

# VETERINARIA RIVISTA DI SANITÀ PUBBLICA VETERINARIA **ITALIANA**

**Supplementary material**



CHAMOIS  
 RED DEER  
 ROE DEER  
 WILD BOAR

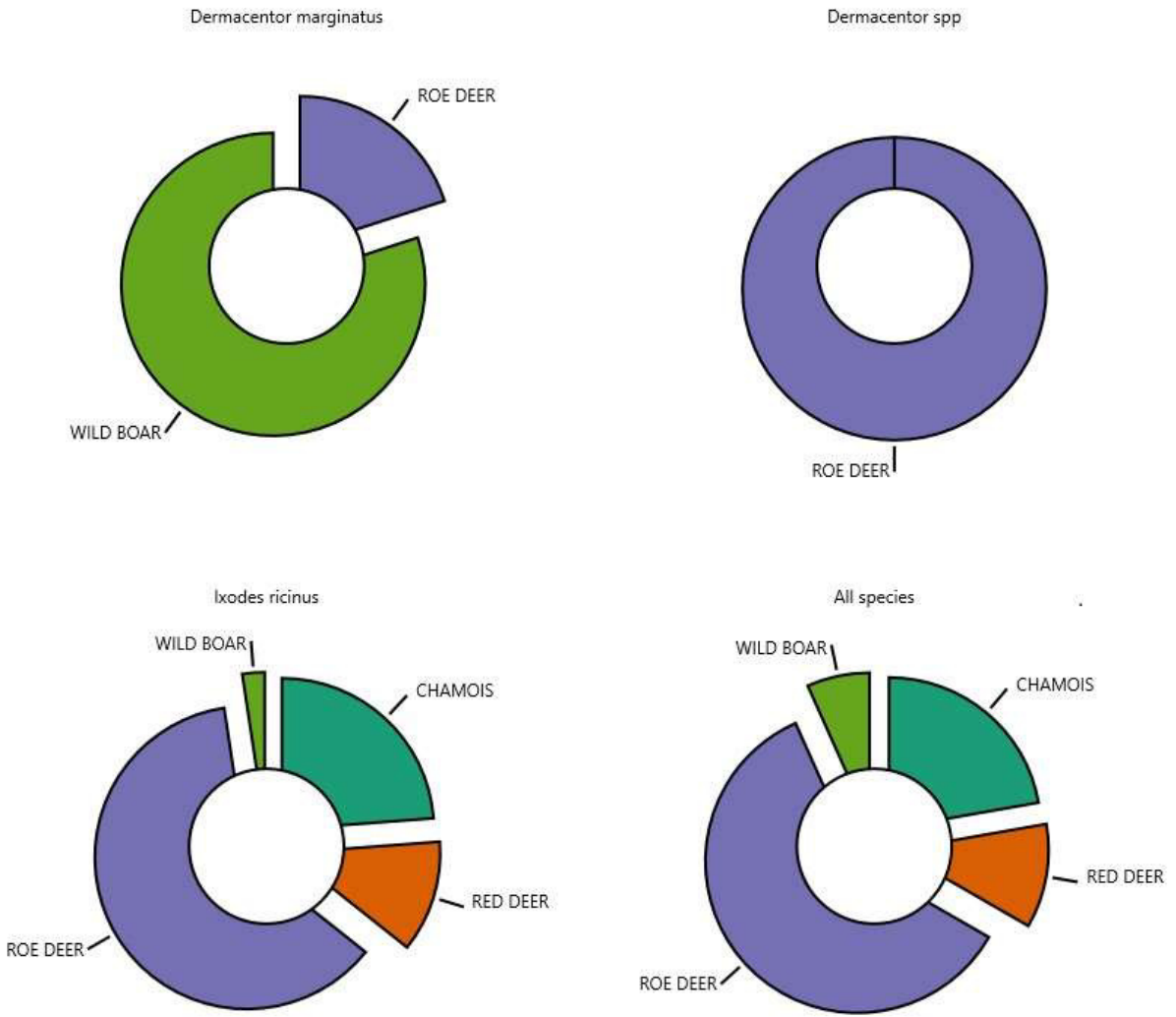


Figure SM 1. Pie charts showing the relative percentage of each tick species by host within the studied period (2020-2022).

