

News & Review

Pink Suits BUAV

After a long game of political saw, the more radical and militant elements of the British antivivisection movement have gained control of the British Union for the Abolition of Vivisection (BUAV). Reinstated during the December 1980 annual meeting, President Jean Pink favors militant action along the lines of her own organization, Animal Aid, which sponsors marches and demonstrations throughout Britain. In the five years of its existence, Animal Aid has grown from a small group of activists in Kent to a membership of more than three thousand all over England.

Mrs. Pink held the presidency of the BUAV earlier in 1980, but was suspended by the old guard after serving only a short time. The old guard has since been fighting to retain control of the organization amid allegations by the radicals' supporters that it has been involved in various financial improprieties. Despite these efforts, Mrs. Pink was re-elected without opposition, and radicals secured 10 of the 18 executive seats. It is not yet clear in which direction the BUAV will now move, but its course is sure to be marked by more internal politicking and committee-room scheming.

Acclimatization After Capture

The stress induced in wild animals during capture and transport may be significantly reduced by employing an alternative method of capture and confinement. Conventional methods, such as netting and immediate pen confinement, yield high mortality rates. The alternative procedure, involving a period of acclimatization in large enclosures prior to penning and transport, has been shown to reduce the incidences of myoglobinemia and elevation in blood potassium levels.

In a study reported by A.M. Hart-horn (*Vet Rec 108:37, 1981*), a modified version of this technique was used with sable antelope. The results were encouraging: Of the more than 23 animals captured, only four deaths occurred; one adult male was killed after hitting a fence post, and three calves, orphaned when their dams escaped, failed to be reared. No deaths occurred during the taming and training period. In a subsequent study using the traditional netting method to capture a herd of sable, the mortality rate was 54.5%. Those surviving were adult males, which are known to be more resistant to capture stress than females or young males. The acclimatization consists in the gentle maneuvering of animals into the enclosures, daily extended exercise, and a taming regime of 30 days. (In this particular study, the taming regime was extended to 90 days due to an imposed quarantine, but 30 days is considered sufficient.) Hart-horn notes that since this study, another group of antelope that was allowed to acclimatize suffered no losses.

Shooting in Italy

Attitudes toward wildlife in any country can be understood only through reflection on national cultural traditions. Probably nowhere in the world are the problems of wildlife conservation as exacerbated by these traditions as they are in Italy. Fabio Cassola, in his article "Shooting in Italy: The Present Situation and Future Perspectives" (*Biol Conserv 11:85-106, 1979*), analyzes the cultural and legal problems that confront Italian wildlife.

Italy boasts the highest density of hunters in Europe, an average of more than 8 per square kilometer. Its 2 million hunters, which are increasing at a rate of 100,000 per year, constitute over 30% of

the male population. According to Cassola, *machismo* and conformity are the major social pressures swelling the ranks of hunters. Other causes are socio-political: Increased urbanization, coupled with greater amounts of recreation time, has turned many Italians toward hunting as an escape to the outdoors; hunting has become a mass-popular sport, no longer a pastime of the aristocracy. Enormous commercial interests in firearms production and in relevant publications have strengthened the financial and political foundation of hunting in Italy.

The growing array of hunters is only one of a long list of factors taking their toll on wildlife. It is difficult to ascertain why conservation takes hold in one country and not in another. Certainly Great Britain has a strong tradition of conservation; interest in natural history, particularly ornithology, has long been rooted at the popular level. The lack of such traditions in Italy, Cassola maintains, has left the public, and even biologists, with little understanding or appreciation of wildlife. Poaching is rampant, forbidden hunting methods such as traps and snares are common, and "protected" species are considered fair game. Live decoys are used to lure other birds into hunters' range. Once the traditional means of procuring food, bird hunting has long since become both a sport and a commercial enterprise unrivalled, perhaps, in the rest of the world. Although songbirds are sold in Italian butcher shops, it is unclear from Cassola's account whether netting is primarily to trap birds for food or for pets, or to capture "destructive" birds, a term very loosely defined in Italy.

