

Project Update: March 2022

For Langur Project Penang (LPP) (www.langurprojectpenang.com/), the COVID-19 movement control order (MCO) in Malaysia had limited our ability to perform on-site fieldwork and environmental education programmes, but it did allow my team and me to develop creative environmental education contents, interact with people through an online citizen science project (urban wildlife sighting project) and community training programmes. We use the WhatsApp, Facebook, and Instagram social media platforms to communicate with citizens in Penang and Peninsular Malaysia (during and after the movement control order) about citizen sightings of dusky langurs and other urban wildlife such as snakes, wild pigs, monitor lizards, and more. We have received 228 reports of dusky langur sightings and 89 reports of other urban wildlife species sightings in Peninsular Malaysia as of February 2022 (data collected between February 2020 and February 2022).

We have begun the phenology survey in accessible research sites in Penang, where we are presently collecting data on the flowering/fruitlet status of critical dusky langur feeding plants in Penang. The next stage for this year is to restart the habitat quality survey (vegetation plotting) in the designated field areas and to seek the authority's research permit to restart the seed dispersal study when a student is recruited.

For road canopy bridge update, a second bridge prototype 'double twisted liana' was installed on the existing road canopy bridge 'single twisted liana' in August 2020, to improve the bridge design while also comparing the effectiveness of animals crossing on two bridge designs. There were a total of 2,128 animal crossings involving three mammal species documented in the camera trap between March 2019 and May 2021. Plantain squirrels crossed the bridge the most (2,075 times), followed by long-tailed macaques (32 times), and dusky langurs (21 times). The results of the road canopy bridge have been submitted to *Folia Primatologica* Journal for publication, accepted, and are expected to be published soon. The Rufford Foundation is credited with funding the fieldwork research and bridge installation.

I had been invited to present about the research, road canopy bridge, and environmental education parts of LPP in three international virtual conferences in 2021: 1). Taiwan Environmental Education Forum 2021 by New-generation Environmental Education Development (NEED); 2) Asia Pacific Virtual Environmental Education Forum 2021 by Global Environmental Education Partnership (GEEP); and 3) 3rd August Road Ecology, Transportation Infrastructure & Wildlife Conservation Virtual Zoom Conference 2021 by The Association of Consulting Engineers Malaysia (ACEM).

My team and I made good use of our time and productivity during the period of movement restrictions by converting our environmental education (EE) content to online platforms rather than offline platforms. With adequate social distance SOP, we have performed 19 online workshops and online seminars, two rainforest programmes, and six on-site roadshows and events in public spaces between February 2021 to February 2022.

I submitted my PhD dissertation in February 2022. I sincerely hope that my thesis, titled "Ecology, behaviour, and road ecology of *Trachypithecus obscurus* to develop a langur conservation plan in Penang, Malaysia," will serve as a guideline for future conservation efforts of dusky langurs (and other species) in Malaysia and beyond, by

laying out the scope of data required to draft and implement feasible conservation actions. The ultimate goal, which is beyond the scope of this thesis, is to create a multilingual, open access working document known as the Dusky Langur Conservation Plan, which will be presented to key stakeholders and will reference the important conservation actions and rationales outlined in this thesis in order to better protect this endangered species from future threats such as habitat loss and illegal pet trade.

Canopy Bridge updates:

1. "Ah Lai's Crossing" Second Prototype! - YouTube

2. The Star Golden Heart Award:

<https://www.thestar.com.my/news/nation/2020/11/25/yaps-labour-of-love-for-langurs>

3. Atlas Obscura:

<https://www.atlasobscura.com/articles/langur-wildlife-crossings-malaysia>

4. Buletin Mutiara:

<https://www.buletinmutiara.com/ah-lais-crossing-makes-a-difference-to-the-survival-of-endangered-langurs-and-other-creatures/o>

Creative educational content, developed by volunteers of LPP:

- The Story of Dusky Langur (Dusky Leaf Monkey) in Malaysia - YouTube
- Penang's Forest with Dusky Langurs - A Virtual Experience - YouTube
- What's in the Tree - Sing Along Music Video - YouTube
- No feeding monkey's infographic:
<https://langurprojectpenang.com/no-feeding-monkey/>
- What to do when there are dusky langurs around your areas?
<https://langurprojectpenang.com/urbanlangur/>
- Children worksheet:
<https://langurprojectpenang.com/learning-alongside-dusky-langurs/>



