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# Biodiversity Record: A roadkill amelanistic Malayan blue coral snake

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**Subject:** Malayan blue coral snake, *Calliophis bivirgatus flaviceps* (Reptilia: Squamata: Elapidae).

**Subject identified by:** Ing Sind Law.

**Location, date and time:** Singapore Island, Old Upper Thomson Road (1.380588N 103.819609E); 30 July 2025; 2153 hrs.

**Habitat:** Concrete road flanked on both sides by secondary forests.

**Observers:** Robbin Tan and Benjamin Bin Jie Yeo.

**Observation:** An amelanistic juvenile example of about 50 cm was found dead and flattened on the road wet with rainwater (Figs. 1–5). Assumed to be dead for less than a day, it is believed to have been crushed by motor vehicles. The carcass was collected and deposited in the Zoological Reference Collection of the Lee Kong Chian Natural History Museum, at the National University of Singapore, with the accession number ZRC 2.7869.



Fig. 1. The roadkill coral snake on the road in relation to the forests on both sides. Fig. 2. In-situ dorso-lateral view of the flattened carcass. Note the pale whitish dorsum and bold white lateral stripes. (Photographs by: Robbin Tan).

**Remarks:** *Calliophis bivirgatus flaviceps* is native to Singapore where it inhabits the forests of the Bukit Timah and Central Catchment Nature Reserves, as well as the Western Catchment Area (Figueroa et al., 2023). It is listed as nationally vulnerable (Thomas et al., 2024).

This appears to be the first documentation of an amelanistic *Calliophis bivirgatus flaviceps*. Typical individuals exhibit a bright red head, tail and venter, with a contrasting dark blue body and light blue dorsolateral stripes along both sides (Law et al., 2025; Fig. 6). The featured specimen lacks all bluish pigmentation while retaining the red head, tail and venter (Figs. 3–5).

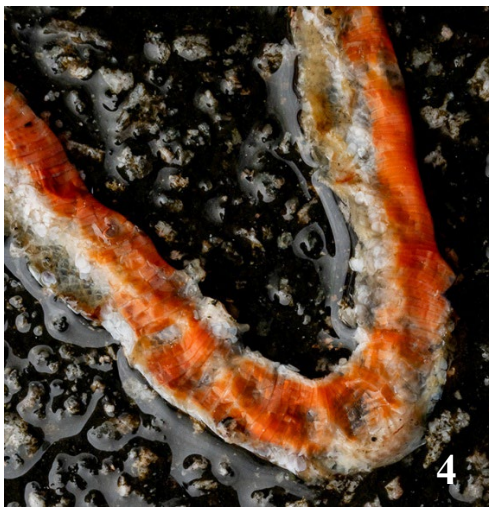

Fig. 3. Close up of the head of the carcass. Fig. 4. Ventral scales at mid-body. Fig. 5. Dorsal part of the tail. (Photographs by: Robbin Tan).

Chromatic aberrations leading to atypical colouration have been documented in numerous species of reptiles (Sierra-Serrano et al., 2024). Among these, the most frequently reported conditions are albinism, leucism, and amelanism. Albinism occurs when individuals partially or completely lack melanin, producing pinkish-white integument and reddish pupils. In contrast, leucism involves a partial reduction of multiple pigment types, resulting in pale colouration, often with white patches, while the eyes remain dark (Sierra-Serrano et al., 2024). Amelanism is a pigmentation anomaly characterised specifically by the absence of melanin. The specimen observed here lacks melanin (black pigments) but retains red pigmentation on the head, tail and venter, indicating that the condition represents amelanism rather than albinism (Borteiro et al., 2021).

Colour patterns on reptiles frequently serve important ecological functions, including camouflage, thermoregulation, and predator avoidance (Allen et al., 2013). Consequently, individuals exhibiting chromatic aberrations may experience reduced survival, as atypical colouration can increase detectability by predators or interference of its normal behavioural signaling (Sierra-Serrano et al., 2024). In the present case, however, the mortality of this individual reflects a different and increasingly prevalent threat to wildlife: human–wildlife conflict arising from vehicle–wildlife collisions. Road mortality has become a significant driver of wildlife declines in many regions, particularly for reptiles that often use roads for basking or dispersal (Sukhontapatipak et al., 2025). This observation therefore underscores the importance of continued systematic monitoring of roadkill events and the implementation of mitigation strategies, such as wildlife crossings, road planning that accounts for biodiversity hotspots, and public awareness, in order to reduce anthropogenic mortality. For the aforementioned purpose, the Herptile Roadkill Project (2021) was initiated by the Herpetological Society of Singapore to compile a database of reptile and amphibian road mortalities, such as the featured record, in Singapore.


Fig. 6. Dorso-lateral view of a typical *Calliophis bivirgatus flaviceps* with blue body photographed at Upper Seletar Reservoir Park on 22 March 2023. Total length estimated at 60 cm. (Photograph by: Robbin Tan).

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