

Project Update: April 2019

Methods

A trial round of camera trapping was conducted from 29 September to 19 November 2018. Ten camera trap points were set up, targeting the closest wet location nearest the centre of a 2 km² grid, where possible (Fig. 1).

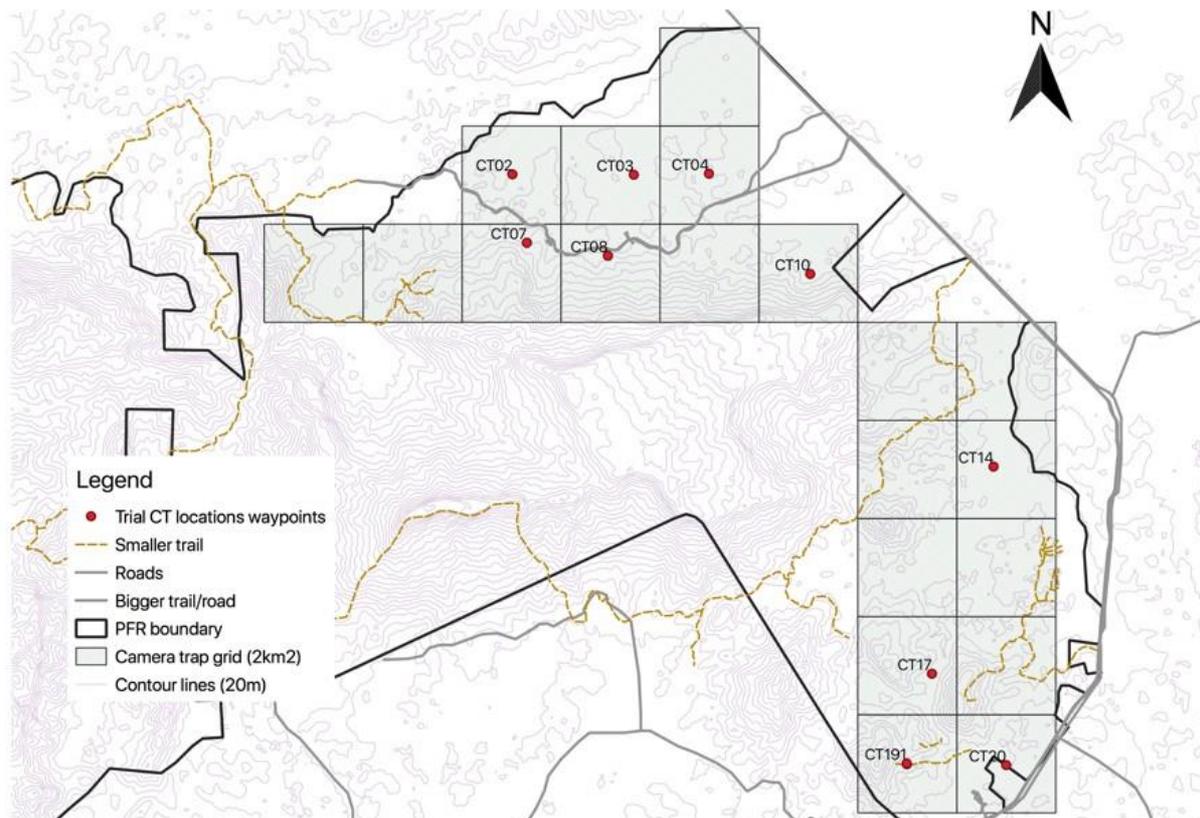


Fig. 1. Map of study area with trial camera trap (CT) locations.

A paired camera trap design (one Reconyx Hyperfire 2 and one Reconyx PC800) was employed for each point, facing away from each other to maximise detection of animals (Fig. 2).



Fig. 2. Paired camera design

Results

In the trial camera trapping run, I obtained 433 operational camera trap nights from 10 camera trap stations (Fig. 3).

