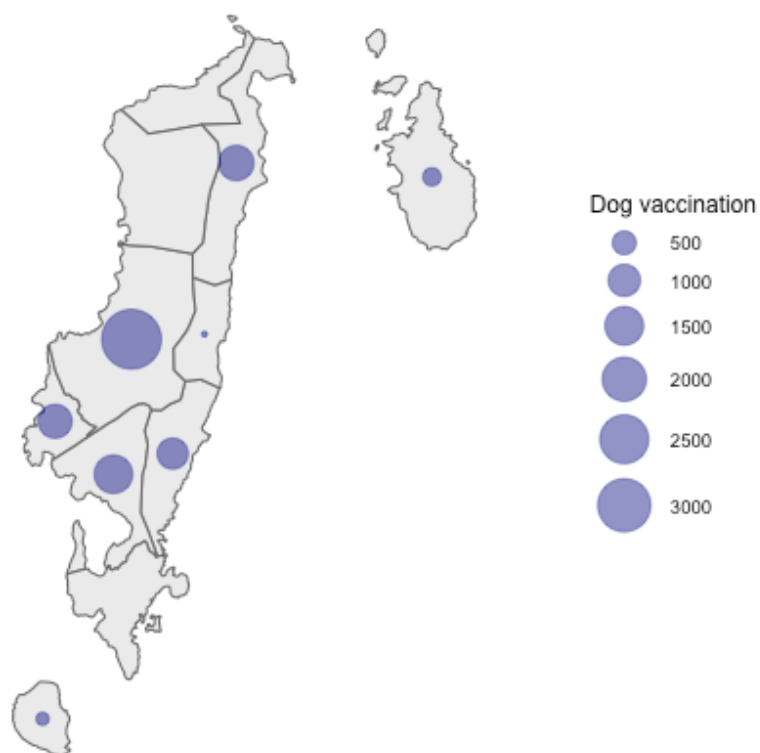
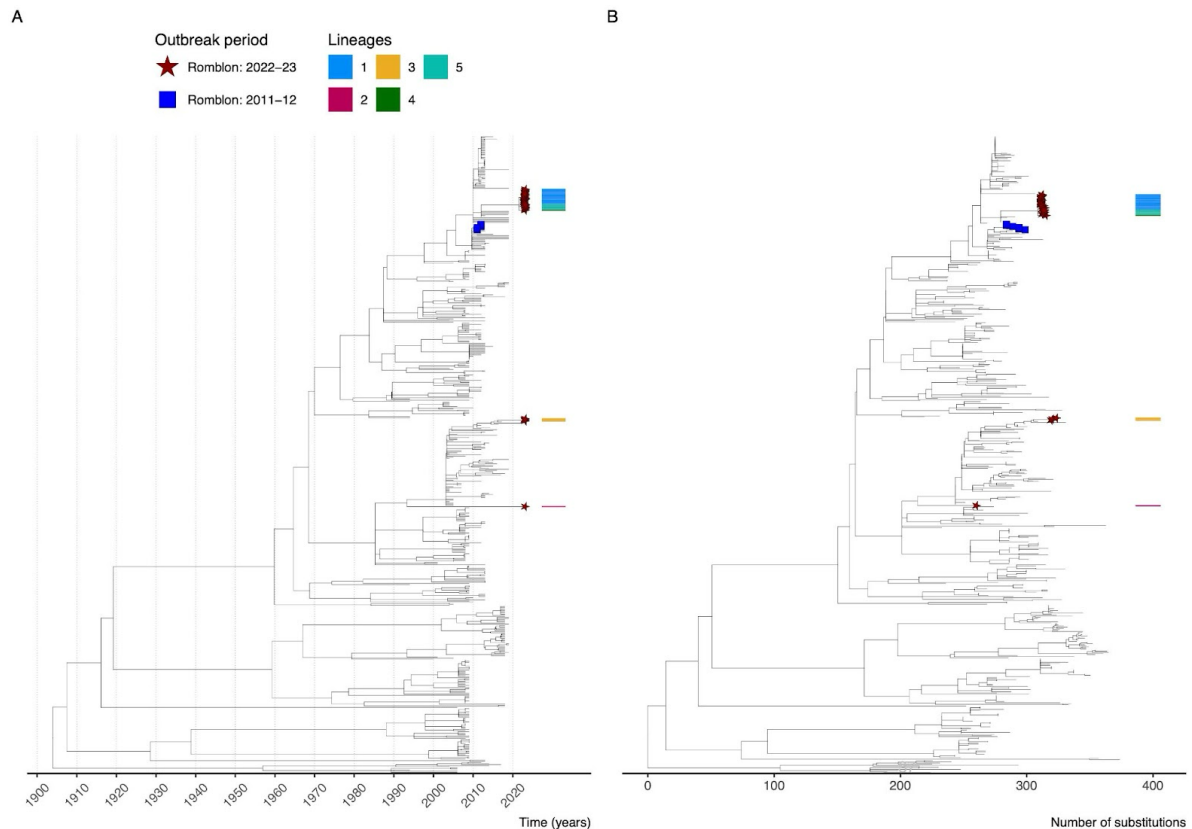


