

F.No.25-1/2002-CZA(Vol.II)(Pt.)

**Government of India
Ministry of Environment, Forest and Climate Change
Central Zoo Authority**

B-1 Wing, 6th Floor,
Pandit Deendayal Antyodaya Bhawan,
CGO Complex, Lodhi Road,
New Delhi – 110 003,
Telephone: +91-11-24367846/51/52,
E-mail: cza@nic.in

Dated 14th May, 2020

To

The Chief Wildlife Warden of all States and Union Territories,

Sub: Advisory for prevention of Babesiosis in captive animals housed in zoos – regarding

Ref:

1. This office Circular No.25-1/2002-CZA(Vol.II)(PKR)/2617/2018 dated 26th March, 2018
2. This office Circular No.25-1/2002-CZA(M) dated 18th November, 2004

Sir,

I am directed to refer to reports indicating death of Lions in the Gir National Park. Gujarat due to Babesiosis, a disease caused by a protozoan parasite known to infect domestic & wild ruminants and a wide variety of carnivores including members of the families Canidae, Felidae, Mustelidae, Procyonidae, Ursidae, Viverridae, Hyaenidae & Herpestidae respectively. The parasite gets transmitted by ticks. Further, this has reference to advisory to zoos issued by this office in the matter as referred above, copy of which is enclosed herewith. In this regard, zoos may take up suggested measures to prevent transmission of Babesiosis to captive animals housed therein.

2. Babesiosis in captive animals is characterised by inappetence, lethargy, weakness, rough hair coat, anaemia, shallow respiration and constipated yellow faeces. Tachycardia, Tachypnoea and laboured breathing are observed in severely anaemic felids.
3. In this context, zoos are advised to adopt following measures against transmission of Babesiosis:
 - a. General hygiene and sanitation of the zoo shall be improved. Possible tick infested areas in zoo premises may be identified and effective tick control measures may be adopted in the animal enclosures and surroundings.
 - b. Disposal of leaf litter and overgrown grasses from zoo premises in general, and paddock area of animal enclosures in particular, may be carried out effectively.
 - c. General healthcare of captive animals:
 - i. Zoos shall ensure compliance with measures specified in 'Suggested Health Monitoring Protocol for Zoos' circulated to zoos vide Circular No.25-1/2002-CZA(M) dated 18th November, 2004 (copy enclosed).

- ii. Norms specified for upkeep and healthcare of captive animals including screening of animals against *ecto* and *endo* parasite infestation and other disease surveillance measures prescribed in the Recognition of Zoo Rules, 2009 shall be strictly implemented.
- iii. Blood tests of captive animals may be carried out in a planned and systematic manner without causing undue stress to animals with a view to identify incidence of blood borne parasites and take appropriate prophylactic / remedial measures. 'Manual for Biological Sample Collection and Preservation for Genetic, Reproductive and Disease Analyses' and 'Health and Nutritional Management of Wild animals in Indian Zoos' published by the Central Zoo Authority may be referred to. Copy of the same is readily available on website of the CZA (<http://cza.nic.in>).
- iv. Medicines of essential nature to be procured in reasonable quantities and kept in Zoo Hospitals to meet emergency, if any.
- v. Health Advisory Committee (of the respective State as well as zoo) may periodically review compliance of the norms specified and advise zoos on animal healthcare related matters.

4. For control measures against Babesiosis, characteristic symptoms shown by infected animals, suggested drugs for treatment, zoos shall refer to 'Standards, Guidelines and Protocol on Disease Diagnosis and Cure of Wild Animals in Indian Zoos' published by the Central Zoo Authority in collaboration with the ICAR - Indian Veterinary Research Institute, Izatnagar. Copy of the same is readily available on website of the CZA (<http://cza.nic.in>).

5. In case any symptoms are observed in captive animals, diagnosis, isolation of affected animals and appropriate treatment protocol shall be adopted. Zoos shall coordinate with Public Health and Animal Husbandry Department of the respective State.

6. For advise, management of the zoo may consult its Health Advisory Committee and if required, may seek advise from the in-charge, National Referral Centre on Wildlife Healthcare, ICAR – Indian Veterinary Research Institute, Izatnagar (+91-9412294363 / +91-7983309899).

