

A preliminary study of mirror-induced self-directed behaviour on wildlife at the Royal Belum Rainforest Malaysia

ABSTRACT

Mirror-induced behaviour has been described as a cognitive ability of an animal to self-direct their image in front of the mirror. Most animals when exposed to a mirror responded with a social interactive behaviour such as aggressiveness, exploratory and repetitive behaviour. The objective of this study is to determine the mirror-induced self-directed behaviour on wildlife at the Royal Belum Rainforest, Malaysia. Wildlife species at the Royal Belum Rainforest were identified using camera traps from pre-determined natural saltlick locations. Acrylic mirrors with steel frame were placed facing the two saltlicks (Sira Batu and Sira Tanah) and the camera traps with motion-detecting infrared sensor were placed at strategically hidden spots. The behavioural data of the animal response to the mirror were analysed using an ethogram procedure. Results showed that barking deer was the species showing the highest interaction in front of the mirror. Elephants displayed self-directed response through inspecting behaviour via usage of their trunk and legs while interacting to the mirror. Interestingly, the Malayan tapir showed startled behaviour during their interaction with the mirror. However, the absence of interactive behaviour of the Malayan tiger signalled a likelihood of a decreased social response behaviour. These results suggested that the ability to self-direct in front of the mirror is most likely related to the neural mechanism and its level of stimulus response in wildlife. In conclusion, research on mirror-induced self-directed behaviour in wildlife will have profound implications in understanding the cognitive ability of wildlife as an effort to enhance the management strategies and conservation.