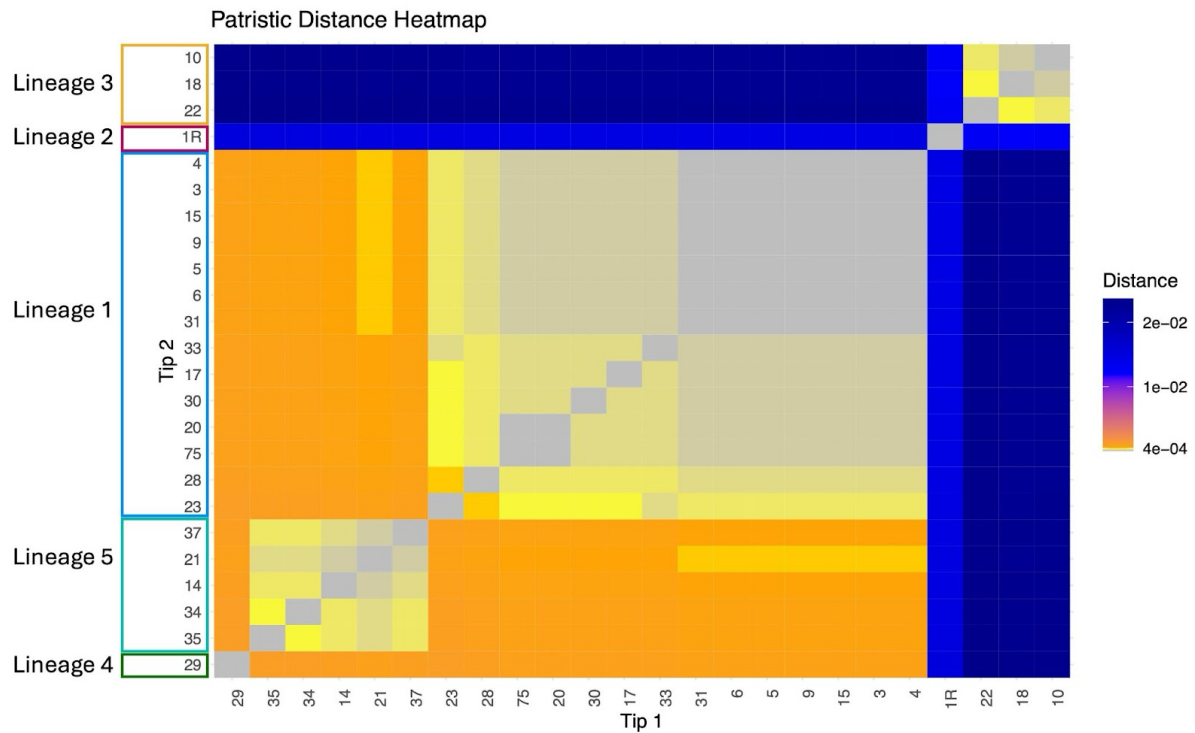
Supplementary Files:



