



## The Abruzzo Chamois

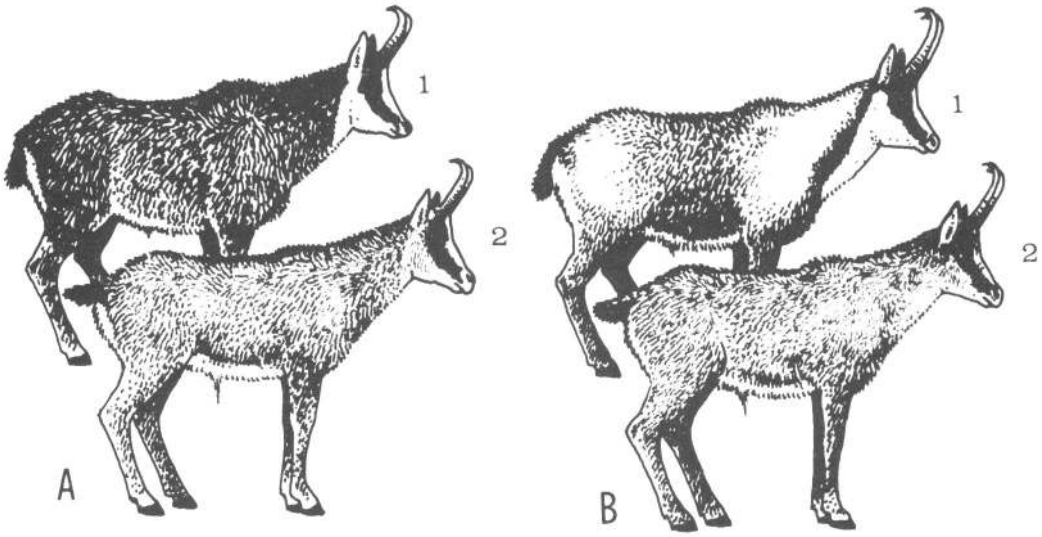
*Sandro Lovari*

**The chamois in the Apennine Mountains of central Italy are reduced to under 400 animals scattered in a few places in the Abruzzo National Park. Shooting outside the park and the presence of livestock and shepherd dogs make it impossible for the chamois to spread. A field study is now being made and reintroductions are planned.**

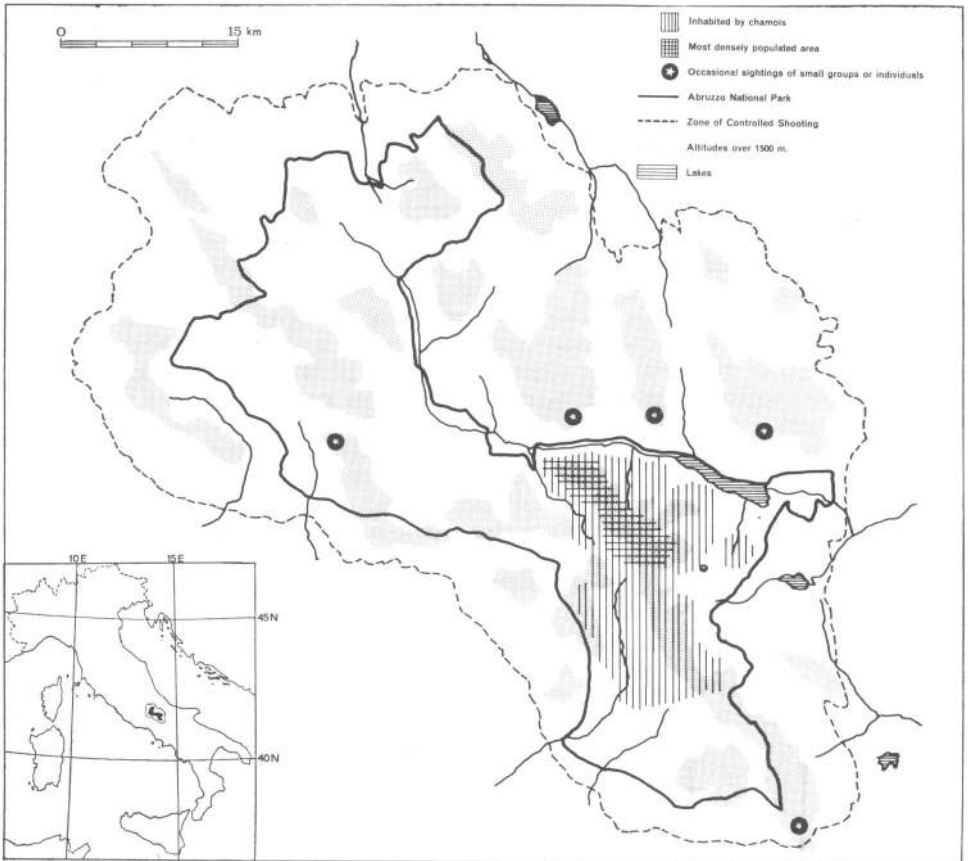
The Abruzzo National Park lies along the Central Apennines, between 700 and 2200 m, including a large part of the high valley of the Sangro river. Beech forests grow on the mountain slopes, and the higher parts are covered by alpine grassland and barren rocky, mostly calcareous areas. This is the country inhabited by the last herds of the Abruzzo chamois *Rupicapra rupicapra ornata*, which probably once ranged all along the Apennines and are now reduced to 300–400 individuals scattered in a few areas in the park. During the last glaciation the chamois occurred in both the Alps and the Apennines, probably forming a single continuous population. The causes of the decrease of the Apennine population are hard to detect; perhaps the more inaccessible Alps were less favourable to man's interfering activities, such as shooting, habitat alteration and livestock raising. What is certain is that the last Apennine chamois outside the park was shot at the end of the 19th century on the Gran Sasso massif.<sup>2</sup> About 1915 the park population decreased greatly, and only 30–40 were left. Numbers increased between the two world wars, but were down to 40 again in 1949. In 1969 150–200 were censused<sup>3</sup>, and numbers have doubled in the past six years.<sup>1</sup>

