

REPTILIA: SQUAMATA: TROPIDURIDAE

LEIOCEPHALUS EREMITUS

Catalogue of American Amphibians and Reptiles.

Powell, R. 1999. *Leiocephalus eremitus*.

Leiocephalus eremitus Cope

Leiocephalus eremitus Cope 1868:122. Type locality, "island of Navassa, W.I." Holotype, National Museum of Natural History (USNM) 12016, an adult female, collected by W.J. Rasin, date of collection unknown (examined by author).

Leiocephalus eremitus: Barbour 1914:302.

Leiocephalus personatus eremitus: Mertens 1939:10 (by inference, see Pertinent Literature).

• **CONTENT.** *Leiocephalus eremitus* is monotypic.

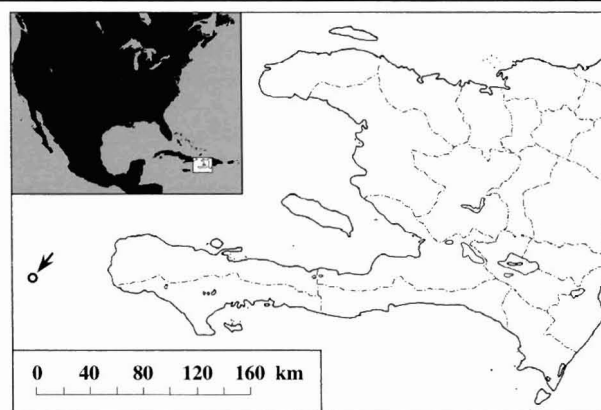
• **DEFINITION.** *Leiocephalus eremitus* is a medium-sized member of the genus (SVL in only known female 64 mm) with the following combination of characters (Schwartz and Henderson 1991, Pregill 1992): angular process of dentary not well developed, transition to tricuspid crowns at tooth 10 or 11 on dentary, head scales smooth, all 3 internasal scales in contact with rostral, 3 (rarely 4) rows of subequal scales between internasals and anterior pair of frontals and posterior row composed of at least 4 scales, supraoculars 7/7, supraorbital semicircle incomplete, single enlarged temporal scale, temporals 13, most lateral parietals larger than median pair, postparietals absent, 3/4 preauricular scales enlarged and preceded by small scales, loreals 6/7, 6 lorilabial scales anterior to enlarged subocular, lateral neck scales small and differentiated, lateral neck folds complex, nuchal fold moderately convex, dorsal scales larger than lateral or ventral scales, middorsal crest moderate with 50 dorsal crest scales in the distance from occiput to vent, lateral trunk scales not reduced, lateral fold on trunk absent, ventral scales smooth, and tricarinate scales of first and second toes not conspicuously enlarged.

The dorsum of the preserved holotype (Thomas 1966, Schwartz 1967, Schwartz and Henderson 1991) is dark gray with about 9 darker transverse bands in the middorsal zone. The proximate half of the tail is paler than the dorsum and bears paler transverse bands. The distal half of the tail is dark gray to nearly black. The venter is brown with light-tipped scales forming short, transverse elements. The throat, chest, and undersides of the limbs are dark with light-tipped scales. No facial mask or neck and shoulder patches are present.

• **DEFINITION.** *Leiocephalus eremitus* can be distinguished from all other congeners by the comb-like scales on the outer edges of toes 1 and 2 (Schwartz 1967). These scales are multicarinate in *L. eremitus*, whereas those of all other living species of *Leiocephalus* are unicarinate and cuneiform.

• **DESCRIPTIONS.** In addition to the original description (Cope 1868), detailed descriptions are in Thomas (1966), Schwartz (1967), Schwartz and Henderson (1991), and Pregill (1992). A specimen (AMNH 16919) collected by the R.H. Beck Expedition in 1917 and described by Schmidt (1921) lacked locality data and was reidentified in Schwartz (1965 [1966], 1967) and Thomas (1966) as *Leiocephalus melanochlorus*. Etheridge's (1966) examination of "*L. eremitus*" was based on this specimen.

• **ILLUSTRATIONS.** This species has not been illustrated until now. The specimen (AMNH 16919) illustrated by Schmidt (1921) was a misidentified *Leiocephalus melanochlorus*.



MAP. The circle marks Navassa Island, where *Leiocephalus eremitus* was found.

• **DISTRIBUTION.** This species is known only from Navassa Island. The range was illustrated in Schwartz and Henderson (1991).

