

Human outbreaks of a novel reassortant Oropouche virus in the Brazilian Amazon region

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Table S1. Recombination analysis using RDP5.

Recombinant Sequence(s)	Minor Parental Sequence(s)	Major Parental Sequence(s)	RDP	Geneconv	Bootscan	Maxchi	Chimaera	SiScan	PhylPro	LARD	3Seq
L segment											
Haiti/GressierRegion/Haiti-1/MN264267 2014-	Colombia/NortedeSantander/Cucuta/0200178W/O plus others. ¹	Brasil/Para/Belem/H853382/MT879228 2018-03-	5.5E-09	6.4E-07	NS	NS	NS	NS	NS	NS	4.9E-04
M segment											
BR/PA/SerraPelada/BeH532422/MG747561 1994	BR/PA/SerraPelada/BeH532490/MG747564 1994plus others. ²	Unknown	7.2E-05	1.6E-03	NS	2.2E-04	9.7E-03	3.2E-07	NS	NS	3.1E-04
BR/RO/MachadinhoDOeste/BeH498913/MG747603 1990	Unknown	BR/PA/Maracana/BeAn206119/MG747540 1971 plus others. ³	NS	NS	NS	1.2E-04	0.021	0.010	NS	NS	7.9E-03
BR/RO/Ariquemes/BeH505768/MG747606 1991-03	Unknown	BR/PA/MagalhaesBarata/BeH707287/MG747597 2006 plus others. ⁴	6.8E-03	NS	NS	1.2E-04	1.8E-04	0.010	NS	NS	5.7E-03
BR/AC/Xapuri/BeH543100/MG747504 1996	BR/PA/Belem/BeH29086/MG747528 1961 BR/PA/Ipixuna/BeAr19886/MG747525 1960	BR/PA/SerraPelada/BeH532490/MG747564 1994 plus others. ⁵	NS	NS	NS	1.3E-04	0.011	0.017	NS	NS	NS

¹ Colombia/FCT00025/MK643117|2017-09-09. Equador/Esmeraldas/087/MF926354|2016-04-01. Equador/Esmeraldas/D-155/MK506829|2016-04. Equador/Esmeraldas/D-171/MK506830|2016-04. Equador/Esmeraldas/D-057/MK506828|2016-04. Equador/Esmeraldas/D-210/MK506832.1|2016-04. Equador/Esmeraldas/D-206/MK506831|2016-04.

² BR/MA/PortoFranco/BeH472435/MG747516|1988. BR/AM/Manaus/BeH389865/MG747507|1980-12. BR/PA/Altamira/BeH541140/MG747570|1994.

³ AF441119_Oropouche_virus. BR/MA/PortoFranco/BeH472435/MG747516|1988. BR/PA/Oriximina/BeH543629/MG747573|1996. BR/PA/Maracana/BeAn208819/MG747546|1971. BR/AM/Manaus/BeH389865/MG747507|1980-12. BR/AM/Manaus/BeH390242/MG747510|1980-12. BR/PA/Ananindeua/BeH355173/MG747549|1978. BR/PA/PortodeMoz/PMOH682426/MG747588|2004. BR/PA/PortodeMoz/PMOH682431/MG747591|2004. BR/PA/Oriximina/BeH543857/MG747579|1996. BR/PA/Parauapebas/H669315/MG747585|2003. BR/PA/SerraPelada/BeH532314/MG747558|1994. BR/PA/Altamira/BeH541140/MG747570|1994. BR/MA/BarradoCorda/BeH521086/MG747519|1993-04. BR/PA/MagalhaesBarata/BeH707287/MG747597|2006. BR/PA/SerraPelada/BeH532500/MG747567|1994. BR/PA/Oriximina/BeH543760/MG747576|1996. BR/PA/SerraPelada/BeH532490/MG747564|1994. BR/PA/Maracana/BeH708717/MG747600|2006.

