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Source: The Southwestern Naturalist, 57(2):206-207. 2012.

Published By: Southwestern Association of Naturalists

DOI: <http://dx.doi.org/10.1894/0038-4909-57.2.206>

URL: <http://www.bioone.org/doi/full/10.1894/0038-4909-57.2.206>

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- Biological investigations in the Guadalupe Mountains National Park (H. H. Genoways and R. J. Baker, editors). National Park Service Proceedings and Transactions Series 4:1–442.
- VAN DEVENDER, T. R., P. S. MARTIN, A. M. PHILLIPS, III, AND W. G. SPAULDING. 1977. Late Pleistocene biotic communities in the Guadalupe Mountains, Culberson County, Texas. Pages 107–113 in Transactions of the symposium on the biological resources of the Chihuahuan Desert region, United States and Mexico (R. H. Wauer and D. H. Riskind, editors). National Park Service Proceedings and Transactions Series 3:1–658.
- VEAL, R., AND W. CAIRE. 1979. *Peromyscus eremicus*. Mammalian Species 188:1–6.
- WILSON, D. E., AND D. M. REEDER, EDITORS. 2005. Mammal species of the world: a taxonomic and geographic reference. Third edition. Johns Hopkins University Press, Baltimore, Maryland.

Submitted 9 September 2010. Accepted 25 October 2011.
Associate Editor was Troy A. Ladine.

THE SOUTHWESTERN NATURALIST 57(2): 206–207

A PATTERNLESS MORPH OF THE MARBLED WHIPTAIL (*ASPIDOSCELIS MARMORATA*; SQUAMATA: TEIIDAE) IN NEW MEXICO

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ABSTRACT—The marbled whiptail (*Aspidoscelis marmorata*) is a common lizard within the Chihuahuan Desert of the United States–Mexico borderlands. We report a patternless female from the Mescalero–Monahans Shinnery Sands Ecosystem in southeastern New Mexico. One previous record of this pattern has been noted in the literature and this unique morphology has not been investigated thoroughly.

RESUMEN—El huico texano (*Aspidoscelis marmorata*) es una especie de lagartija común en el desierto de Chihuahua en la frontera México-Estados Unidos. Reportamos la ocurrencia de una hembra sin patrón en el ecosistema arenoso Mescalero–Monahans en el sureste de Nuevo México. Un patrón similar al reportado en este estudio se presenta en la literatura, pero este patrón morfológico único no ha sido investigado a fondo.

Marbled whiptails, *Aspidoscelis marmorata*, occur in the Chihuahuan Desert of New Mexico, western Texas, and Chihuahua, Coahuila, and western Nuevo León, Mexico (Dixon, 2009). These are large teiid lizards with a maximum snout-vent length of 107 mm in males and 97 mm in females (Dixon, 2009). The dorsal pattern of the marbled whiptail, as the name implies, consists of marbled reticulation of black spots and white stripes, and this pattern becomes more broken toward the base of the tail (Fig. 1). Ventral scales are large rectangular plates with black flecking throughout. Ballinger and McKinney (1968) reported four patternless morphs of 17 individuals in a population of marbled whiptails in the southern end of the Mescalero–Monahans Shinnery Sands Ecosystem in Crane County, Texas. Herein, we report a second occurrence of a patternless marbled whiptail in the same ecosystem in southeastern New Mexico.

In May 2009, we began research on lizards in southeastern New Mexico. Since then, we have captured 332 marbled whiptails. On 8 June 2010, we collected a

patternless female 5.1 km SSW Maljamar, Lea County, New Mexico (32°48'48"N, 103°47'1"W, 1,224 m elevation; TCWC 94725: snout-vent length, 58 mm; tail, 119 mm; mass, 5.3 g; Fig. 1). Like the patternless marbled whiptails described by Ballinger and McKinney (1968) in Texas, the dorsal pattern was uniformly grayish-brown, and ventral scales were lacking the black flecks common to this species.

