

Supplementary Materials

Figures

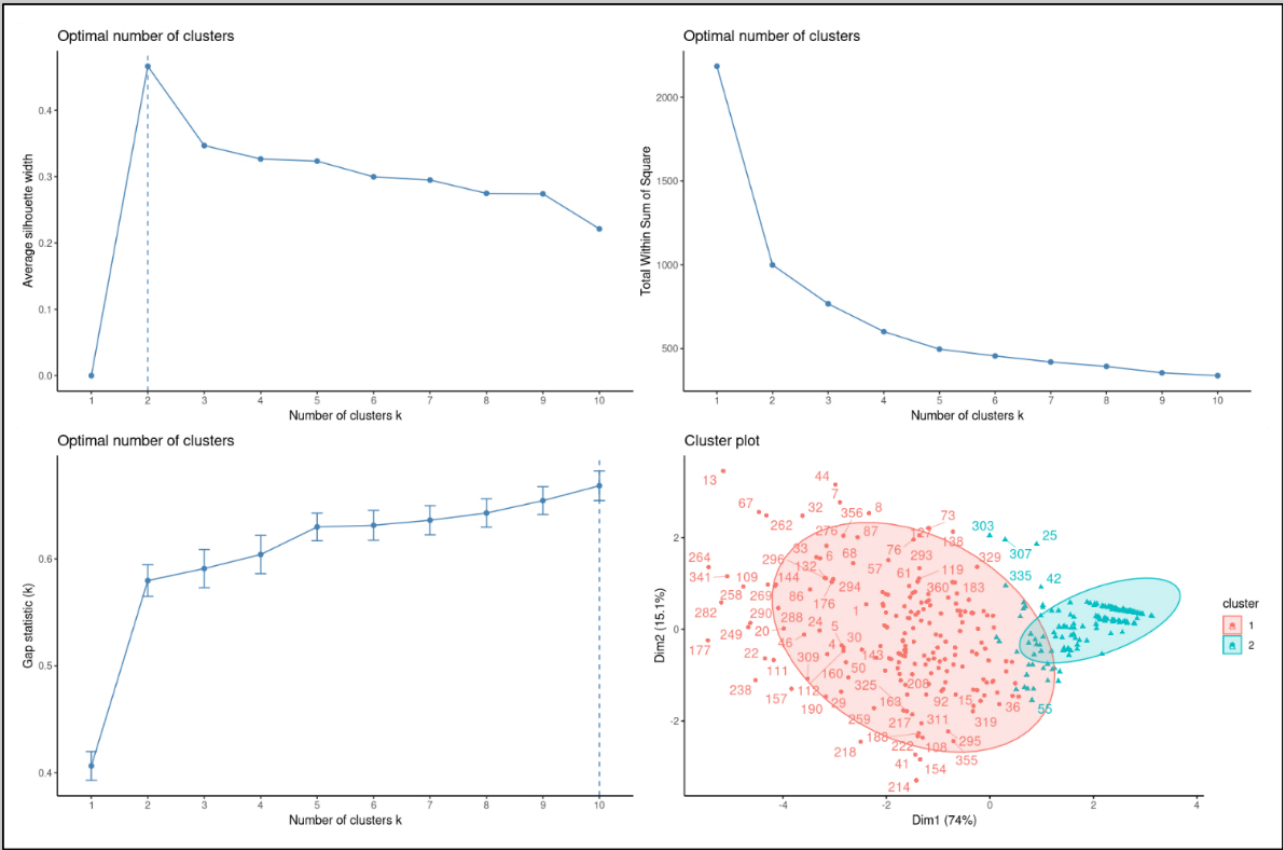


Fig. S1. Optimal number of clusters, according to the silhouette width method, the within sum-of-squares and the gap statistics method. And overall cluster plots (lower-right figure) representing the distribution of observations between the two clusters.

