

Notes on body size and natural history of *Enyalioides heterolepis* (Bocourt 1874) in its northernmost population in Panama

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ABSTRACT - We present details of the natural history of the poorly known Bocourt's Dwarf Iguana *Enyalioides heterolepis* from its northernmost population in El Copé, Panama. Three individuals (a subadult, a male and a female) were found during a three day period in April 2007 in a secondary premontane forest near El Copé at about 700 m elevation. These iguanids could best be found at night while they rested on tree trunks and low vegetation. New details on maximum length, colour pattern and pholidosis are described.

Data regarding members of the genus *Enyalioides* is scarce in literature. This might be explained by their secretive natural history, seasonal activities or their rarity in the wild. Whereas the majority of the eight currently known species of this genus inhabit South America, the distribution range of *Enyalioides heterolepis* extends well into Panama, ranging to Parque Nacional (PN) General de División Omar Torrijos Herrera (Lips, 1999).

METHODS AND MATERIALS

Data and observations were obtained between 12 and 14 April 2007, from the area around the biological ranger station of PN General de División Omar Torrijos Herrera in the vicinity of El Copé, Provincia Coclé, Panama (8°40'05.00" N, 80°33'33.30" W) at ca. 700 m ASL (Fig. 1). Snout-vent length (SVL) and tail length (TL) measurements were taken with a ruler and recorded to the nearest millimeter. Scalation characteristics were recorded and representative photographs were deposited in the media collection of the Division of Vertebrate Zoology at the Yale Peabody Museum of Natural History (HER.M.001194a - HER.M.001210). All animals were thereafter released at the same locality.

RESULTS

We found one adult male and one female resting at night on vegetation (Figs. 2 and 3). The female was found oriented horizontally on a plant at a

height of approximately 50 cm on two consecutive nights (12-13 April 2007), while the male rested in an upright vertical position on a tree trunk approximately 120 cm off the ground. We observed a sub-adult animal on two consecutive days (12-13 April 2007) underneath a fallen tree trunk, hiding in an existing burrow (Fig. 4). We summarize environmental data and sizes associated with each individual in Table 1.

Only the male possessed enlarged femoral pores and had only one on each hind limb. Overall coloration in both sexes was olive brown to tan interspersed with greenish and yellowish spots and ocelli. All animals displayed a light stripe in the scapular region as well as a black triangular spot with a light caudal margin in the sub-ocular region (originating beneath the eye and widening towards the jaw angle). This latter pattern element was especially prominent in the male, which also showed a beige and brown pattern (without green) between the paravertebrals. Distinct blackish blotches were present on the beige ventral surfaces in the adult animals: one on the gular region of both the male and female, and one on the male's umbilical region (Fig. 5; compare "characters 32-34" in Wiens & Etheridge [2003], Appendix II). All three individuals consistently exhibited the following characters: iris coloration brown to copper with white margin encircling pupil; vertebral scales equal-sized and in a continuous series along neck and body; paravertebrals



Figure 1. Habitat of *Enyalioides heterolepis* at PN General de División Omar Torrijos Herrera, Panama in secondary premontane forest (© T. Eisenberg).



Figure 4. Sub-adult *Enyalioides heterolepis* at PN General de División Omar Torrijos Herrera, Panama; (HER.M.001199: © T. Eisenberg).



Figure 2. Male *Enyalioides heterolepis* at PN General de División Omar Torrijos Herrera, Panama resting vertically on a tree trunk (HER.M.001195: © T. Eisenberg).



Figure 3. Female *Enyalioides heterolepis* at PN General de División Omar Torrijos Herrera, Panama. This specimen was found resting on vegetation on two consecutive nights (HER.M.001205: © N. Pantchev).



Figure 5. Male *Enyalioides heterolepis* at PN General de División Omar Torrijos Herrera, Panama. Ventral aspect; note distinct blackish blotches on gular and umbilical region (HER.M.001194a: © T. Eisenberg).

forming three distinct longitudinal series of enlarged scales on each side of the middorsal line, intermixed with small, strongly keeled scales; dorsal surfaces of body and limbs with granular scales interspersed with large conical scales; ventral scales keeled; caudal scales keeled and imbricate, not projecting; subcaudal scales larger than caudal scales; distinct caudal segments present between intercalaria, each spanning two ventral scale rows and 6-7 dorsal scale rows; tail laterally compressed. Additional morphological values are presented in Table 2.

DISCUSSION

According to Boulenger (1885) *Enyalioides heterolepis* reaches a maximum SVL of 138 mm and a TL of 172 mm. Our data show that these lengths are significantly exceeded even by

the smaller females. At a SVL of 182 mm, *E. heterolepis* is currently the largest known species in its genus. Femoral pores were only present in the male, and only one on each side. This is in accordance with the range (1-3) published by Burt & Burt (1931) for six South American specimens but it has not yet been clarified for Panamanian populations. In the species' original description (type locality, Veragua, Panama) as well as a later published key to the genus (Peters, 1967) the average count yielded three to four femoral pores on each side of the body. In addition to Boulenger's description (1885) we found that adult animals of both sexes showed dark markings on the gular pouch, but that only in the male a ventromedial, ventrally-bilobed black blotch was present around the umbilicus. This marking was approximately 20 ventral scales wide (Fig. 5).

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