

Supplementary Materials:

Table S1: Arvicolinae and outgroup mitochondrial genome accession numbers.

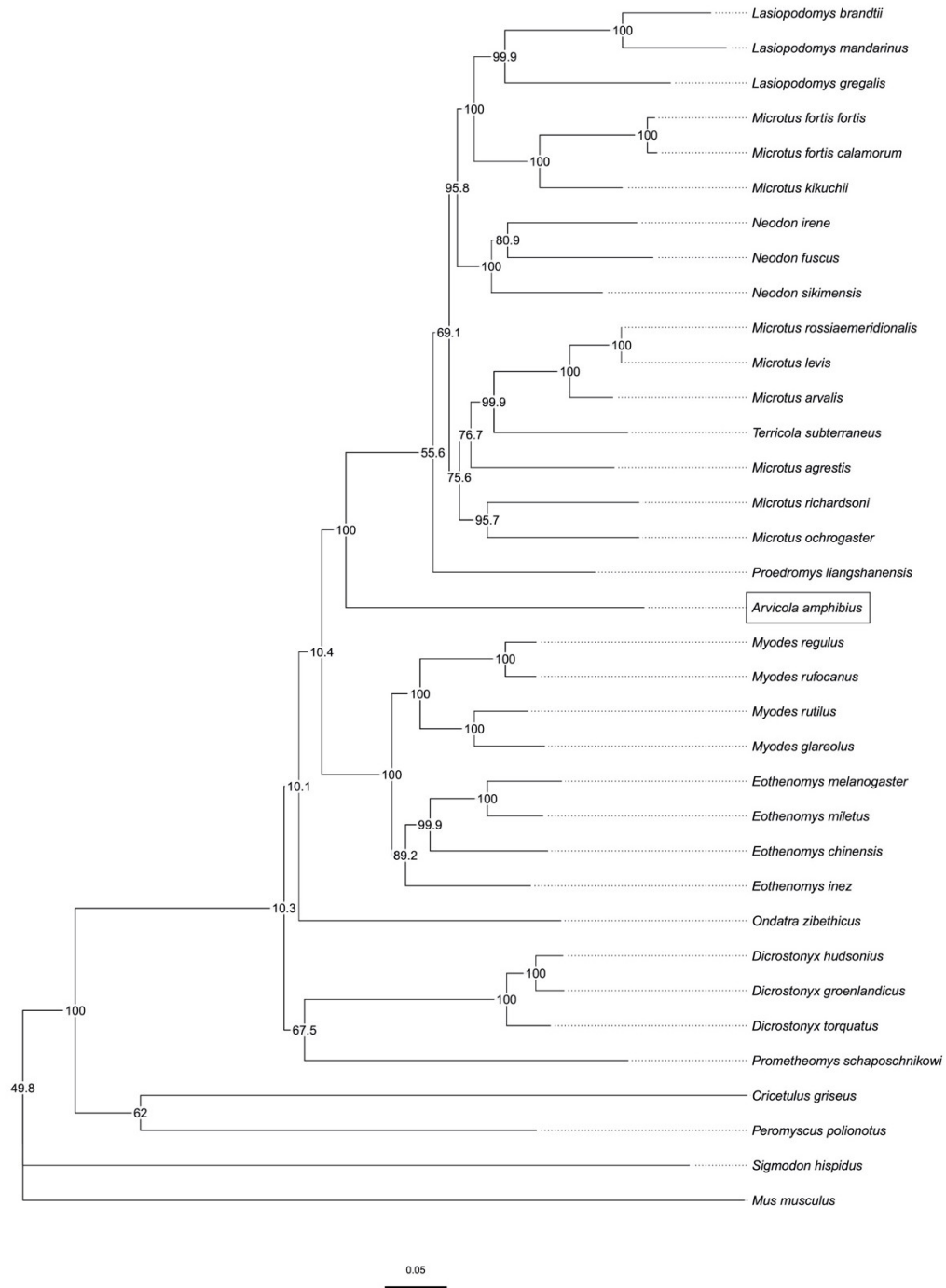
Species Name	Accession Number
<i>Lasiopodomys brandtii</i>	MN614478.1
<i>Lasiopodomys mandarinus</i>	JX014233.1
<i>Lasiopodomys gregalis</i>	MN199169.1
<i>Microtus fortis fortis</i>	JF261174.1
<i>Microtus fortis calamorum</i>	JF261175.1
<i>Microtus kikuchii</i>	AF348082.1
<i>Neodon irene</i>	NC016055.1
<i>Neodon fuscus</i>	MG833880.1
<i>Neodon sikimensis</i>	KU891252.1
<i>Microtus rossiaemeridionalis</i>	DQ015676.1
<i>Microtus levis</i>	NC008064.1
<i>Microtus arvalis</i>	MG948434.1
<i>Terricola subterraneus</i>	MN326850.1
<i>Microtus agrestis</i>	MH152570.1
<i>Microtus richardsoni</i>	MT225016.1
<i>Microtus ochrogaster</i>	KT166982.1
<i>Proedromys liangshanensis</i>	FJ463038.1
<i>Arvicola amphibius</i>	MN122828.1
<i>Myodes regulus</i>	NC016427.1
<i>Myodes rufocanus</i>	KT725595.1
<i>Myodes rutilus</i>	MK482363.1
<i>Myodes glareolus</i>	KF918859.1
<i>Eothenomys melanogaster</i>	KP997311.1
<i>Eothenomys miletus</i>	KX014874.1
<i>Eothenomys chinensis</i>	FJ483847.1
<i>Eothenomys Inez</i>	KU200225.1
<i>Ondatra zibethicus</i>	KU177045.1
<i>Dicrostonyx hudsonius</i>	KX683880.1
<i>Dicrostonyx groenlandicus</i>	KX712239.1
<i>Dicrostonyx torquatus</i>	MN792940.1
<i>Prometheomys schaposchnikowi</i>	NC049036.1
<i>Cricetulus griseus</i>	DQ390542.2
<i>Peromyscus polionotus</i>	KY707301.1
<i>Sigmodon hispidus</i>	KY707311.1
<i>Mus musculus</i>	V00711.1

