

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

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| **Code assigned:** | **2021.009F** |  |
| **Short title:** Create six new genera, create 109 new species, and rename three established species (*Ourlivirales*: *Botourmiaviridae*) | | |
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**List the ICTV Study Group(s) that have seen this proposal**

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| ICTV *Botourmiaviridae* Study Group, ICTV Fungal and Protist Viruses Subcommittee Chair |

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

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**Submission dates**

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| Date first submitted to SC Chair | May 21, 2021 |
| Date of this revision (if different to above) | September 15, 2021 |

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

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| **EC Comments:** Please address numerous errors in the Excel file and consider suggestions for improvement of the Word file.  **Response:** All errors have been eliminated from the Excel file and we accepted all suggestions for the Word file. |

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

**Name of accompanying Excel module**

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| 2021.009F.R.Botourmiaviridae\_6newgen\_109newsp.xlsx |

**Abstract**

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| The family *Botourmiaviridae* currently includes six genera, *Ourmiavirus, Botoulivirus, Magoulivirus, Scleroulivirus*, *Rhizoulivirus*, and *Penoulivirus* including one to eleven species. We searched the NCBI database and found that more viruses can be classified into the family (Table 1). Some of them can be classified in the recognized genera but other are distinct and require establishing seven new genera for their classification. With the new organization, several species, already included in the former genera, need to be moved into the new proposed genera.  Here, we propose the creation of 6 new genera and 109 new species in the family *Botourmiaviridae*. |