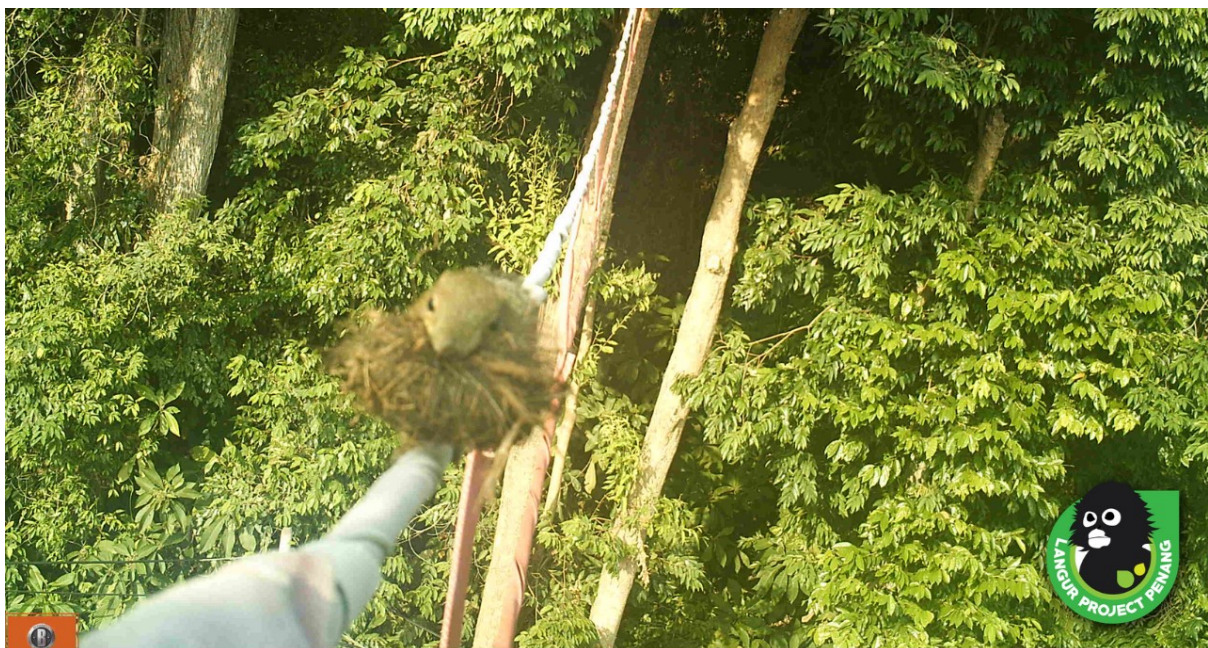
Camera trapping.



Outdoor programme.



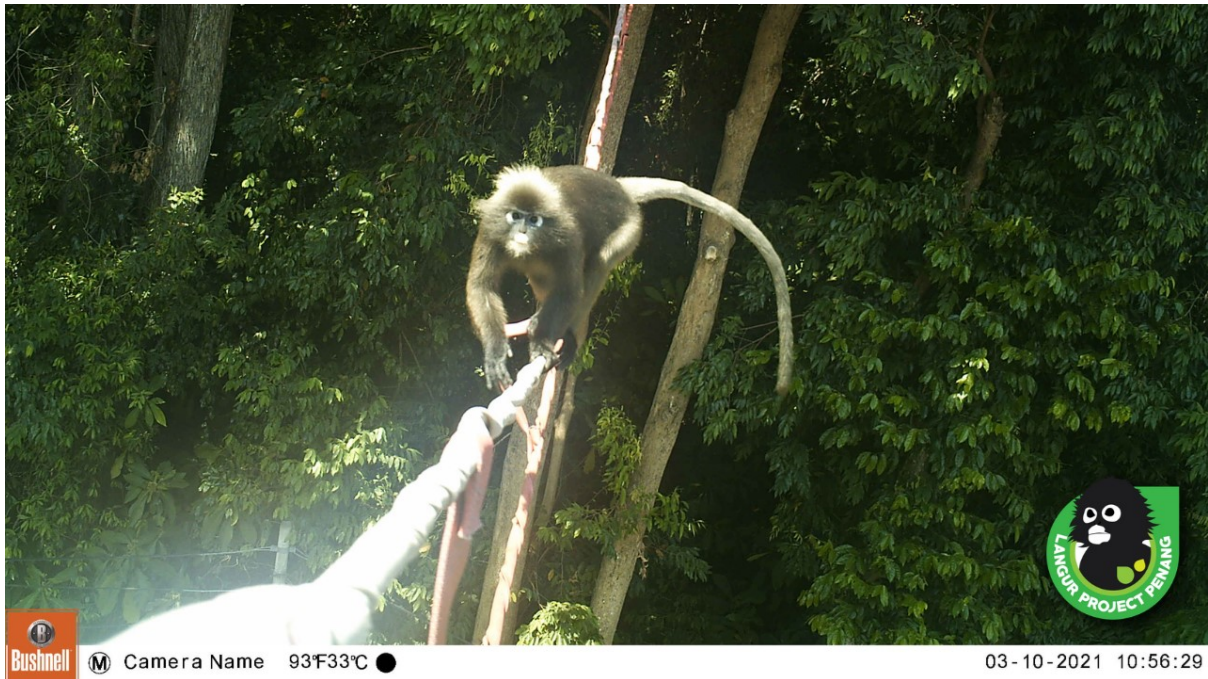
Roadshow event.