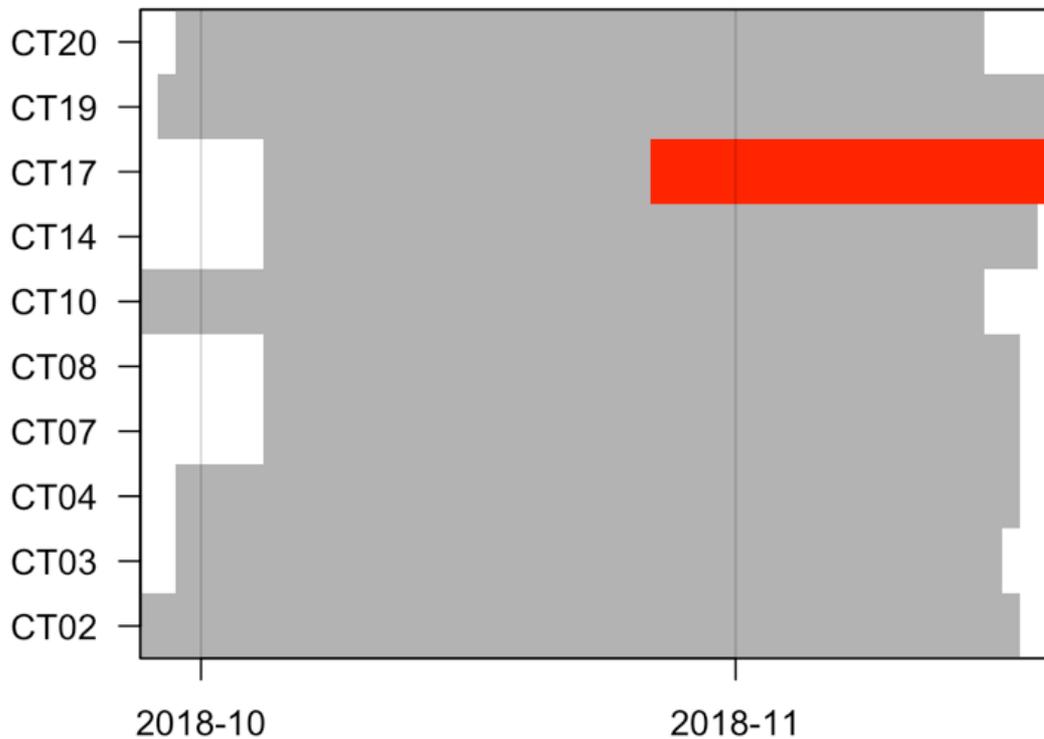


Fig. 3. Camera trap operation matrix. Grey indicates working days, red indicates camera failure.

A total of 18 mammal species (excluding rodents) were detected. Six of which were small carnivore species: *Aonyx cinerea*, *Cynogale bennettii*, *Herpestes brachyura*, *Paradoxurus hermaphroditus*, *Prionodon linsang*, and *Viverra zibetha*. Other notable mammals detected included *Helarctos malayanus*, *Panthera pardus*, and *Tapirus indicus*.

Of the three target species captured, the short-tailed mongoose was detected the most at 13 independent detections, followed by the otter civet, and then the small-clawed otter (Table 1).

Table 1. Number of detections per target species

Target species	Number of detections (occasion length = 7 days)
Small-clawed otter <i>Aonyx cinerea</i>	1
Otter civet <i>Cynogale bennettii</i>	4
Short-tailed mongoose <i>Herpestes brachyura</i>	13

Initial occupancy estimates were calculated for two of the target species. However, due to the nature of the small sample size of the trial study, these values have a high level of uncertainty (wide confidence intervals):

Occupancy estimate for *Herpestes brachyura* (Fig. 4): Naïve occupancy = 0.6
Detection probability estimate = 0.194 $\square\square$ 0.1426 [95% CI] Occupancy estimate = 0.81 $\square\square$ 0.508 [95% CI]

Occupancy estimate for *Cynogale bennettii* (Fig. 5): Naïve occupancy = 0.3
Detection probability estimate = 0.0984 $\square\square$ 0.175 [95% CI] Occupancy estimate = 0.59 $\square\square$ 0.94 [95% CI]



Fig. 4. Camera trap image of a family of short-tailed mongoose *Herpestes brachyura* in a sandy stream.



Fig. 5. Camera trap images of the endangered otter civet *Cynogale bennettii* in a swamp and sandy stream respectively.

