

PLAY-FIGHTING BETWEEN WILD FEMALE MALAYAN TIGER (*Panthera tigris ssp. jacksoni*) AND CUB IN TAMAN NEGARA NATIONAL PARK, PENINSULAR MALAYSIA

***Jambari Asrulsani, Hazril Rafhan Abdul Halim, Muhd Hakim Saharudin, Mohd Fauzi Seman, Sohaimi Samsuddin, Ihsan Syahid Mohd Azmi, Khairul Amirin Mohamed & Pazil Abdul Patah**

*Department of Wildlife and National Park (DWNP) Peninsular Malaysia,
KM 10 Jalan Cheras, 56100 Kuala Lumpur, Malaysia*

*Corresponding author's email: sani@wildlife.gov.my

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Tigers are a highly adaptable species and inhabit a wide range of forest types, climatic regimes, and altered landscapes (Schaller, 1967; Sunquist *et al.*, 1999; Kawanishi & Sunquist, 2004). However, tigers are facing extinction across their range states, primarily due to habitat loss and poaching (Linkie *et al.*, 2003; Joshi *et al.*, 2016).

In Peninsular Malaysia, a reliable population estimate of the Malayan tiger (*Panthera tigris jacksoni*) has yet to be obtained. Only a few population density estimates have been determined for a few sites (Kawanishi *et al.*, 2003). Based on these estimates, the current population of Malayan tigers are between 250 and 340 individuals (Kawanishi, 2015), which is dangerously low. Globally, there are fewer than 3,500 individuals of tiger (Joshi *et al.*, 2016). In 2015, the Department of Wildlife and National Parks (DWNP) embarked on a project under 10th Malaysian Plan – National Tiger Conservation Action Plan (NTCAP) 2008 – 2020 (DWNP, 2008) to obtain a nationwide population estimate for the tiger. Camera traps are the best tool to obtain demographic information of wild tigers (e.g. sex ratio, body mass) and are able to document behaviour as well.

Here, we report play-fighting between a wild tigress and her cub from camera traps in Taman Negara National Park (TNNP). In this study, the southern part of TNNP (4°23'05.8"N, 102°24'02.1"E) was surveyed. The terrain is undulating and covers lowland to montane forests. Between April and October 2015, a total of 85 camera trap stations were deployed in 2.5 x 2.5 km grids covering 531.25 km². Infrared digital camera traps (Reconyx HC500) operated with an 8GB SD and eight double AA batteries were mounted to trees with a security case.

From the efforts described above, a total of 13,394 photos were obtained. This is equivalent with 9,690 trap nights. Two tiger individuals, an adult female and her cub were detected at four different stations. The exact locations of tiger detections will be kept confidential for security reasons. The tigers were detected at 691 m above sea level (a.s.l.), about 1,516 m from the nearest water bodies and 15,617 m from the park boundary. At the camera trap station where play-fighting was recorded, we obtained a sequence of photos spanning 1.56 min between 1618 to 1913 hours (Figure 1). A video of the behaviour has been uploaded online at <https://vimeo.com/jabatanperhilitan>.



Figure 1 The cub and tigress enjoying the play-fighting as a natural predator behaviour, which will prepare the cub to disperse and establish its own home territory.

To our knowledge, this is the first known camera trap footage of play-fighting wild tigers in Peninsular Malaysia, and possibly the region. Despite research showing that camera traps can be heard and seen by animals (Meek *et al.*, 2014),

the camera did not appear to have affected the behaviour of these tigers. The operational sound and infra-red illumination by the device has been found to have a very low impact and thus might be ignored by some mammals. Studies have report on specific behaviours such of feeding, reproduction, social interaction and so on (Sequin *et al.*, 2003; Bauer *et al.*, 2005; Blake *et al.*, 2010; Throllet *et al.*, 2014). Apart from this behaviour, our camera traps have provided insights into the movement of a wild female tiger which travelled a straight line of around 29,365 m of distance within a period of four months.

TNNP remains a globally significant site for tiger conservation and is one of three important protected areas for tigers in Peninsular Malaysia (DWNP, 2008). However, the TNNP park boundary which spans 426 km has been the subject to various anthropogenic impacts from recreational activities, agricultures, and loggings. It is encouraging that we have documented evidence of breeding, despite the looming threat of poaching. Camera traps continue to be a valuable tool not only to estimate the population densities of large carnivores such as the tiger, but also provide insights into their behaviour, which has thus far been difficult to document due to the elusive natures of such carnivores.

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