**Text of proposal**

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| |  | | --- | | **Recognized genus *Botoulivirus***  We propose to classify fifteen new species in this genus. These are: *Botoulivirus alphabotrytidis*, *Botoulivirus betabotrytidis*, *Botoulivirus gammabotrytidis*, *Botoulivirus deltabotrytidis*, *Botoulivirus epsilonbotrytidis*, *Botoulivirus zetabotrytidis*, *Botoulivirus etabotrytidis*, *Botoulivirus thetabotrytidis*, *Botoulivirus alphaplasmoparae*, *Botoulivirus betaplasmoparae*, *Botoulivirus gammaplasmoparae*, *Botoulivirus deltaplasmoparae*, *Botoulivirus epsilonplasmoparae*, *Botoulivirus zetaplasmoparae*, *Botoulivirus etaplasmoparae*.  **Proposed genus *Betabotoulivirus***  We propose to move the species *Entoleuca botoulivirus* and *Phaeoacremonium botoulivirus* from the genus *Botoulivirus* to the newly proposed genus *Betabotoulivirus,* and rename them as *Betabotoulivirus entoleucae and Betabotoulivirus phaeoacremonium.*  We also propose eight new species: *Betabotoulivirus alphaplasmoparae, Betabotoulivirus betaplasmoparae, Betabotoulivirus gammaplasmoparae, Betabotoulivirus deltaplasmoparae, Betabotoulivirus epsilonplasmoparae, Betabotoulivirus zetaplasmoparae, Betabotoulivirus etaplasmoparae, Betabotoulivirus thetaplasmoparae*.  **Recognized genus *Magoulivirus***  We propose thirty new species for this genus: *Magoulivirus alphabotrytidis, Magoulivirus betabotrytidis, Magoulivirus alphamacrophominae, Magoulivirus betamacrophominae, Magoulivirus malus, Magoulivirus alphaplasmoparae, Magoulivirus betaplasmoparae, Magoulivirus gammaplasmoparae, Magoulivirus deltaplasmoparae, Magoulivirus epsilonplasmoparae, Magoulivirus zetaplasmoparae, Magoulivirus etaplasmoparae, Magoulivirus thetaplasmoparae, Magoulivirus iotaplasmoparae, Magoulivirus kappaplasmoparae, Magoulivirus lambdaplasmoparae, Magoulivirus miplasmoparae, Magoulivirus niplasmoparae, Magoulivirus xiplasmoparae, Magoulivirus omicronplasmoparae, Magoulivirus piplasmoparae, Magoulivirus rhoplasmoparae, Magoulivirus sigmaplasmoparae, Magoulivirus tauplasmoparae, Magoulivirus ipsilonplasmoparae, Magoulivirus fiplasmoparae, Magoulivirus jiplasmoparae, Magoulivirus psiplasmoparae, Magoulivirus omegaplasmoparae, Magoulivirus viticolae*.  **Recognized genus *Scleroulivirus***  Furthermore, we propose nineteen new species in this genus: *Scleroulivirus alphaplasmoparae, Scleroulivirus betaplasmoparae, Scleroulivirus gammaplasmoparae, Scleroulivirus deltaplasmoparae, Scleroulivirus epsilonplasmoparae, Scleroulivirus zetaplasmoparae, Scleroulivirus etaplasmoparae, Scleroulivirus thetaplasmoparae, Scleroulivirus iotaplasmoparae, Scleroulivirus kappaplasmoparae, Scleroulivirus lambdaplasmoparae, Scleroulivirus miplasmoparae, Scleroulivirus niplasmoparae, Scleroulivirus xiplasmoparae, Scleroulivirus omicronplasmoparae, Scleroulivirus piplasmoparae, Scleroulivirus rhoplasmoparae, Scleroulivirus sigmaplasmoparae,* *Scleroulivirus oidiodendronae.*  **Proposed genus *Betascleroulivirus***  We propose to move the species *Pyricularia scleroulivirus 2* from the genus *Scleroulivirus* to the proposed genus *Betascleroulivirus,* and rename it as *Betascleroulivirus pyriculariae*.  We propose thirteen new species for this genus as well: *Betascleroulivirus botrytidis, Betascleroulivirus alphaplasmoparae, Betascleroulivirus betaplasmoparae, Betascleroulivirus gammaplasmoparae, Betascleroulivirus deltaplasmoparae, Betascleroulivirus epsilonplasmoparae, Betascleroulivirus zetaplasmoparae, Betascleroulivirus etaplasmoparae, Betascleroulivirus thetaplasmoparae, Betascleroulivirus iotaplasmoparae, Betascleroulivirus kappaplasmoparae, Betascleroulivirus lambdaplasmoparae, Betascleroulivirus miplasmoparae*.  **Proposed genus *Gammascleroulivirus***  We propose two new species to be classified in this genus: *Gammascleroulivirus alphaplasmoparae*, *Gammascleroulivirus betaplasmoparae.*  **Proposed genus *Deltascleroulivirus***  We propose three new species in this genus: *Deltascleroulivirus botrytidis*, *Deltascleroulivirus alphaplasmoparae*, *Deltascleroulivirus betaplasmoparae*.  **Proposed genus *Epsilonscleroulivirus***  A unique species named *Epsilonscleroulivirus plasmoparae* is proposed to be classified in this new genus.  **Recognized genus *Penoulivirus***  We propose to classify the virus Botrytis cinerea ourmia-like virus 9 in the species *Sclerotinia penoulivirus*, and the virus Plasmopara viticola lesion associated ourmia-like virus 86 as a member of the species *Phaeoacremonium penoulivirus*.  Furthermore, we propose fourteen new species for this genus: *Penoulivirus malus, Penoulivirus macrophominae, Penoulivirus alphabotrytidis, Penoulivirus betabotrytidis, Penoulivirus gammabotrytidis, Penoulivirus alphaplasmoparae, Penoulivirus betaplasmoparae, Penoulivirus gammaplasmoparae, Penoulivirus deltaplasmoparae, Penoulivirus epsilonplasmoparae, Penoulivirus zetaplasmoparae, Penoulivirus etaplasmoparae, Penoulivirus thetaplasmoparae, Penoulivirus iotaplasmoparae*.  **Recognized genus *Rhizoulivirus***  We propose three new species to be classified in this genus: *Rhizoulivirus alpharhizoctoniae, Rhizoulivirus betarhizoctoniae, and Rhizoulivirus ganmmarhizoctoniae*.  **Proposed genus *Betarhizoulivirus***  A unique specie is proposed for this new genus, named *Betarhizoulivirus* *solani.*  The demarcation criteria for species (>90% aa identity between members of the same species) and genera (>30% aa identity between members of the same genus) in the family *Botourmiaviridae* support the proposed classification in different genera and species (Figures 2). | |

