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Chairman's report
Triennium 1991-92-93
(Abstract)

In the last triennium, the Caprinae Specialist Group has been formed by 36 members, from 27 countries.

The main task of the Group has been the preparation of the World Action Plan for Caprinae, compiled by Dr. David M. Shackleton, Deputy Chairman of the Group. The accomplishment of the Action Plan is proving a titanic effort of both the 100 ca. authors/reviewers of the 60 country reports and, in particular, of the compiler who has had to coordinate, revise and often re-write each country report. Recent data could be obtained for only 51 reports. The total of 60 includes a single report for the states of the former Soviet Union, and one for the former Jugoslavia.
Remnant Pyrenean wild goat population in Ordesa and Monte Perdido National Park, Pyrénées (Spain).

by

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Introduction

The Spanish wild goat Capra pyrenaica is an endemic species of the Iberian peninsula, scattered throughout several mountain chains.

Traditionally, the existence of four well-defined subspecies has been recognised in accordance with different morphologic features (Cabrera 1911), although some authors do not accept this
classification (Couturier 1962, Clouet 1980, Crampe 1991). The subspecies-type as described by Cabrera, *Capra pyrenaica pyrenaica*, is at present seriously threatened with extinction - just a very small population survives in the Ordesa and Monte Perdido National Park, in the Central Spanish Pyrénées.

The reason why the Pyrenean wild goat population is not thriving remains so far unknown. The following factors are considered as possible reasons:

- severe environmental conditions of the habitat,
- competition with chamois *Rupicapra pyrenaica pyrenaica* and other ungulates,
- high inbreeding levels,
- population below critical level for maintenance,
- malnutrition,
- poor health condition,
- poaching,
- social breakdown of the population,
- infertility.

Accordingly, during 1989 and 1990 the "*Inventory of the Spanish Population of the Pyrenean Wild Goat*" project was carried out with the support of the Instituto Nacional para la Conservación de la Naturaleza. The goals of the project were as follows:

1) censusing the Pyrenean wild goat population,
2) examination of potential factors limiting the growth of the population, especially habitat quality and interspecific competition with chamois, with which it shares the distribution range in the National Park. In relation to the latter, the study of interactions between Pyrenean wild goat and chamois intended to achieve 4 objectives:

- calculating the population density of chamois in the Pyrenean wild goat range,
- investigating the chamois' use of feeding troughs in which supplementary food is provided to Pyrenean goats,
- determining the habitat utilisation of chamois and the possible space competition with Pyrenean wild goat,
- using the chamois population to indirectly estimate the number of Pyrenean wild goats by marking and visual recapture.

3) Initiating taxonomic studies of *C. pyrenaica pyrenaica* through cranial features.

The results of this project are presented in Garcia-González *et al.* (1991, 1992, in press a and b).

**Study area**

Currently, the habitat of the Pyrenean wild goat is the North-facing slope of river Arazas canyon, located in Ordesa and Monte Perdido National Park. It expands over an area of about 650 ha of dense forest consisting of wild pine *Pinus sylvestris*, beech *Fagus sylvatica*, fir *Abies alba* and mountain pine *P. uncinata*. It alternates with huge cliffs and avalanche channels. The altitude range of the Pyrenean wild goat distribution area varies between 1,050 m at the bottom of the valley and 2,230 m at the highest peak. The mean slope gradient for the entire hillside is over 50°.
This part of the National Park was shared by the remnant Pyrenean wild goat population and a large population of chamois, estimated to be 150 animals (García-González 1991, García-González et al. 1992).

Methods

In the course of the project, different methods for gathering data have been used depending on the goals to achieve; these are shown in table 1:

Table 1. Methodology used for the completion of the project "Inventory of the Spanish Population of the Pyrenean Wild Goat".

<table>
<thead>
<tr>
<th>OBJECTIVES</th>
<th>METHODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pyrenean wild goat population census:</td>
<td>- compilation of the observations gathered</td>
</tr>
<tr>
<td></td>
<td>during the last 10 years</td>
</tr>
<tr>
<td></td>
<td>- fixed observation points</td>
</tr>
<tr>
<td></td>
<td>- linear transects</td>
</tr>
<tr>
<td></td>
<td>- radiotracking: &quot;Judas&quot; technique</td>
</tr>
<tr>
<td>2. Competition with chamois:</td>
<td>- fixed observation points</td>
</tr>
<tr>
<td></td>
<td>- linear transects</td>
</tr>
<tr>
<td>3. Taxonomic classification:</td>
<td>- craniometry</td>
</tr>
</tbody>
</table>

Fixed observation points.