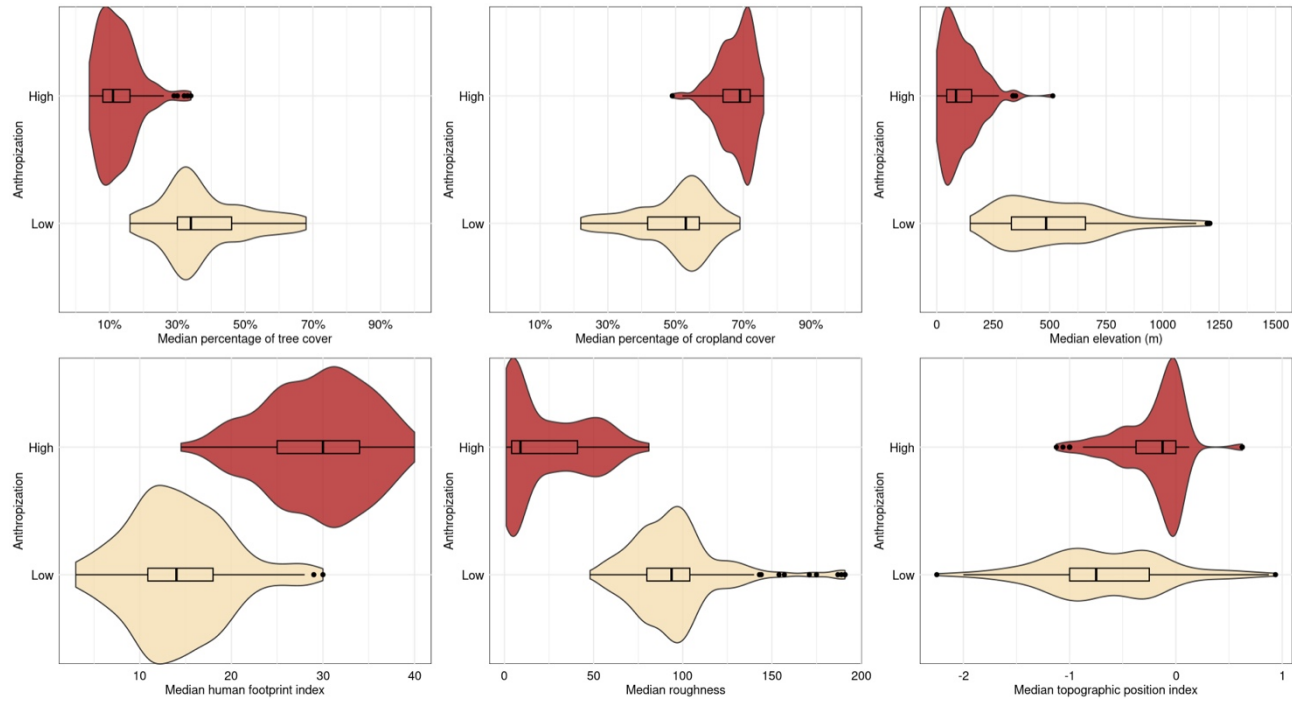


Fig. S2. Characteristics of areas categorized, through PAM cluster analysis, as having low or high anthropization: median percentage of tree cover, median percentage of cropland cover, median elevation, median human footprint index, median roughness, and median topographic position index.