**Supporting evidence**

**Table 1** Proposed organization of the family *Botourmiaviridae*

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| **Genus** | **Species** | **Virus name/Acronym** | **Accession number (N/P)** | **Host** | **Reference** |
| ***Botoulivirus*** | *Botoulivirus alphabotrytidis* | Botrytis cinerea ourmia-like virus 4 /BcOLV4 | MN605470/QJT73670 | Fungi, *Botrytis* *cinerea* | [1] |
| *Botoulivirus betabotrytidis* | Botrytis cinerea ourmia-like virus 11 /BcOLV11 | MN605477/QJT73677 | Fungi, *Botrytis* *cinerea* | [1] |
| *Botoulivirus gammabotrytidis* | Botrytis cinerea ourmia-like virus 12 /BcOLV12 | MN605478/QJT73678 | Fungi, *Botrytis* *cinerea* | [1] |
|  | Sclerotinia minor botoulivirus 1/SmBV1 | MN599068/QHR78948 | *Sclerotinia* *minor* | [2] |
| *Botoulivirus deltabotrytidis* | Botrytis cinerea ourmia-like virus 13 /BcOLV13 | MN605479/QJT73679 | Fungi, *Botrytis* *cinerea* | [1] |
| *Botoulivirus epsilonbotrytidis* | Botrytis cinerea ourmia-like virus 14 /BcOLV14 | MN605480/QJT73680 | Fungi, *Botrytis* *cinerea* | [1] |
| *Botoulivirus zetabotrytidis* | Botrytis cinerea ourmia-like virus 15 /BcOLV15 | MN605481/QJT73681 | Fungi, *Botrytis* *cinerea* | [1] |
| *Botoulivirus etabotrytidis* | Botrytis cinerea ourmia-like virus 16 /BcOLV16 | MN605482/QJT73682 | Fungi, *Botrytis* *cinerea* | [1] |
| *Botoulivirus thetabotrytidis* | Botrytis cinerea ourmia-like virus 17 /BcOLV17 | MN605483/QJT73683 | Fungi, *Botrytis* *cinerea* | [1] |
| *Botoulivirus alphaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 3/PvaOLV3 | MN532590/QGY72533 | Fungi, *Botrytis* *cinerea* | [1] |
| *Botoulivirus betaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 56/PvaOLV56 | MN532643/QGY72586 | Oomycete, *Plasmopara viticola* | [3] |
| *Botoulivirus gammaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 57/PvaOLV57 | MN532644/QGY72587 | Oomycete, *Plasmopara viticola* | [3] |
| *Botoulivirus deltaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 58/PvaOLV58 | MN532645/QGY72588 | Oomycete, *Plasmopara viticola* | [3] |
| *Botoulivirus epsilonplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 59/PvaOLV59 | MN532646/QGY72589 | Oomycete, *Plasmopara viticola* | [3] |
| *Botoulivirus zetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 61/PvaOLV61 | MN532648/QGY72591 | Oomycete, *Plasmopara viticola* | [3] |
| *Botoulivirus etaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 81/PvaOLV81 | MN532668/QGY72611 | Oomycete, *Plasmopara viticola* | [3] |
| *Betabotoulivirus* | *Betabotoulivirus alphaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 1/PvaOLV1 | MN532588/QGY72531 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betabotoulivirus betaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 2/PvaOLV2 | MN532589/QGY72532 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betabotoulivirus gammaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 4/PvaOLV4 | MN532591/QGY72534 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betabotoulivirus deltaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 52/PvaOLV52 | MN532639/QGY72582 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betabotoulivirus epsilonplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 53/PvaOLV53 | MN532640/QGY72583 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betabotoulivirus zetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 54/PvaOLV54 | MN532641/QGY72584 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betabotoulivirus etaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 55/PvaOLV55 | MN532642/QGY72585 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betabotoulivirus thetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 60/PvaOLV60 | MN532647/QGY72590 | Oomycete, *Plasmopara viticola* | [3] |
| ***Magoulivirus*** | ***Cladosporium magoulivirus 1*** | Plasmopara viticola lesion associated ourmia-like virus 30/PvaOLV30 | MN532617/QGY72560 | Oomycete, *Plasmopara viticola* | [3] |
|  | Plasmopara viticola lesion associated ourmia-like virus 32/PvaOLV32 | MN532619/QGY72562 | Oomycete, *Plasmopara viticola* | [3] |
| ***Cladosporium magoulivirus 2*** | Plasmopara viticola lesion associated ourmia-like virus 28/PvaOLV28 | MN532615/QGY72558 | Oomycete, *Plasmopara viticola* | [3] |
| ***Phaeoacremonium magoulivirus*** | Plasmopara viticola lesion associated ourmia-like virus 31/PvaOLV31 | MN532618/QGY72561 | Oomycete, *Plasmopara viticola* | [3] |
|  | Plasmopara viticola lesion associated ourmia-like virus 33/PvaOLV33 | MN532620/QGY72563 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus alphabotrytidis* | Botrytis cinerea ourmia-like virus 6 /BcOLV6 | MN605472/QJT73672 | Fungi, *Botrytis cinerea* | [1] |
|  | Botrytis cinerea ourmia-like virus 8 /BcOLV8 | MN605474/QJT73674 | Fungi, *Botrytis cinerea* | [1] |
| *Magoulivirus betabotrytidis* | Botrytis cinerea ourmia-like virus 7 /BcOLV7 | MN605473/QJT73673 | Fungi, *Botrytis cinerea* | [1] |
| *Magoulivirus alphamacrophominae* | Macrophomina phaseolina ourmia-like virus 2/MpOLV2 | MT062429/QOE55587 | Fungi, *Macrophomina phaseolina* | [4] |
| *Magoulivirus betamacrophominae* | Macrophomina phaseolina ourmia-like virus 2-A/MpOLV2-A | MT062430/QOE55588 | Fungi, *Macrophomina phaseolina* | [4] |
| *Magoulivirus malus* | Apple ourmia-like virus 3/AOLV3 | MN386963/QIC52830 | Plant, *Malus domestica* | [5] |