7. Occurrence of the said disease in zoo animals and the action taken by zoos on the suggested measures may please be apprised to this office.

This is for your information and necessary action.

Yours sincerely

Encls. As above

sd/-

(Dr. Sonali Ghosh)

Deputy Inspector General of Forests

Copy forwarded for information and necessary action to:

1. PPS to the Secretary to the Government of India, Ministry of Environment, Forest and Climate Change, Indira Prayavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi – 110 003, E-mail: secy-moef@nic.in
2. PPS to DGF&SS Government of India, Ministry of Environment, Forest and Climate Change, Indira Prayavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi – 110 003, E-mail: dgfindia@nic.in
3. The in-charge, National Referral Centre on Wildlife Healthcare, ICAR – Indian Veterinary Research Institute, Izatnagar – 243 122, Bareilly, Uttar Pradesh, E-mail: cwlincharge@gmail.com
4. The Member Secretary of State Zoo Authority wherever applicable
5. The Officer in-charge of all zoos
6. The DPA, CZA – to upload on website of the CZA.

Most Immediate

F. No. 25-1/2002-CZA(Vol. II)(PKR)/2617/2018
Government of India
Ministry of Environment, Forest and Climate Change
Central Zoo Authority

Pandit Deendayal Antyodaya Bhawan, New Delhi

Dated the 26th March, 2018

To,

The Director / Curator / Officer in charge of all recognized zoos

CIRCULAR

Sub:- Control measures against spread of Babesiosis among captive wild animals housed in Zoos – reg.

Ref:-

This office Circular F. No. 25-1/2002-CZA(M), dated 18.11.2004.

Sir / Madam,

It is to inform that this office has circulated 'Suggested Health Monitoring Protocol for Zoos' vide Circular dated 18.11.2004. Reports about suspected outbreak of Babesiosis in the Tata Steel Zoological Park, Jamshedpur, Jharkhand and death of one tigress and one female tiger cub has been received.

Further, this office in collaboration with the Indian Veterinary Research Institute (IVRI) has published 'Standards, Guidelines and Protocol on Disease Diagnosis and Cure of Wild animals in Indian Zoos'. The same may be referred to. This is also available on the website of the Central Zoo Authority (www.cza.nic.in).

In addition to the above, you are also advised to coordinate with the State Animal Husbandry Department officers of your area.

Further, you may avail the technical expertise, if required, from the Indian Veterinary Research Institute that has been designated by the CZA as National Referral Centre for all Zoos in the Country.

In this regard, it is to reiterate that the Zoos are required to adopt and implement to avoid incidence / occurrence of Babesiosis among captive wild animals by:-

1. Cleaning the nearby areas with dense shrubs and leaf litter where protozoans like to hide.

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2. Ensure that wild animal housing areas and Zoo premises do not have any contact with domestic or feral animals.
3. Fumigation of feeding & retiring cells, kraal and animal paddock should be done under the direction of the Veterinary Officer of the Zoo regularly.
4. Maintain the absolute cleanliness & hygiene inside feeding & retiring cells, kraal, animal enclosures and surrounding areas of animal enclosures.

The Operator of respective Zoo shall ensure compliance of the same in coordination with the Director, Animal Husbandry Department of the State and locality. Also, the Health Advisory Committee of the Zoo be consulted for technical assistance.

It is requested to ensure appropriate disease surveillance measures in the Zoos as mandatory under Schedule 5(6), 5(7) and 5(8) of Rule 10 under the Recognition of Zoo Rules, 2009.

Action taken in this regard be apprised to this Authority.

Yours sincerely,



(Dr. D. N. Singh)
Member Secretary

Copy for information and necessary action to:-

1. The Chief Wildlife Warden of all States / UTs.
2. The Municipal Commissioner of Ahmedabad, Aurangabad, Coimbatore, Cuttack, Gwalior, Indore, Mumbai, Pune, Rajkot, Solapur, Surat, Thanjavur & Vadodara.
3. The Managing Director of Steel Plants at Bhilai, Bokaro, Jamshedpur & Rourkela.

