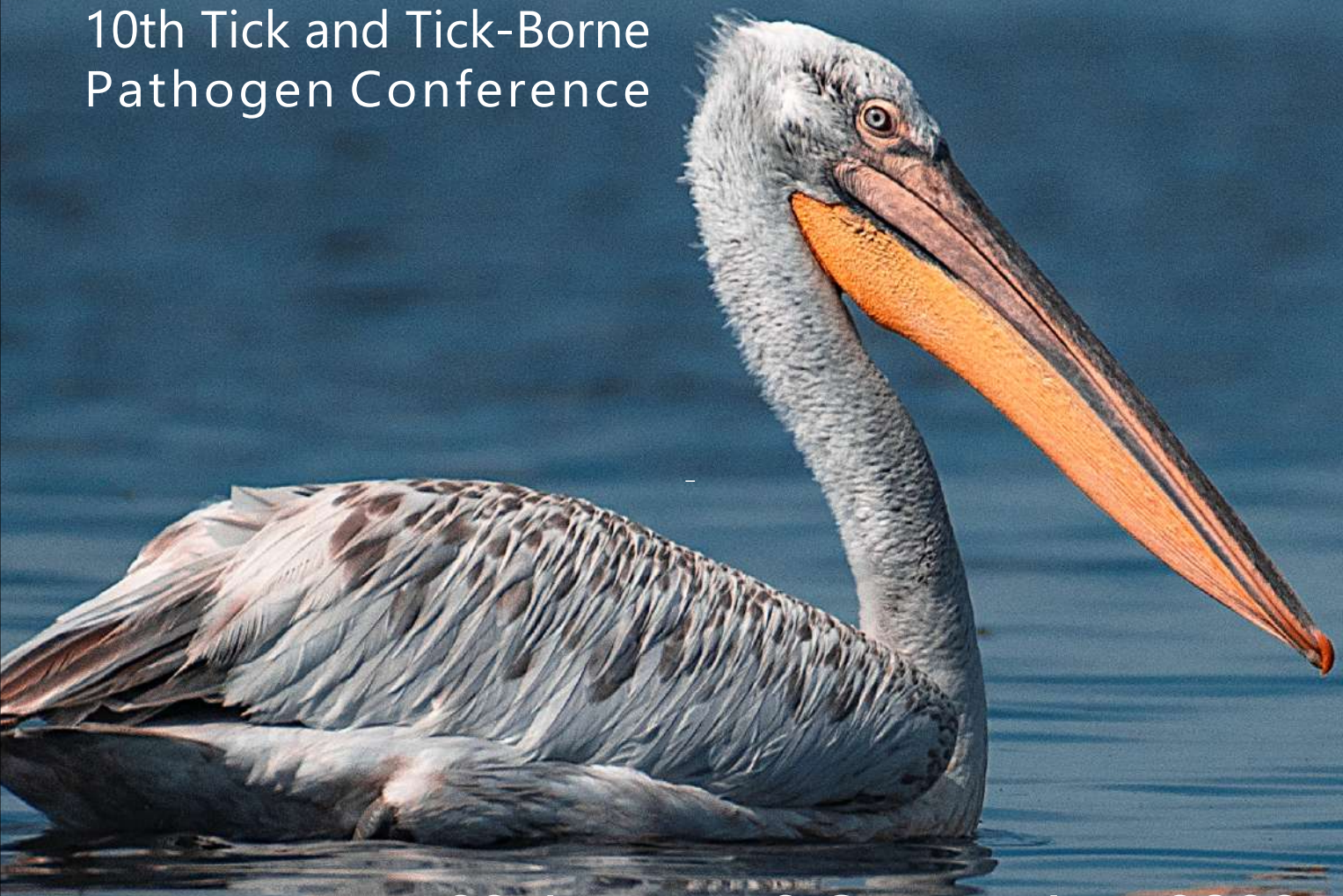
TTP.10

10th Tick and Tick-Borne Pathogen Conference



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Abstracts

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P17 Wildlife as sentinels of TBEV circulation and tick infestation in north western Italy

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Wild and domestic animals can be usefully employed as sentinels for the surveillance of diseases with impact on public health. In the case of tick-borne encephalitis virus (TBEV), the detection of antibodies in animals can be more effective than screening *Ixodes ricinus* ticks for detecting TBEV foci, due to the patchy distribution of the virus. In Piedmont region, north western Italy, TBEV is considered absent, but an increase in ticks – *I. ricinus* in particular – is being observed, and TBEV is spreading in bordering countries, e.g., Switzerland. Therefore, we have collected sera from wild ungulates during the hunting season (October-December) from 2017 to 2019 in the Susa Valley, Western Alps, and screened them for TBEV antibodies by a commercial competitive ELISA test. Moreover, we monitored tick infestation on the same animals, to evaluate tick presence and abundance in altitude. We collected 267 serum samples by endocranial venous sinuses puncture and inspected the skin of 373 carcasses, belonging to red deer, roe deer and Northern chamois. Animals were hunted in 13 different municipalities, at altitudes ranging between 750 and 2800 m a.s.l. Two tick species were collected, *Ixodes ricinus* and *Dermacentor marginatus*, with the first species being by far the most frequently detected (93.7%). Ticks infested 27.1% of the animals; in particular, red deer and roe deer culled at lower altitudes (< 1400 m a.s.l.) were significantly more parasitized than those from higher sites. However, ticks also infested 13.1% of ungulates from higher altitudes (1800-2000 m a.s.l). Serological survey on TBEV yielded negative results. Borderline results for 5 serum samples were further confirmed to be negative for TBEV by Plaque Reduction Neutralisation test. So far, our results indicate that the TBEV is not circulating in western Piedmont. However, monitoring on TBEV should continue, since TBEV and its vector are spreading in Europe. Data on tick infestation served as complementary data source to dragging for studying the current distribution of ticks at high altitudes. The wide-range distribution of wild ungulates and their role as feeding hosts, make them useful indicators of the health threats posed by Ixodid ticks.