Legal traditions hinder the ability to curb such destructive practices. The "right to bear arms" is carried to an extreme in Italy. Declared a "basic individual right" in the "national interest," hunting may not be forbidden on private property except by physical barriers. Furthermore, the amount of land tied up in refuges and protected areas is limited by law.

Ambiguities in the law abound. A

1916 ban on the shooting of songbirds was allowed to lapse, apparently a not uncommon occurrence for such protective laws. A 1977 national law against bird netting rendered itself ineffective by allowing the regional issuance of permits. Regionalism is perhaps one of the most serious reasons for the chaotic state of conservation in Italy. Provincial governments attempt to satisfy their hunting constituency through disregard of national laws, allowing hunting of protected species or in protected areas.

The 1978 '*leggequadro*' which established new hunting regulations, made substantial improvements in wildlife law. Penalties for violations are more severe, the minimum hunting age has been raised, and hunting has been restricted to about 70 species. Yet, the practicalities of enforcement, combined with political and financial pressure from the hunters, continue to undermine the effectiveness of legal changes. Moreover, some of the changes are for the worse. Many species on the "shootable" list are rare or difficult to identify; hunting season now coincides more closely with the southward bird migration.

It is not difficult to find notable examples of naturalists with a passion for shooting. Audubon shot thousands of birds, as did the 19th century shorebird hunter, George H. Mackay. Yet it was the uncommon quality of keen observation in such sportsmen that generated concern for wildlife; accounts such as theirs drew attention to the destructive impact of market gunning, egg collecting, and the millinery trade on bird populations, and laid the framework for protective legislation.

Perhaps hindsight is the essential element for the transformation of national attitudes toward wildlife. And perhaps it is sufficient hindsight that Italy has not yet achieved; hunters search for game elsewhere in Europe, complaining that Italian prey have become scarce.

To some extent, preservationist outcry at indiscriminate hunting practices is an aesthetic reaction to the wholesale slaughter of songbirds; the biological effects of such mortality on bird popula-

tions are poorly understood. Slowly, however, the ecological consequences of certain practices are emerging—predator-prey imbalances through “pest management” and adverse effects on native species through the introduction of exotic game species, for example—are being addressed in the new hunting laws.

Cassola sees hope in the increasing public awareness of and the burgeoning opposition to hunting. Yet the cultural, political and financial roots of hunting in Italy make it unlikely that it will ever be stopped as a sport. If there is cause for optimism, it is that hunters, sharing with conservationists an interest in wildlife, will learn the lesson that hindsight has to teach before it is too late, and recognize the need for greater biological and ecological understanding, and for stringent regulation of hunting practices. — *Natasha Atkins*

(Material also drawn from “The Bird Lovers,” Edward R. Ricciuti, *Audubon*, September, 1977.)

Improved Replacement for Whale Oil

For conservationists, one of the more disappointing developments at the 1980 meeting of the International Whaling Commission was the failure to ban the taking of sperm whales. Despite warnings by scientists that the North Pacific stock of sperm whales will decline even with a take of zero, the IWC set the quota at 890.

Sperm whale oil is used as an ingredient in cosmetics and other products, but it can be replaced by the oil contained in the seeds of the jojoba, a shrub or small tree found in the desert of the southwestern United States. Ordinarily, the jojoba is dioecious, bearing either all male or all female flowers. The commercial yield of oil is therefore dependent on the frequency and distribution of male plants, as well as the presence or absence of wind currents needed to ensure pollination. However, according to *Drug and Cosmetics Industry* 127(4):16,

1980, Dr. Demetrios Yermanos, a professor of genetics at the University of California, Riverside, has developed a strain of jojoba that bears both male and female flowers on the same plant. In eliminating the problems associated with cultivating the typical strain, the new type of jojoba should prove to be a much more economically attractive alternative to the continued destruction of sperm whales.

Boon to the Scotty Breed

Scotty cramp, a defect in the central nervous system which afflicts Scottish terriers, may now be controllable, according to Dr. Kenneth Meyers, a research veterinarian at Washington State University (Pullman, WA). Triggered by either mental or physical excitement, Scotty cramp results in a tightening of the animal's skeletal muscle. Although the condition is apparently painless, Dr. Meyers notes: “Standing or walking becomes nearly impossible for some of the dogs. Severely affected dogs may collapse altogether and curl into a ball.”

