

1 **SUPPLEMENTAL MATERIAL**

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3 **TITLE**

4 Wildlife nidoviruses: Biology, epidemiology, and disease associations of selected nidoviruses
5 in mammals and reptiles

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7 **RUNNING TITLE**

8 Nidoviruses in wild mammals and reptiles

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24 **KEYWORDS**

25 ssRNA virus; arterivirus; reptile; mammal; emerging infectious disease; serpentovirus;
26 programmed ribosomal frameshift; ICTV; marsupial; wildlife trade; pathology; rehabilitation

27 **Supplemental Table 1:** Taxonomic classification and hosts of selected nidoviruses of vertebrate hosts in the suborders *Arnidovirideae* and
 28 *Tornidovirideae* including exemplar GenBank accession numbers.

Family	Subfamily	Genus	Species	Virus name	Virus name Abbreviation	Host (family)	Accession
Suborder Arnidovirineae							
<i>Arteriviridae</i>	<i>Crocarterivirinae</i>	<i>Muarterivirus</i>	<i>Muarterivirus afrigant</i>	Olivier's shrew virus 1	OSV-1	<i>Soricidae</i>	MF324848
<i>Arteriviridae</i>	<i>Equarterivirinae</i>	<i>Aphaarterivirus</i>	<i>Alphaarterivirus equid</i>	equine arteritis virus	EAV	<i>Equidae</i>	X53459
<i>Arteriviridae</i>	<i>Heroarterivirinae</i>	<i>Lambdaarterivirus</i>	<i>Lambdaarterivirus afriporav</i>	African pouched rat arterivirus	APRAV	<i>Nesomyidae</i>	KP026921
<i>Arteriviridae</i>	<i>Heroarterivirinae</i> ^a	unclassified	unclassified	hedgehog arterivirus-1	HhAV-1	<i>Erinaceidae</i>	MT415062
<i>Arteriviridae</i>	<i>Heroarterivirinae</i> ^b	unclassified	unclassified	PrajaV	PrajaV	<i>Muridae</i>	MW595224
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Deltaarterivirus</i>	<i>Deltaarterivirus hemfev</i>	simian haemorrhagic fever virus	SHFV	<i>Cercopithecidae</i>	AF180391
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Epsilonarterivirus</i>	<i>Epsilonarterivirus hemcep</i>	simian haemorrhagic encephalitis virus	SHEV	<i>Cercopithecidae</i>	KM677927
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Epsilonarterivirus</i>	<i>Epsilonarterivirus safriver</i>	Free State vervet virus	FSVV	<i>Cercopithecidae</i>	KR862307
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Epsilonarterivirus</i>	<i>Epsilonarterivirus zamalb</i>	Zambian malbrouck virus 1	SMbV-1	<i>Cercopithecidae</i>	KT166441
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Etaarterivirus</i>	<i>Etaarterivirus ugarco 1</i>	Kibale red colobus virus 2	KRCV-2	<i>Cercopithecidae</i>	KC787658
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Iotaarterivirus</i>	<i>Iotaarterivirus debrazmo</i>	DeBrazza's monkey arterivirus	DeMAV	<i>Cercopithecidae</i>	KP126831
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Iotaarterivirus</i>	<i>Iotaarterivirus kibreg 1</i>	Kibale red-tailed guenon virus 1	KRTGV-1	<i>Cercopithecidae</i>	JX473849
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Iotaarterivirus</i>	<i>Iotaarterivirus pejah</i>	Pebjah virus	PBJV	<i>Cercopithecidae</i>	KR139839
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Thetaarterivirus</i>	<i>Thetaarterivirus kafuba</i>	Kafue kinda chacma baboon virus	KKCBV	<i>Cercopithecidae</i>	KT447550
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Thetaarterivirus</i>	<i>Thetaarterivirus mikelba 1</i>	Mikumi yellow baboon virus 1	MYBV-1	<i>Cercopithecidae</i>	KM110938
<i>Arteriviridae</i>	<i>Simarterivirinae</i>	<i>Zetaarterivirus</i>	<i>Zetaarterivirus ugarco 1</i>	Kibale red colobus virus 1	KRCV-1	<i>Cercopithecidae</i>	KC787630
<i>Arteriviridae</i>	<i>Variarterivirinae</i>	<i>Betaarterivirus</i>	<i>Betaarterivirus suid 1</i>	porcine reproductive and respiratory syndrome virus 1	PRRSV-1	<i>Suidae</i>	M96262
<i>Arteriviridae</i>	<i>Variarterivirinae</i>	<i>Betaarterivirus</i>	<i>Betaarterivirus suid 2</i>	porcine reproductive and respiratory syndrome virus 2	PRRSV-2	<i>Suidae</i>	U87392
<i>Arteriviridae</i>	<i>Variarterivirinae</i>	<i>Betaarterivirus</i>	<i>Betaarterivirus ninrav</i>	RtClon arterivirus	RtClonAV	<i>Muridae</i>	KU302440
<i>Arteriviridae</i>	<i>Variarterivirinae</i>	<i>Betaarterivirus</i>	<i>Betaarterivirus sheoin</i>	RtEi arterivirus	RtEiAV	<i>Muridae</i>	KY369968
<i>Arteriviridae</i>	<i>Variarterivirinae</i>	<i>Betaarterivirus</i>	<i>Betaarterivirus timiclar</i>	RtMc arterivirus	RtMcAV	<i>Muridae</i>	KY369967
<i>Arteriviridae</i>	<i>Variarterivirinae</i>	<i>Betaarterivirus</i>	<i>Betaarterivirus chinrav 1</i>	RtMruf arterivirus	RtMrufAV	<i>Muridae</i>	KP280006
<i>Arteriviridae</i>	<i>Variarterivirinae</i>	<i>Nuarterivirus</i>	<i>Nuarterivirus guemel</i>	RtClan arterivirus	RtClanAV	<i>Muridae</i>	KY369969
<i>Arteriviridae</i>	<i>Variarterivirinae</i>	<i>Gammaarterivirus</i>	<i>Gammaarterivirus lacdeh</i>	lactate dehydrogenase-elevating virus	LDV	<i>Muridae</i>	U15146
<i>Arteriviridae</i>	<i>Variarterivirinae</i> ^b		unclassified	LopmaV	LopmaV	<i>Muridae</i>	MW595222

