

EFFECT OF RED DEER ON ABOMASAL NEMATODES COMMUNITY OF CHAMOIS: A 14-YEARS ASSESSMENT

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Introduction. Parasites are linked to their hosts with implications for both hosts and parasites, with substantial evidence that they can reduce host fitness in the wild. Moreover information about interspecific relationship can be obtained through parasitological analysis. On this basis a survey on wild ruminants using abomasal nematodes as measures of ecosystem health, has been carried out from 1993 until 2006 in the Paneveggio - Pale di San Martino Natural Park (northeastern Italy). During this period, red deer population increased, however chamois stopped increasing from 2003.

The present study focuses the attention on infection dynamics of parasites in the red deer and chamois and their interaction.

Materials and methods. Since 1993, 147 and 113 abomasa have been collected respectively from red deer and chamois during hunting seasons and submitted to parasitological examination. The parasite burden of both host species were analysed in relation to their population dynamics.

Results. Along with host population changes, the parasite community of red deer maintained a typical composition, *Spiculoptera spiculoptera* was the dominant species, but a sporadic presence of helminth species typical of domestic and wild bovids was detected. In chamois a reduction of the abomasal nematode richness from 10 species in 1993 to 6 species in 2006 was observed. In particular a decrease in typical nematodes of this ungulate and an increase of red deer typical ones (*Ostertagia leptospicularis* and *S. spiculoptera*) occurred.

Conclusions. The observed variations in the parasite community of chamois, with an increasing recovery of cervids species, implies the role of red deer. The behaviour of the red deer and its increasing population allow a greater spatial interaction with chamois. The observed change in the abomasal helminth community of chamois suggest an altered host-parasite-environment relationship, with possible consequences on host fitness. These interspecific interactions, by a management point of view, call for a truly integrated approach in a sustainable alpine land use perspective.

Keywords: Alpine ungulates, interspecific interactions, abomasal parasites, ecosystem health.