

Editorial

Ethics and animal experiments

There is great biological interest in the birds and marine mammals of Antarctica. They are numerous, obvious and apparently well adapted to an extreme and highly seasonal environment. What specific ecological and physiological adaptations have made them so successful? In pursuit of the answers to this biologists, over many decades, have undertaken a wide variety of experiments on seals and birds—especially penguins.

The status of animals varies considerably between national cultures. Those countries initially involved in Antarctic research all shared a common European cultural perception that in experimenting on warm-blooded animals particular consideration had to be given to limiting the trauma. Researchers from these countries brought this ethic with them to Antarctica. In Europe and North America there have been for a long time stringent licensing requirements, government inspectors and legal safeguards to ensure that experiments on animals are properly designed and conducted. Whilst few, if any, Antarctic researchers submitted their proposals for ethical clearance they were concerned to minimize the intrusive effects on the animals. Despite this, the most modern techniques suggest that some protocols, which have been in use for many years significantly reduce reproductive success for the experimental animals inevitably leading to wrong conclusions. With current interests in diet, underwater and in-flight physiology and biochemistry, to say nothing of regular large-scale banding programmes and other forms of marking, Antarctic animals are under increasing experimental study. Are we sufficiently concerned about how the data are obtained?

Here is a problem created by the science community and requiring a solution. The SCAR Biology Working Group appointed a subcommittee to draft a code of conduct. Despite a wide range of differences in national approaches it proved possible at Bariloche for SCAR to accept this code of good practice for all animal experiments. It is based on the principles for biomedical research involving animals, originally developed by the Council for International Organization of Medical Sciences. Two points are of particular significance. First, it requires that painful or distressing procedures should be undertaken with appropriate sedation and this should only be waived after consideration by a review body. Secondly, it requires that managers ensure that investigators have appropriate experience and that adequate opportunities for training are provided.

This Code will be formally presented to the Antarctic Treaty Meeting in Japan next year and there is no reason to suppose that it will not be acceptable. Yet as a code it carries no legal status. Some countries already have in place more stringent rules for their nationals. Other countries apparently still do not consider this a matter of any great moment.

Achieving a minimal standard, however vague the wording, is a first and very important step. There remain a number of unanswered questions. Is there a need to provide a handbook of acceptable techniques to ensure that no researcher is disadvantaged by a lack of modern information? Should there be a report of when and why anaesthesia was not used and if so to whom? Who will assess the implementation of the code in all 25 countries, and how? How is the Antarctic scientific community to deal with those who choose to ignore it? What would be the response if compliance to the Code were included in Treaty inspection questions? This is a problem with wider significance than just the Antarctic. It is an important test for responsible science. If the international Antarctic community can provide an acceptable solution the lead will not go unnoticed elsewhere.

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