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 species and 10 new genera in the family *Papillomaviridae*
(e.g. 6 new species in the genus *Zetavirus*)

Modules attached (modules 1 and 10 are required)	**1** ☒	**2** ☒	**3** ☒	**4** ☐	**5** ☐
	6 ☐	**7** ☐	**8** ☐	**9** ☐	**10** ☒

Author(s):

Robert Burk, Zigui Chen, Koenraad van Doorslaer and the Papillomaviridae Study Group

Corresponding author with e-mail address:

Robert Burk, robert.burk@einstein.yu.edu

List the ICTV study group(s) that have seen this proposal:

A list of study groups and contacts is provided at http://www.ictvonline.org/subcommittees.asp . If in doubt, contact the appropriate subcommittee chair (fungal, invertebrate, plant, prokaryote or vertebrate viruses)	Papillomaviridae Study Group

ICTV Study Group comments (if any) and response of the proposer:

Date first submitted to ICTV:	June 16, 2015
Date of this revision (if different to above):	October 21, 2015

ICTV-EC comments and response of the proposer:

MODULE 2: **NEW SPECIES**

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	***2015.014aD***	(assigned by ICTV officers)

To create 6 new species within:

Genus:	***Gammapapillomavirus***
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Gammapapillomavirus 21	Human papillomavirus 167	KC862318
Gammapapillomavirus 22	Human papillomavirus 172	KF006399
Gammapapillomavirus 23	Human papillomavirus 175	KC108721
Gammapapillomavirus 24	Human papillomavirus 178	KJ130020
Gammapapillomavirus 25	Human papillomavirus 184	HG530535
Gammapapillomavirus 26	Human papillomavirus 187	KR816174

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014bD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Mupapillomavirus***
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Mupapillomavirus 3	Human papillomavirus 204	KP769769

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014cD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Xipapillomavirus***
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Xipapillomavirus 3	Rangifer tarandus papillomavirus 2	KC810012

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014dD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Rhopapillomavirus***
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Rhopapillomavirus 2	Trichechus manatus papillomavirus 3	KP205502

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014eD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Taupapillomavirus***
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Taupapillomavirus 3	Felis catus papillomavirus 3	JX972168

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014fD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Dyokappapapillomavirus***
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Dyokappapapillomavirus 2	Rupicapra rupicapra 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.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014gD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Dyotaupapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Dyotaupapillomavirus 1	Miniopterus schreibersii papillomavirus 1	JQ692938

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014hD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Dyoupsilonpapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Dyoupsilonpapillomavirus 1	Eidolon helvum papillomavirus 1	JX123128

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014iD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Dyophipapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Dyophipapillomavirus 1	Talpa europaea papillomavirus 1	KC460986

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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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See Module 10.

MODULE 2: **NEW SPECIES**

creating and naming one or more new species.

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Code	***2015.014jD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Dyochipapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 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:

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014kD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Dyopsipapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Dyopsipapillomavirus 1	Eptesicus serotinus papillomavirus 1	KC858263

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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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See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014lD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Dyoomegapapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**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.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

creating and naming one or more new species.

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Code	***2015.014mD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Treisdeltapapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Treisdeltapapillomavirus 1	Rhinolophus ferrumequinum papillomavirus 1	KC858266

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014nD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Treisepsilonpapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Treisepsilonpapillomavirus 1	Pygoscelis adeliae papillomavirus 1	KJ173785

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014oD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Treiszetapapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 per species please)**	**GenBank sequence accession number(s)**
Treiszetapapillomavirus 1	Fulmarus glacialis papillomavirus 1	KJ452243

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

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 2: **NEW SPECIES**

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	***2015.014pD***	(assigned by ICTV officers)

To create 1 new species within:

Genus:	***Treisetapapillomavirus* (new)**
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 genus is specified, enter "**unassigned**" in the genus box.

Name of new species:	**Representative isolate: (only 1 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:

- Explain how the proposed species differ(s) from all existing species.
  - If species demarcation criteria (see module 3) have previously been defined for the genus, **explain how the new species meet these criteria**.
  - 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.
- Further material in support of this proposal may be presented in the Appendix, Module 9

See Module 10.

