

Biodiversity Record: Roadkill of *Sunda colugo* along Jalan Jurong Kechil

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Subject: *Sunda colugo*, *Galeopterus variegatus* (Mammalia: Dermoptera: Cynocephalidae).

Subject identified by: Goh Shu Hui Gina and Tang Zepeng.

Location, date and time: Singapore Island, Bukit Batok, Jalan Jurong Kechil near Sherwood Condominium (1°20'44.5596"N, 103°46'4.1052"E; World Geodic System 84); 8 November 2021; 2055 hrs.

Habitat: Grass central reservation (road divider) of metalled roads through urban residential areas, in the vicinity of suburban parkland and secondary forest.

Observers: Goh Shu Hui Gina, Tang Zepeng and Tang Kai Yan.

Observation: A colugo carcass was found near a kerb on the narrow grass patch of a road divider (Fig. 1). The colugo was identified as female by genitalial examination (Fig. 2), and appeared to be an adult of 48 cm in length (snout to body, excluding tail) and weighing 1.48 kg. The carcass seemed to be at most one day old. Although it lacked warmth, it was only partially rigid (rigor mortis), and no insect was observed on it. There was little putrid odour. The eyes appeared translucent and cloudy (loss of eye clarity and luminosity). No visible wound was found on the carcass, but upon flipping the carcass to rest on its other side, some relatively fresh blood flowed out from the mouth (Fig. 3). Figs. 4–6 show the trees along the road divider and flanking both sides of the roads, near where the colugo was found. The position of the carcass is marked by a red cross in Figs. 4 and 6.

The heights of the nearby trees in which colugos were likely to use in the area were measured on a separate day with a laser rangefinder, with the heights of trees along the road divider having a mean of 14.1 m (n = 4; SD = ± 3.90 m) and median of 13.5 m (n = 4; SD = ± 3.90 m), heights of trees along the side of Sherwood Condominium having a mean of 16.3 m (n = 3; SD = ± 3.41 m) and median of 18.2 m (n = 3; SD = ± 3.41 m), and heights of trees on the opposite side of the road across Sherwood Condominium having a mean of 14.9 m (SD = ± 2.76 m) and median of 16.0 m (SD = ± 2.76 m).



Fig. 1. Left side of the colugo carcass in the position it was originally found. Fig. 2. Ventral view of the colugo carcass. (Photographs: Tang Zepeng & Goh Shu Hui Gina).



Fig. 3. Right side of the colugo's head with blood oozing from its mouth. (Photograph: Tang Zepeng & Goh Shu Hui Gina). Fig. 4. Heights of taller trees more likely to be used by colugos on the road divider and along the side of Sherwood Condominium. Red cross marks position of carcass. Fig. 5. Heights of taller trees more likely to be used by colugos along the side of Sherwood Condominium. Fig. 6. Heights of taller trees more likely to be used by colugos along the road on the opposite side of Sherwood Condominium (left) and on the road divider (right). Red cross indicates position of carcass. Figs. 7 & 8. Double-decker buses observed passing through the area on both sides of the roads. (Figs. 4–8 photographed by: Goh Shu Hui Gina).

Remarks: Colugos are nocturnal, arboreal mammals that depend heavily on tall trees with continuous canopy cover for its locomotion and transitioning from place to place (Lim, 2007). While colugos have been reported to be able to cover up to 136 m within a single glide, they lose elevation of 10.5–12 m as they glide from one tree to the next (Nowak, 1999).

From the apparent absence of external injuries on the carcass, predatory attack by another animal does not seem to be a likely cause of the colugo's demise. There is a possibility that this colugo individual had attempted to glide across the roads, but had landed short of its intended landing point. Given that the nearby trees on both sides of the roads were rather tall, and that the roads (each about 12.5 m wide, measured using Google Maps) did not seem too far apart given the tree heights, it did not seem that the trees were not tall enough for the colugo to glide from one tree to another across the roads. Furthermore, given the lack of visible wounds and position in which the carcass was found, and the observed presence of double-decker buses and other vehicles passing through the area on both sides of the roads, there is a possibility that the colugo was hit by a vehicle mid-glide when it lost elevation from its gliding in preparation of landing. Upon being hit by the vehicle, the individual might have made its way to the road divider, or landed onto the road divider before it died possibly from the internal injuries and bleeding it had sustained from the vehicular collision.

Literature cited:

Lim NT-L (2007) Colugo: The Flying Lemur of South-east Asia. Draco Publishing, Singapore, 80 pp.

Nowak RM (1999) Walker's Mammals of the World. Sixth edition. Johns Hopkins University Press, Baltimore, USA, 2 volumes: li + 1936 pp.