⁴ AF441119_Oropouche_virus. BR/MA/PortoFranco/BeH472435/MG747516|1988. BR/PA/Oriximina/BeH543629/MG747573|1996. BR/PA/Maracana/BeAn208819/MG747546|1971. BR/AM/Manaus/BeH389865/MG747507|1980-12. BR/PA/MagalhaesBarata/BeH708139/MG747594|2006. BR/PA/Maracana/BeAn208402/MG747543|1971. BR/AM/Manaus/BeH390242/MG747510|1980-12. BR/PA/Ananindeua/BeH355173/MG747549|1978. BR/PA/PortodeMoz/H669314/MG747582|2003. BR/PA/PortodeMoz/PMOH682426/MG747588|2004. BR/PA/PortodeMoz/PMOH682431/MG747591|2004. BR/PA/Oriximina/BeH543857/MG747579|1996. BR/PA/Parauapebas/H669315/MG747585|2003. BR/PA/SerraPelada/BeH532314/MG747558|1994. BR/PA/Altamira/BeH541140/MG747570|1994. BR/MA/BarradoCorda/BeH521086/MG747519|1993-04. BR/PA/SerraPelada/BeH532500/MG747567|1994. BR/PA/Maracana/BeAn206119/MG747540|1971. BR/PA/Oriximina/BeH543760/MG747576|1996. BR/PA/SerraPelada/BeH532490/MG747564|1994. BR/PA/Maracana/BeH708717/MG747600|2006. BR/PA/Belem/BeAr366927/MG747552|1979-05-29. BR/PA/Belem/BeH385591/MG747555|1980. BR/PA/Braganca/BeH121923/MG747534|1967. BR/MA/PortoFranco/BeH472433/MG747513|1988.

⁵ BR/MA/PortoFranco/BeH472435/MG747516|1988. BR/PA/Oriximina/BeH543629/MG747573|1996. BR/PA/Maracana/BeAn208819/MG747546|1971. BR/AM/Manaus/BeH389865/MG747507|1980-12. BR/PA/Ananindeua/BeH355173/MG747549|1978. BR/PA/PortodeMoz/H669314/MG747582|2003. BR/PA/PortodeMoz/PMOH682431/MG747591|2004. BR/PA/Oriximina/BeH543857/MG747579|1996. BR/PA/Parauapebas/H669315/MG747585|2003. BR/PA/SerraPelada/BeH532314/MG747558|1994. BR/PA/Altamira/BeH541140/MG747570|1994. BR/PA/MagalhaesBarata/BeH707287/MG747597|2006. BR/PA/SerraPelada/BeH532500/MG747567|1994. BR/PA/Maracana/BeAn206119/MG747540|1971. BR/PA/Oriximina/BeH543760/MG747576|1996. BR/PA/Belem/BeAr366927/MG747552|1979-05-29.

Table S2. Primers designed and used to sequence near-to-complete Oropouche virus genomes in this study.

