

AFRICAN WILD LIFE

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COVER PICTURE

An impala, Kruger Park. Photo by Jean Laurie.

Editorials:

We Move to Natal

AT A special meeting of the Society's Council, held near Johannesburg on April 3, it was decided that responsibility for the publication of "African Wild Life" would be transferred from the Head Office in Johannesburg to the Natal Branch. Starting with the next issue, in September, the journal will be printed in Durban. There will be a new Editorial Committee consisting of members of the Natal Branch.

This change will bring several advantages. In the first place the Editorial Committee, the Editor and the printers will be in much closer contact. For many years past the Editorial Committee has been for the most part composed of members living in Pretoria; the Editor has been in Johannesburg and the printers in Cape Town.

Our printers, the Gothic Printing Company, have been most co-operative over the years and have maintained a consistently high standard of production, but the arrangement had obvious defects. Communications between the Editor, his Committee and the printers were subject to inevitable delays. In fact, the arrangement would not have worked at all had not Dr. Gertrud Theiler, the chairman of the Editorial Committee, regularly visited Johannesburg once a week to confer with the Editor.

Secondly it had been felt by many members for some time that "African Wild Life" should deliberately try to reach a wider readership by appealing more to the general public than to the already convinced and dedicated conservationist. For a considerable time it had been argued that the journal had contented itself with preaching to the converted and disseminating a specialist kind of information of minor appeal to the average lay reader.

What has happened in effect, therefore, is that Council has agreed to allow the Natal Branch, the biggest and probably the most active of all the Society's branches, to handle the publication and thus put these views of the function of the magazine into practice.

In making this change Council was emphatic that the move did not constitute any reflection on the work of the outgoing Editorial Committee, whose members were thanked for all that they had done for "African Wild Life". A special vote of

Overstraining Disease in Game

By E. Young and P. J. L. Bronkhorst

(Division of Veterinary Services, Kruger National Park)

DURING the past few years an increasing number of wild animal species has been found to be prone to the development of a disease complex for which the new name, overstraining disease, is suggested.

Its occurrence has become common with the increased incidence of game capture and transportation, and it was decided necessary to provide some information on its development, diagnostic features, significance and prophylaxis especially to those actively concerned with game capture and management.

Overstraining disease in game is closely related in its pathogenesis, symptomatology and pathology to paralytic myoglobinuria of horses and some other myopathies of this and other domesticated species.

Paralytic myoglobinuria, also known as "Monday morning disease" of horses, usually develops during exercise on Monday mornings after weekends of inactivity on full rations. It is characterised by muscular degeneration, paralysis especially of the hind limbs and the passage of dark red-brown urine. The course is variable and affected horses may die from acute heart failure or the accumulation of toxic amounts of excretory products, resulting from kidney damage.^{1, 9}

Overstraining disease in game also develops as a sequel to overstraining, as its new name signifies, and clinical signs usually appear at any time from a few hours to about one to two weeks after excessive exercise.

Overstraining may result from various capturing techniques, such as trapping with snares (i.e. red hartebeest), the use of trained dogs (i.e. gemsbuck) and excessive chasing of the animals prior to capture with motor boats (flamingoes), land vehicles or helicopters (most of the susceptible mammal species).

Overstraining disease (Ooreising-siekte), also referred to as capture disease, capture myopathy, muscular dystrophy, paralytic myoglobinuria, white muscle disease or "vlekspier", has already been diagnosed in the following species: Hunter's antelope (*Damaliscus hunteri*),² blesbuck (*Damaliscus dorcas phillipsi*), bontebok (*Damaliscus dorcas dorcas*), springbuck (*Antidorcas marsupialis*), red hartebeest (*Alcelaphus buselaphus*), eland (*Taurotragus oryx*),³ gemsbuck (*Oryx gazella*), giraffe (*Giraffa camelopardalis*),⁴ African buffalo (*Syncerus caffer*),⁵ black rhinoceros (*Diceros bicornis*), blue wildebeest (*Connochaetes taurinus*), kudu (*Tragelaphus strepsiceros*), nyala (*Tragelaphus angasi*), impala (*Aepyceros melampus*), red duiker (*Cephalophus*

natalensis), roan antelope (*Hippotragus equinus*),⁶ sable antelope (*Hippotragus niger*), Burchell's zebra (*Equus burchellii antiquorum*),⁷ greater flamingo (*Phoenicopterus ruber roseus*), lesser flamingo (*Phoeniconaias minor*)⁸ and deer.⁹

Some of the mentioned species appear to be less susceptible, i.e. buffalo, blue wildebeest and impala. The relative species susceptibility should, however, be further investigated.