MODULE 3: **NEW GENUS**

creating a new genus

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

Code	***2015.014qD***	(assigned by ICTV 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 new genus

Code	***2015.014rD***	(assigned by ICTV officers)

To name the new genus: *Dyotaupapillomavirus*

Assigning the type species and other species to a new genus

Code	***2015.014sD***	(assigned by ICTV officers)

To designate the following as the type species of the new genus

Dyotaupapillomavirus 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.

MODULE 3: **NEW GENUS**

creating a new genus

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

Code	***2015.014tD***	(assigned by ICTV 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 new genus

Code	***2015.014uD***	(assigned by ICTV officers)

To name the new genus: *Dyoupsilonpapillomavirus*

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

Dyoupsilonpapillomavirus 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.

MODULE 3: **NEW GENUS**

creating a new genus

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

Code	***2015.014wD***	(assigned by ICTV 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 new genus

Code	***2015.014xD***	(assigned by ICTV officers)

To name the new genus: *Dyophipapillomavirus*

Assigning the type species and other species to a new genus

Code	***2015.014yD***	(assigned by ICTV officers)

To designate the following as the type species of the new genus

Dyophipapillomavirus 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.

MODULE 3: **NEW GENUS**

creating a new genus

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

Code	***2015.014zD***	(assigned by ICTV 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 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

Code	***2015.014abD***	(assigned by ICTV officers)

To designate the following as the type species of the new genus

Dyochipapillomavirus 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.

MODULE 3: **NEW GENUS**

creating a new genus

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

Code	***2015.014acD***	(assigned by ICTV 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 new genus

Code	***2015.014adD***	(assigned by ICTV officers)

To name the new genus: *Dyopsipapillomavirus*

Assigning the type species and other species to a new genus

Code	***2015.014aeD***	(assigned by ICTV officers)

To designate the following as the type species of the new genus

Dyopsipapillomavirus 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.

MODULE 3: **NEW GENUS**

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:

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 new genus

Code	***2015.014agD***	(assigned by ICTV officers)

To name the new genus: *Dyoomegapapillomavirus*

Assigning the type species and other species to a new genus

Code	***2015.014ahD***	(assigned by ICTV officers)

To designate the following as the type species of the new genus

Dyoomegapapillomavirus 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.

MODULE 3: **NEW GENUS**

creating a new genus

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

Code	***2015.014aiD***	(assigned by ICTV 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 new genus

Code	***2015.014ajD***	(assigned by ICTV officers)

To name the new genus: *Treisdeltapapillomavirus*

Assigning the type species and other species to a new genus

Code	***2015.014akD***	(assigned by ICTV officers)

To designate the following as the type species of the new genus

Treisdeltapapillomavirus 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.

MODULE 3: **NEW GENUS**

creating a new genus

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

Code	***2015.014alD***	(assigned by ICTV 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 new genus

Code	***2015.014amD***	(assigned by ICTV officers)

To name the new genus: *Treisepsilonpapillomavirus*

Assigning the type species and other species to a new genus

Code	***2015.014anD***	(assigned by ICTV officers)

To designate the following as the type species of the new genus

Treisepsilonpapillomavirus 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.

MODULE 3: **NEW GENUS**

creating a new genus

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

Code	***2015.014aoD***	(assigned by ICTV 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 new genus

Code	***2015.014apD***	(assigned by ICTV officers)

To name the new genus: *Treiszetapapillomavirus*

Assigning the type species and other species to a new genus

Code	***2015.014aqD***	(assigned by ICTV officers)

To designate the following as the type species of the new genus

Treiszetapapillomavirus 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.

MODULE 3: **NEW GENUS**

creating a new genus

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

Code	***2015.014arD***	(assigned by ICTV 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 new genus

Code	***2015.014asD***	(assigned by ICTV officers)

To name the new genus: *Treisetapapillomavirus*

Assigning the type species and other species to a new genus

Code	***2015.014atD***	(assigned by ICTV officers)

To designate the following as the type species of the new genus

Treisetapapillomavirus 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.

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.