- Dermacentor marginatus
- Dermacentor spp
- Ixodes ricinus

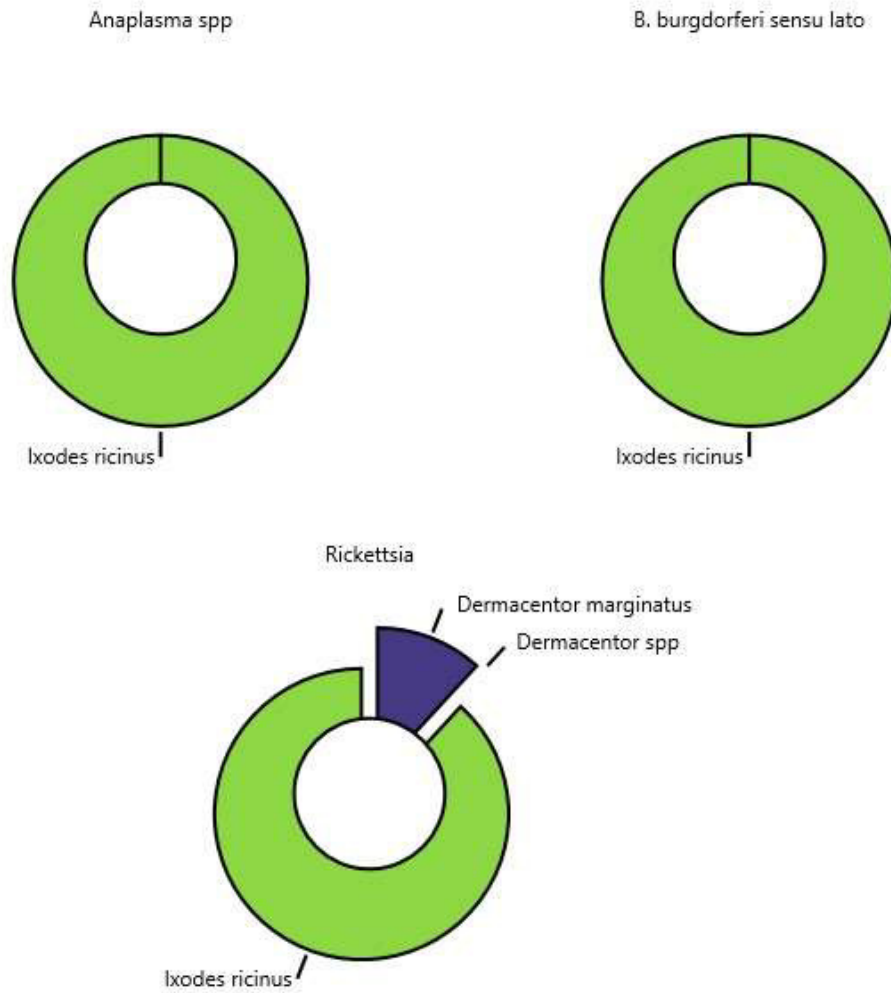


Figure SM 2. Tick species and related pathogens carried based on the analyzed data.

	Positive at screening	Confirmed species
<i>Anaplasma spp.</i>	7	<i>Anaplasma spp.</i> n=3 <i>Anaplasma phagocytophilum</i> n=4
<i>Borrelia burgdorferi</i> s.l.	1	
<i>Coxiella burnetii</i>	0	
<i>Rickettsia spp.</i>	15	<i>Rickettsia spp.</i> n=3 <i>R. monacensis</i> n=4 <i>R. helvetica</i> n=8 <i>R. slovaca</i> n=1
TBE virus	0	

Table SM I. Positivities at screening PCRs and molecular identification.