| *Magoulivirus alphaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 5/PavOLV5 | MN532592/QGY72535 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus betaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 6/PavOLV6 | MN532593/QGY72536 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus gammaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 7/PavOLV7 | MN532594/QGY72537 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus deltaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 8/PavOLV8 | MN532595/QGY72538 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus epsilonplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 9/PavOLV9 | MN532596/QGY72539 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus zetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 10/PavOLV10 | MN532597/QGY72540 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus etaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 11/PavOLV11 | MN532598/QGY72541 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus thetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 12/PavOLV12 | MN532599/QGY72542 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus iotaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 13/PavOLV13 | MN532600/QGY72543 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus kappaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 14/PavOLV14 | MN532601/QGY72544 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus lambdaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 15/PavOLV15 | MN532602/QGY72545 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus miplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 16/PavOLV16 | MN532603/QGY72546 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus niplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 17/PavOLV17 | MN532604/QGY72547 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus xiplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 18/PavOLV18 | MN532605/QGY72548 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus omicronplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 19/PavOLV19 | MN532606/QGY72549 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus piplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 20/PavOLV20 | MN532607/QGY72550 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus rhoplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 21/PavOLV21 | MN532608/QGY72551 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus sigmaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 22/PavOLV22 | MN532609/QGY72552 | Oomycete, *Plasmopara viticola* | [3] |
| *Magoulivirus tauplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 23/PavOLV23 | MN532610/QGY72553 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Magoulivirus ipsilonplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 24/PavOLV24 | MN532611/QGY72554 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Magoulivirus fiplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 25/PavOLV25 | MN532612/QGY72555 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Magoulivirus jiplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 26/PavOLV26 | MN532613/QGY72556 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Magoulivirus psiplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 29/PavOLV29 | MN532614/QGY72557 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Magoulivirus omegaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 27/PavOLV27 | MN532616/QGY72559 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Magoulivirus viticolae* | Plasmopara viticola lesion associated ourmia-like virus 36/PavOLV36 | MN532623/QGY72566 | Oomycete, *Plasmopara viticola* | [3] |
| ***Scleroulivirus*** | ***Soybean scleroulivirus 2*** | Plasmopara viticola lesion associated ourmia-like virus 65/PavOLV65 | MN532652/QGY72595 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus alphaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 44/PavOLV44 | MN532631/QGY72574 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus betaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 46/PavOLV46 | MN532633/QGY72576 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus gammaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 47/PavOLV47 | MN532634/QGY72577 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus deltaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 62/PavOLV62 | MN532649/QGY72592 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus epsilonplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 63/PavOLV63 | MN532650/QGY72593 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus zetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 66/PavOLV66 | MN532653/QGY72596 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus etaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 68/PavOLV68 | MN532655/QGY72598 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus thetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 69/PavOLV69 | MN532656/QGY72599 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus iotaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 70/PavOLV70 | MN532657/QGY72600 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus kappaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 71/PavOLV71 | MN532658/QGY72601 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus lambdaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 72/PavOLV72 | MN532659/QGY72602 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus miplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 73/PavOLV73 | MN532660/QGY72603 | Oomycete, *Plasmopara viticola* | [3] |
| *Scleroulivirus niplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 74/PavOLV74 | MN532661/QGY72604 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Scleroulivirus xiplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 75/PavOLV75 | MN532662/QGY72605 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Scleroulivirus omicronplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 76/PavOLV76 | MN532663/QGY72606 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Scleroulivirus piplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 77/PavOLV77 | MN532664/QGY72607 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Scleroulivirus rhoplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 78/PavOLV78 | MN532665/QGY72608 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Scleroulivirus sigmaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 79/PavOLV79 | MN532666/QGY72609 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Scleroulivirus oidiodendronae* | Oidiodendron maius ourmia-like virus 1/OmOLV1 | MN736966/QNN89181 | Fungi, *Oidiodendron maius* | [6] |