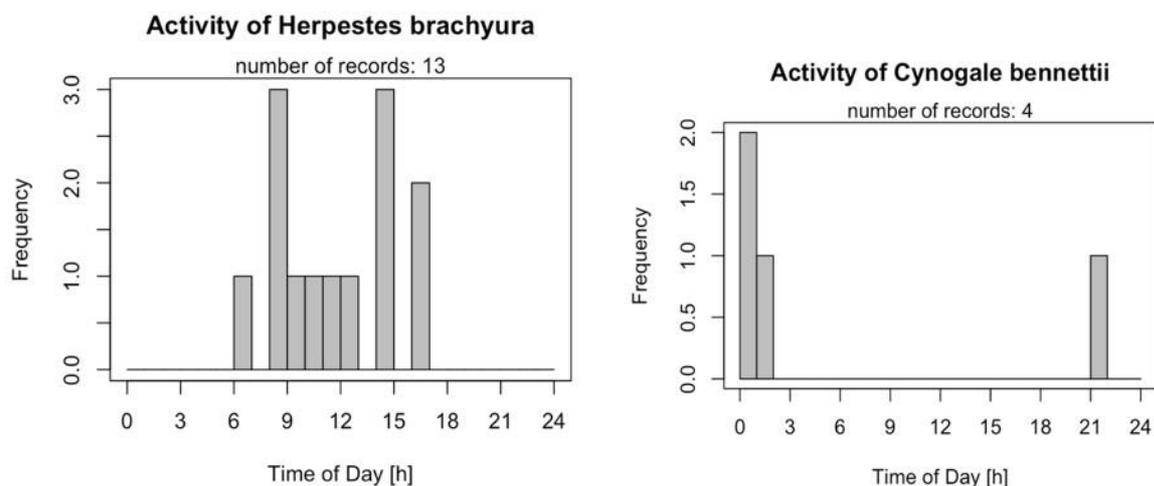


Fig. 6. Activity graph of two target species, the short-tailed mongoose *Herpestes brachyuran* (left) and otter civet *Cynogale bennettii* (right).

Challenges encountered

The initial plan to trap during the monsoon months of November, December and January was abandoned because of the unpredictable and high fluctuations in water level in the study area. This caused the flooding of one camera trap station and the near flooding of several more.

Thus, the earlier camera trapping effort was treated as a trial run.

Ongoing activity

The full study of 20 camera trap points has been ongoing since 8 February 2019. I aim to complete camera trapping of the 20 sites with at least 30 operational trap days per camera. As my target species were detected at a lower frequency (for the first 12 trap points which trapping has been completed for), I plan to add on more sites targeting their presence with the aim of elucidating habitat features vital to species presence.

So far, noteworthy species captured in this round include the endangered flat-headed cat *Prionailurus planiceps* (a target species; Fig. 7), a binturong *Arctictis binturong* and banded civet *Hemigalus derbyanus*.

Apart from research activity, I am in contact with the Wildlife Conservation Society and Johor National Parks, who are coordinating an effort to protect Pantii Forest Reserve and other connecting forests in Johor state. They have noted that the flat-headed cat record from this study is valuable for the push for conservation of the forest reserve, as the species has not been recorded elsewhere in the state.

Moving forward, I intend to initiate planning for the outreach component of this project with the nature guides I work with.



Fig. 7. Camera trap image of the endangered flat-headed cat *Prionailurus planiceps* in a degraded part of the swamp, near the edge of the forest reserve.

Publications

At the moment, I intend to publish new or important species records for the reserve for the purpose of contributing to Johor National Parks' effort to conserve the reserve:

Published:

Theng, M. & Norhayati, A. (2019). *Panthera pardus* at Pantı Forest Reserve, Johor, Peninsular Malaysia. *Southeast Asia Vertebrate Records*. 2019: 31-32.

Upcoming publications:

Theng, M. & Norhayati, A. (*in press*). *Arcturus binturong* at Pantı Forest Reserve, Johor, Peninsular Malaysia. *Southeast Asia Vertebrate Records*. 2019: XX-XX.

Theng, M. & Norhayati, A. (*in press*). *Prionidon linsang* at Pantı Forest Reserve, Johor, Peninsular Malaysia. *Southeast Asia Vertebrate Records*. 2019: XX-XX.