Meyers and his colleagues have determined that a recessive gene, which became established in the Scotty gene pool in the course of generations of selective breeding, is responsible for Scotty cramp. The condition could therefore be bred out of a given line of Scottish terriers. Meyers stated: “By keeping good breeding records, testing every pup for the disease before selling and mating dogs that don't carry the gene, the condition can be eliminated.”

During the course of his research, Dr. Meyers discovered that incidences of cramping are associated with depressed levels of the brain chemical serotonin. He then used this information to devise a screening test in which methylsergide is used to inhibit serotonin and thus incite cramping in afflicted dogs. Three regional Scotty cramp testing centers are currently in operation: Washington State University (Dr. Meyers); Michigan State University (East Lan-

sing, MI; Dr. George Padgett) and University of Florida (Gainesville, FL; Dr. Robert Clemmons).

There is no cure for those Scotties that inherit the genetic trait. However, Meyers has found that tranquilizers such as Valium, and vitamin E ameliorate the condition substantially. "Avoiding high excitement or stressful situations or training the dog to face such situations calmly can decrease cramping episodes," Meyers said. "By following a treatment program [both behavioral and chemical], the animals can lead normal, healthy lives.

NFU Airs Views on Welfare

The National Farmers' Union (UK) recently testified to the House of Commons select committee on agriculture in charge of investigating animal welfare that their efforts to produce food at a reasonable price under conditions compatible with the optimum welfare of the stock were being undermined by the welfare lobby's lack of appreciation for the industry's many advances (*Vet Rec* 108(7):135, 1981). In written and oral evidence given to support this claim, the NFU stated that it did not condone cruelty, but reminded the committee that abuses can occur within any type of husbandry system, particularly when farmers are under financial pressure. The NFU recommended that welfare codes and regulations similar to those in Britain be implemented in Europe as well, to eliminate any threat of competition resulting from differing standards of practice. The union also invited, on behalf of the farming industry, more veterinary inspection and advice on welfare from the State Veterinary Service "...if only to ensure that the consumer can be satisfied that the highest standards of husbandry are maintained on British farms."

The question was raised as to whether adequate productivity was an indicator of satisfactory welfare. NFU spokesman Michael Weller replied: "By

and large, that is indeed so. If the animals are not happy they are not happy in all senses and if they are distressed and frustrated they cannot produce as well as if all those factors are looked after as well as food and water." However, it was unclear, at least in the *Veterinary Record* article, whether Mr. Weller was making a distinction between extensive systems, in which the welfare of individual animals can have a significant impact on overall productivity, and intensive systems, in which the large scale of production can provide a cushion against the negative economic effect of poor husbandry.

Oral Rabies Vaccination for Foxes

The immense effort directed against rabies through the popular method of control by reduction of wildlife populations seems to be failing. In the United States during the past ten years, the largest percentage of reported cases of rabies has been in wildlife. In Europe as well, the epizootic has persisted and accelerated for more than forty years. Traditional "control" methods have included trapping, strychnine-bait poisoning, den-gassing and bounty hunting. These have proved to be not only expensive (\$26-\$200/animal trapped; \$30/animal poisoned) and ineffective, but are now thought to be counterproductive.

The theory behind control by reduction is that if the number of possible vectors can be reduced to below a critical threshold, an epidemic could not be sustained within that population. The threshold level is that population size in which intraspecific contact is minimized, thus minimizing as well the possibility of rabies transmission by bite. For foxes the threshold level has been calculated to be 2 animals/sq. mi. However, it has been found that at least for foxes, reducing numbers in a given area invites the introduction of foxes from other areas, resulting in a greater distribution of infection combined with an increase in the contact rate due to territorial struggles. In addition, curbing the popu-

lation reduces competition for food and territory, meaning greater chances for surviving individuals to breed. In effect, natural selection works against culling in the long term.

