

Chamois diseases in the Pyrenees

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INTRODUCTION AND AIMS

Chamois is a little ruminant from the bovid family, morphologically similar to the wild goat (*Capra pyrenaica*) but smaller and with a characteristic thin and curved-tip horns. There are two different chamois species: *Rupicapra rupicapra* and *Rupicapra pyrenaica*, each one with its own subspecies. The one that inhabits the Pyrenees is *Rupicapra pyrenaica pyrenaica* (in fact, this specific subspecies only can be found on these mountains).

Since the first population census was made in 1989, their number has gone through remarkable ups and downs, so the present work aims at gathering information about the most concerning pathological processes reported in Pyrenean chamois populations and that could be responsible in higher or lower measure of the mentioned population variations.

Rupicapra pyrenaica

R. p. ornata

R. p. pyrenaica

R. p. parva

Rupicapra rupicapra

R. r. rupicapra

R. r. tarica

R. r. carpatica

R. r. balcanica

R. r. asiatica

R. r. caucasica

R. r. cartusiana



PESTIVIROSIS

It is an infectious disease caused by a novel Border Disease-like pestivirus (unknown until this disease appeared in chamois). The first description dates from 2001 when took place a significant outbreak in Catalan Pyrenees. Those individuals affected by the virus shows multiple signs as weakness, fearless to human proximity, alopecia, skin hyperpigmentation or cachexia. Attending to the huge mortality reported (up to 90% in some areas), it could be said that this is the most important pathology that has ever affected the Pyrenean chamois populations.



Figure 1. Pestivirus-infected Pyrenean chamois specimen with large alopecic and hyperpigmented areas (Marco et al. 2015).

INFECTIOUS KERATOCONJUNCTIVITIS

This is the disease of highest incidence in chamois populations and it is caused by the bacterium *Mycoplasma conjunctivae*.

In Pyrenees was described for the first time in 1952 and since then have been reported both outbreaks and isolated cases. The symptoms include ocular discharge, corneal opacity (due to keratitis) and walking insecurity, because the process can end in blindness. The relevance of this pathology doesn't lie in its fatality (population reduction of the 10-15%), but in its morbidity which can reach 80-90%.



Figure 2. Corneal opacity in a chamois affected of infectious keratoconjunctivitis (Marco et al. 2015).

PNEUMONIA

Respiratory diseases in chamois are generally caused by bacteria belonging to the genres *Pasteurella* and *Mannheimia*. They can appear as primary disease or as secondary to another pathology. Infected animals can show difficulty breathing, cough, nasal discharge and impairment of corporal condition, but the most common situation is finding dead animals or their remains. These processes cause a significant mortality (it has been estimated in 65% for young individuals and between 30 and 40% in animals of other ages) and are considered the first cause of death in some areas.



Figure 3. Opened thoracic cavity of an individual, in which can be observed a darker area in pulmonary parenchyma (pulmonary congestion) (SEFaS' property).

CONCLUSION

There's a wide range of diseases that can affect chamois populations, but not all of them have been reported in Pyrenean chamois or at least no evidence has been found. However, this doesn't mean that these other pathologies described in different chamois subspecies cannot affect the Pyrenean one or even the appearance of novel diseases. That's the reason why management and control programs are so important: in order to act quickly in case of appearance of a disease that threatens the future of these populations.