Cluster	1	3	6	10	7	8	5	9	2	4
Risk level class	1	2	3	4	5	6	7	8	9	10
Municipality	n° Population involved									
JOVENCAN									149	669
LA MAGDELEINE				112					7	
LA SALLE				2	30	98	300	902	792	
LA THUILE				2	110	4	623	52		
LILLIANES		2	5	3	11	1	100	335		
MONTJOVET							114	79	585	
MORGEX					14	114	5	1654	322	
NUS			1	23			28	269	5	2732
OLLOMONT			19	4	1	6	126			
OYACE							0	220		
PERLOZ							78	6	348	
POLLEIN							2	312	1264	
PONTBOSET				13				1	103	
PONTEY										853
PONT-SAINT-MARTIN							10	2410	178	
PRE-SAINT-DIDIER				2	3	39	188	787		
QUART					3	48	842	460	2851	
RHEMES-NOTRE-DAME				58	1	54				
RHEMES-SAINT-GEORGES					4	10	180			
ROISAN						87	80		958	
SAINT-CHRISTOPHE								231	1164	2057
SAINT-DENIS								250	37	92
SAINT-MARCEL						0	5	6	196	1115
SAINT-NICOLAS						9	43	105	139	17
SAINT-OYEN								227		
SAINT-PIERRE					20	470	1045	464	1311	
SAINT-RHEMY			2	23	1	8	301	16		
SAINT-VINCENT							3	2553	236	
SARRE							0	435	251	4423
TORGNON						289	188	8		
VALGRISENCHÉ			2			89	106			
VALPELLINE						8	1	1	659	
VALSAVARENCHÉ		1	1	1	38	147	0			
VALTOURNENCHÉ			1	3	428	329	1274			
VERRAYES				1	1	76	205	359	726	
VERRES						318	7	532	148	1408
VILLENEUVE						2	2	186	710	369

Cluster	1	3	6	10	7	8	5	9	2	4
Risk level class	1	2	3	4	5	6	7	8	9	10
Municipality	n° Population involved									
ALLEIN					1	42			202	3
ANTEY-SAINT-ANDRE						63	36	148	309	
AOSTA					1	25	4974	1399	9714	17585
ARNAD							1	1	7	1277
ARVIER						1	46	352	59	446
AVISE					1	26	60	4	270	
AYAS				6	31	26	89	927	242	
AYMAVILLES						6	29	247	1859	7
BARD							0	0	5	115
BIONAZ					1		28	174		
BRISOGNE								14	160	824
BRUSSON				1	12	36	1	30	743	
CHALLAND-SAINT-ANSELME							1	130	646	
CHALLAND-SAINT-VICTOR							33		74	495
CHAMBAVE								45	57	805
CHAMMOIS								93		
CHAMPDEPRAZ					5					494
CHAMPORCHER							151	131		
CHARVENSOD							12	1	813	1758
CHATILLON							10	2256	109	2571
COGNE						7	287	867	267	
COURMAYEUR						1	690	1240	858	
DONNAS							0	0	389	2197
DOUES					1		114		257	140
EMARESE					41	1	2	113		
ETROUBLES					1	1	0	114	398	
FENIS						0	0	1	1107	698
FONTAINEMORE					8	115	2	26	310	
GABY					0		25	466		
GIGNOD					3	22	122	762	115	835
GRESSAN					11		21	153	2587	732
GRESSONEY-LA-TRINITE			6	27	200	80				
GRESSONEY-SAINT-JEAN		1	2		7	155	466	181		
HONE						2	5		35	1127
INTROD						5	28	1	18	605
ISSIME				1	33	59	18	19	294	
ISSOGNE								385		254

Table SM II. Population risk exposure to ticks (%) investigated with each municipality (2020).



