

**Part 1:** **TITLE, AUTHORS, APPROVALS, etc**

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| **Code assigned:** | **2020.017M** |  |
| **Short title:** Create one new species in genus *Mammarenavirus* (*Bunyavirales*: *Arenaviridae*) | | |
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**Author(s) and email address(es)**

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| --- | --- |
| Shi Z-L, Kuhn JH, Lukashevich IS, Clegg JCS, Gonzalez J-PJ, de la Torre JCC, Hepojoki J, Salvato M, Stenglein M, Buchmeier MJ, Charrel RN, Radoshitzky SRR, Günther S, Romanowski V, de Lamballerie X, Sironi M, Agwanda B | [zlshi@wh.iov.cn](mailto:zlshi@wh.iov.cn); [kuhnjens@mail.nih.gov](mailto:kuhnjens@mail.nih.gov); [isluka01@louisville.edu](mailto:isluka01@louisville.edu); [cleggjcs@yahoo.fr](mailto:cleggjcs@yahoo.fr); [jpgonzalez2808@gmail.com](mailto:jpgonzalez2808@gmail.com); [juanct@scripps.edu](mailto:juanct@scripps.edu); [jussi.hepojoki@uzh.ch](mailto:jussi.hepojoki@uzh.ch); [MSalvato@ihv.umaryland.edu](mailto:MSalvato@ihv.umaryland.edu); [Mark.Stenglein@ColoState.edu](mailto:Mark.Stenglein@ColoState.edu); [m.buchmeier@uci.edu](mailto:m.buchmeier@uci.edu); [remi.charrel@univ-amu.fr](mailto:remi.charrel@univ-amu.fr); [sheli.r.radoshitzky.ctr@mail.mil](mailto:sheli.r.radoshitzky.ctr@mail.mil); [guenther@bni.uni-hamburg.de](mailto:guenther@bni.uni-hamburg.de); [victor@biol.unlp.edu.ar](mailto:victor@biol.unlp.edu.ar); [xavier.de-lamballerie@univ-amu.fr](mailto:xavier.de-lamballerie@univ-amu.fr); [manuela.sironi@BP.LNF.it](mailto:manuela.sironi@BP.LNF.it); [benrisky@gmail.com](mailto:benrisky@gmail.com), bagwanda@museums.or.ke |

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**List the ICTV Study Group(s) that have seen this proposal**

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| ICTV *Arenaviridae* Study Group |

**ICTV study group comments and response of proposer**

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**Submission dates**

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| --- | --- |
| Date first submitted to SC Chair | July 31, 2020 |
| Date of this revision (if different to above) |  |

**ICTV-EC comments and response of the proposer**

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**Part 3:** **TAXONOMIC PROPOSAL**

**Name of accompanying Excel module**

|  |
| --- |
| 2017.017M.R.Mammarenavirus.xlsx |

**Abstract**

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| We propose the establishment of a novel species, *Kitale mammarenavirus,* in the arenavirid genus *Mammarenavirus* for Kitale virus (KTLV), which was discovered in Macmillan’s Grammomys (*Grammomys macmillani* (Wroughton, 1907)) sampled in Kenya. |

