The situation regarding wildlife in Yugoslavia

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Summary: Contagious diseases which occur among wild animals in Yugoslavia, particularly those transmissible to domestic animals, are reviewed briefly.

Yugoslavia is rich in numerous wild species. Measures are taken to protect them from contagious diseases, regardless of whether the latter are species-specific or common to several species. The Veterinary Services have achieved good results in this field, thanks in particular to the collaboration of hunting organisations.


INTRODUCTION

In Yugoslavia the diseases of wild animals transmissible to domestic animals are monitored constantly not only by the veterinary profession but also by the epidemiological services and the organisations responsible for hunting and forests.

Climatic and geographical conditions in Yugoslavia explain the richness of the wildlife fauna, and in this respect the country is of particular interest. Surveys using appropriate methods have been conducted in order to estimate the populations of wild species. It is estimated that Yugoslavia has some 24,200 red deer (Cervus elaphus), 2,613 fallow deer (Dama dama), about 290,000 roe deer (Capreolus capreolus), 24,200 chamois (Rupicapra rupicapra), 4,400 moufflon (Ovis ammon musimon), 3,160 brown bears (Ursus arctos), 52,000 wild boar (Sus scrofa) and about 1.4 million brown hares (Lepus capensis). Among game birds the most numerous are the 1.4 million pheasants (Phasianus colchicus) and the 956,000 partridges (Perdix perdix), with relatively few grouse species (Lyrurus tetrix and Tetrao urogallus) (4,140).

All the rare species are protected. The hunting of other wild animals (particularly foxes (Vulpes vulpes), wolves (Canis lupus) and fur-bearing animals) is conducted in an organised fashion.

Among the contagious diseases of wildlife transmissible to domestic animals, we shall mention here only those which constitute an actual or potential threat to Yugoslavian animals.

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Foot and mouth disease

This is potentially the most important disease for Yugoslavia, because it is a common epizootiological problem in many countries of Europe and the rest of the world. It has been absent from Yugoslavia since 1978. Because of this, and the fact that it is the subject of regular meetings of the OIE and FAO, it will not be discussed further.

Classical swine fever

Our observations have shown that the virulence of swine fever virus is the same for domestic and wild suidae. Every time the disease has appeared among wild animals it has always taken the acute course. There is little risk of mutual transmission between wild and domestic pigs, except in forests where pigs are taken to forage for acorns. Such transmission last occurred in Yugoslavia in 1965, and it is now forbidden to permit domestic pigs to enter forests or hunting reserves.

During 1987 there were 18 outbreaks of swine fever among domestic pigs in seven communes of Yugoslavia (five in Croatia and one each in Slovenia and Serbia). Epidemiological surveys were conducted, and hunting organisations also helped to investigate the presence of the disease among wild boar in the vicinity, but with negative results.

Rabies

During the post-war period there has been a variable number of cases of rabies in Yugoslavia, which particularly affects wild animals, mainly foxes. Among domestic animals, however, and particularly dogs and cats, the number of cases has fallen during the same period. Geographically, rabies is practically confined to the north of the country (above the Save and Danube rivers). The fox is the reservoir of rabies virus. Transmission to human beings has been averted by systematic vaccination, over a number of years, of dogs, cats and also other domestic animals (cattle and sheep) grazing in areas where rabies is present. There has been no case of human rabies in Yugoslavia since 1980.

In 1987, 599 cases of rabies were diagnosed, involving 559 foxes, 11 dogs, 16 cats, 2 cattle, a sheep, a goat, 3 roe deer, 2 badgers, a bear, 2 martens and a wild cat.

So far there has been no vaccination of wild animals in Yugoslavia, but our experts are well informed regarding this field, thanks to research conducted in various European countries. Trial vaccination of some 4,000 foxes is due to be carried out in 1988.

Brucellosis

In Yugoslavia this disease has occurred among brown hares (*Lepus capensis*), from which *Brucella suis* var. Thompson has been isolated. The number of cases has been falling since 1960, perhaps in line with a declining hare population. Under natural conditions there has been no instance of transmission of brucellosis from hares to other animal species, although it can be transmitted to pigs experimentally.
In order to prevent the disease from spreading, it is forbidden to catch hares in the game reserves of regions infected with brucellosis, for the purpose of transporting them to disease-free areas.

**Tuberculosis**

*Mycobacterium avium* infection is by no means rare among pigeons and artificially-reared pheasants. It is observed most often in regions where tuberculosis is also present in domestic poultry, indicating a real risk for reciprocal transmission of this disease. During 1987, 56 outbreaks of avian tuberculosis were reported from 35 premises.

**Cysticercosis (taeniasis)**

This parasitosis is fairly common among hares, which develop liver lesions due to infestation with larvae of *Taenia pisiformis*, or exceptionally *T. hydatigena*. Dogs can become persistently infested with the intestinal form of the cestodes either due to the negligence of hunters or by natural contact. It is up to owners to ensure that their dogs are not exposed to cysticercosis. To protect hunting dogs, they should never be fed the viscera from dead game.

**Trichinellosis**

This raises important problems for animal health and public health, and in recent years it has been the object of increased vigilance by both veterinary and epidemiological services. During 1987, 39 cases were diagnosed among animals in 25 communes, presenting a serious health risk for the human population. Pig meat cannot be released for human consumption until it has been tested for trichinellosis by trichinoscopy or by the digestion technique.

Since this parasite is often present in the organs of rodents and wild boar, and pigs can become infested by foraging in forests, every effort is made to ensure that owners of pigs keep them under secure conditions. This applies mainly to pigs kept privately in the mountainous zones of Yugoslavia, where they are raised solely for family use.

Up to now there has been no case of trichinellosis in a large pig farm, where infestation is rendered practically impossible by the closed husbandry system.

**Tularaemia**

This disease of rodents and warm-blooded animals has not been found in Yugoslavia in recent years. Since it is a zoonosis, it will continue to be searched for.

**Fascioliasis**

This helminthosis is fairly common among wild ungulates, who can become infested with various species of trematodes. Species identified up to now are *Fasciola hepatica*, *F. magna*, *F. morpha*, *Dicrocoelium lanceolatum* (*dendriticum*) and species of *Paramphistomum*. The commonest species in roe deer is *Fasciola hepatica*, which can be transmitted to cattle and sheep, and vice versa.
CONCLUSIONS

This brief account of the contagious diseases of wild animals transmissible to domestic animals in Yugoslavia would not be complete without considering the changes which constantly affect the environment in which wild animals live.

The present situation of game animals and the falling numbers of rare species in Yugoslavia have resulted more from changes to the environment brought about by human intervention than from uncontrolled hunting or the negative effect of contagious diseases. For this reason the conservation of the fauna is an ecological problem which has to be examined as a whole. Moreover, the variety of ecological systems profoundly influences the epizootiological and epidemiological situations. Members of the veterinary profession and others should take account of this in the exercise of their duties.

For example, it seems probable that uncontrolled extermination of mammals or predatory birds can lead to increased numbers of rodents, and hence an increased risk of trichinellosis.

Finally, the occurrence of classical swine fever among wild boar allows the virus to persist in forest areas difficult to reach, so that effective ways of controlling the disease under such conditions must be developed.

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REFERENCES