Cluster	1	5	6	4	2	9	8	7	10	3
Risk level class	1	2	3	4	5	6	7	8	9	10
Municipality	n° Population involved									
JOVENCAN										818
LA MAGDELEINE									112	7
LA SALLE								5	288	1832
LA THUILE							1	2	788	
LILLIANES							2	8	55	391
MONTJOVET										778
MORGEX								1	44	2065
NUS								29	80	2948
OLLOMONT							1	22	132	
OYACE									54	166
PERLOZ								3	343	86
POLLEIN										1579
PONTBOSET								13	104	
PONTEY										853
PONT-SAINT-MARTIN									1326	1273
PRE-SAINT-DIDIER									410	609
QUART									8	4198
RHEMES-NOTRE-DAME								42	71	
RHEMES-SAINT-GEORGES								26	145	23
ROISAN									87	1038
SAINT-CHRISTOPHE									0	3451
SAINT-DENIS										379
SAINT-MARCEL									1	1321
SAINT-NICOLAS								19	59	236
SAINT-OYEN									227	0
SAINT-PIERRE								1	61	3249
SAINT-RHEMY						1	4	89	243	14
SAINT-VINCENT									6	2786
SARRE									39	5069
TORGNON									389	96
VALGRISENCHE							1	99	96	
VALPELLINE									470	200
VALSAVARENCHÉ							1	128	58	
VALTOURNENCHE							476	374	1184	
VERRAYES									37	1330
VERRES									324	2088
VILLENEUVE									4	1264

Table SM III. Population risk exposure to ticks (%) investigated with each municipality (2021).

Cluster	1	5	4	3	8	6	10	7	2	9
Risk level class	1	2	3	4	5	6	7	8	9	10
Municipality	n° Population involved									
ALLEIN									239	9
ANTEY-SAINT-ANDRE								5	172	380
AOSTA									5636	28062
ARNAD								1	5	1280
ARVIER									94	811
AVISE								3	204	154
AYAS								592	703	27
AYMAVILLES									67	2082
BARD									5	116
BIONAZ						1		162	40	
BRISOGNE										998
BRUSSON								1	767	55
CHALLAND-SAINT-ANSELME									153	623
CHALLAND-SAINT-VICTOR										602
CHAMBAVE										907
CHAMMOIS									93	
CHAMPDEPRAZ								5		494
CHAMPORCHER								189	93	
CHARVENSOD									5	2579
CHATILLON									47	4898
COGNE								277	1065	86
COURMAYEUR								267	2523	
DONNAS									932	1655
DOUES									155	357
EMARESE								41	2	113
ETROUBLES									331	183
FENIS									1	1806
FONTAINEMORE							1		252	207
GABY								176	316	
GIGNOD								6	209	1644
GRESSAN									126	3378
GRESSONEY-LA-TRINITE						8	123	182		
GRESSONEY-SAINT-JEAN					1	1	17	515	279	
HONE									36	1133
INTROD									23	635
ISSIME								12	259	153
ISSOGNE									193	446



Cluster	1	5	4	3	8	6	10	7	2	9
Risk level class	1	2	3	4	5	6	7	8	9	10
Municipality	n° Population involved									
JOVENCAN										818
LA MAGDELEINE									112	7
LA SALLE								5	135	1985
LA THUILE								3	788	
LILLIANES							2	8	34	412
MONTJOVET										778
MORGEX								1	44	2065
NUS								50	58	2949
OLLOMONT								27	50	78
OYACE									54	166
PERLOZ								3	395	34
POLLEIN										1579
PONTBOSET								13	1	103
PONTEY										853
PONT-SAINT-MARTIN									1326	1273
PRE-SAINT-DIDIER									410	609
QUART									35	4170
RHEMES-NOTRE-DAME								56	57	
RHEMES-SAINT-GEORGES								26	145	23
ROISAN									87	1038
SAINT-CHRISTOPHE									0	3451
SAINT-DENIS										379
SAINT-MARCEL									1	1321
SAINT-NICOLAS								19	59	236
SAINT-OYEN									227	
SAINT-PIERRE									62	3249
SAINT-RHEMY							5	62	270	14
SAINT-VINCENT									6	2786
SARRE									537	4571
TORGNON									464	21
VALGRIENCHE							1	66	130	
VALPELLINE								1	470	200
VALSAVARENCE							1	129	57	
VALTOURNENCHE							481	365	1189	
VERRAYES									107	1260
VERRES									325	2087
VILLENEUVE									4	1264

Table SM IV. Population risk exposure to ticks (%) investigated with each municipality (2022).