The individual we discovered was in shinnery oak (*Quercus havardii*) and sand-dune blowout habitat. Three other species of lizards that inhabit this ecosystem have patternless morphology; dunes sagebrush lizard *Sceloporus arenicolus* (Fitzgerald and Painter, 2009), prairie lizard *S. consobrinus* (Smith et al., 1992), and side-blotched lizard *Uta stansburiana* (Ballinger and McKinney, 1967). Therefore, patternless morphology is common for lizards in this ecosystem, but occurrence of a patternless teiid is unique. Little white whiptails (*Aspidoscelis gypsi*), which originally were believed to be a patternless subspecies of the little striped whiptail (*Aspidoscelis inornata*) occur in the



FIG. 1—Typical dorsal pattern of the marbled whiptail (*Aspidoscelis marmorata*; left) and patternless individual (right) captured on 8 June 2010 in the Monahans–Mescalero Shinnery Sands Ecosystem in Lea County, New Mexico.

gypsum-dune habitat of White Sands National Monument, New Mexico (Dixon, 1967; Rosenblum, 2005). Thus, patternless teiids occur regionally, but are not as common as patternless phrynosomatids, possibly due to differences in foraging ecology exhibited by lizards in these two families (i.e., active versus sit-and-wait foragers, respectively; Huey and Pianka, 1981).

The frequent occurrence of patternless marbled whiptails (23.5%) in the population studied by Ballinger and McKinney (1968) in Texas and its persistence in this region for >40 years, as evidenced by subsequent collection and examination of additional specimens in 1981 (TCWC 62182–62183), 1984 (TCWC 62821–62822), and 2007 (TCWC 92221), indicates the trait is enduring in the region. Our collection of a patternless marbled whiptail in New Mexico represents the first record outside

of Crane County, Texas. Further investigation of patternless marbled whiptails in this ecosystem will be necessary to understand the cause and persistence of this unique pattern.

Funding to support field activities were provided by the Bureau of Land Management in a grant to L. A. Fitzgerald. We thank J. R. Dixon, C. W. Painter, T. J. Hibbitts, and T. C. Mullet for helpful comments on the manuscript and L. T. Cole and A. J. Romano for assistance in the field. The authors complied with all applicable institutional guidelines addressing animal care and use (approved protocol AUP 2008–95), and regulations set forth by the Bureau of Land Management and New Mexico Department of Game and Fish.

LITERATURE CITED

- BALLINGER, R. E., AND C. O. MCKINNEY. 1967. Variation and polymorphism in the dorsal color pattern of *Uta stansburiana stejnegeri*. *American Midland Naturalist* 77:476–483.
- BALLINGER, R. E., AND C. O. MCKINNEY. 1968. Occurrence of a patternless morph of *Cnemidophorus*. *Herpetologica* 24:264–266.
- DIXON, J. R. 1967. Aspects of the biology of the lizards of the White Sands, New Mexico. *Los Angeles County Museum, Natural History Contributions* 129:1–22.
- DIXON, J. R. 2009. Marbled whiptail (*Aspidoscelis marmorata*) Baird and Girard, 1852. Pages 362–365 in *Lizards of the American Southwest* (L. L. C. Jones and R. E. Lovich, editors). Rio Nuevo Publishers, Tucson, Arizona.
- FITZGERALD, L. A., AND C. W. PAINTER. 2009. Dunes sagebrush lizard: *Sceloporus arenicolus*. Pages 198–201 in *Lizards of the American Southwest* (L. L. C. Jones and R. E. Lovich, editors). Rio Nuevo Publishers, Tucson, Arizona.
- HUEY, R. B., AND E. R. PIANKA. 1981. Ecological consequences of foraging mode. *Ecology* 64:991–999.
- ROSENBLUM, E. B. 2005. The role of phenotypic plasticity in color variation of Tularosa Basin lizards. *Copeia* 2005:586–596.
- SMITH, H. M., E. L. BELL, J. S. APPLGARTH, AND D. CHISZAR. 1992. Adaptive convergence in the lizard superspecies *Sceloporus undulatus*. *Bulletin of the Maryland Herpetological Society* 28:12–149.

Submitted 20 July 2010. Accepted 12 June 2011.
Associate Editor was Geoffrey C. Carpenter.