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- RAINWATER, T. R., B. M. ADAIR, S. G. PLATT, T. A. ANDERSON, G. P. COBB, AND S. T. McMURRY. 2002. Mercury in Morelet's Crocodile eggs from northern Belize. *Archives of Environmental Contamination and Toxicology* 42: 319–324.
- RAINWATER, T. R., K. W. SELCER, L. M. NESPOLI, A. G. FINGER, D. A. RAY, S. G. PLATT, P. N. SMITH, L. D. DENSMORE, T. A. ANDERSON, AND S. T. McMURRY. 2008. Plasma vitellogenin in Morelet's Crocodiles from contaminated habitats in northern Belize. *Environmental Pollution* 153: 101–109.
- RAINWATER, T. R., T. H. WU, A. G. FINGER, J. E. CAÑAS, L. YU, K. D. REYNOLDS, G. COMBATORE, B. BARR, S. G. PLATT, G. P. COBB, T. A. ANDERSON, AND S. T. McMURRY. 2007. Metals and organochlorine pesticides in caudal scutes of crocodiles from Belize and Costa Rica. *Science of Total Environment* 373: 146–156.
- SMITH, C. E., AND G. S. CASPER. 2015. Natural History Notes. *Chelydra serpentina* (Snapping Turtle). Hunting behavior. *Herpetological Review* 46: 241–242.
- THOMPSON, D. J., D. M. FECSKE, J. A. JENKS, AND A. R. JARDING. 2009. Food habits of recolonizing cougars in the Dakotas: prey obtained from prairie and agricultural habitats. *American Midland Naturalist* 161: 69–75.
- VINCENT, J. F. V., AND P. OWERS. 1986. Mechanical design of hedgehog spines and porcupine quills. *Journal of Zoology* 210: 55–75.
- VOSS, R. S. 2011. Revisionary notes on Neotropical porcupines (Rodentia: Erethizontidae). 3. An annotated checklist of the species of *Coendou* Lacépède, 1799. *American Museum Novitates* 3,720: 1–36.

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Reptilia: Testudines

***Dermatemys mawii* Gray, 1847. Longevity.** Many aspects of the life history of the Central American River Turtle, *Dermatemys mawii*, remain poorly studied or unresolved. Field studies have shed light on various aspects of its ecology (Vogt, 1988; Vogt and Flores-Villela, 1992), including population dynamics (Polisar, 1995, 1997), diet (Moll, 1989), and reproduction (Polisar, 1992, 1996); however, long-term studies that potentially could assess life expectancy and longevity are lacking. In light of the absence of field data, individuals of *D. mawii* maintained for long periods in captivity can provide some insight on the lifespan of this species.

A total of 37 *D. mawii* have been maintained in accredited zoological institutions of the Association of Zoos and Aquariums (AZA) in the United States since 1960 (Smith, 2015); additional individuals also have been maintained in zoos and private collections in Europe, Mexico, Guatemala and Belize. Historically, most individuals for which lifespan data are available have not fared well in captivity, with only six animals from the AZA population surviving longer than 10 years and three living longer than 20 (Smith, 2015), likely due to a poor understanding of their biological requirements at the time.

As of May of 2016, an adult male *D. mawii* residing at the Jacksonville Zoo and Gardens (JZG) has lived in captivity for 35.7 years. The turtle originally was purchased as a wild-caught adult from a fisherman in Belize City, Belize, in August of 1980 (S. Seashole, pers. comm.), and the following month it was acquired by the Oklahoma City Zoo. Since then, it was maintained in several other zoological parks before arriving at JZG in 2015. Given its adult size at the time of collection, this individual likely is over 40 years in age. A wild-caught Guatemalan female was acquired by the Philadelphia Zoo in August of 1993, and still is alive today at JZG after 22.7 years in captivity; its age or size class at the time of acquisition is unknown. These individuals represent the oldest wild-caught male and female *D. mawii* recorded to date. The longest-living captive-hatched *D. mawii* with known hatch date is a 22.3

year-old female of Guatemalan descent that was hatched at the Philadelphia Zoo in January of 1994, and currently resides at JZG.

Vogt et al. (2011) noted that the carapace scutes in “older individuals” of *D. mawii* become fused and are shed together as a single piece. At JZG, only the male sheds its carapace scutes in a single piece (Fig. 1), whereas both females continue to shed their scutes individually. Although the true ages of the male and one of the females are unknown, this distinction might suggest substantial age differences between these individuals.

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LITERATURE CITED

- MOLL, D. 1989. Food and feeding behavior of the turtle, *Dermatemys mawei*, in Belize, Central America. *Biological Conservation* 35: 87–96.
- POLISAR, J. 1992. Reproductive Biology and Exploitation of the Central American River Turtle *Dermatemys mawii* in Belize. Unpublished M.S. thesis, University of Florida, Gainesville, Florida, United States.
- POLISAR, J. 1995. River turtle reproductive demography and exploitation patterns in Belize: implications for management. *Vida Silvestre Neotropical* 4: 10–19.
- POLISAR, J. 1996. Reproductive biology of a flood-season nesting freshwater turtle of the northern Neotropics: *Dermatemys mawii* in Belize. *Chelonian Conservation and Biology* 2: 13–25.
- POLISAR, J. 1997. Effects of exploitation on *Dermatemys mawii* populations in northern Belize and conservation strategies for rural riverside villages. Pp. 441–443 In J. van Abbema (Ed.), *Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles – An International Conference*. New York Turtle and Tortoise Society, New York, United States.
- SMITH, D. 2015. Central American River Turtle *Dermatemys mawii*. *North American Regional Studbook 2015*. North Carolina Zoo, Asheboro, North Carolina, United States. 16 pp.
- VOGT, R. C. 1988. Ecología y status de la Tortuga Blanca *Dermatemys mawei*. Reporte Tecnico Final de Proyecto, CONACYT, Mexico. 22 pp.
- VOGT, R. C., AND O. FLORES-VILLELA. 1992. Aspectos de la ecología de la tortuga blanca *Dermatemys mawii* en La Reserva de Montes Azules, Chiapas. *Reserva de la Biosfera Montes Azules, Selva Lacandona: Investigación para su Conservación*. Publication Especial Ecosfera 1: 221–231.
- VOGT, R. C., J. R. POLISAR, D. MOLL, AND G. GONZALEZ-PORTER. 2011. *Dermatemys mawii* Gray 1847 – Central American River Turtle, Tortuga Blanca, Hickatee. Pp. 058.1–058.12 In A. G. J. Rhodin, P. C. H. Pritchard, P. P. van Dijk, R. A. Saumure, K. A. Buhlmann, J. B. Iverson, and R. A. Mittermeier (Eds.), *Conservation Biology of Freshwater Turtles and Tortoises: A Compilation Project of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group*. Chelonian Research Monographs 5. Chelonian Research Foundation, Lunenburg, Maryland, United States.



Fig. 1. Fused carapace scutes shed by an adult male *Dermatemys mawii* believed to be over 40 years in age. © Robert W. Mendyk

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