However, a new idea for control is in the making. The oral vaccine, providing self-immunization, may be the alternative to control by slaughter. According to researchers P.J. Bacon and D.W. MacDonald (*New Sci* 87:640-645, 1980), vaccination accomplishes the same goal as culling, i.e., removal of susceptible individuals, but does so without the attendant social disruption (which can mean increased rate of contact and subsequent rise in disease) and destruction of uninfected animals.

The most elegant way to administer an oral vaccine is to provide foxes with an impregnated bait which they will eat, thus immunizing themselves. Bacon and MacDonald report that an inexpensive bait-delivery system has been almost perfected by its designer, David Johnson of the Ontario Ministry of Natural Resources. More than 70% of the foxes in Johnson's study group ate a biomarked bait, but it should be noted that the study tested only the effectiveness of the delivery system; actual vaccine was not used. Indeed, the vaccine itself may present a major practical problem in this scheme: Live vaccine is the most effective oral immunizer for foxes. However, it is possible that other wild animals, such as rodents, who might eat bait impregnated with live vaccine, would contract rabies, or that the live strain might mutate and become virulent, causing a more serious epizootic.

Work is progressing on the development of a safe oral vaccine both in the United States and in Switzerland. Franz Stech and Alex Wandeler recently ran an apparently successful field trial of the oral vaccination in the Swiss Alps, and William Winkler and George Baer of the U.S. Department of Health and Human Services Center for Disease Control are perfecting a patented liquid attenuated rabies vaccine which they claim poses no threat to other wildlife (report to the AVMA Convention, 23-26 July, 1979, Seattle, Washington).

Bacon and MacDonald stress that if any rabies control method is to be effective, more information on the behavior of the species in question is needed. In the case of the fox, very little is known of the factors that determine population densities, which vary widely in different habitats. The number of rabies cases among foxes may be much higher than estimated; as few as 2% of rabid foxes may be reported. Virtually nothing is known about the behavior of rabid foxes or how healthy foxes react to them. Once this information is gathered, perhaps the curbing of rabies in wildlife can be successful, and the oral vaccination may then prove to be a more humane and ecologically sound means of control.

Vicuna Cull: Can Brack Egg Yoke Benavides?

Several years ago when it was thought to be in danger of extinction, the vicuna, a South American relative of the llama and camel, became the object of an extensive conservation program in Peru's Pampa Galeras reserve. The conservation effort was so successful in replenishing the vicuna population that it was finally necessary to initiate culling to meet an imminent threat of overpopulation and starvation. Or was it?

According to a report in *New Scientist* (89:413-415, 1981), the controversy over the vicuna cull centers on charges that the project director, Dr. Antonio Brack Egg, has been running the culling program to serve his own questionable interests.

Not entirely convinced that the Pampa Galeras was overpopulated, the International Fund for Animal Welfare (IFAW) commissioned Dr. Stewart Keith Eltringham, a Cambridge University wildlife biologist, to conduct an aerial survey of the area to assess the status of the vicuna population. After completing the survey, Dr. Eltringham maintained not only that the vicunas were not superabundant, but that the numbers were in fact dangerously low (about 15,000, as

opposed to the 1979 official Peruvian estimate of 43,000). Although Dr. Eltringham's survey was hampered by poor conditions, his results, however tentative, were disturbing enough to warrant at least the temporary cessation of the culling project until further studies could be conducted. Alarmed by the findings, the International Union for the Conservation of Nature (IUCN) and the World Wildlife Fund (WWF), both of which had initially approved of the project, requested a suspension of the cull. This request, according to *New Scientist*, was ignored by Dr. Brack, who continued to claim publicly that his project had the support of these organizations.

WWF and IUCN then commissioned Dr. Michael Norton-Griffiths and Mr. Hernand Torres to do a second population survey, this time from the ground. Dr. Norton-Griffiths, a Nairobi-based consultant in rural development and land-use planning, and author of *Counting Animals—A Definitive Text on Animal Censusing*, and Mr. Torres, director of the Lauca National Park in Chile, which has the largest stock of vicuna outside Peru, found approximately 48,000 vicunas in the Pampa Galeras (*New Scientist* 89:728, 1981). This figure was accepted by Dr. Eltringham, but although he admits that his survey could have missed animals, he remains opposed to a cull. However, even if a vicuna population of 48,000 could biologically withstand a cull of 2,500 animals, the question of whether the culling program is being properly run remains valid.