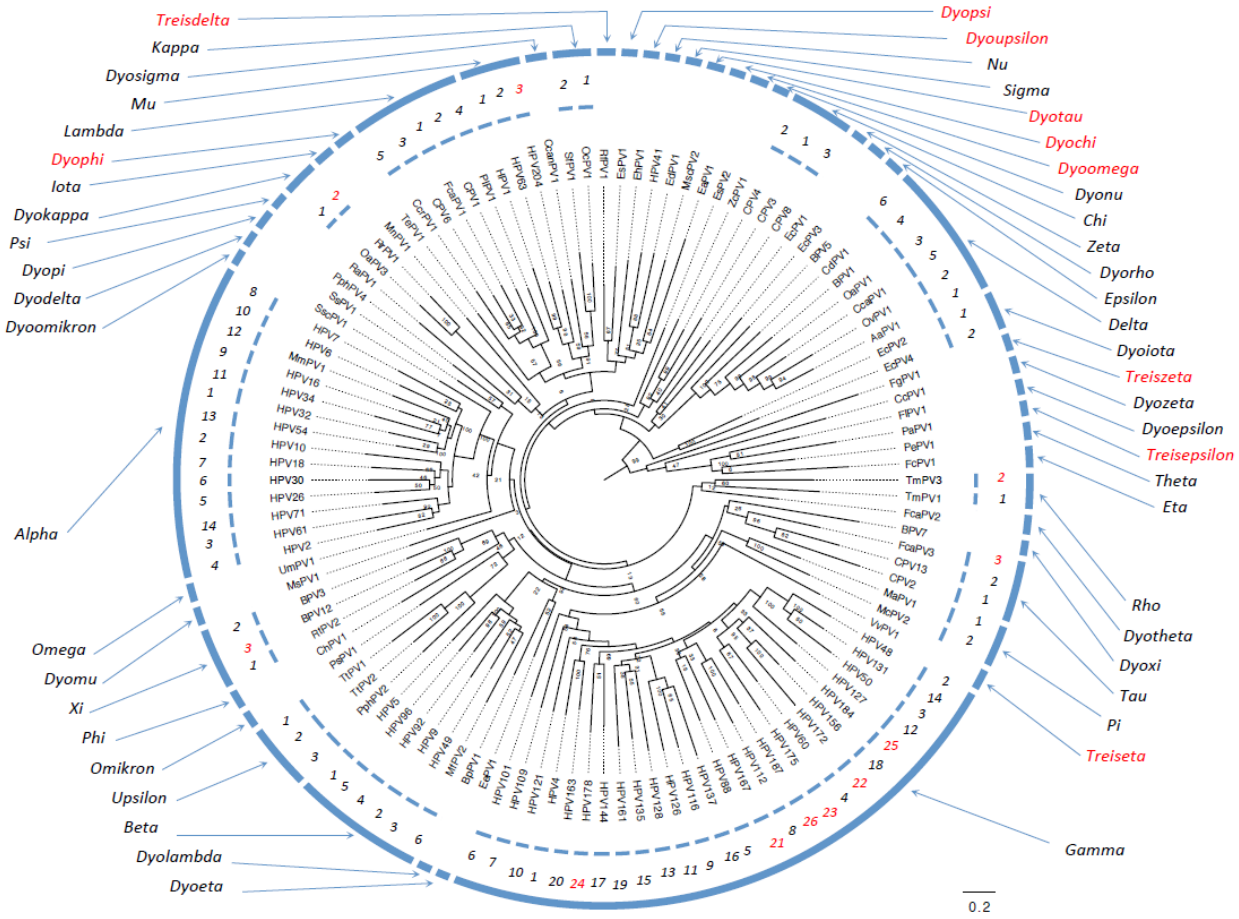

Fig. 1. Phylogenetic tree of papillomavirus species and genera. A maximum likelihood (ML) tree was constructed using RAxML v8.2.3 (Stamatakis, 2006) with optimized parameters based on the aligned L1 ORF nucleotide sequences of 116 papillomavirus types representing species and genera. Numbers on or near 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
Betapapillomavirus	*Betapapillomavirus 1*	β1	Human papillomavirus 5 *	HPV5	M17463
Betapapillomavirus	*Betapapillomavirus 2*	β2	Human papillomavirus 9 *	HPV9	X74464
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	GU014531
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	DQ080081
Gammapapillomavirus	*Gammapapillomavirus 7*	γ7	Human papillomavirus 109 *	HPV109	EU541441
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	GQ845443
Gammapapillomavirus	*Gammapapillomavirus 11*	γ11	Human papillomavirus 126 *	HPV126	AB646346
Gammapapillomavirus	*Gammapapillomavirus 12*	γ12	Human papillomavirus 127 *	HPV127	HM011570
Gammapapillomavirus	*Gammapapillomavirus 13*	γ13	Human papillomavirus 128 *	HPV128	GU225708
Gammapapillomavirus	*Gammapapillomavirus 14*	γ14	Human papillomavirus 131 *	HPV131	GU117631
Gammapapillomavirus	*Gammapapillomavirus 15*	γ15	Human papillomavirus 135 *	HPV135	HM999987
Gammapapillomavirus	*Gammapapillomavirus 16*	γ16	Human papillomavirus 137 *	HPV137	HM999989
Gammapapillomavirus	*Gammapapillomavirus 17*	γ17	Human papillomavirus 144 *	HPV144	HM999996
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**	**KC108721**
Gammapapillomavirus	***Gammapapillomavirus 24***	**γ24**	**Human papillomavirus 178 ***	**HPV178**	**KJ130020**
Gammapapillomavirus	***Gammapapillomavirus 25***	**γ25**	**Human papillomavirus 184 ***	**HPV184**	**HG530535**
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	*Deltapapillomavirus 4*	δ4	Bos taurus papillomavirus 1 *	BPV1	X02346
Deltapapillomavirus	*Deltapapillomavirus 5*	δ5	Capreolus capreolus papillomavirus 1 *	CcaPV1	EF680235
