ASIAN ELEPHANT

How elephants learn to cope: a camera trap study from Kodagu, India
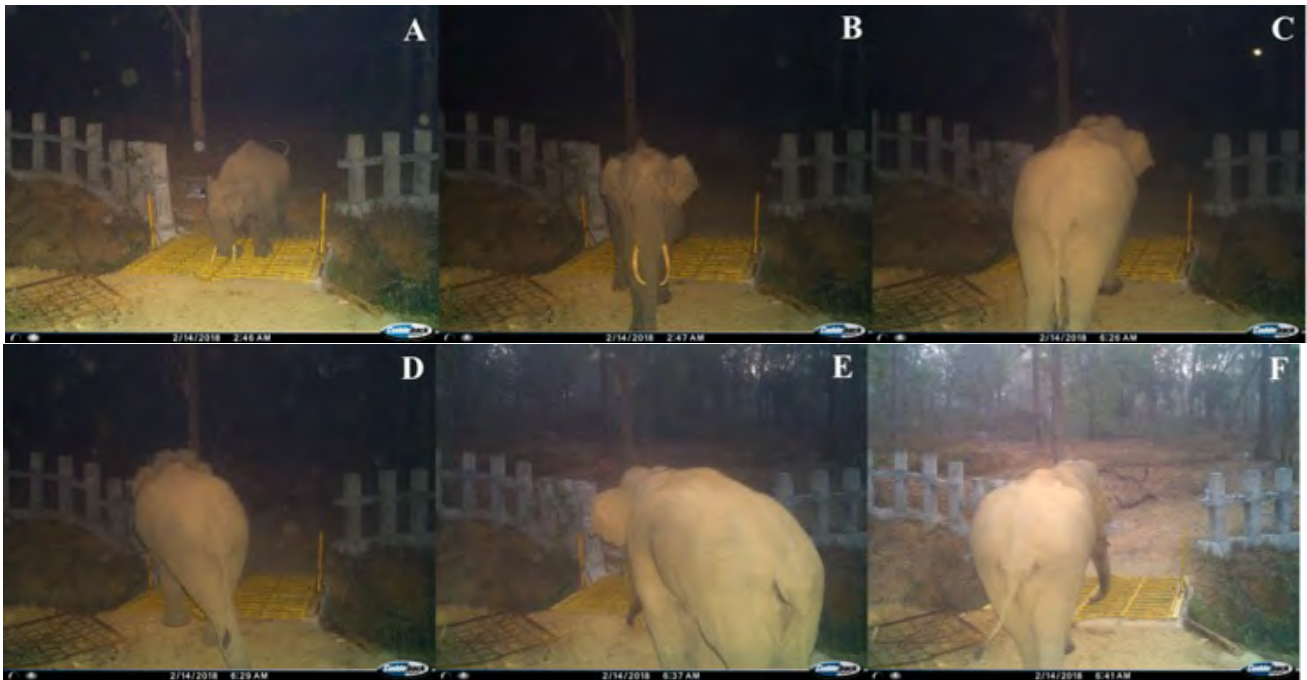

Image: A & B - elephant crosses spike-bed to enter a coffee plantation, C - elephant returns to spike-bed, D, E & F - elephant looks at spike-bed

IUCN Red List:
Endangered (Choudhury et al., 2008)

Mammalia
[Class of Mammals]

Proboscidea
[Order of afrotherian mammals]

Elephantidae
[Family of elephants and mammoths]

Elephas maximus
[Asian Elephant]

Species described by Linnaeus in 1758

Human-elephant negative interaction is gaining global attention due to its severity in elephant range countries. Asian Elephant is listed as an Endangered species by IUCN due to fragmentation and degradation of its habitat, scarcity of food and water in its natural habitat, and illegal killing/ poaching of the species. These unconditional reasons end up in negative interactions, resulting in hundreds of human and elephant deaths annually along with the loss of crops and property. At present, human-elephant negative interaction is the biggest conservation challenge in Asia (Choudhury et al. 2008).

In the past two decades, several preventive measures, namely, elephant-proof trench, solar fence, spike gate, and spike pillars were developed and adopted by communities

concerned to prevent the movement of wild elephants into agricultural and human settlement areas or to restrict the species within forested areas.

Elephants are known for their large complex brains (Shoshani et al. 2006) and the ability to use tools (Chevalier-Skolnikoff & Liska 1993). In general, elephants are considered highly intelligent (Byrne et al. 2009), which makes mitigation of negative interactions a complicated case. Elephant movement into agricultural fields begins late at night and goes on until early mornings. To stop problematic wild elephants from entering croplands or settlement areas, the Karnataka forest department (Kodagu Circle) placed a mobile spike-bed with the mechanism of opening for the movement of humans and vehicles. Surprisingly, we got to know that an elephant was able to overcome the spike-bed. To understand the strategy adopted by the elephant to overcome the obstacle, we deployed camera traps in one of the elephant paths where the newly designed spike-bed was installed.

Image: G - elephant opens spike-bed, H - elephant crosses opened spike-bed, I - elephant enters the forest

On the first two days (12 and 13 February 2018) of setting up the camera traps, we observed a few elephants near the spike-bed, but they did not try to cross it. On the third day (14 February 2018), however, a tusker approached the spike-bed at 2.46h and, without wasting time, took the risk of crossing the spike-bed kneeling down, with the support of its tusk (Image A,B). While returning from the plantation area to the forest at 6.26h (Image C), he took around 20 minutes to understand the situation (Image D,E,F) and, at 6.44h, managed to open the spike-bed from the path by putting it vertically, and returned to the forest (Image G,H,I). These observations picture how elephants are intelligent in learning to cope with situations.

References

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