An outbreak of infectious keratoconjunctivitis affecting two wild Caprinae species in Switzerland in 2002-2004

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In 2003-2004, an infectious keratoconjunctivitis (IKC) outbreak occurred in Alpine ibex in the Safien-Rheinwald population (Grisons, Switzerland). In May 2003, 388 ibex were counted in the area. In that period, first IKC cases were detected in the central region of the ibex area. The outbreak then spread along the mountain chain in both directions reaching a total range of 30 km. The infection progressed very fast, the speed reaching >10 km/month; the spread was associated with the migration of the animals from that particular winter range to different summer ranges. During a 10-month-period, a total of 95 clinical cases were recorded. Concerning the incidence, the IKC-outbreak was characterized by a 1-peaked epidemic curve with a maximum of registered cases in August (n = 63). The game-keepers recorded 42 ibexes which died of the consequences of IKC: 18 ibexes died as a consequence of traumas, and 24 animals in poor general condition and/or showing irreversible corneal lesions were killed. As a consequence of the IKC outbreak, the number of planned kills (n = 54) was reduced to 6 animals. Based on IKC-data and total counts in spring of the years 2003 and 2004, an overall mortality of 20-25% was estimated. This is the most severe IKC outbreak reported in ibex. A molecular epidemiological analysis based on conjunctival samples collected in 7 ibex revealed only one *M. conjunctivae* strain confirming the unique pattern of the outbreak. In ibex in Safien-Rheinwald, first IKC cases occurred before the arrival of domestic sheep on summer pastures, suggesting a source of infection different from the usual one. In fall 2003, IKC-cases were detected in chamois in an area close to the origin point of the ibex outbreak. Thus chamois may have transmitted the infection to ibex when both species used the same winter range. The authors thank Markus Egle, Michael Eichhoff, Hans and Paul Gartmann, Ronald Riedi as well as Jakob Wieland, Department for Hunting and Fisheries of Grisons, for providing IKC data. We further acknowledge Georg Brosi and Hannes Jenny for consenting this study, and the Fund for research on infectious keratoconjunctivitis for financial support.