

Dark-phase Banded Gila Monsters (*Heloderma suspectum cinctum*) in Southwestern Utah

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Photographs by the author.

On 18 May 2010, I observed a darkly colored Banded Gila Monster (*Heloderma suspectum cinctum*) in the Red Cliffs Desert Reserve, about 10 km northeast of St. George, Washington County, Utah. This location is near the very northeastern limit of the species' distribution. This Gila Monster was a small adult, measuring approximately 380 mm in total length, with a SVL of approximately 260 mm. The banding pattern and other dark markings on this lizard do not fit the original description of *H. s. cinctum* (Bogert and Martín del Campo 1956). However, the coloration does resemble a similarly dark individual that was collected in 1982 approximately 11 km to the southwest (Beck 1982). One notable exception to the pattern of this Gila Monster is the presence of black dorsal mottling that blends in with the more typical bands. While adults in the reticulated subspecies (*H. s. suspectum*) lose their juvenile bands, most *H. s. cinctum* adults retain their juvenile banding pattern. As is the case with this Gila Monster, remnants of juvenile bands are visible, but they are largely masked by the presence of black mottling.

The Gila Monster was observed walking and occasionally resting under rocks or shrubs over entirely red-colored sand and sandstone. While this substrate differs from the black basaltic rock where Beck collected a dark-phased Gila Monster in 1982, an abundance of black cryptobiotic crust in the vicinity may still provide fitting camouflage. The dark mottling pattern on this Gila Monster effectively blended in with the interspersed cryptobiotic soil crust. Additionally, a black basaltic lava flow was only 350 m away, potentially within the Gila Monster's home range. These local

habitat features may create a selective force that is strong enough to support darker and mottled dorsal patterns in a geographic area where the light and distinctly banded pattern normally dominates. In New Mexico, where the reticulated pattern of *H. s. suspectum* should dominate, several observations of distinctly banded and light colored Gila Monsters have been recorded (Beck 2005). The variation in the dorsal patterns of *H. suspectum* is perhaps more diverse, even at the extremes of their distribution, than originally presumed when the subspecies were first described. These recent observations, in addition to genetic evidence (Douglas et al. 2010), suggest that the subspecies recognition of *H. s. cinctum* and *H. s. suspectum*, based on morphology alone, might not be warranted.

Literature Cited

- Beck, D.D. 1985. *Heloderma suspectum cinctum* (Banded Gila Monster). Pattern/Coloration. *Herpetological Review* 16:53.
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- Douglas, M.E., M.R. Douglas, G.W. Schuett, D.D. Beck, and B.K. Sullivan. 2010. Conservation phylogenetics of helodermatid lizards using multiple molecular markers and a supertree approach. *Molecular Phylogenetics and Evolution* 55:153–167.



The presence of black dorsal mottling that blends in with the more typical bands is unusual in Banded Gila Monsters (*Heloderma suspectum cinctum*).



Typical pattern of Banded Gila Monsters (*Heloderma suspectum cinctum*) in Washington County, Utah.



AGEL KWET

Male *Bokermannohyla hylax* from Blumenau, Santa Catarina, Brazil.