Name	Sequence	Sequence Length
OROV_L_v2_1_LEFT	ACAATCTCAAAATGTCGCAACTGTT	25
OROV_L_v2_1_RIGHT	TGAAGGATCCAACCTGATAATAACGA	26
OROV_L_v2_2_LEFT	CGGTCTCCAGAATTACAAGAGAGAA	26
OROV_L_v2_2_RIGHT	CTGCTCCGAATGATTGAATTCCAA	25
OROV_L_v2_3_LEFT	ACTCCAGAATTGCTTACTCATCCT	24
OROV_L_v2_3_LEFT_alt	ACTCCAGAATTGCTTGCTCATCCT	24
OROV_L_v2_3_RIGHT	CCACTCATGGCTTGCAATGATT	23
OROV_L_v2_4_LEFT	ACCAAGCATACATTTTATATGGGCAC	26
OROV_L_v2_4_RIGHT	AGGCTTATCGGTATTATGTCATTGTTAG	30
OROV_L_v2_5_LEFT	ACGGATGTCATAAAAAGAGAAGACAGA	27
OROV_L_v2_5_RIGHT	TTGCACATGAGACAATCCTAAAGG	25
OROV_L_v2_6_LEFT	CCAAGTACTGGCAATGCATCAAC	23
OROV_L_v2_6_RIGHT	GAAAAGCCTAGTAACCTATCAAACCTAGAC	31
OROV_L_v2_7_LEFT	AGAAAGGTGTCAGCGCATAGTG	22
OROV_L_v2_7_RIGHT	GAACCAAATGGATTAAAGATCTCTTTTGG	29
OROV_L_v2_8_LEFT	CAGAGGAAAAAGGTCCAAATAAGGG	25
OROV_L_v2_8_LEFT_alt	CAGAGGAAAAAGGTCCAAATAAGGG	25
OROV_L_v2_8_RIGHT	AAGGTGGATATTGTTGTTATAGACCTGT	28
OROV_L_v2_9_LEFT	GCAAGGAATTTGAACCTAGATACTTCAAGA	30
OROV_L_v2_9_RIGHT	TGCTTCTTCATAGTCTCTAAATCAACTTG	30
OROV_L_v2_10_LEFT	TGTCCGTAAAAAGTTTTGACAGACT	25
OROV_L_v2_10_LEFT_alt	TGTCTGTAAAAAGTTTTGATAGACT	25
OROV_L_v2_10_LEFT_alt1	TGTCTGTAAAAAGTTTTGATAGATT	25
OROV_L_v2_10_RIGHT	CCCTCGTGCCTTACTTTCACAT	22
OROV_L_v2_10_RIGHT_alt	CCCTCGTGCCTTACTTTCACAT	22
OROV_L_v2_10_RIGHT_alt1	CCCTCGTGCTTTACTTTCACAT	22
OROV_L_v2_11_LEFT	TCAGCAACACAATAAAGACATTGGG	25
OROV_L_v2_11_RIGHT	ACTACAGCTGTGCAAGTAACTACT	24
OROV_L_v2_12_LEFT	GGGTGATGACAAACAATTATAGATCCAA	29
OROV_L_v2_12_LEFT_alt	GGGGTGATGACAAACAATTATAGATCCAA	29
OROV_L_v2_12_RIGHT	GCAGTAAGCAAAAACCTCCCGT	22
OROV_L_v2_13_LEFT	GGAAATCAGGCAACATGAAAAAGAC	26
OROV_L_v2_13_RIGHT	GTGACATTCCCCTTCTAAACC	23
OROV_L_v2_14_LEFT	AAATACCAGTGGAGATGTGCGG	22
OROV_L_v2_14_RIGHT	GCTCGTTTGTCTTATCCTCATCTGT	25
OROV_L_v2_15_LEFT	TTAACACCTCGTAAATTCACAACGA	25
OROV_L_v2_15_RIGHT	AAGTTGCTTAAATCATCTACAATCTGGAC	29
OROV_L_v2_16_LEFT	AGCATACATGATAAGATTTTGGATTGCA	29
OROV_L_v2_16_RIGHT	TGTGCTTTGTATGAAATCTCCAGATG	27
OROV_L_v2_17_LEFT	TGTGAGAGGGCCAACAAATGTG	22