| *Betascleroulivirus* | *Betascleroulivirus botrytidis* | *Botrytis cinerea ourmia-like virus 10/BcOLV10* | MN605476/QJT73676 | Fungi, *Botrytis cinerea* | [1] |
|  | *Betascleroulivirus alphaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 34/PavOLV34 | MN532621/QGY72564 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus betaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 35/PavOLV35 | N532622/QGY72565 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus gammaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 37/PavOLV37 | MN532624/QGY72567 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus deltaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 38/PavOLV38 | MN532625/QGY72568 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus epsilonplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 39/PavOLV39 | MN532626/QGY72569 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus zetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 40/PavOLV40 | MN532627/QGY72570 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus etaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 41/PavOLV41 | MN532628/QGY72571 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus thetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 42/PavOLV42 | MN532629/QGY72572 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus iotaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 43/PavOLV43 | MN532630/QGY72573 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus kappaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 48/PavOLV48 | MN532635/QGY72578 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus lambdaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 51/PavOLV51 | MN532638/QGY72581 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Betascleroulivirus miplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 67/PavOLV67 | MN532654/QGY72597 | Oomycete, *Plasmopara viticola* | [3] |
| *Gammascleroulivirus* | *Gammascleroulivirus alphaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 49/PavOLV49 | MN532636/QGY72579 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Gammascleroulivirus betaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 50/PavOLV50 | MN532637/QGY72580 | Oomycete, *Plasmopara viticola* | [3] |
| *Deltascleroulivirus* | *Deltascleroulivirus botrytidis* | Botrytis cinerea ourmia-like virus 5 /BcOLV5 | MN605471/QJT73671 | Fungi, *Botrytis cinerea* | [1] |
|  | *Deltascleroulivirus alphaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 64/PavOLV64 | MN532651/QGY72594 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Deltascleroulivirus betaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 80/PavOLV80 | MN532667/QGY72610 | Oomycete, *Plasmopara viticola* | [3] |
| *Epsilonscleroulivirus* | *Epsilonscleroulivirus plasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 45/PavOLV45 | MN532632/QGY72575 | Oomycete, *Plasmopara viticola* | [3] |
| ***Penoulivirus*** | *Penoulivirus malus* | Apple ourmia-like virus 2/AOLV2 | MN386962/QIC52829 | Plant, *Malus domestica* | [5] |
| *Penoulivirus macrophominae* | Macrophomina phaseolina ourmia-like virus 3/MpOVL3 | MT062431/QOE55589 | Fungi, *Macrophomina phaseolina* | [4] |
| *Penoulivirus*  *alphabotrytidis* | Botrytis cinerea ourmia-like virus 1 /BcOLV1 | MN605467/QJT73667 | Fungi, *Botrytis cinerea* | [1] |
| *Penoulivirus betabotrytidis* | Botrytis cinerea ourmia-like virus 2 /BcOLV2 | MN605468/QJT73668 | Fungi, *Botrytis cinerea* | [1] |
| *Penoulivirus*  *gammabotrytidis* | Botrytis cinerea ourmia-like virus 3/BcOLV3 | MN605469/QJT73669 | Fungi, *Botrytis cinerea* | [1] |
| ***Sclerotinia penoulivirus*** | Botrytis cinerea ourmia-like virus 9 /BcOLV9 | MN605475/QJT73675 | Fungi, *Botrytis cinerea* | [1] |
| *Penoulivirus alphaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 82/PvaOLV82 | MN532669/QGY72612 | Oomycete, *Plasmopara viticola* | [3] |
| *Penoulivirus betaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 83/PvaOLV83 | MN532670/QGY72613 | Oomycete, *Plasmopara viticola* | [3] |
| *Penoulivirus gammaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 84/PvaOLV84 | MN532671/QGY72614 | Oomycete, *Plasmopara viticola* | [3] |
| *Penoulivirus deltaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 85/ PvaOLV85 | MN532672/QGY72615 | Oomycete, *Plasmopara viticola* | [3] |
| ***Phaeoacremonium penoulivirus*** | Plasmopara viticola lesion associated ourmia-like virus 86/PvaOLV86 | MN532673/QGY72616 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Penoulivirus epsilonplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 87/PvaOLV87 | MN532674/QGY72617 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Penoulivirus zetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 88/PvaOLV88 | MN532675/QGY72618 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Penoulivirus etaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 89/PvaOLV89 | MN532676/QGY72619 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Penoulivirus thetaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 90/PvaOLV90 | MN532677/QGY72620 | Oomycete, *Plasmopara viticola* | [3] |
|  | *Penoulivirus iotaplasmoparae* | Plasmopara viticola lesion associated ourmia-like virus 91/PvaOLV91 | MN532678/QGY72621 | Oomycete, *Plasmopara viticola* | [3] |
| ***Rhizoulivirus*** | *Rhizoulivirus alpharhizoctoniae* | Rhizoctonia solani ourmia-like virus 2/RsOLV2 | MK372906/QDW65427 | Fungi, *Rhizoctonia solani* | [7] |
|  | *Rhizoulivirus betarhizoctoniae* | Rhizoctonia solani ourmia-like virus 3/RsOLV3 | MK372907/QDW65428 | Fungi, *Rhizoctonia solani* | [7] |
|  | *Rhizoulivirus gammarhizoctoniae* | Rhizoctonia solani ourmia-like virus 4/RsOLV4 | MK372908/QDW65429 | Fungi, *Rhizoctonia solani* | [7] |
| *Betarhizoulivirus* | *Betarhizoulivirus solani* | Rhizoctonia solani ourmia-like virus 5/RsOLV5 | MK372909/QDW65430 | Fungi, *Rhizoctonia solani* | [7] |