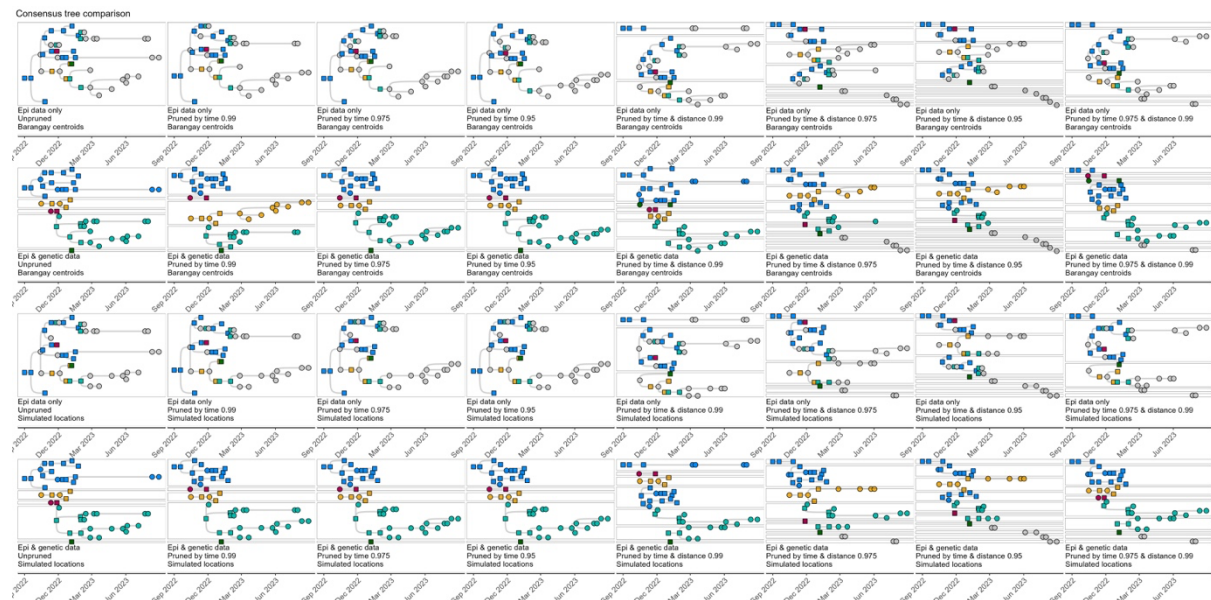
Supplementary Fig. S1. Number of dogs vaccinated per municipality in Romblon Province (Sept 2022-Sept 2023).



Supplementary Fig. S2. Time-scaled and substitution-scaled phylogenies from publicly available Philippines RABV sequences. A) Time-scaled and B) substitution-scaled maximum likelihood trees of 518 sequences (211-11797bp) from the Philippines spanning 1998 to 2023. The phylogenetic placement of Romblon cases from historical (2011-12) and current (2022-23) outbreaks are highlighted, as are the genetic lineages described in the main text. The top cluster from the 2022-23 Romblon outbreak represents the cluster A1 as shown in Figure 3, while the middle cluster is C1 and the lower cluster is the human case B1.



Supplementary Fig. S3. Patristic distance heatmap of Romblon sequences. The heatmap illustrates the genetic distances between sequences from Romblon, with distances calculated using the patristic method. The colour gradient runs from grey to yellow to dark blue with shades of blue representing higher genetic distances, indicating less similarity, while yellow/orange shades indicate smaller distances. The transition from yellow to orange marks the 0.0004 threshold used to delineate lineages, which are annotated on the y axis.



Supplementary Fig. S4. Consensus transmission tree reconstructions under different pruning thresholds and assumptions about case locations. Row 1) trees constructed using epidemiological data only and *barangay* centroids to represent case locations; Row 2) trees constructed from epidemiological data consistent with phylogenetic assignments (according to the three introductions

and subsequent divergence of cluster 1 into three genetic lineages, with *barangay* centroid locations); Rows 3) and 4) trees constructed as per Rows 1 and 2 but using case locations simulated in proportion to human population density. Columns 1-8 represent pruning thresholds, specifically 1) unpruned, 2-5) pruned by the 99th, 97.5th and 95th percentile of the serial interval; and 5-7) by the 99th, 97.5th and 95th percentiles of the serial interval and dispersal kernel, and 8) by the 97.5th and 99th percentiles of the serial interval and the dispersal kernel respectively. Squares represent sequences coloured according to lineage, and circles represent detected cases without sequences, coloured by lineage when assigned.