Deltapapillomavirus	*Deltapapillomavirus 6*	δ6	Camelus dromedarius papillomavirus 1*	CdPV1	HQ912790

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*	κ1	Oryctolagus cuniculus papillomavirus 1 *	OcPV1	AF227240
Kappapapillomavirus	*Kappapapillomavirus 2*	κ2	Sylvilagus floridanus papillomavirus 1 *	SfPV1	K02708
Lambdapapillomavirus	*Lambdapapillomavirus 1*	λ1	Felis catus papillomavirus 1 *	FcaPV1	AF480454
Lambdapapillomavirus	*Lambdapapillomavirus 2*	λ2	Canis familiaris oral papillomavirus 1 *	CPV1	D55633
Lambdapapillomavirus	*Lambdapapillomavirus 3*	λ3	Canis familiaris papillomavirus 6 *	CPV6	FJ492744
Lambdapapillomavirus	*Lambdapapillomavirus 4*	λ4	Procyon lotor papillomavirus 1 *	PlPV1	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**	**KP769769**
Nupapillomavirus	*Nupapillomavirus 1*	ν1	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*	ο1	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*	φ1	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*	ω1	Ursus maritimus papillomavirus 1 *	UmPV1	EF536349
Dyodeltapapillomavirus	*Dyodeltapapillomavirus 1*	dyo-δ1	Sus scrofa papillomavirus 1 *	SsPV1	EF395818
Dyoepsilonpapillomavirus	*Dyoepsilonpapillomavirus 1*	dyo-ε1	Francolinus leucoscepus papillomavirus 1 *	FlPV1	EU188799
Dyozetapapillomavirus	*Dyozetapapillomavirus 1*	dyo-ζ1	Caretta caretta papillomavirus 1 *	CcPV1	EU493092
Dyoetapapillomavirus	*Dyoetapapillomavirus 1*	dyo-η1	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-κ1	Ovis aries papillomavirus 3 *	OaPV3	FJ796965
Dyokappapapillomavirus	***Dyokappapapillomavirus 2***	**dyo-κ2**	**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-ν1	Zalophus californianus papillomavirus 1 *	ZcPV1	HQ293213
Dyoxipapillomavirus	*Dyoxipapillomavirus 1*	dyo-ξ1	Bos taurus papillomavirus 7 *	BPV7	DQ217793
Dyoomikronpapillomavirus	*Dyoomikronpapillomavirus 1*	dyo-ο1	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-υ1	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*