The Abruzzo chamois is a slender animal with exceptionally long horns and a winter coat of distinctive colours, the Alpine subspecies being stouter and darker. Males and females are very similar and can only be distinguished in the field in summer and autumn, when the genitals of the males are clearly visible. Two kinds of horns have been observed: one diverging and slender and the other parallel and larger. However, this does not seem to be a sex

*The chamois above are showing an 'anti-predator' attitude to the photographer. If more seriously alarmed they adopt a more defensive posture and close in around the kids.*



The Alpine chamois (A) and the Abruzzo chamois (B), showing the main difference in horn size and winter coat (1) and summer coat (2)



The chamois on the right has the diverging and slender type of horns; the other has the less usual type in which the horns are closer and have a larger section  
*S. Lovari*



characteristic and probably genetic factors underlie these peculiarities. The park population includes two main sub-populations, one living on Mount Amaro (1862 m) and the other ranging between Mount Capraro (2100 m) and Mount Sterpi d'Alto (1966 m). Small herds or isolated individuals, mostly males, are often sighted in neighbouring areas, but any attempts to colonise new ground are likely to fail because of livestock, shepherd dogs, especially feral ones, and 'controlled' shooting in the zone surrounding the park.

Two main seasonal ranges have been recorded: late spring to early autumn, and late autumn to early spring. In late spring from one to five barren females lead groups of 10–30 yearlings to the alpine meadows, while pregnant females move to separate kidding areas, giving birth in May and early June. These are rocky and inaccessible (Camosciara, Maddalena), with almost vertical walls filled with small caves and hollows and sparsely covered by mountain pines *Pinus mugo* and juniper *Juniperus communis nana*. In late May-early June females with kids appear in the alpine meadows, and join up with the yearling bands. Led by barren females that are more than eight years old, the whole flock is very shy, with a remarkable fleeing distance. Their shyness decreases gradually as the kids grow older and become more independent. The largest group size is reached in late summer-early autumn, and males start regularly attending the herds of females in this season only. The rut occurs in autumn, approximately from October to mid-December, with the peak in late November, when interactions between males and the relevant agonistic behaviour occur frequently. In December the herds move to their respective winter ranges, always in beechwoods in neighbouring valleys, usually north-east facing, only visiting higher ground on sunny days when the snow melts sufficiently to expose some grass patches. Sub-adult and adult males seem to live in woodland during most of the year, only joining the flocks of females occasionally.

Apart from human interference, both direct and indirect, the Abruzzo

chamois seem to suffer little disturbance from other animals. Wolf, fox, brown bear and eagle are the most likely predators, but their predation does not seem to be heavy. A brown bear or a fox may take a sleeping kid at night, and wolves may attack at any time, but the alertness of the chamois and the very rugged ground where they spend most of the time prevent regular predation. Only very seldom were wolves seen to chase chamois, and never successfully. It seems likely that eagles may prey more heavily, but it cannot be much more because of the scarcity of this raptor in the park, the numerous other prey – hares, foxes, domestic fowls, etc. – and the efficient protective behaviour of the chamois, which surround the kids with a circle of adults ready to strike any aggressor. Only seven predatory attempts by eagles have so far been witnessed by park wardens, and only one, aimed at a kid, was successful. Poaching is rare and the wardens' surveillance seems to be effective, at least within the park boundaries.

Many questions are still to be answered on the biology of the Abruzzo chamois, and a field study, sponsored and supported by the Centro Studi Ecologici Appenninici of the Abruzzo National Park, began in January 1976. Hopefully, it may be possible to reintroduce this ungulate in other Appennine areas, which must, of course, be adequately protected. But an isolated population may be threatened by many dangers – epidemic diseases, natural disasters, human interference – leading possibly to its extinction, and the establishment of other populations elsewhere is therefore highly desirable.

### References

1. LOVARI, S. 1976. Appena quattrocento i camosci appenninici. *Corr. Sera* 101 93: 17.
2. TASSI, F. 1975. Breve analisi faunistica del Gran Sasso d'Italia. In: *Omaggio al Gran Sasso*, 127–139, C.A.I., L'Aquila.
3. TASSI, F. & FLORIO, P. L. 1970. The Chamois of Abruzzo. *Animals* 13: 14–16.

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### 1974 Report of Caribbean Monk Seals

A report of 'at least two seals' seen by fishermen in 1974 between Cuba and the Bahamas comes from our FPS Consultant in Cuba, Luis S. Varona. The captain who reported them, says Sr Varona, was 'a veteran sailor and reliable informer', who knew the smaller cetaceans well. When shown photographs he rejected both 'dolfinos' and 'toninas' (dolphins and porpoises) which he said were not seals, and immediately put his finger on the seal, saying 'that is it'. The area where the seals were seen appears to be south of Long Island. In 1975 Dr Karl W. Kenyon, reporting after his aerial survey in the Caribbean, believed this seal to be extinct, and that it probably had been since 1952, or shortly after, when the last 'reliable sighting' was made. (See *Oryx*, February 1976, page 225.)

*Bears – Their Biology and Management* (IUCN New Series No. 40, \$18) is the proceedings of the Third International Conference on Bear Research and Management at Binghamton, New York, and Moscow, June 1974, covering all species, with papers on behaviour, bears in US national parks, management techniques, status and biology.