
POST-MORTEM REPORT ON A WILD ELEPHANT FOUND DEAD IN WASGOMUWA NATIONAL PARK, SRI LANKA

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Sri Lanka has between 2,500 and 3,000 elephants in the wild distributed both within and outside the system of protected areas. As a result of increasing human population and decreasing forest cover, the conflicts between man and elephant have escalated, with losses on both sides. Elephants are killed in crop defence by farmers. In 1993 alone, more than 35 elephants succumbed in the wild to gunshot injuries. In addition to such losses a few elephants also die of diseases transmitted by domestic livestock. This report deals with a death of an elephant in Wasgomuwa National Park.

Wasgomuwa National Park, with an area of 37,063 ha is situated between the Amban Ganga and Mahaweli Ganga across the North Central and Central Provinces of Sri Lanka. The park is the home to some 150 elephants (*Elephas maximus*). Possibly the biggest management issue is the tendency for some of these elephants to cross the eastern and southern boundaries into adjacent agricultural areas (IUCN, 1990). Another serious management problem concerns the domestic cattle which compete with wild herbivores for pasture. These are also a source for transmitting infectious diseases to the wildlife. One such incidence involved the death of a wild elephant in December 1993.

The incident

On 29 December 1993, a wild elephant was found dead in Wasgomuwa National Park, and the cause of death was uncertain at that time. There were no external injuries on the body. Blood oozed from all external orifices. Some two weeks before another wild elephant had died showing the same signs. By 31 December when the dead elephant was examined, putrefaction had already started. A team of veterinarians from the Faculty of Veterinary Medicine, University of Peradeniya also assisted in the post-mortem.

Observations

After a thorough examination of the carcass, the possibility of death due to (a) poisoning, (b) snake bite, or (c) electrocution was ruled out. Therefore the death of this

elephant was thought to be due to some infectious disease. The posture of the carcass and other signs on the premises in the vicinity indicated no signs of struggle before death. Thus the death was sudden. The first suspicion on a death of this nature is anthrax. In such cases, if the carcass is cut open or slashed by carrion eaters, the anthrax bacilli exposed to oxygen, sporulate. Spores can live up to 60 years in the soil and could re-infect other wildlife. If the carcass is not opened, the anthrax bacilli cannot sporulate and they will soon disintegrate from the action of putrefying bacteria. Therefore no animal suspected to have died of anthrax should be cut open.

Samples of swabs and blood smears were made from the small split opened on an ear vein. Small piece of ear was collected for Ascoli test (specific precipitin test for *Bacillus anthracis*). Blood smears stained with different stains showed bacterial rods resembling *B. anthracis*, but with vast number of putrefying bacteria further laboratory tests were necessary before anthrax could be confirmed. Haemorrhagic septicaemia (HS) or pasterurellosis caused by another bacterial rod *Pasteurella multocida* (synonym *P. septica*) shows symptoms and lesions closely resembling those of anthrax. Therefore to confirm the causative agent, laboratory diagnosis was essential. As anthrax could not be ruled out, precautions were taken in time to dispose of the carcass. The carcass was burnt to ash, and lime sprinkled. Oozed blood was drained to a deep pit and topped with lime and closed with soil.



**A dead elephant in Wasgomuwa National Park.
(Photo: V. W. S. M. Vasanthathilake)**

Discussion

In the laboratory, it was confirmed that the disease was caused by *Pasteurella multocida*. Anthrax was therefore ruled out much to the relief of all concerned. Unlike anthrax, Haemorrhagic septicaemia bacteria cannot live in the soil for more than 24 hours. But the organisms may be picked up by cattle and buffalo and carried in the throat without producing any ill effect. However, when these animals become stressed, the organisms will start to multiply and produce the disease and contaminate food and water by the saliva and dung and thus spread the disease. It affects cattle, buffalo, elephant and to some extent even the pigs. The disease is much more prevalent during the early rains towards the close of the monsoon. It is common in low lying lands subject to inundation and on those areas submerged by extraordinary floods. When animals are exposed to wet conditions and chilly weather, or exhausted by heavy work, they contract the disease. Outbreaks of the disease in elephants do not last very long, usually between 10-15 days. Duration of the illness may last from 3 to 36 hours. There are several types of *Pasteurella multocida* (i. e. A, B, C, D, or E type). After the confirmation, the samples were sent to the Veterinary Research Institute in Gannoruwa, Sri Lanka for the typing.

Before this post-mortem, two other wild elephants died from causes unknown. There was also a report on the death of a domestic cattle inside the park. Subsequently, on 17 January 1994, one more wild elephant died at Elehara, close to the Wasgomuwa National Park. The disease occurs chiefly in either areas where veterinary assistance is not readily available or where farmers do not get their cattle vaccinated against Haemorrhagic septicaemia in time. The vaccine is highly effective for 12 months and even in the face of an outbreak, it can reduce losses substantially. A dried vaccine of the types B and E area also in use. Management authority must take prompt action to stop the movement of domestic cattle into protected areas to prevent the outbreaks of epidemic diseases fatal to wildlife. Wild animals are susceptible to a vast number of diseases and parasitic infestations. Diseases of domestic animals which have been found to infect wildlife with fatal consequence include rinderpest, anthrax, salmonellosis, and tetanus. A high standard of hygiene in the livestock must be a high priority if the human settlements in the vicinity of any protected area continue to keep free-ranging stock (Ashby & Santiapillai, 1987).

References

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