

Additional information:

Can musth occur in female elephants?

Musth can also occur to cow elephants but on rarer occasions. It has been seen how some female elephants have a muscular secretion in the cheeks. When this has been seen, they were in a great state of estrus.

Physical symptoms of the musth are:

- **swollen temple or temporal glands**
- **swollen trunk base**
- **an oily liquid comes out of the temple glands, leaving a dark trace across the cheeks to the corners of the mouth**
- **the penetrating smell of sweat and urine**
- **permanent dripping of urine on hind legs, which are wet on the inside by urine drops**
- **no erection of the penis**
- **the foreskin of the penis becomes white-greenish**
- **pain behind the eyes.**

Of what significance is musth when looking after elephants?

These symptoms complicate the contact with the bull considerably. It is also very discouraging for the elephant keeper to work with a withdrawn, extremely aggressive elephant, which disapproves of everything and actually is out to kill him.

Why is musth dangerous?

The danger of the musth for the elephant keeper is that the bull usually at first doesn't have any outer physical musth symptoms. This is one of the main reasons, why the elephant bull has to be kept in a special bull stable, where there is no direct physical contact to the keeper. When they feel the pain caused by the musth, they can pass out and try to attack or even kill anyone nearby. Later they will regret the event. If the bull would be kept like a female elephant, sooner or later a bad accident would certainly happen.

However, different studies have shown that free-ranging elephants show less aggressive behaviors than captive elephants, which may indicate that musth is affected by the levels of stress. As well, the first musth seems to appear sooner in elephants in captivity, around 7-8 years old, than in free-ranging elephants, around the time they leave the herd.

For young males, it is a short-lived experience lasting a few days or weeks, whereas, in older males, musth can last for months. Musth males get an immediate boost in the male pecking order. The hierarchy is typically

determined by size, but their heightened hormones mean they may dominate larger non-musth males.

Is musth a bulls' rutting time?

Musth has nothing in common with the rut. The elephant bulls don't know a rutting season like deer or antelopes, because the estrous cycle of the female elephants is not seasonally timed.

However, evidence from one study reveals that bulls in musth become sexually more active and achieve a higher dominance rank than at other times and that musth males are significantly more often in consort relations with females than non-musth males. Thus, musth may play a part in an individual's reproductive success.

Studies have shown that bull elephants in musth tend to spend more time alone or with cows than bulls with no musth.

Can musth be prevented?

As the musth is no disease or other pain, it cannot be prevented or treated. The musth is part of the natural behavior of the elephant. Above all, it can't stand sudden movements and noise. Moreover, it is very likely that the skin of the hind legs causes pain to the elephant because it is irritated by the constant dripping of urine.

In Asia, working elephants in musth are treated drastically in order to minimize the musth period of the working bull and the loss of earnings. Musth bulls are tied to two strong trees and set free again only when the musth is over. During this time the bulls get very few foods and drinking water. The idea that the musth is shorter when the bull has a hard time seems to be true. So, the musth of working bulls lasts several days and not 5 to 7 months like for captive elephants in a more free environment.

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