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First record of a piebald Gollum Cave Gecko, *Goniurosaurus gollum* Qi et al., 2020, in Guangdong, China

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Piebaldism is a rare chromatic aberration, typically manifested as a predominantly or patchily white coloration with normally pigmented eyes (Borteiro et al., 2021). A recent whole-genome sequencing study has revealed that this condition results from a nonsense mutation in the transcription factor *tfec*. Functional validation further demonstrated that frameshift mutations in *tfec* disrupt normal pigmentation processes and lead to a loss of iridophores in affected individuals (Garcia-Elfring et al., 2023). Although this mutation is widespread among squamate reptiles, similar variants have also been documented in several members of Gekkota in captive conditions (e.g., *Correlophus ciliatus*, *Eublepharis macularius*, *Gekko gecko*) and wild observations (e.g., *Tarentola boettgeri bischoffi*) (Rocha and Rebelo, 2010). However, it has never been reported from any *Goniurosaurus* species.

Goniurosaurus gollum Qi, Wang, Grismer, Lyu and Wang, 2020 is a recently described species currently known only from its type locality in the karst landscapes of Huaiji County, Zhaoqing City, Guangdong Province, China. The species typically inhabits caves, cave entrances, and limestone rock walls. Its coloration is generally characterized by a yellowish-brown ground color with thin dorsal body bands bordered anteriorly and posteriorly by black, and an orange iris that gradually darkens toward both margins. Although previous work has shown that the number and configuration of dorsal body bands in *G. gollum* can exhibit some variation (Qi et al., 2020), the overall pigmentation pattern of the species has been regarded as comparatively stable.

On 19 October 2025, a nature photography team conducting a field survey in Huaiji County, Zhaoqing City, Guangdong Province encountered three *Goniurosaurus* individuals on a limestone rock wall. Precise locality coordinates are withheld to reduce the risk of targeted collection, as the species occurs in small limestone habitats outside protected areas. One of these had a colour pattern that was very different from the others (Fig. 1A). This adult male had several irregular brown blotches on an unpigmented, pink background. The dorsal surface of the head was light greyish brown, and the dorsal blotches of the same colour on the trunk were continuous with those on the head. The posterior part of the body was unpigmented, with only a small greyish brown dorsal patch in the sacral region. The lateral and ventral surfaces were entirely unpigmented. On the forelimbs, only the fingers and palms included some light grey colouration, with the remaining portions unpigmented. The hind limbs exhibited light grey patches on the toes, feet, tibia, and femur, while the remaining areas were unpigmented. The tail displayed a striking anterior–posterior contrast, beginning with the depigmented base of the tail, followed by a narrow white band just posterior to the hemipenial bulges, a dark brown tail, and a depigmented tail tip. The eyes were darkly coloured, and the colour of the eyes was visible through the depigmented eyelids. The other two individuals (Fig. 1B, C) exhibited normal coloration and pattern.

The piebald individual was found on a limestone rock wall whose black-and-white mottled surface closely resembled its own coloration. The animal seemed in good condition and was photographed and subsequently released at the same location where it was encountered. It is noteworthy that in some publications (e.g., Borteiro et al., 2021) piebaldism is discussed in terms of white skin and dark patches. However, this is a feature of

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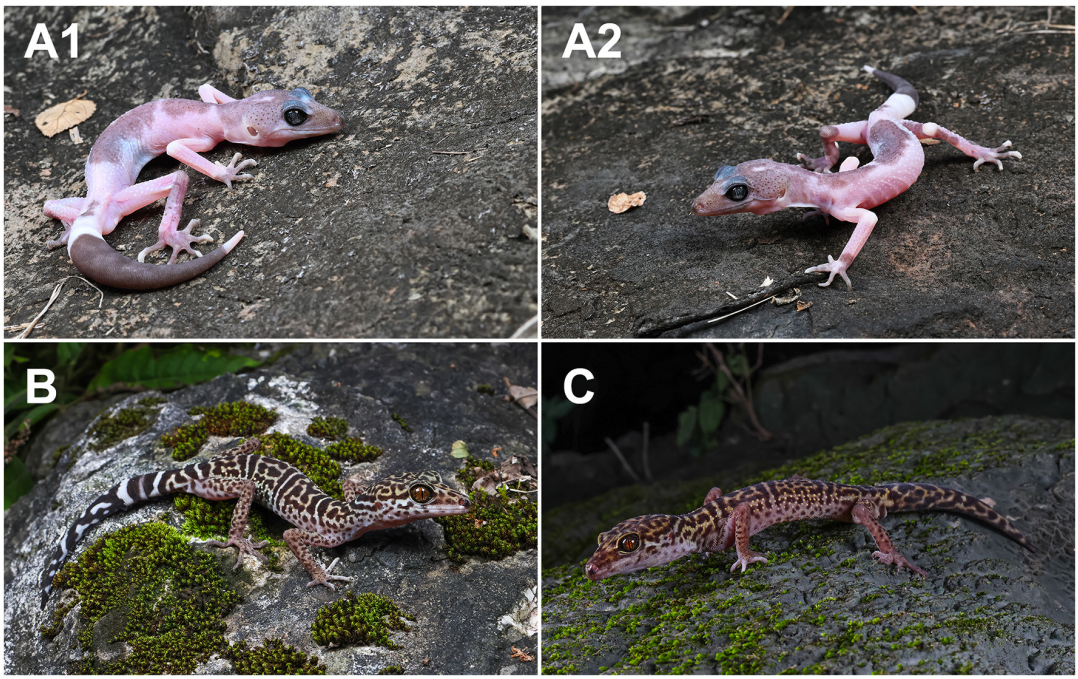

Figure 1. Comparison between a piebald individual (A1, A2) and normal coloured (B, C) *Goniurosaurus gollum*. Photos by Ziyue Wang.

animal groups with opaque body coverings (e.g., scales, hair; Lucati and López-Baucells, 2016), and therefore a distinction should be made between the white forms of depigmentation (e.g., Devkota et al., 2020) and the depigmented condition seen in *G. gollum*.

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