

EDITORIAL

UNGULATE BIOLOGY, HEALTH AND MANAGEMENT IN THE 21ST CENTURY: THE TABLES ARE TURNED IN THE IBERIAN PENINSULA

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Long time ago, observing ungulates in the Iberian Peninsula (IP) was a privilege for few lucky people. In those days Iberian ibexes, chamois, roe deer or red deer populations were moderately abundant in some game units or present in remote areas of IP. However, currently, ungulate populations in the IP are mostly a conservation success story, as their numbers and distribution range have increased substantially over most of our territory. This extraordinary population increase has created new challenges for hunters, wildlife ecologists, veterinarians and managers. Actually, not only wild boars are now easy to sight in some cities of the IP but are responsible for certain insecurity for local residents, specially due to road traffic accidents. Today, roe deer and Iberian ibexes have significantly increased their distribution and it's possible to see ibexes near to the shoreline and roe deer groups colonizing semi-arid and dry Mediterranean habitats. Surprisingly, the Iberian ibex is absent in some regions of the Iberian range (e.g., centre and south Portugal, or in the Pyrenees) which have triggered an intense debate between managers and researchers about the suitability for a further reintroduction. Little is known, on the other hand, about the current status of old adopted species, such as the aoudad, and we know very little about the status of groups of pot-bellied pigs and feral goats in our countries. The impact of diseases on these species and on human beings (in case of shared diseases and zoonosis) becomes, now more than ever, a very important issue because of the abundance of Iberian ungulate populations.

The great conservation and management efforts and successes of the past now face a new challenge: the problem of coexistence of humans with this group of mammals. It is important that scientists, managers, hunters and administrators meet to discuss what to do in the near future. The RUSI (Reunión sobre Ungulados Silvestres Ibéricos / Reunião sobre Ungulados Silvestres Ibéricos) is an Iberian forum to bring up those issues. During the last two meetings (the second edition took place on July 2011 in Aveiro, Portugal and the third on October 2013 in Girona, Spain), the following conclusions were built about two main issues: ungulate management and population monitoring (Aveiro, Portugal) and Human-ungulate conflict prevention and management.

Regarding ungulate management and population monitoring, the main conclusions have been summarized in the following five points:

1. Game managers and researchers should work towards the promotion of Game Certification, increasing awareness and understanding of a sustainable management and in accordance to the natural selection process and natural population dynamics.
2. Small hunting states from northwest Iberian Peninsula, should work towards developing a global management plans including the management of a specific ungulate population in several states at the same time.
3. Managers should pay attention to supplemental feeding; several studies have proved the link between this management practice and the spread of parasitic and infectious diseases.
4. Health status of populations should be considered in any further ungulate monitoring or management plan. Their role as reservoirs for main zoonosis and other diseases shared between wildlife and livestock-wildlife is too important to ignore. Managers, hunters and unspecialized researchers should have the basic training for detecting the presence of main diseases in their respective working areas. Then, animal health authorities should be immediately informed.
5. Population monitoring is the best support for any further management action. If we develop management plans on ungulate populations without the support of valid and reliable population censuses data, it will be very difficult to reach the management success.

Concerning the third RUSI meeting, held in Girona, about conflict prevention and management of ungulate populations, the main original conclusions were the following:

1. The increase in ungulate population numbers in peri-urban and rural areas causes a number of accidents on the roads. Specific preventive and corrective measures should be applied taking into account not only the road type, but also ungulate behaviour. In such urban areas, civic education activities against feeding ungulates should be implemented.
2. In the countryside, ungulates are responsible for crop damages. Farmers are very worried about this and, thus, the collaboration between local environmental administrations, specialists and farmers is necessary to solve such conflicts.

3. Such impacts on crops and the potential of ungulates as disease reservoirs should be taken into consideration in any reintroduction plan of ungulate species.

4. Though hunting is the main method used for control of ungulate populations, new measures should be explored in case of areas where hunting is forbidden. Habitat management practices are recommended in such cases.

5. Ungulate meat is an important food resource in the IP. We need to encourage our markets and internal consumption, but also promote the development of a legal and regulatory framework to improve and make such consume easier.

As a final remark, we can assume that the conflicts and problems originated by the current ungulate population status in the Iberian Peninsula give us an excellent opportunity for applying the acquired knowledge obtained over years and to show the extent to which our society has developed.

Note: Papers of the first RUSI hold in Zaragoza, Spain (September 2010), can be found in: García-González, R. & Herrero, J. (2011) Pirineos, *Journal of Mountain Ecology*, 166, doi:10.3989/pirineos.2011.v166