Eight fixed observation points were set up at the bottom of the valley, from which the entire slope could be observed where the Pyrenean wild goat lives. All these points were checked a minimum of three times a week by at least an observer. The minimum observation time from each point was 20 minutes. The observed hillside allowed visual inspection during almost the whole day. The material used for the visual exploration consisted of 8X or 10X binoculars and 20-60X telescopes.

Linear transects.

Due to the steep orographic lie of the land under examination, only a limited number of paths are usable through the slope where the Pyrenean wild goat live. A series of itineraries is confined. All these routes were periodically checked during the survey period, in the area frequented by this subspecies.

Considering the number of animals which have been observed on these routes, the distance covered and the visibility at either side of the transects, the population size may be estimated.

"Judas" technique (Taylor & Katahira 1988).

It consists in the introduction of an allochtonous, radio-tagged animal into the area used by the population under observation. If the animal is accepted in the herd, the opportunity of spotting native animals is provided.
On July 6, 1990, a sterilised and radio-tagged yearling goat from the mountainous area of Cuenca, in the middle of the Iberian peninsula, was released in the Ordesa and Monte Perdido National Park. Until December of the same year, 2 visual contacts were made of it, and 15 approaches to a distance under 50 m without it being sighted. Apparently, the Judas was not accepted by the wild goats - at least, there is no evidence of the animal joining the native population. The animal in question died in December 1990, presumably because of a snow storm.

**Craniometry.**

The horns and the cranial fragments of the Pyrenean wild goat in various museum and in public or private collections were measured to compare with the measurement available from other Iberian populations of Spanish wild goat. A total of 52 different measurement were taken from skulls, horns and horn sheaths (Garcia-González 1991).

**Results and discussion.**

**Estimated population size**

A total of 225.5 man-hours were spent in observation from fixed points between February and June 1990, before the annual seasonal migration of chamois occurred (Garcia-González et al. 1992). A total of 88 chamois and 6 Pyrenean wild goats were observed, probably the same individual(s) more than once.

After release, in January 1990, of 6 tagged chamois, 700 km of transects were made on foot in 145 non-consecutive days, in the Pyrenean wild goat distribution area, till December of the same year. Along the transects, 886 chamois were spotted, 27 of which were marked. One Pyrenean wild goat was also seen. Using Petersen’s estimate with Bailey’s correction (Caughley 1977), the chamois population has been estimated to be N= 158.4 animals (S.E.= 28.8, 95% confidence limits gave a range of 100.3 to 216.0 individuals). The density of chamois in the Pyrenean wild goat range was over 20 animals/100 ha (Garcia-González et al. 1992, Hidalgo 1993).

The census of the Pyrenean wild goat population was carried out by the same procedure (N= nM/m), assuming a mixed population of N= 158.4+x animals and using the Pyrenean wild goat (x individuals) as marked animals (M= x). For this estimate only observations made from fixed points have been used (n= 88+6= 94 animals, m= 6 Pyrenean wild goats), because of the different escape behaviour shown by both species in the course of linear transects. By this method, a population of 10.8 ± 3.9 Pyrenean wild goats was estimated.

This scarce population has persisted for a long time. It is likely that the current conditions of habitat (restrictive climatic conditions and scarce availability of food resources) may not allow a higher density, considering the local abundant presence of chamois.

**Competition with chamois**

Currently available data to estimate this interaction are insufficient. At any rate, competitive exclusion between the two species has not been definitively proved. A preliminary examination of their diet suggests that overlap between Pyrenean wild goat and chamois is low.
Taxonomic features

According to García-González (1991), significant differences between *C. pyrenaica pyrenaica* and the other two living subspecies of Spanish wild goats can be found as to neurocranial length and width. However, the difference in size between Pyrenean wild goat and the rest of Spanish wild goats are best seen in the size of the horn core, especially its considerable thickness in the former subspecies. According to this author, the evolution of the shape of the horn section, laterally compressed in a gradual way as the latitude increases, must also be emphasised.

Conclusions

The remnant Pyrenean wild goat population is currently in a serious condition. Recent surveys suggest 15 animals at most, living in sympathy with a dense chamois population.

A properly coordinated performance programme is required, including captive breeding, to prevent the extinction of this subspecies.

References