OROV L v2 17 RIGHT	TCCAATTCAGGTGAGGACGAGA	22
OROV L v2 18 LEFT	GCGCACTGACAGGGAACCTAAT	22
OROV L v2 18 RIGHT	TGGTCCGGTGTTTCATGTCTCT	21
OROV_L_v2_18_RIGHT_alt	TGGTCCAGTGTTTCATATCTCT	21
OROV L v2 19 LEFT	TTGGACAAGTTTGATGCAGATAAATCA	27
OROV L v2 19 RIGHT	AGGAACCCATTTTGAATCTCTGTTTAAAC	28
OROV L v2 19 RIGHT alt	AGGAACCCATTTTGAATCTCTGTTTAAAC	28
OROV L v2 20 LEFT	GGTACTTCTATTCTATATTGCCACCC	27
OROV L v2 20 LEFT alt	GGTACTTCTATTCTATATTGCCACCC	27
OROV L v2 20 RIGHT	TTGGTCATTTTCACTGCCATTGC	23
OROV L v2 21 LEFT	TCTATCAGAGTTAATGAAATCCACATCCT	29
OROV L v2 21 RIGHT	TTGTCTAGTTCTGTGGACCACTG	23
OROV_L_v2_22_LEFT	GCATTCGACTTTCTTGACATGGG	23
OROV_L_v2_22_RIGHT	TGGATTTCCAGTTTCTTACTTTTGT	27
OROV_M_400_1_LEFT	GCAACAAACAGTGACAATGGCG	22
OROV_M_400_1_LEFT_alt1	ACCAGCAACAAACAGTGACA	20
OROV_M_400_1_RIGHT	GCTGCTCTACATGTGTACATTTTAGG	26
OROV_M_400_2_LEFT	TCTGAGTGCAATCCAGTGCTAGA	23
OROV_M_400_2_LEFT_alt1	TCTGAATGCAATCCAGTGTTAGA	23
OROV_M_400_2_LEFT_alt2	TCTGAATGTAATCCAGTGCTAGA	23
OROV_M_400_2_RIGHT	ACATTGCTTCAATCATTGAGTATGGC	26
OROV_M_400_3_LEFT	TGTGGTCAGAAATCAATAAAATTCATGC	29
OROV_M_400_3_RIGHT	GCACCTTAAGAGCTTCTGTGCA	22
OROV_M_400_4_LEFT	CCTGCCCAAATTGTCTACTTGCA	23
OROV_M_400_4_RIGHT	AAATGCTGAAAAGCCGGTTGAAT	23
OROV_M_400_4_RIGHT_alt1	AAATGTTGAAAAGCCGGTTGAAT	23
OROV_M_400_5_LEFT	AGAAATGGAAGTCTTGAAGCAGTCA	25
OROV_M_400_5_RIGHT	CAAGCAATCTTCATCTGCATAAACTGT	27
OROV_M_400_6_LEFT	TGCAAAATTTAGTCCAAGAGTAAACCACT	28
OROV_M_400_6_RIGHT	GCGCCAGGCAACATTATAAGGT	22
OROV_M_400_7_LEFT	AGTTTGCCCAAGATTCACATAGAATGA	27
OROV_M_400_7_RIGHT	GCCTTAAGAGCATCAGAGTCATCT	24
OROV_M_400_8_LEFT	GCTGACCTGAACACCATAATGGA	23
OROV_M_400_8_LEFT_alt1	GCTGACCTGAATACCATAATGGA	23
OROV_M_400_8_RIGHT	AAAGCAGGTGGTTTGTATGCGG	22
OROV_M_400_8_RIGHT_alt1	AAAGCAGGTGATTTGTGTGCGG	22
OROV_M_400_8_RIGHT_alt2	AAAGTAGGTGATTTGTGTGCGG	22
OROV_M_400_9_LEFT	ACGAAATTCCTAAATCTAATCCTTTTACTG	30
OROV_M_400_9_RIGHT	CCACAGAATACGATCGGCCATG	22
OROV_M_400_10_LEFT	CGCAACCAGCAGATATGCAGAC	22
OROV_M_400_10_RIGHT	GTGGAAGGTTCTTTGTGGGCTT	22
OROV_M_400_11_LEFT	AGACCCACAAAGAATTTAGCACTATGA	27
OROV_M_400_11_RIGHT	CAGGAATCTTTTCGGGGCAGTG	22
OROV_M_400_12_LEFT	AGCACAGTACCAGAAAGCATACAC	24
OROV_M_400_12_RIGHT	AGGGTCGGAAGTTGGTTAGTCT	22

OROV M 400 13 LEFT	ACTTTGCCTCATGAACTTATTGCAA	26
OROV_M_400_13_RIGHT	TTTGGCCCATGTTTGATCCTGT	22
OROV_M_400_14_LEFT	TGACAATTATCAGTCATGCACTAGGTT	27
OROV_M_400_14_RIGHT	ATGTCTCTCCACAGATATGTGCT	24
OROV M 400 15 LEFT	CTGCCATTGTAAAACAACTGTGAAGA	27
OROV M 400 15 RIGHT	CCGACCTATGGGCAACAGGATAT	23
OROV M 400 16 LEFT	ACAATCAGAAGATAGATTGTCGCAGTT	28
OROV M 400 16 RIGHT	TGTGCTACCAACAACAATTTTGGACT	26
OROV S 400 1 LEFT	TCCAATAATGTCAGAGTTCATTTCAATGA	30
OROV S 400 1 RIGHT	GCCCTAAACTCAGCTTGCTTAATTGG	26
OROV S 400 2 LEFT	CAGTTCCAGTCGAATCCAGTGC	22
OROV S 400 2 RIGHT	TCTCTTGCTGCTGGGAGAATC	22
OROV_S_400_3_LEFT	CGGCATGGATGTCAACTTTATGAAG	25
OROV_S_400_3_RIGHT	TGACATAGCTTCCCAACCAC	22

Using these primers, we were able to sequence 87.2%, 98.8%, and 98.3% of the S, M, and L segments, respectively.