In its initial design, the project was intended to exemplify how an endangered species could be saved while benefiting the local people through its selective exploitation. The official objectives were to capture the vicunas and shear their wool, to translocate the surplus animals, and finally, to kill a small number of males for food. That these remain the objectives of the project is being disputed by Dr. Felipe Benavides, director of the Peruvian chapter of WWF, who charges Brack with working against the welfare of the vicunas through such

actions as his public statement of the value of vicuna skins and his ordering the slaughter (throat-slitting) of the animals so that they could be served as the main course at ceremonial dinners. Benavides also charges Brack and his staff with needlessly increasing personnel, employing unskilled men as forest guards (who in turn are accused of inhumanely killing the vicunas, including pregnant females), and poaching.

Paralleling these offenses is the curious rise in the importation of vicuna wool products, which are now available in Lima and Hong Kong at a staggering price (\$460/yd.). Although the origins of the wool are unknown, there are suspicions linking Brack's project to this enterprise.

Benavides is also critical of WWF for not having taken action following an urgent warning from two German veterinarians involved in the project to move the surplus animals to avoid overpopulation. The two vets have since been removed from the project by Brack, but not before they had issued a final warning that the future survival of the vicuna in the Pampa Galeras reserve as well as throughout Peru is greatly threatened. Further, Benavides feels that the IUCN should have been more forceful in its early request to have the cull suspended.

As the culling continues, two major movements are advancing in their efforts to save the threatened species. A commission established by the University of San Marcos' Instituto Veterinario de Investigaciones Tropicales y de Altura (IVITA) has submitted a report of its investigation to the Peruvian Ministry of Agriculture denouncing the actions of Brack. Among the charges:

1. The decision to implement a culling program was made without proper knowledge of the effects of the "apparent" overpopulation.
2. Given that the project was initiated partly to benefit the local people, the sale of meat to Lima was improper.
3. Insufficient research has been

done on the capture and shearing, translocation, reproduction, population dynamics, effects of culling on population dynamics, and diseases of the vicuna.

4. The method used to take the surplus animals (shooting) should have been replaced by the use of nets. (Note that the guards were not skilled marksmen, which often resulted in a prolonged, painful death for the animal.)

It is hoped that the IVITA report will provoke some action from the Peruvian government.

The second movement consists of a recent joining of forces between the peasants and Benavides against Brack and the project. Following an emotional public demonstration against the cull in the town of Lucanas, Benavides was voted honorary president of the community and given full power to act on its behalf. Because peasants own the land of Pampa Galeras, and because the peasant communities have been autonomous since 1661, their support of Benavides is far more than a gesture. Benavides has since begun legal proceedings against Brack and the rest of the vicuna project management.

Local Anesthetics for Draize Test

C.A. Hoheisel, D.K. Lowther and R.L. Harris of the Consumer Product Safety Commission's Division of Health Sciences Laboratory (Washington, DC) have reported that certain local anesthetics are effective in eliminating pain associated with the instillation of irritants into the eyes of live rabbits. These are proparacaine HCl (0.5% w/v solution) and butacaine sulfate (2%). The other two, tetracaine HCl and lidocaine, were unsatisfactory in that anesthesia was delayed and animals still "exhibited responses indicating pain" when the irritant was instilled into the eye.

Proparacaine did increase the irritancy scores of some of the test chemicals and lengthened the recovery times.

For example, nine out of twelve control animals dosed with 5% acetic acid were healed by the fourteenth day after dosing, while only two of the twelve experimental animals (pretreated with proparacaine) were healed. Butacaine, which is no longer used in humans because of excessive irritation and allergic response, appeared to affect irritancy scores less markedly than proparacaine. However, the butacaine studies were conducted several years ago, and the CPSC report notes that the use of the anesthetic for regulatory purposes would require further investigation.