<i>Arteriviridae</i>	<i>Zealarterivirinae</i>	<i>Kappaarterivirus</i>	<i>Kappaarterivirus wobum</i>	wobbly possum disease virus	WPDV	<i>Phalangeridae</i>	JN116253
<i>Cremegaviridae</i>	<i>Becregavirinae</i>	<i>Sicregavirus</i>	<i>Sicregavirus nixi</i>	Trionyx sinensis hemorrhagic syndrome virus	TSHSV	<i>Trionychidae</i>	MH447987
<i>Cremegaviridae</i>	<i>Rodepovirinae</i>	<i>Pontunivirus</i>	<i>Chinturpovirus 1</i>	Chinese broad-headed pond turtle arterivirus	CBHPTAV	<i>Geoemydidae</i>	MG600025
<i>Gresnaviridae</i>	<i>Reternivirinae</i>	<i>Cyclophivirus</i>	<i>Ptyasnivirus 1</i>	Guangdong greater green snake arterivirus	GGGSAV	<i>Colubridae</i>	MG600023
<i>Olifoviridae</i>	<i>Gofosavirinae</i>	<i>Kukrinivirus</i>	<i>Oligodon snake nidovirus 1</i>	Hainan oligodon formosanus arterivirus	HOFAV	<i>Colubridae</i>	MG600022
Suborder Tornidovirineae							
<i>Tobaniviridae</i>	<i>Piscanivirinae</i>	<i>Bafinivirus</i>	<i>White bream virus</i>	white bream virus	WBV	<i>Cyprinidae</i>	NC_008516
<i>Tobaniviridae</i>	<i>Piscanivirinae</i>	<i>Bafinivirus</i>	<i>Fathead minnow nidovirus 1</i>	fathead minnow nidovirus	FMNV	<i>Cyprinidae</i>	GU002364
<i>Tobaniviridae</i>	<i>Piscanivirinae</i>	<i>Oncotshavirus</i>	<i>Chinook salmon nidovirus 1</i>	Chinook salmon bafinivirus	CSBV	<i>Salmonidae</i>	NC_026812
<i>Tobaniviridae</i>	<i>Remotovirinae</i>	<i>Bostovirus</i>	<i>Bovine nidovirus 1</i>	bovine nidovirus	BoNV	<i>Bovidae</i>	NC_027199
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Lyctovirus</i>	<i>Lyctovirus alpa</i>	veiled chameleon serpentovirus A	VCSTV-A	<i>Chamaeleonidae</i>	MT997160
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Pregotovirus</i>	<i>Ball python nidovirus 1</i>	Ball python nidovirus	BPNV	<i>Pythonidae</i>	KJ541759
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Pregotovirus</i>	<i>Berisnavirus 1</i>	Bellinger River snapping turtle virus	BRSTV	<i>Testudines</i>	MF685025
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Vebetovirus</i>	<i>Vebetovirus paba</i>	veiled chameleon serpentovirus B	VCSTV-B	<i>Chamaeleonidae</i>	MT997159
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Pregotovirus</i>	<i>Morelia tobanivirus 1</i>	Morelia viridis nidovirus	MVNV	<i>Pythonidae</i>	MF351889
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Infratovirus</i>	<i>Infratovirus latu</i>	serpentovirus-L25	SerTV-L25	<i>Colubridae</i>	MN161572
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Sertovirus</i>	<i>Sertovirus cona</i>	serpentovirus-C18	SerTV-C18	<i>Bovidae</i>	MN161561
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Septovirus</i>	<i>Septovirus foka</i>	serpentovirus-K48	SerTV-K48	<i>Pythonidae</i>	MN161566
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Pregotovirus</i>	<i>Shingleback nidovirus 1</i>	shingleback nidovirus	ShNV	<i>Scincidae</i>	KX184715
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Pregotovirus</i>	<i>Pregotovirus heba</i>	Morelia viridis nidovirus	MoVNV	<i>Pythonidae</i>	MK182569
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Infratovirus</i>	<i>Hebius tobanivirus 1</i>	Hainan hebius popei torovirus	HpoToV	<i>Colubridae</i>	MG600028
<i>Tobaniviridae</i>	<i>Serpentovirinae</i>	<i>Lyctovirus</i>	<i>Lycodon tobanivirus 1</i>	Guangdong red-banded snake (<i>Lycodon rufozonatus</i>) torovirus		<i>Colubridae</i>	MG600030
<i>Tobaniviridae</i>	<i>Torovirinae</i>	<i>Torovirus</i>	<i>Torovirus banli</i>	Bangali torovirus	BanToV	<i>Camelidae</i>	MW561977
<i>Tobaniviridae</i> ^a	<i>Torovirinae</i> ^a	<i>unclassified</i>	<i>unclassified</i>	antelope torovirus	AToV	<i>Bovidae</i>	MZ438674

29 ^a Classification based on data presented in [36], which has not yet been ratified by International Committee for Taxonomy of Viruses.

30 ^b Classification based on data presented in [33], which has not yet been ratified by International Committee for Taxonomy of Viruses.