**Text of proposal**

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A coding-complete genomic sequence (both small [S] and large [L] segments) of KTLV isolate AreV2170KEN is available from the GenBank nucleotide sequence database. KTLV has not yet been isolated in culture.  The ICTV *Arenaviridae* Study Group has recommended the use of the PAirwise Sequence Comparison (PASC) tool (<https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=overview>) for the assessment of novel arenaviruses (3). In this tool, cut-off values for classifying arenaviruses belonging to the same species are >80% and >76% nucleotide sequence identity in the S and L segments, respectively. We therefore performed PASC on KTLV.  The closest PASC hit for the KTLV S segment is Ippy virus (*Ippy mammarenavirus*), with a 69.27% pairwise identity (i.e., less than 80%), confirming the need for a new mammarenavirus species for KTLV, the name of which we propose to be *Kitale mammarenavirus*.  S segment: MK935153  E:\SAJOREC\2020\Kitale virus\S.png   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Top matches for**[**gi|1789114786|gb|MK935153.1|**](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=1789114786) **Mammarenavirus sp. strain AreV2170KEN glycoprotein precursor (GPC) and nucleocapsid protein (NP) genes, complete cds:** | | | | | | | | | | | BLAST-based alignments | | | | |  |  |  |  |  | | 1 |  | [69.27%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=0) |  | [gi|89902998|ref|NC\_007905.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=89902998) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Ippy mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=55096) |  | | | | | | [2](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=1&scale=Linear) |  | [69.09%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=1) |  | [gi|1464307254|ref|NC\_038367.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=1464307254) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Solwezi mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=2030986)|[Arenaviridae sp. 13ZR68](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1518603) |  | | | | | | [3](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=2&scale=Linear) |  | [67.29%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=2) |  | 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[5](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=4&scale=Linear) |  | [65.89%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=4) |  | [gi|695313945|gb|KM821861.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695313945) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [6](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=5&scale=Linear) |  | [65.75%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=5) |  | [gi|695314036|gb|KM821874.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695314036) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [7](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=6&scale=Linear) |  | [65.75%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=6) |  | [gi|695313388|gb|KM821800.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695313388) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [8](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=7&scale=Linear) |  | [65.62%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=7) |  | [gi|695313519|gb|KM821816.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695313519) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [9](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=8&scale=Linear) |  | [65.58%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=8) |  | [gi|695313258|gb|KM821783.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695313258) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [10](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=9&scale=Linear) |  | [65.57%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=9) |  | [gi|695313871|gb|KM821856.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695313871) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [11](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=10&scale=Linear) |  | [65.57%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=10) |  | [gi|695314127|gb|KM821884.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695314127) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [12](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=11&scale=Linear) |  | [65.56%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=11) |  | [gi|695316044|gb|KM822130.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695316044) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [13](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=12&scale=Linear) |  | [65.55%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=12) |  | [gi|695315893|gb|KM822115.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695315893) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [14](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=13&scale=Linear) |  | [65.52%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=13) |  | [gi|695313989|gb|KM821869.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695313989) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [15](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=14&scale=Linear) |  | [65.51%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_6731823_130.14.22.10_9000_Pasc&idx=14) |  | [gi|695313709|gb|KM821839.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695313709) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  |  |  |  |  |   The closest PASC hit for the KTLV L segment is Ippy virus (Ippy *mammarenavirus*) with a 60% pairwise identity (i.e., less than 76%), thereby justifying the creation of a novel species.  L segment: MK935152  E:\SAJOREC\2020\Kitale virus\L.png   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Top matches for**[**gi|1789114783|gb|MK935152.1|**](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=1789114783) **Mammarenavirus sp. strain AreV2170KEN Z protein (Z) and RNA-dependent RNA polymerase (RdRp) genes, complete cds:** | | | | | | | | | | | BLAST-based alignments | | | | |  |  |  |  |  | | 1 |  | [60%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=0) |  | [gi|89902995|ref|NC\_007906.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=89902995) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Ippy mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=55096) |  | | | | | | [2](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=1&scale=Linear) |  | [58.58%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=1) |  | [gi|1464307252|ref|NC\_038366.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=1464307252) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Solwezi mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=2030986)|[Arenaviridae sp. 13ZR68](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1518603) |  | | | | | | [3](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=2&scale=Linear) |  | [57.6%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=2) |  | [gi|741984934|gb|KM386661.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=741984934) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Wenzhou mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1588685) |  | | | | | | [4](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=3&scale=Linear) |  | [57.37%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=3) |  | [gi|570339331|gb|KC669691.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=570339331) [unclassified Arenaviridae](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=208898)|[Cardamones virus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1437125) |  | | | | | | [5](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=4&scale=Linear) |  | [57.23%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=4) |  | [gi|570339328|gb|KC669690.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=570339328) [unclassified Arenaviridae](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=208898)|[Cardamones virus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1437125) |  | | | | | | [6](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=5&scale=Linear) |  | [57.13%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=5) |  | [gi|744692911|ref|NC\_026019.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=744692911) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Wenzhou mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1588685) |  | | | | | | [7](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=6&scale=Linear) |  | [56.79%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=6) |  | [gi|349731811|dbj|AB586647.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=349731811) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Luna mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=883876) |  | | | | | | [8](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=7&scale=Linear) |  | [56.77%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=7) |  | [gi|567840451|gb|KF478762.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=567840451) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [9](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=8&scale=Linear) |  | [56.72%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=8) |  | [gi|734704218|gb|KM051420.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=734704218) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Wenzhou mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1588685)|[Wenzhou virus 3](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1587502) |  | | | | | | [10](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=9&scale=Linear) |  | [56.71%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=9) |  | [gi|1608033534|gb|MH215278.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=1608033534) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [11](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=10&scale=Linear) |  | [56.71%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=10) |  | [gi|734704221|gb|KM051421.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=734704221) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Wenzhou mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1588685)|[Wenzhou virus 2](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1587503) |  | | | | | | [12](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=11&scale=Linear) |  | [56.7%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=11) |  | [gi|695313181|gb|KM821774.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=695313181) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [13](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=12&scale=Linear) |  | [56.65%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=12) |  | [gi|570339334|gb|KC669692.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=570339334) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Loei River mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1437126) |  | | | | | | [14](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=13&scale=Linear) |  | [56.64%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=13) |  | [gi|1608033546|gb|MH215286.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=1608033546) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  | | | | | | [15](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?cmdresult=main&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=14&scale=Linear) |  | [56.63%](https://www.ncbi.nlm.nih.gov/sutils/pasc/viridty.cgi?textpage=pa2txt&jobkey=JSID_01_3803953_130.14.18.128_9000_Pasc&idx=14) |  | [gi|1020216065|gb|KU978808.1|](https://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=1020216065) [Mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=1653394)|[Lassa mammarenavirus](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=11620) |  |  |  |  |  |   In phylogenetic analysis, KTLV clusters as a distinct entity in both genomic S and L segment trees (Figure 1):  Genomic S segment    Genomic L segment    **Figure 1.** Mammarenavirus. Maximum likelihood phylogenetic tree inferred from MUltiple Sequence Comparison by Log- Expectation (MUSCLE) alignment (<https://www.ebi.ac.uk/Tools/msa/muscle/>) of the complete NP (top) and L (bottom) amino-acid sequences of classified arenaviruses (red dots) plus KITV (green dot). Representative viruses of the *Hartmanivirus* and *Reptarenavirus* genera (dots in colors other than red) are also included. The best-fit model of protein evolution (LG+G) was selected using ProtTest 3 (v. 3.4.2) (1). Maximum likelihood trees with 1,000 bootstrap replicates were produced using RAxML (v. 8) (4). Nodes with bootstrap support ≥70% are shown with a black dot. The mid-point rooted trees were visualized using FigTree (<http://tree.bio.ed.ac.uk/>). For NP and L, the phylogenies include sequences of 42 mammarenaviruses assigned to 39 species (red dots).  Etymology:  *Kitale mammarenavirus*: named after Kitale virus, a mammarenavirus discovered in Kitale town, Kenya.  **References**   1. 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PMID: 24451623 DOI: 10.1093/bioinformatics/btu033 | |