Note: Names of currently established/recognized taxa are reported in bold.

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**Figure 1** Phylogenetic tree of the expanded and reorganized family *Botourmiaviridae*. A maximum likelihood phylogenetic tree was constructed based on the multiple amino acid sequence alignment (Clustal Omega) of the RNA directed RNA polymerase (RdRP) using IQ-TREE (version 1.6.11) [8, 9] with the best-fit model “VT+F+R8” and 1,000 replicates ultrafast bootstrap [10]. Viruses classified in genus *Narnavirus* were used as outgroups.

**Fig. 2A.** Family *Botourmiaviridae* (overall)



***Botoulivirus***

**Betabotoulivirus**

***Magoulivirus***

***Scleroulivirus***

**Epsilonscleroulivirus**

**Deltascleroulivirus**

**Gammascleroulivirus**

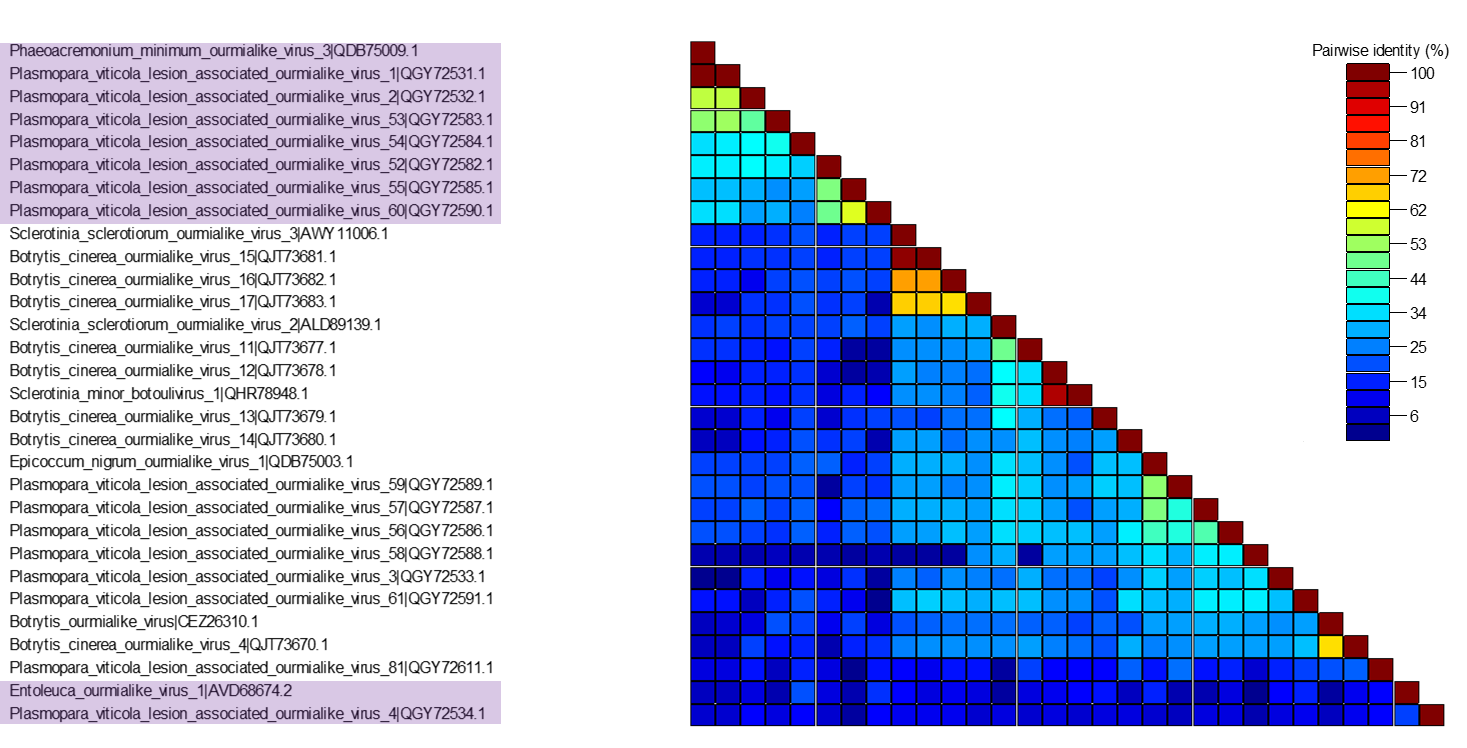
**Betascleroulivirus**

**Betascleroulivirus**

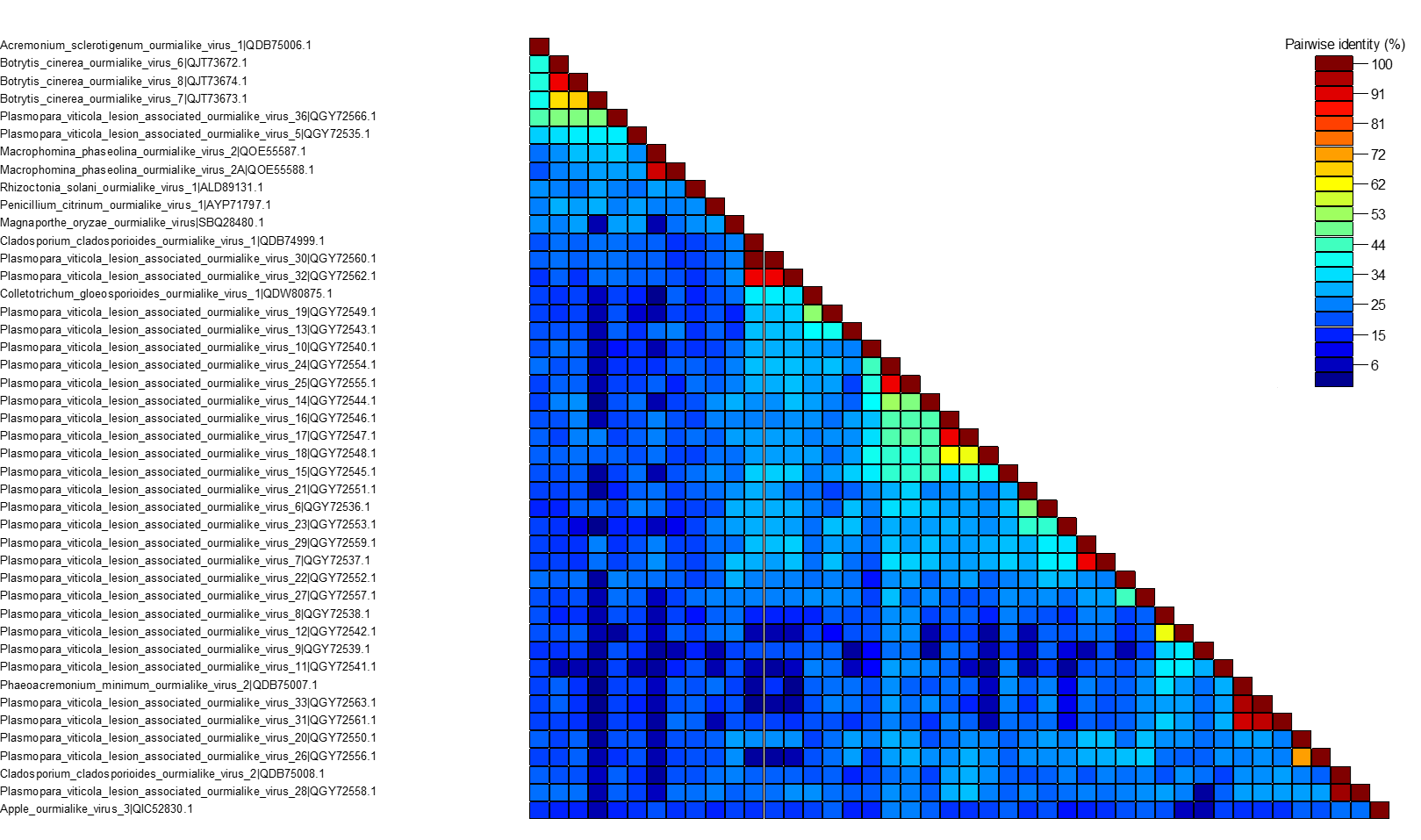
***Rhizoulivirus***

**Betarhizoulivirus**

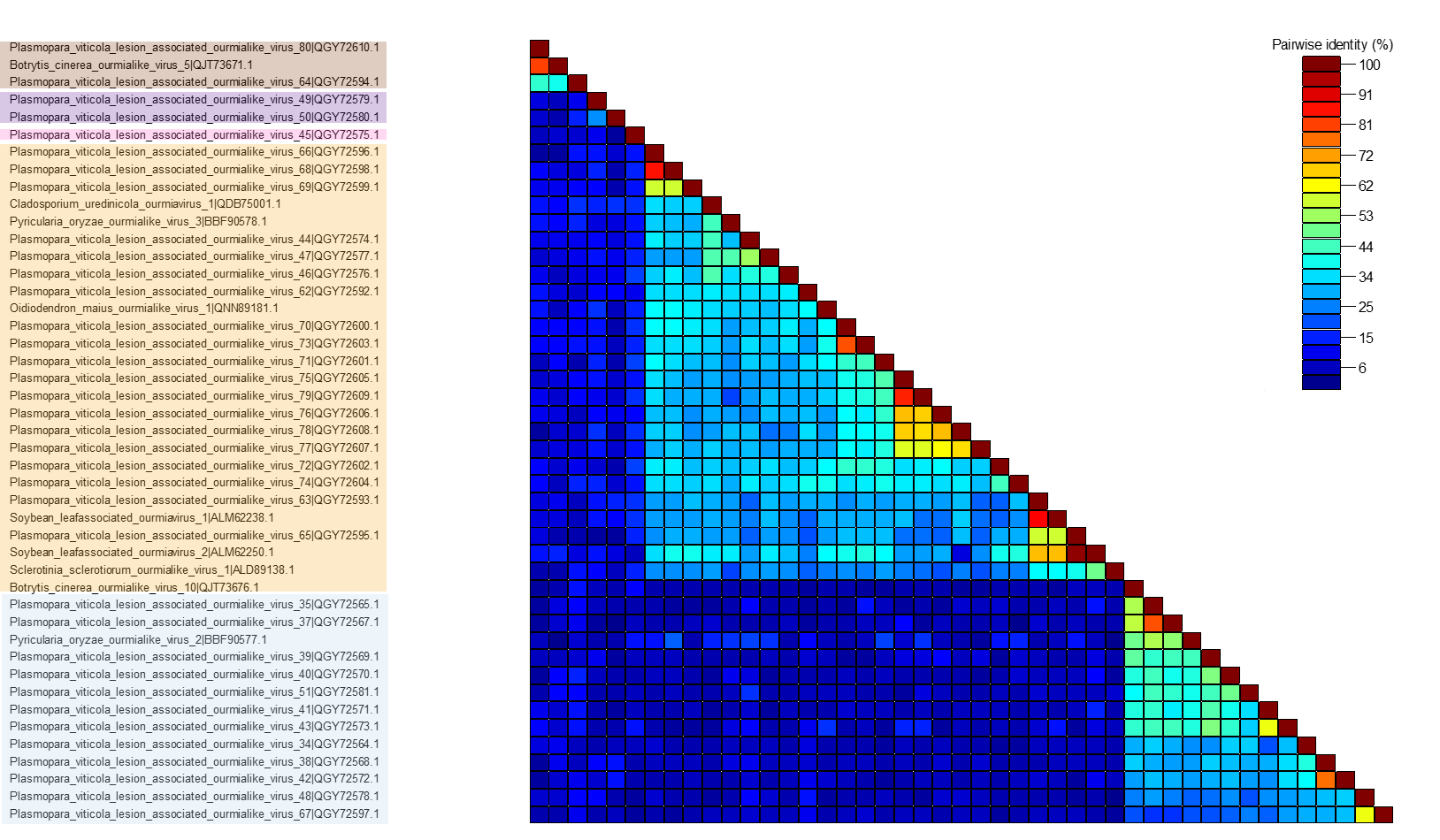
**Fig 2B.** Genera *Botoulivirus* and *Betabotoulivirus* (highlighted in purple)



**Fig. 2C.** Genus *Magoulivirus*



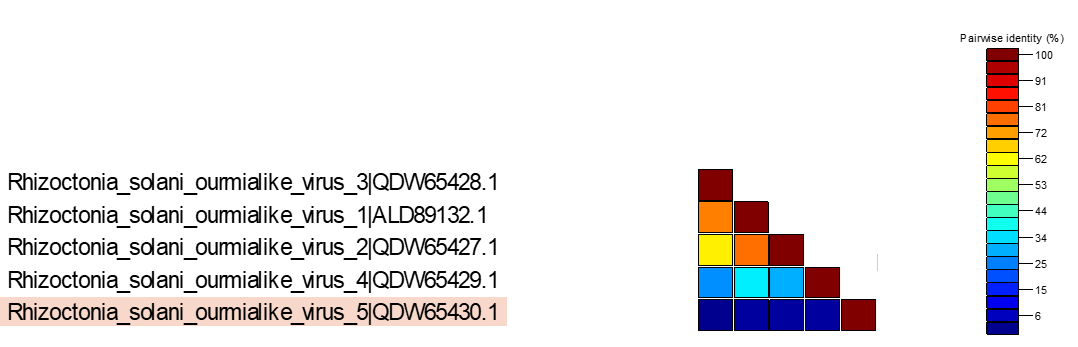
**Fig. 2D.** Genera *Scleroulivirus* (highlighted in orange), *Betascleroulivirus* (highlighted in blue), *Gammascleroulivirus* (highlighted in purple), *Deltascleroulivirus* (highlighted in brown) and *Epsilonscleroulivirus* (highlighted in pink).



**Fig. 2E.** Genus *Penoulivirus*



**Fig. 2F.** Genera *Rhizoulivirus* and *Betarhizoulivirus* (highlighted in red)

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**Figure 2 (A-F)** Matrix diagrams of amino acid identities of RdRp proteins among members of the genera in the family *Botourmiaviridae*. The percent identity matrixes were created via multiple sequence alignment using Clustal Omega and were color represented using the Sequence Demarcation Tool Version 1.2 [11].

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