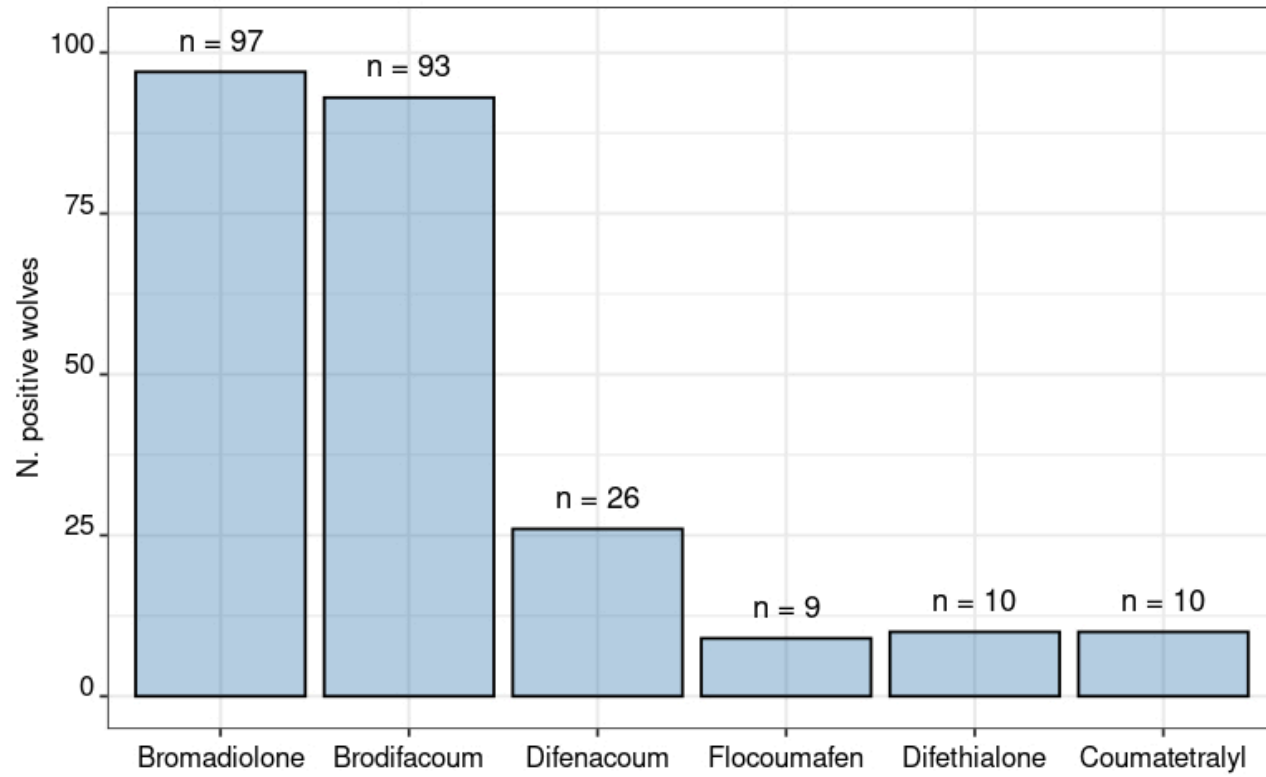


Fig. S3. Most common anticoagulant rodenticides (ARs) that were found in wolves. Total number of individuals that tested positive for each compound.

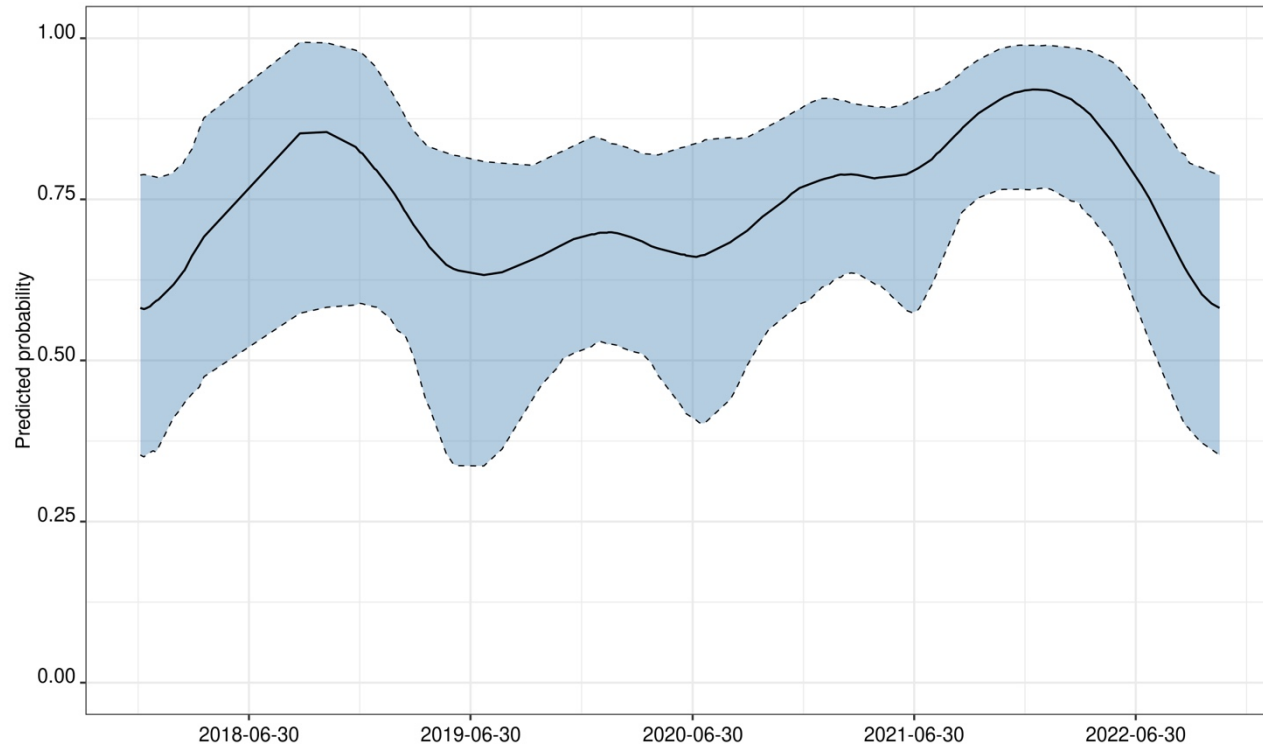


Fig. S4. Predicted probability that wildlife recovered in Emilia-Romagna region tested positive for anticoagulant rodenticides (ARs), through time. Conditional effect of the Bayesian Bernoulli regression. Mean value from the posterior distribution (dashed line) altogether with 95% Bayesian credibility intervals (highlighted area between solid lines).

