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Prevalence of antibodies against selected agents shared between Cantabrian chamois (*Rupicapra pyrenaica parva*) and domestic goats

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Abstract Southern chamois (*Rupicapra pyrenaica*) share the habitat with domestic ungulates, and may, therefore, play a role in the epidemiology of shared agents. The objective of this study was to determine the seroprevalence for *Brucella* spp., *Mycobacterium avium* ssp. *paratuberculosis* (MAP), pestivirus, and *Sarcoptes scabiei* in Cantabrian chamois (*Rupicapra pyrenaica parva*) and compare these data with those of sympatric domestic goats (*Capra hircus*). From 2005 to 2008, blood samples were obtained from 236 adult Cantabrian chamois in two different populations, the western one and the eastern one. Seroprevalence for *Brucella* spp. and pestivirus was assessed using commercial ELISA kits, whereas specifically designed ELISA tests were used for MAP and *S. scabiei*. No

antibodies against *Brucella* spp. were detected. Conversely, antibodies against MAP, pestivirus (chamois 3.8%; goat 2.3%), and *S. scabiei* (chamois 11.9%; goat 12.8%) were detected in both species. Seroprevalence for MAP was significantly higher for domestic goats (26%) than for chamois (9.7%). In chamois, seroprevalence for pestivirus was higher in the west (6.5%) than in the east (range 0–1.8%), whereas seroprevalence for *S. scabiei* followed the opposite trend (west 4.6%; east 16.7–21.4%). We suggest that certain diseases could circulate between Cantabrian chamois and domestic goat populations, and domestic livestock may suppose a threat for the health status of sympatric Cantabrian chamois.

Keywords Serosurvey · Cantabrian chamois · *Mycobacterium avium* ssp. *paratuberculosis* · Sarcoptic mange · Pestivirus · Domestic goat

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Introduction

Southern chamois (*Rupicapra pyrenaica*) is a wild mountain ungulate belonging to the Bovidae family and Caprinae subfamily. Two subspecies can be found in Spain: the Pyrenean chamois (*Rupicapra pyrenaica pyrenaica*) in the Pyrenees and the Cantabrian chamois (*Rupicapra pyrenaica parva*), endemic from the Cantabrian Mountains and occupying the western limit of the *Rupicapra* genus distribution area (Fig. 1). A western and an eastern population of Cantabrian chamois, physically separated by anthropogenic barriers, have been defined (Catusse et al. 1996; Shackleton and the IUCN/SSC Caprinae Specialist Group 1997; Pérez-Barbería and García-González 2004). For the purpose of this study,