Table S2: Sequenced Wildwood Trust water vole samples.

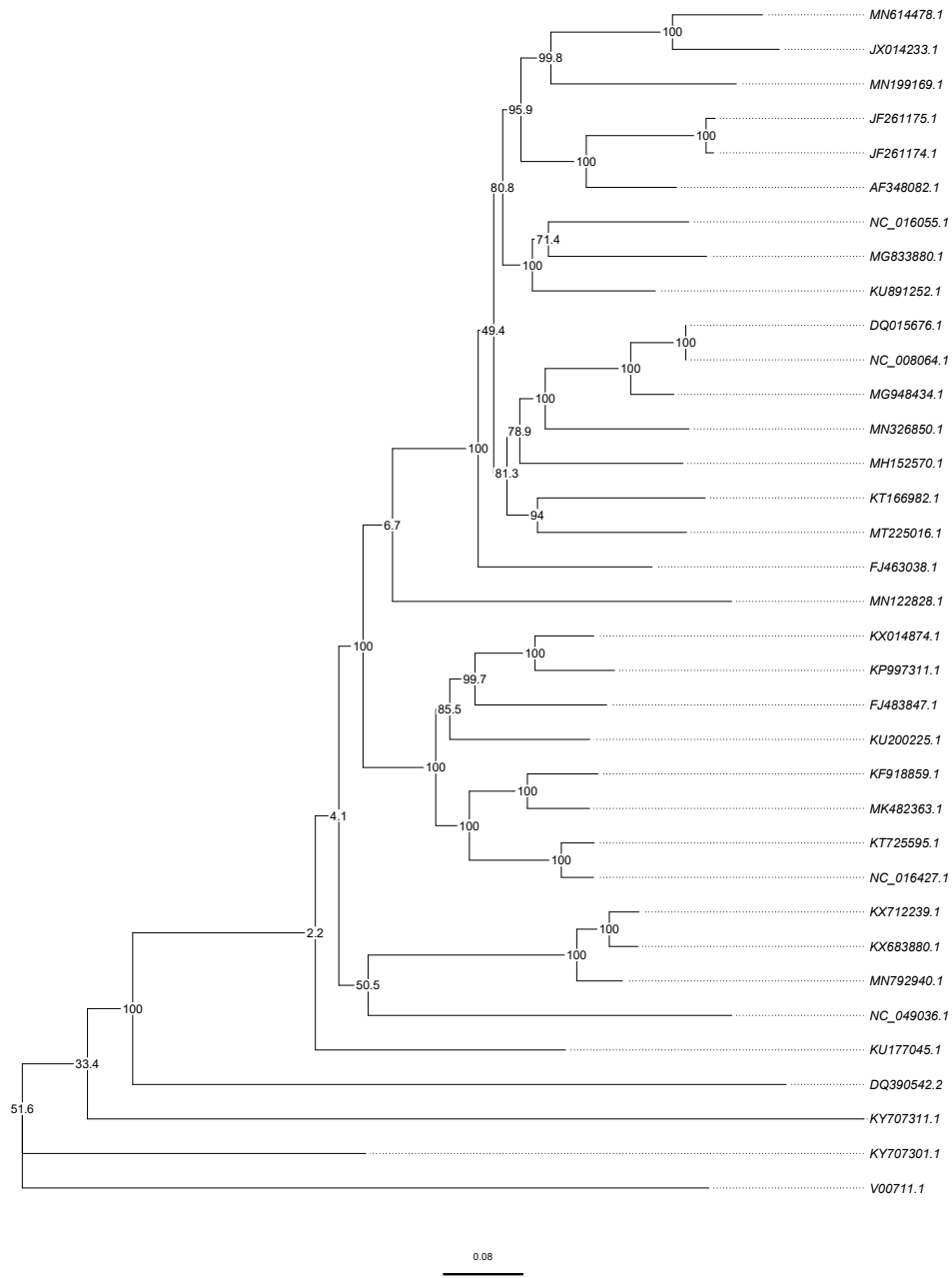
Sample No.	Sample Type	Enclosure No.	Local ID	Sex
1	Tissue	TB31	-	-
2	Tissue	WW46	-	-
3	Tissue	WW0304/34	-	Male
4	Tissue	WW34/39	-	-
5	Hair	Q88	-	Male
6	Hair	Q100	-	Male
7	Hair	R95	-	Male
8	Hair	R12	-	Male
9	Hair	R28	-	Male
10	Hair	Q100	-	Male
11	Faecal	R2	2228	Male
12	Faecal	Q52	2245	Female
13	Faecal	Q42	2218	Female
14	Faecal	Q7	2264	Female
15	Faecal	Q75a	2326	Female
16	Faecal	R50	2232	Male
17	Faecal	R51	2225	Male
18	Faecal	Q58	2314	Male
19	Faecal	Q100	2185	Female
20	Faecal	R27	2445	Female

Table S3: Additional water vole sequences from previous publications.

Sequence Description	Publication
Modern South East and East of England	Baker 2015
Modern British and European	Piertney <i>et al.</i> 2005
Modern and Ancient	Brace <i>et al.</i> 2016



Supplementary Figure 1: ML phylogenetic tree of all available mtDNA genomes for Arvicolinae, rooted on the outgroup taxon *Mus musculus*. A single partition was considered.



Supplementary Figure 2: ML phylogenetic tree of the 13 protein-coding genes in the mitochondrial genome for Arvicolinae, rooted on the outgroup taxon *Mus musculus*. Genes were modelled independently using PartitionFinder.