Tables

Table S1. MS/MS transitions parameters and retention times for 11 ARs.

Analyte	TRANSITIONS (CE=COLLISION ENERGY)	Retention Time (min)
COUMAFURYL	297,1 → 161 (CE 12 V, Fragmentor 132 V) 297,1 → 240 (CE 12 V, Fragmentor 132 V)	1,58
WARFARIN	307,1 → 161 (CE 12 V, Fragmentor 133 V) 307,1 → 250,1 (CE 16 V, Fragmentor 133 V)	2,67
COUMATETRALYL	291,1 → 141 (CE 24 V, Fragmentor 158 V) 291,1 → 143 (CE 40 V, Fragmentor 158 V)	4,38
COUMACHLOR	341,1 → 284 (CE 20 V, Fragmentor 148 V) 341,1 → 161 (CE 16 V, Fragmentor 148 V)	4,57
BROMADIOLONE	525,1 → 250,1 (CE 36 V, Fragmentor 215 V) 525,1 → 93 (CE 40 V, Fragmentor 215 V)	6,86
DIPHACINONE	339,1 → 167 (CE 20 V, Fragmentor 220 V) 339,1 → 116 (CE 40 V, Fragmentor 220 V)	7,21
DIFENACOUM	443,2 → 135 (CE 36 V, Fragmentor 210 V) 443,2 → 293,1 (CE 32 V, Fragmentor 210 V)	7,70
CHLOROPHACINONE	373,1 → 201 (CE 16 V, Fragmentor 220 V) 373,1 → 145 (CE 16 V, Fragmentor 220 V)	7,96
FLOCOUMAFEN	541,2 → 161 (CE 36 V, Fragmentor 215 V) 541,2 → 382,1 (CE 24 V, Fragmentor 215 V)	8,17
BRODIFACOUM	521,1 → 135 (CE 40 V, Fragmentor 210 V) 521,1 → 78,9 (CE 40 V, Fragmentor 210 V)	8,66
DIFETHIALONE	537 → 79 (CE 40 V, Fragmentor 215 V) 537 → 371,3 (CE 40 V, Fragmentor 215 V)	9,58

The quantifier transitions are reported in bold.

Table S2. Most common co-occurrences of anticoagulant rodenticides in recovered wolves.

	Brodifacoum	Bromadiolone	Difenacoum	Flocoumafen	Difethialone	Coumatetralyl
Brodifacoum	-	61	20	7	0	9
Bromadiolone	-	-	19	7	0	9
Difenacoum	-	-	-	3	1	5
Flocoumafen	-	-	-	-	3	0
Difethialone	-	-	-	-	-	1
Coumatetralyl	-	-	-	-	-	-

Table S3. Descriptive statistics about the concentrations of brodifacoum, bromadiolone, difenacoum, flocoumafen, difethialone, coumatetralyl. Concentrations are expressed $\mu\text{g}/\text{Kg}$.

Compound	Mean \pm Standard Deviation
Brodifacoum	35.3 \pm 64.7
Bromadiolone	57.64 \pm 107.98
Difenacoum	6.15 \pm 11.2
Flocoumafen	7.2 \pm 8.8
Difethialone	6.2 \pm 6.1
Coumatetralyl	25.1 \pm 45.4

Table S4. Articles from local newspapers in Northern Italy, reporting the illegal use of baits to kill invasive alien coypus (*Myocastor coypu*).

Date	Location	Newspaper	URL
2008-01-22	Suzzara	Gazzetta di Mantova	https://ricerca.gelocal.it/gazzettadimantova/archivio/gazzettadimantova/2008/01/22/NP5PO_NP501.html
2013-04-02	San Germano dei Berici	Vicenza Today	https://www.vicenzatoday.it/cronaca/bocconi-avvelenati-nutrie-vicenza-san-germano.html
2016-04-07	Codigoro	Estense	https://www.estense.com/?p=539661
2018-08-03	Nogara	Verona Sera	https://www.veronasera.it/cronaca/esche-topicidia-nutrie-avvelenatore-agricoltore-denuncia-polizia-3-agosto-2018-.html
2021-01-19	Gazzo Veronese	FanPage.it	https://www.fanpage.it/attualita/vuole-uccidere-le-nutrie-con-esche-avvelenate-ma-causa-strage-di-animali-nel-veronese/
2022-02-15	Isorella	Brescia Oggi	https://www.bresciaoggi.it/territorio-bresciano/bassa/granaglie-avvelenate-morti-uccelli-acquatici-1.9190152
2022-06-24	Segrate	Il Giornale di Segrate	https://giornaledisegrate.it/2022/06/24/animali-avvelenamenti-sospetti-no-a-soluzioni-fai-da-te/