

Sarcoptes scabiei INFECTION IN DIFFERENT HOST POPULATIONS IN TRENTINO (NORTH-EASTERN ITALY)Bregoli M.¹, Rossi L.², Cova M.¹, Rodas Peralta S., Pasolli C.¹¹Istituto Zooprofilattico Sperimentale delle Venezie AT5 Trento ²Università degli Studi Torino

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AIM OF THE STUDY: *Sarcoptes scabiei* is the most important pathogen that can affect population dynamics of alpine chamois (*Rupicapra rupicapra*), alpine ibex (*Capra ibex*) and red fox (*Vulpes vulpes*) (Pence & Ueckermann, 2002). This report focuses on the epidemiology of sarcoptic mange in these species in Trentino (north-eastern Italy).

MATERIALS & METHODS: During the period 2000-2005, 164 chamois, 17 ibex and 1133 red foxes were examined by skin scraping and mites were detected by microscopic observation subsequent to preparation in 10% KOH. Lesions were classified depending on their extension (Pence *et al.*, 1983; Fernandez-Moran *et al.*, 1997). Moreover a seroepidemiological survey was implemented by means of an ELISA test on 1821 lung tissue extracts collected from chamois during six consecutive hunting seasons. Immunoblot analysis was used to confirm ELISA-positive samples. Body condition was evaluated by measuring the kidney fat index (KFI) (Riney *et al.*, 1955). RESULTS: 59 chamois (35%), 14 ibex (82%) and 142 red foxes (12,5%) were affected by sarcoptic mange with different degrees of hyperkeratosis and alopecia. Prevalence (4,9%) and distribution of seropositive chamois suggested a larger spread of scabies than resulted from passive surveillance. Severe extended lesions were the most frequently observed. KFI in scabietic animals resulted significantly lower than in those dead for other causes or hunted as attended, nevertheless no KFI difference resulted in different lesion categories in chamois, suggesting an early loss of condition, while severely affected red foxes had lower KFI values. One case in moufflon (*Ovis musimon*) representing the first case in Italy, and two human cases were detected in non-target species. CONCLUSIONS: Our results indicated host-related epidemiological differences: a slow epidemic progression of scabies in chamois populations with low mortality rates if compared with other reports (Rossi *et al.*, 1995); severe outbreaks in ibex threatening local populations and an enzootic presence in the vulpine population. Further research is needed in order to understand the host-parasite relationship and evolution in the study area.

DOES THE PARASITE COMMUNITY OF CHAMOIS REFLECT CHANGES OF ENVIRONMENT AND INTERACTIONS BETWEEN UNGULATE SPECIES?

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INTRODUCTION: In 1993 high mortality was observed in roe deer in the Paneveggio Natural Park (Trentino North-East Italy). The necropsy evidenced acute abomasitis with unusual high burdens of nematodes. These findings were associated with changes in environment, density of wild ungulate species and in management practice of alpine summer pasture of sheep flocks. These changes lead to different interactions between ungulate species such as chamois evidenced expansion of habitat and overlap with red deer and sheep. We investigated whether the parasite community of chamois was associated with changes in the community of alpine ungulates and presence of sheep flocks.

MATERIALS & METHODS: Since 1993, over 500 abomasa of chamois, roe deer, red deer and sheep were collected and analysed for their parasite content. The parasite community changes of chamois is analysed thorough Generalised Linear Models in relation to red deer, roe deer, sheep densities and to their abomasal parasite burden.

RESULTS: Along with ungulates density changes, the parasite community of chamois showed changes in its composition with a reduction of the parasites species richness from 10 in 1993 to 8 species in 2005. In particular in the same years, *Haemonchus contortus* a typical nematode of sheep increased from a mean abundance of 4 to 13 worms/individual and *Ostertagia leptospicularis* specific of cervids has increased from a mean abundance of 8 to 55 worms/individual.

CONCLUSIONS: The observed parasite communities variations of chamois suggest the influence of the change in use of habitat of chamois coupled with more frequent interactions with red deer and sheep. These variations highlight the importance of assessment of sanitary interactions between ungulate species, in particular sheep and red deer. This confirms: the importance of managing parasite infections of domestic flock to prevent spill-over to wildlife, and the necessity of a appropriate hunting management.