



# ICTV Virus Taxonomy Profile: *Tulasviridae* 2023

Jens H. Kuhn<sup>1</sup>, Scott Adkins<sup>2</sup>, Katherine Brown<sup>3</sup>, Juan Carlos de la Torre<sup>4</sup>, Michele Digiario<sup>5</sup>, Holly R. Hughes<sup>6</sup>, Sandra Junglen<sup>7</sup>, Amy J. Lambert<sup>6</sup>, Piet Maes<sup>8</sup>, Marco Marklewitz<sup>9</sup>, Gustavo Palacios<sup>10</sup>, Takahide Sasaya (笹谷孝英)<sup>11</sup>, Yong-Zhen Zhang (张永振)<sup>12</sup> and Massimo Turina<sup>13,\*</sup>

## Abstract

*Tulasviridae* is a family of ambisense RNA viruses with genomes of about 12.2 kb that have been found in fungi. The tulasvirid genome is nonsegmented and contains three open reading frames (ORFs) that encode a nucleoprotein (NP), a large (L) protein containing an RNA-directed RNA polymerase (RdRP) domain, and a protein of unknown function (X). This is a summary of the International Committee on Taxonomy of Viruses (ICTV) Report on the family *Tulasviridae*, which is available at [ictv.global/report/tulasviridae](https://www.ictv.global/report/tulasviridae).

**Table 1.** Characteristics of members of the family *Tulasviridae*

Example	<i>Tulasnella bunyavirales-like virus 1 (MN793997)</i> , species <i>Orthotulasvirus tulasnellae</i> , genus <i>Orthotulasvirus</i>
Virion	Unknown
Genome	About 12.2 kb of nonsegmented ambisense RNA
Replication	Unknown
Translation	Unknown
Host range	Agaricomycete fungi
Taxonomy	Realm <i>Riboviria</i> , kingdom <i>Orthornavirae</i> , phylum <i>Negarnaviricota</i> , class <i>Ellioviricetes</i> , order <i>Bunyavirales</i> ; the family includes the genus <i>Orthotulasvirus</i> and the species <i>Orthotulasvirus tulasnellae</i>

## VIRION

Unknown.

## GENOME

The tulasvirid genome comprises nonsegmented, linear, ambisense RNA with a total length of about 12.2 kb and three ORFs that encode an NP, an X, and an L protein containing an RdRP domain [1, 2] (Table 1, Fig. 1).

Received 22 November 2023; Accepted 23 November 2023; Published 20 December 2023

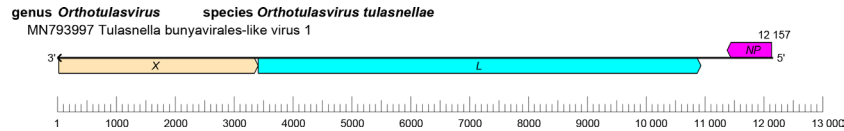
**Author affiliations:** <sup>1</sup>Integrated Research Facility at Fort Detrick, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Fort Detrick, Frederick MD 21702, USA; <sup>2</sup>United States Department of Agriculture, Agricultural Research Service, US Horticultural Research Laboratory, Fort Pierce, FL 34945, USA; <sup>3</sup>Division of Virology, Department of Pathology, Addenbrookes Hospital, University of Cambridge, Cambridge CB2 0QN, UK; <sup>4</sup>Department of Immunology and Microbiology IMM-6, The Scripps Research Institute, La Jolla CA 92037, USA; <sup>5</sup>CIHEAM, Istituto Agronomico Mediterraneo di Bari, 70010 Valenzano, Italy; <sup>6</sup>Centers for Disease Control and Prevention, Fort Collins CO 80521, USA; <sup>7</sup>Institute of Virology, Charité-Universitätsmedizin Berlin, Corporate Member of Freie Universität Berlin, Humboldt-Universität zu Berlin, and Berlin Institute of Health, Berlin 10117, Germany; <sup>8</sup>KU Leuven, Rega Institute, Zoonotic Infectious Diseases Unit, 3000 Leuven, Belgium; <sup>9</sup>FIND, 1202 Geneva, Switzerland; <sup>10</sup>Department of Microbiology, Icahn School of Medicine at Mount Sinai, New York, NY 10029, USA; <sup>11</sup>Institute for Plant Protection, National Agriculture and Food Research Organization, Tsukuba, Ibaraki 305-8517, Japan; <sup>12</sup>School of Life Sciences and Human Phenome Institute, Fudan University, Shanghai 201052, PR China; <sup>13</sup>Institute for Sustainable Plant Protection, National Research Council of Italy (IPSP-CNR), 10135 Torino, Italy.