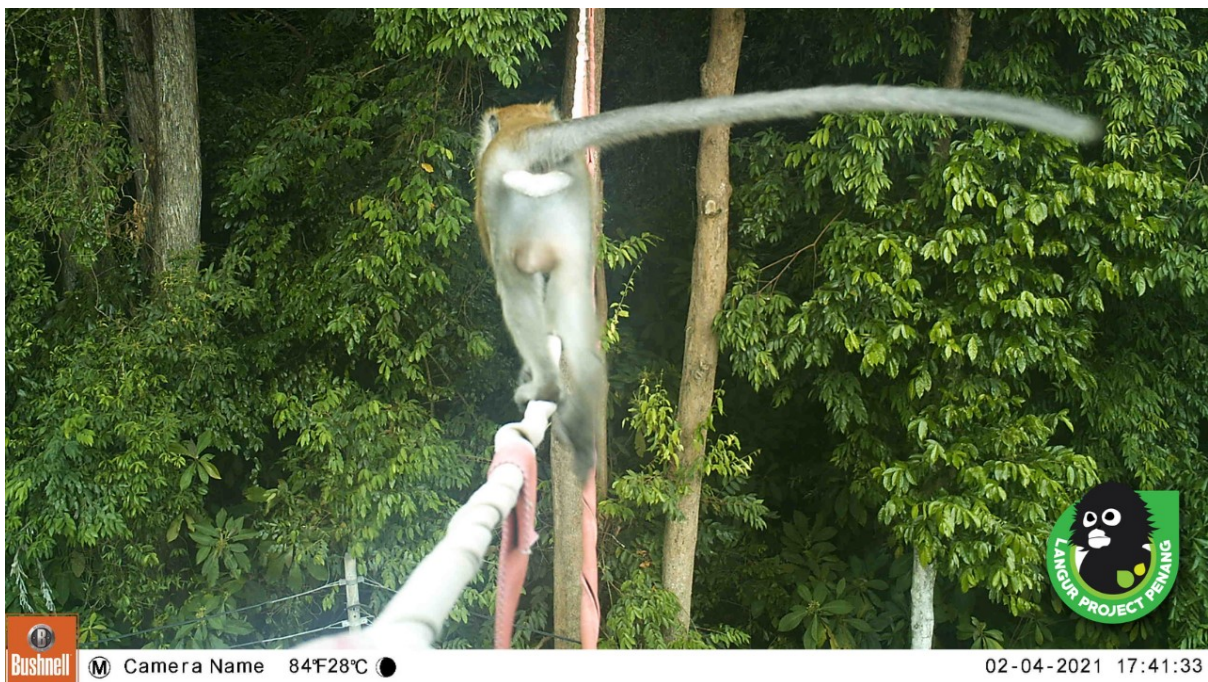
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Squirrel bridge.



Dusky Langur bridge.



Macaque bridge.