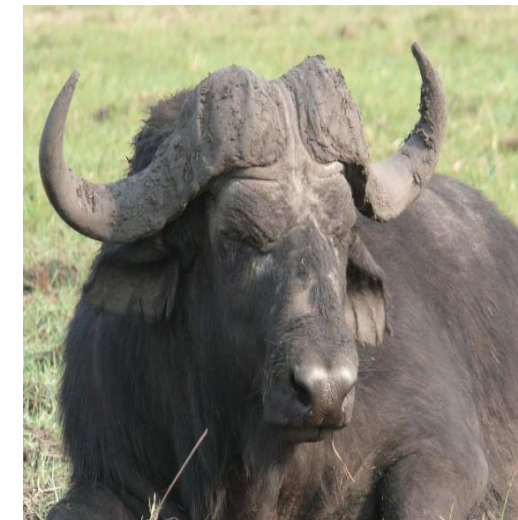
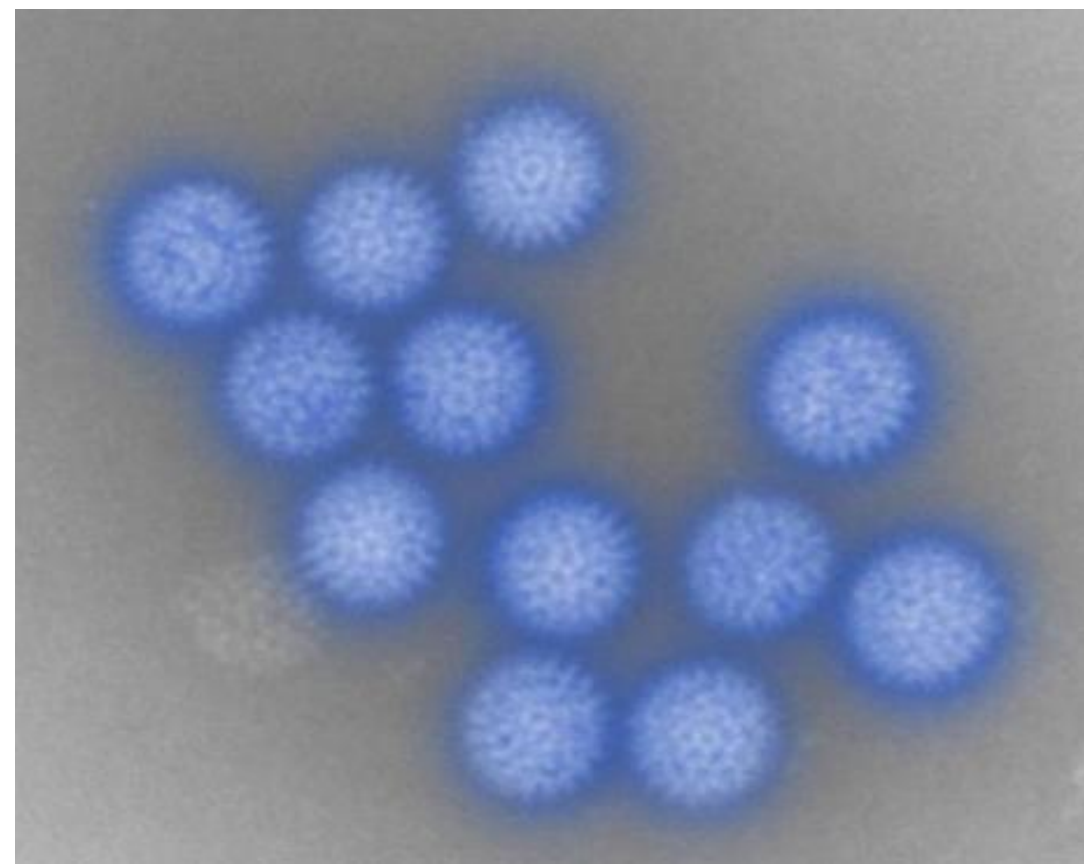


# Bluetongue virus in the Campania region (southern Italy): high seroprevalence in both SBV exposed and non-exposed ruminants.

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- BTV outbreaks in the late 1990s and early 2000s caused economic losses and impacts the international cattle trade (estimated to be up to US\$ 3 billion).
- BTV is now considered an endemic and re-emerging virus throughout Europe.
- Although BTV mostly results in clinical symptoms in sheep, cattle act as reservoir hosts and play an important role in BT transmission and epidemiology because they exhibit prolonged viremia
- **Bluetongue is endemic among ruminant populations in Italy, and repeated outbreaks are described, especially in small ruminants, while information on circulation in other species is more lacking**



# Materials and Methods



218 buffaloes and 250 cattle were sampled. Animals came from 31 separate districts and four provinces (21 cattle herds and 20 water buffalo herds), none of which practiced BTV immunization

The aim of this study was to investigate the BTV seroprevalence in the Campania region, southern Italy.



Factor	n	Positive	%	95%CI	$\chi^2$	p-value
Total	468	204	43.6	39.1 – 48.08		
<b>Species</b>						
Cattle	250	113	45.2	39.03 – 51.37		
Water buffalo	218	91	41.7	35.2 – 48.29	0.56	0.45
<b>Age</b>						
Adult	389	179	46	41.06 – 50.97	5.51	0.019
Young	79	25	31.7	21.39 – 41.90		
<b>Location</b>						
Avellino	63	31	49.2	36.86 – 61.55		
Benevento	54	11	20.4	9.63 – 31.11	17.81	<0.001
Caserta	168	68	40.5	33.05 – 47.90		
Salerno	183	94	51.4	44.12 – 58.61		
<b>Housing</b>						
Fully stallfed	422	178	42.2	37.47 – 46.89	3.47	0.063
Partly grazed	46	26	56.5	42.2 – 70.85		
<b>Coexposure with SBV</b>						
Yes	236	102	43.2	36.9 – 49.54	0.03	0.871
No	232	102	44	37.58 – 50.35		
<b>Mean annual t°</b>						
≤16°C	221	83	37.6	31.2 – 43.94	6.2	0.013
>16°C	247	121	49	42.75 – 55.22		
<b>Altitude (a.s.l.)</b>						
≤250 m	331	138	41.7	36.38 – 47.00	1.65	0.198
>250 m	137	66	48.2	39.81 – 56.54		
<b>Annual rainwater (cm)</b>						
≤1000	124	63	50.8	42.01 – 59.61	3.57	0.059
>1000	344	141	41	35.79 – 46.19		
<b>Distance from the coast</b>						
≤20 km	183	73	39.9	32.8 – 46.9	1.67	0.196
>20 km	285	131	46	40.18 – 51.75		

We observed an individual seroprevalence of 43.6% and a herd prevalence of 85.4%

Age and mean annual temperature were the most significant risk variables in univariate analysis.

BTV prevalence is not affected by SBV seropositivity.

# Conclusion

- **Our data, consistent with those in the literature, suggest the transversal spread of bluetongue virus in the Mediterranean area, and indicate a limited co-exposure rate between Bluetongue and Schmallenberg virus.**
- **Cattle serve as key sentinels to anticipate outbreaks in sheep and goats, in addition to being the major reservoir of infection due to extensive viremia. Further studies are needed to evaluate the duration of viraemia in buffalo and to establish the precise epidemiological role of this species.**