Affected game animals sometimes also excrete urine of a dark brown colour and often manifest clinical signs of muscular degeneration and pain, including stiffness, unilateral spasms or paralysis of the neck muscles and improper functioning of certain other muscle groups, which may include complete paralysis of the limbs.

Others may die suddenly from acute heart failure after varying periods, extending up to two weeks after capture and without showing any symptoms prior to death.

The most marked changes found in post mortem examinations are usually in the muscle groups actively involved in locomotion. Grossly affected skeletal muscle usually has a characteristic dull, whitish striated appearance, which may resemble the flesh of fish. These lesions may be surrounded by extensive haemorrhages in and around the affected muscle groups. The heart muscle may be similarly affected.

In addition degenerative changes may also be detected in the liver and kidneys while congestion of the blood vessels and the presence of foam in the lungs (pulmonary oedema) may signify cardiac failure.

Medicinal treatment is still in the experimental stage. Preliminary results are, however, not very promising and control should be aimed at prophylaxis.

Game trappers should, therefore, take cognizance of the potential dangers attached to game capture techniques involving overstraining, especially of individuals of the above-mentioned species, and the responsible authorities should possibly enforce even more strict control over the use of such techniques, especially by inexperienced persons. Veterinary research workers should investigate further all possible contributing factors and endeavour to find effective means of preventive and curative medication.

Recent investigations in the Kruger National Park revealed that overstraining disease need not necessarily be restricted to game which has been artificially subjected to overstraining. Characteristic muscle lesions have also been found in free-living sable antelope and zebra. Overstraining to the extent of causing pathology, therefore, also seems to occur in game in its natural state.



White rhino and young in the Malati Park Reserve near Naboomspruit.

It can, for instance, be imagined that the often long-lasting and exhausting combats between sable antelope bulls or the prolonged and excessive chasing of game herds by such tireless and continuous pursuers as wild dogs, or even by irresponsible humans in aeroplanes or landrovers may precipitate the disease.

Dietary deficiencies have been found to contribute to the development of allied pathological conditions in domestic stock^{1, 9} and special attention is also being paid to the possible role of such and other predisposing factors in the development of overstraining disease in game.

The finding of characteristic lesions of overstraining disease in the free-living game animals confronts the ecologist with yet another potential natural mortality factor of unknown amplitude. The possible role of this and other related physical-physiological disease conditions in the limitation of population numbers, especially of the more rare species, should be further investigated.

It may be accepted that overstraining disease presents one of the most important disease conditions of game confronting the game trapper and that further research on this relatively recently diagnosed malady, which also seems to affect free-living game, may be tremendously aided by the provision of factual information by game managers and veterinary research workers on post-capture mortality. Any applicable information will be appreciated and considered in the compilation of a subsequent more detailed report on overstraining disease, which is to be published in the Journal of the South African Veterinary Medical Association.

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REFERENCES

1. BLOOD, D. C., and HENDERSON, J. A., 1960. *Veterinary Medicine*. London. Baillière, Tindall and Cox.
 2. JARRETT, W. H. F., JENNINGS, F. W., MURRAY, M., and HARTHOORN, A. M., 1964. Muscular dystrophy in wild Hunters antelope. *E. Afr. Wildl. J.* 2: 158.
 3. YOUNG, E., 1966. Muscle necrosis in captive red hartebeeste (*Alcelaphus buselaphus*). *Jl. S. Afr. vet. med. Ass.* 37: 101.
 4. EBEDS, H., 1969. Notes on the immobilization of gemsbok (*Oryx gazella gazella*) in South West Africa using etorpine hydrochloride (M-99). *Madoqua* 1: 35.
 5. VAN NIEKERK, J. W., 1963. Immobilising drugs used in the capture of wild animals in the Kruger National Park. *Jl. S. Afr. vet. med. Ass.* 34: 568.
 6. BASSON, P. A., MCCULLY, R. M., KRUGER, S. P., VAN NIEKERK, J. W., YOUNG, E., DE VOS, V., KEEP, M. E., and EBEDS, H., 1970. Disease conditions of game in Southern Africa: Recent miscellaneous findings. MS.
 7. YOUNG, E., and BRONKHORST, P. J. L., 1970. Unpublished observations.
 8. YOUNG, E., 1967. Leg paralysis in the greater flamingo and lesser flamingo following capture and transportation. *Int. Zoo Yearbook* 7: 226.
 9. SIEGMUND, O. H. (ed.), 1961. *The Merck Veterinary Manual*. New York. Merck & Co., Inc.
- * See "African Wild Life", Vol. 15, p. 342, and Vol. 16, p. 171.