Supplementary Tables:

Table S1. Whole genome sequences used in the phylogeography

Case ID	Lineage	Cluster	Municipality	Species	Collection Date
9	1	1	Alcantara	<i>Canis familiaris</i>	01/10/2022
4	1	1	Alcantara	<i>Canis familiaris</i>	21/10/2022
3	1	1	Santa Maria	<i>Canis familiaris</i>	21/11/2022
5	1	1	Odiongan	<i>Canis familiaris</i>	24/11/2022
6	1	1	Alcantara	<i>Canis familiaris</i>	26/11/2022
15	1	1	Odiongan	<i>Canis familiaris</i>	11/12/2022
75	1	1	Santa Maria	<i>Canis familiaris</i>	12/12/2022
14	5	1	Odiongan	<i>Canis familiaris</i>	28/12/2022
20	1	1	Santa Maria	<i>Canis familiaris</i>	20/01/2023
17	1	1	Odiongan	<i>Canis familiaris</i>	13/01/2023
21	5	1	San Agustin	<i>Canis familiaris</i>	20/01/2023
23	1	1	Santa Maria	<i>Canis familiaris</i>	02/02/2023
29	4	1	San Andres	<i>Canis familiaris</i>	07/02/2023
28	1	1	Santa Maria	<i>Canis familiaris</i>	07/02/2023
33	1	1	Santa Maria	<i>Canis familiaris</i>	14/02/2023
31	1	1	Odiongan	<i>Canis familiaris</i>	09/02/2023
30	1	1	Odiongan	<i>Canis familiaris</i>	16/02/2023
34	5	1	Odiongan	<i>Canis familiaris</i>	28/02/2023
35	5	1	Odiongan	<i>Canis familiaris</i>	01/03/2023
37	5	1	San Agustin	<i>Canis familiaris</i>	01/03/2023
1-R	2	2	Santa Maria	<i>Homo sapiens</i>	02/02/2023
10	3	3	San Augustin	<i>Canis familiaris</i>	19/12/2022
18	3	3	San Agustin	<i>Canis familiaris</i>	22/01/2023
22	3	3	San Agustin	<i>Canis familiaris</i>	31/01/2023

Table S2. GenBank accession numbers for sequences from rabies samples collected in Tablas Island, Romblon from 2022-2023.

Sequin file name	Local reference ID	Accession number
4B-23-06.sqn	4B-23-06	PP858749
4B-23-05.sqn	4B-23-05	PP858750
Z-22-119.sqn	Z-22-119	PP858751
4B-23-02.sqn	4B-23-02	PP858752
4B-23-01.sqn	4B-23-01	PP858753
4B-22-44.sqn	4B-22-44	PP858754
4B-23-07.sqn	4B-23-07	PP858755
4B-23-19.sqn	4B-23-19	PP858756
4B-23-12.sqn	4B-23-12	PP858757
4B-23-13.sqn	4B-23-13	PP858758
Z-22-103.sqn	Z-22-103	PP858759
4B-23-15.sqn	4B-23-15	PP858760
Z-17-046.sqn	Z-17-046	PP858761
H-23-011Sk_12.sqn	H-23-011Sk_12	PP858762
4B-23-11.sqn	4B-23-11	PP858763
4B-22-41.sqn	4B-22-41	PP858764
4B-23-04.sqn	4B-23-04	PP858765
Z-22-121.sqn	Z-22-121	PP858766
4A-22-203.sqn	4A-22-203	PP858767
4B-23-16.sqn	4B-23-16	PP858768
Z-14-098.sqn	Z-14-098	PP858769
4B-22-39.sqn	4B-22-39	PP858770
4B-23-03.sqn	4B-23-03	PP858771
4B-22-37.sqn	4B-22-37	PP858772
4B-22-45.sqn	4B-22-45	PP858773
4B-23-17.sqn	4B-23-17	PP858774
4B-22-42.sqn	4B-22-42	PP858775
Z-18-224.sqn	Z-18-224	PP858776