Suggested Health Monitoring Protocol for Zoos

Following are the overall suggestions and recommendations which can be implemented to zoos having the large felids:

1. Maintaining detailed information pertaining to a breeding/ studbook in a uniform manner helps proper selection of breeding population. It prevents inbreeding and gives chance for the expression of most of the founder gene.
2. Systemic and comprehensive recording of husbandry, medical and pathological data is essential in a uniform manner. The use of standardized computer programme (such as ARKS and MEDARKS from ISIS) is advisable.
3. The use of standard prescribed proforma for postmortem report, biological sample collection and dispatch is important.
4. Use of skin tattoos and/ or implanted transponders for proper identification of individual animal is recommended.
5. Properly designed housing facilities that cater the physical and psychological needs of the large felids should be used. The housing facilities should meet the standards prescribed by the Central Zoo Authority.
6. Since the feed given to large felids is meat, it is recommended to add 5 g calcium carbonate, 10 gm Di-calcium phosphate with every 2 kg, muscle meat. Whereas the addition of good quality 1.2 gm multi-vitamin-mineral powder is also advisable to meet the requirement of vitamins and minerals.
7. Feed should be thoroughly checked for quality and occasionally for laboratory examination to know the load of pathogenic micro-organism, Gross observations for presence of cyst and other contaminants should be done to prevent diseases.
8. The food preparation area should be clean and free from flies, insect pests as well as pathogenic microorganisms.

9. Transmission of pathogen should be minimized with proper hygiene and sanitation.
10. Regular disinfection of feed preparation area, feeding cubicles and utensils should be carried out. Use of ultra violet lights and fly/ insects repellents is highly recommended.
11. To control the spread of zoonotic diseases staff should be periodically screened for variety of condition. In case of cat keepers, annual tests should at least be carried out lot. Tuberculosis, toxoplamosis and other communicable diseases.
12. Individual animal should be carefully observed every day for its physical state, food and water consumption, urination, defecation, alertness and activity. Similarly careful examination of an animal's den and enclosure can also be rewarding.
13. The observations made by the keeper/staff should be documented daily and presented to the veterinarian and supervisory staff for evaluation and for necessary actions.
14. Some animals are very shy or hyper excited, like mother with cub and pair during mating. During such occasions consideration should be given for the use of phones or even video cameras with which cats may be monitored remotely.
15. Whenever an opportunity arises, cats should be undergo a thorough physical examination. During such times, biological materials like blood, urine, faces and other body fluids may be collected for detailed laboratory examination (bacterial and parasitic isolation serological examination).
16. Periodic screening of all the animals for parasitic, bacterial and viral infections is essential part of health management. The faecal screening should be carried out every three month. There is a need of sero epidemiological survey of major viral diseases in large felids.
17. The collection and examination of blood samples for nutrients, parasites and body status is recommended every eyar. Whereas, bacteriological screening of animals for important bacterial pathogens should be carried out every six months.

18. On the basis of the report of parasitic study, the deworming should be carried out using suitable drugs. Even if no parasite are detected in the periodic screening it is recommended giving anthelmintics to all the animals every six months. At the same time alternative use of deworming drugs is essential to avoid drug resistance.
19. To control the entry of feral dogs, cats and mongoose, zoo and cage boundary should be made in such a way that it prevents entry of such animals.
20. The vaccination against Panleukopenia (Feline Distemper). Rhinotrachitis and Calici virus is recommended using Fel-O-Vax (Fort Dodge Alb inc.), The juveniles should be vaccinated at 8, 12 and 16 weeks of age, and should be repeated at six months and then given annual booster.
21. A period of 30 days or more for quarantine is recommended for every animal entering the collection.

sd/-
(R.G. Jani)
Member

sd/-
(A.B. Shrivastav)
Member

sd/-
(L.N. Acharjyo)
Chairman

Date : 08.10.2004

Place : New Delhi

* Issued to the Chief Wildlife Wardens of all states and Director/ Curators/ Zoo-Incharge of all Large, Medium and Small Zoos having large Carnivores species vide letter No. 25-1/2002-CZA(M), dated 18.11.2004.