\*Correspondence: Massimo Turina, [massimo.turina@ipspp.cnr.it](mailto:massimo.turina@ipspp.cnr.it)

**Keywords:** ICTV Report; taxonomy; *Tulasviridae*; orthotulasvirus; *Tulasnella bunyavirales-like virus 1*.

**Abbreviations:** L, large; NP, nucleoprotein; RdRP, RNA-directed RNA polymerase; X, protein of unknown function.

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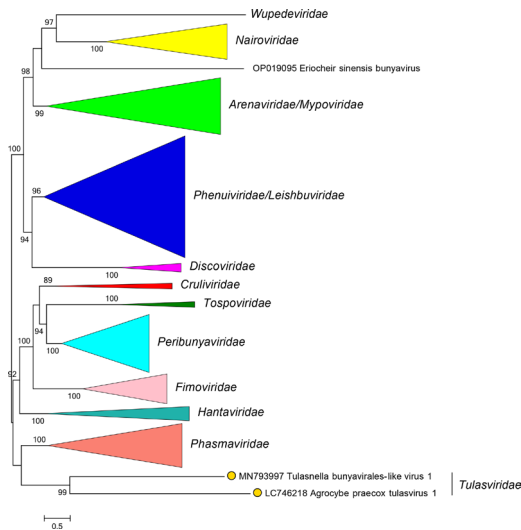
**Fig. 1.** Genome organisation of *Tulasnella bunyavirales-like virus 1*. ORFs are coloured according to the predicted protein function (L, large protein gene; NP, nucleoprotein; X, gene encoding a protein of unknown function).

## REPLICATION

Unknown.

## TAXONOMY

Current taxonomy: [ictv.global/taxonomy](https://ictv.global/taxonomy). Tulasvirids are most closely related to crulivirids, fimovirids, hantavirids, peribunyvirids, phasmavirids, and tospovirids [3] (Fig. 2). The family includes the genus *Orthotulasvirus* for viruses



**Fig. 2.** Phylogenetic relationships of *Tulasnella bunyavirales-like virus 1*. Family branches are collapsed. Numbers at nodes indicate bootstrap support >70%. Details of viruses and methods are available in the full ICTV Report on the family *Tulasviridae*.

## References

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that infect fungi. In contrast to most closely related viruses [4, 5], tulasvirids have nonsegmented, negative-sense single-stranded RNA genomes but encode proteins with high sequence identity to proteins of other bunyavirals and have five conserved motifs (A–E) in their RdRP domain.

## RESOURCES

Full ICTV Report on the family *Tulasviridae*: [ictv.global/report/tulasviridae](https://ictv.global/report/tulasviridae).

## Funding information

Production of this Profile, the ICTV Report, and associated resources was supported by the Microbiology Society. This work was supported in part through the Laulima Government Solutions, LLC, prime contract with the U.S. National Institute of Allergy and Infectious Diseases (NIAID) under Contract No. HHSN272201800013C. J.H.K. performed this work as an employee of Tunnell Government Services (TGS), a subcontractor of Laulima Government Solutions, LLC, under Contract No. HHSN272201800013C. The content of this publication should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Department of Health and Human Services, including the Centres for Disease Control and Prevention, or of the institutions and companies affiliated with the authors, nor does mention of trade names, commercial products, or organisations imply endorsement by the U.S. Government.

## Acknowledgements

We thank Stuart G. Siddell, Elliot J. Lefkowitz, Sead Sabanadzovic, Peter Simmonds, F. Murilo Zerbini, Evelien Adriaenssens, Mart Krupovic, Luisa Rubino, Arvind Varsani (ICTV Report Editors), and Donald B. Smith (Managing Editor, ICTV Report). We thank Anya Crane (Integrated Research Facility at Fort Detrick, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Fort Detrick, Frederick, MD, USA) for critically editing the manuscript. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centres for Disease Control and Prevention.

## Conflicts of interest

The authors declare that there are no conflicts of interest.

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