



NATURAL HISTORY NOTES

***BOTHROPS ASPER* (Barba amarilla, Terciopelo): MAXIMUM ELEVATION.** The pitviper *Bothrops asper* (Garman) is one of the best-known and most feared snakes in Latin America. This highly venomous snake is found from southern Tamaulipas and southern Chiapas, Mexico, to northern Colombia and Venezuela and along the Pacific coast to southwestern Ecuador (Campbell & Lamar, 2004). In Central America, *B. asper* is a species of low and moderate elevations, from sea level to 1200–1300 m (Campbell & Lamar, 2004; Savage, 2002; Wilson & Meyer, 1985). Specific elevation records for Honduras

include 1060 m from the Sierra de Agalta, Depto. Olancho (Wilson *et al.*, 1991), approximately 1143 m in Subirana, Depto. Yoro (Stadelman, 1930), and 1300 m at Quebrada Grande, Parque Nacional Cerro Azul, Depto. Copán (McCranie, 2004). *Bothrops asper* occurs in a wide variety of habitats, including disturbed agricultural areas, secondary and primary tropical rainforest, tropical deciduous forest, and pine savanna (Campbell & Lamar, 2004; McCranie *et al.*, 2006). In dry habitats, *B. asper* are typically found near water bodies, including streams and rivers (Campbell & Lamar, 2004).



Figure 1. Adult female *Bothrops asper* found at 1300 m elevation. Parque Nacional El Cusuco, Honduras. Photograph by Brooke L. Talley.

From 23rd June to 19th August 2005, the authors conducted herpetofaunal surveys in and around Parque Nacional El Cusuco, a cloud forest preserve in the Sierra de Omoa of northwestern Honduras. Specimens taken during these surveys were preserved in 10% formalin solution, and then transferred within a week to 70% ethanol. Species identifications were aided by using the keys and descriptive information in Köhler (2003). Specimens were deposited at the Florida Museum of Natural History (UF collection).

During this fieldwork, *B. asper* was recorded for the first time within the park (Wilson & McCranie, 2004). Three individuals of this species were documented at 1220 m, 1300 m, and 1450 m elevation, with the latter being the highest reported elevation for *B. asper* in Central America.

The first two specimens were collected during night opportunistic field searches near Guanales Camp (1220 m elevation) in regenerated secondary broadleaf forest. Resting at the bottom of a steep ravine, Guanales Camp (15°48.9'N, 88°23.3'W) lies near a tributary river of the Río Naco surrounded by primary and secondary broadleaf forest. The third individual was encountered outside of Guanales Camp during a morning opportunistic search.

The first *B. asper* specimen (UF 144699; female; SVL 86.5 cm; BL 82 cm; TL 97.5 cm) was collected on 9th July 2005 at 22:00 hrs (1220 m elevation), while moving from a terrestrial position into a stream. Colour characteristics of

UF 144699 are as follows: dorsal pattern brown fading to gray laterally with 25 pale-edged dark-brown triangles laterally, ventral pattern cream with dark mottling, and top of head medium brown with a pale occipital streak originating posteriodorsally to the eye. On 10th July 2005, the second *B. asper* specimen (UF 144698; female; SVL 95 cm; BL 91 cm; TL 107.5 cm) was collected near Guanales camp at 21:00 hrs (1300 m elevation), as it moved in the direction of a nearby river. Colour characteristics of this individual (UF 144698) were similar to those of UF 144699, except the dorsal pattern brown faded to brown-gray laterally instead of gray (Figure 1). This variation in color characteristics agrees with that typically found in *Bothrops asper* (Campbell & Lamar, 2004).

The final *B. asper* recorded during the 2005 field season was detected on 23rd August 2005, near the confluence of two small streams outside Guanales Camp. The individual was encountered in primary broadleaf forest at 1450 m elevation (10:00 hrs), as it actively moved across the forest floor. Because of the specimen's large size (>1.75 m) and aggressive temperament, the snake was not collected. Based on colour notes from the two previously collected *B. asper* (see above) and background knowledge of general physical characteristics, identification of the third *B. asper* is certain.

Collection of UF 144699 and UF 144698 and identification of the final *B. asper* in the field indicates that this species may be prevalent at relatively high elevations in Parque Nacional El Cusuco and/or additional areas of the Sierra de Omoa in northwestern Honduras. The third and final *B. asper* seen during the 2005 field season represents a new maximum elevation record at 1450m elevation. This elevation is approximately 150 m higher than those for previously recorded individuals in Honduras (McCranie, 2004) and Central America in general (Campbell & Lamar, 2004), in both cases 1300 m. Future research should focus on observation and collection of *B. asper* in high elevation habitats in Honduras and other Central American countries so that our knowledge of this snake's natural history assessment will be enhanced.

ACKNOWLEDGEMENTS

We thank Conrado González, Martha Moreno, and Ibrahim Padilla of the Departamento de Areas Protegidas y Vida Silvestre (DAPVS) of AFE-COHDEFOR for provision of collection and export permits. Roberto Downing M. assisted in obtaining these permits and provided additional logistical support. Fieldwork was undertaken as part of the Operation Wallacea Honduras Forests Project, and was facilitated by Ed Anderson, Dan Pupius, Marcial Erazo, Tim Coles, Richard Field, Danielle Hines, and Justin Hines. Joseph Rowles and Kym Snarr provided field assistance at Guanales.

REFERENCES

- Campbell, J. A. & Lamar, W. W. (2004). *The Venomous Reptiles of the Western Hemisphere*. Cornell University Press, Ithaca, New York.
- Köhler, G. (2003). *Reptiles of Central America*. Herpeton, Verlag Elke Kohler, Offenbach, Germany.
- McCranie, J. R. (2004). The herpetofauna of Parque Nacional Cerro Azul, Honduras. *Herpetol. Bull.* **90**, 10–21.
- McCranie, J. R. Townsend, J. H. & Wilson, L. D. (2006). *The Amphibians and Reptiles of the Honduran Mosquitia*. Krieger Publ. Co., Malabar, Florida.
- Savage, J. M. (2002). *The Amphibians and Reptiles of Costa Rica*. University of Chicago Press.
- Stadelman, R. E. (1930). Report of collecting trip to interior of Honduras. *Bull. Antiven. Instit. America* **4**, 67–69.
- Wilson, L. D. & Meyer, J. R. (1985). *The Snakes of Honduras*. 2nd Edition. Milwaukee Pub. Mus., Milwaukee, Wisconsin.
- Wilson, L. D. McCranie, J. R. & Williams, K. L. (1991). Additional departmental records for the herpetofauna of Honduras. *Herpetol. Rev.* **22**, 69–71.
- Wilson, L. D. & McCranie, J. R. (2004). The herpetofauna of Parque Nacional El Cusuco, Honduras. *Herpetol. Bull.* **87**, 13–24.
- BROOKE L. TALLEY¹, DOUGLAS C. FRASER², LARRY DAVID WILSON³ and JOSIAH H. TOWNSEND⁴
- ¹Department of Environmental Engineering Sciences and Howard T. Odum Center for Wetlands, University of Florida, Gainesville, Florida 32611, USA.
- ²No. 6, Braes of Allachy, Aberlour, Banffshire, Scotland, AB38 9PY, UK.
- ³Department of Biology, Miami Dade College, Kendall Campus, Miami, Florida 33176-3393, USA.
- ⁴Tropical Conservation and Development Program, Center for Latin American Studies, University of Florida, and Division of Herpetology, Florida Museum of Natural History, Gainesville, Florida, 32611-7800, USA.