1	Equus caballus papillomavirus 3 *	EcPV3	GU384895
Dyosigmapapillomavirus	Dyosigmapapillomavirus 1	dyo-σ1	Castor canadensis papillomavirus 1 *	CcanPV1	KC020689

Dyotaupapillomavirus	Dyotaupapillomavirus 1	dyo-τ1	Miniopterus schreibersii papillomavirus 1 *	MscPV2	JQ692938
Dyoupsilonpapillomavirus	Dyoupsilonpapillomavirus 1	dyo-u1	Eidolon helvum papillomavirus 1 *	EhPV1	JX123128
Dyophipapillomavirus	Dyophipapillomavirus 1	dyo-φ1	Talpa europaea papillomavirus 1 *	TePV1	KC460986
Dyochipapillomavirus	Dyochipapillomavirus 1	dyo-χ1	Equus asinus papillomavirus 1 *	EaPV1	KF741371
Dyopsipapillomavirus	Dyopsipapillomavirus 1	dyo-ψ1	Eptesicus serotinus papillomavirus 1 *	EsPV1	KC858263
Dyoomegapapillomavirus	Dyoomegapapillomavirus 1	dyo-ω1	Eptesicus serotinus papillomavirus 2 *	EsPV2	KC858264
Treisdeltapapillomavirus	Treisdeltapapillomavirus 1	treis-δ1	Rhinolophus ferrumequinum papillomavirus 1 *	RfPV1	KC858266
Treisepsilonpapillomavirus	Treisepsilonpapillomavirus 1	treis-ε1	Pygoscelis adeliae papillomavirus 1 *	PaPV1	KJ173785
Treiszetapapillomavirus	Treiszetapapillomavirus 1	treis-ζ1	Fulmarus glacialis papillomavirus 1 *	FgPV1	KJ452243
Treisetapapillomavirus	Treisetapapillomavirus 1	treis-η1	Vulpes vulpes papillomavirus 1 *	VvPV1	KF857586

Red indicates NEW species and/or genus; *indicates the type first recognized in the species and possibly the genus