• **FOSSIL RECORD.** None.

• **PERTINENT LITERATURE.** In spite of Mertens' (1939) contention that *Leiocephalus eremitus* was a race of Hispaniolan *L. personatus* ("*Leiocephalus eremitus* [ist gewiß] eine solche [= Rasse] von *personatus*"), Schwartz (1967) explicitly supported full species status for this taxon, calling it "a very distinctive Navassan endemic." Thomas (1966) and Powell (1999) searched for but did not find the species during visits to Navassa; both discussed taxonomy. Powell et al. (1999) included this species in a survey of the Navassan herpetofauna.

The species is included in checklists by Boulenger (1885), Barbour (1914, 1930, 1935, 1937), Schwartz and Thomas (1975), MacLean et al. (1977), Banks et al. (1987), Schwartz and Henderson (1988), Frank and Ramus (1995), and Powell et al. (1996, 1999).

• **ETYMOLOGY.** The name *eremitus* is from the Greek *eremites*, meaning "hermit," perhaps an allusion to the isolated distribution of this species or to the rarity of specimens.

• **REMARKS.** Thomas (1966) stated: "The distinctness of this form plus the confidence generated by the W.J. Rasin specimens [of other Navassan reptiles] indicate that Navassa once possessed an endemic species of *Leiocephalus* which is now



FIGURE. Adult female *Leiocephalus eremitus*, holotype (USNM 12016).

extinct." Powell (1999) expressed less confidence in the Rasin collection, which did not include three currently ubiquitous Navassan species. He also had difficulty conceiving of reasons for the extinction of a Navassan *Leiocephalus*, but did suggest that the combined effects of habitat alteration and alien predators might have been responsible.

Biogeographic affinities are uncertain, but probably Hispaniolan (Powell 1999).

Banks et al. (1987) used the common name, Navassa Curly-tailed Lizard; Frank and Ramus (1995) used Navassa Curlytail Lizard.

LITERATURE CITED

- Banks, R.C., R.W. McDiarmid, and A.L. Gardner (eds.). 1987. Check-list of vertebrates of the United States, the U.S. Territories, and Canada. U.S. Dept. Int. Fish Wildl. Serv. Res. Publ. (166):ii + 79 p.
- Barbour, T. 1914. A contribution to the zoogeography of the West Indies, with especial reference to amphibians and reptiles. Mem. Mus. Comp. Zool. 44:209–359 + 1 pl.
- . 1930. A list of Antillean reptiles and amphibians. Zoologica (NY) 11:61–116.
- . 1935. A second list of Antillean reptiles and amphibians. Zoologica (NY) 19:77–141.
- . 1937. Third list of Antillean reptiles and amphibians. Bull. Mus. Comp. Zool. 82:77–166.
- Boulenger, G.A. 1885. Catalogue of the Lizards in the British Museum (Natural History). Vol. 2. Trustees Brit. Mus., London.
- Cope, E.D. 1868. An examination of the Reptilia and Batrachia obtained by the Orton Expedition to Ecuador and the Upper Amazon, with notes on other species. Additional descriptions of Neotropical Reptilia and Batrachia not previously known. Proc. Acad. Nat. Sci. Philadelphia 20:119–140.
- Etheridge, R. 1966. The systematic relationships of West Indian and South American lizards referred to the iguanid genus *Leiocephalus*. Copeia 1966:79–91.
- Frank, N. and E. Ramus. 1995. A Complete Guide to Scientific and Common Names of Reptiles and Amphibians of the World. NG Publ., Inc., Pottsville, Pennsylvania.
- MacLean, W.P., R. Kellner, and H. Dennis. 1977. Island lists of West Indian amphibians and reptiles. Smithson. Herpetol. Info. Serv. (40):1–47.
- Mertens, R. 1939. Herpetologische Ergebnisse einer Reise nach der Insel Hispaniola, Westindien. Abh. Senckenberg. Naturf. Ges. (449):1–84 + 10 pl.
- Powell, R. 1999. Herpetology of Navassa Island, West Indies. Carib. J. Sci. 35:1–13.
- , R.W. Henderson, K. Adler, and H.A. Dundee. 1996. An annotated checklist of West Indian amphibians and reptiles, p. 51–93 + 8 pl. In R. Powell and R.W. Henderson (eds.), Contributions to West Indian Herpetology: A Tribute to Albert Schwartz. SSAR Contrib. Herpetol. (12), Ithaca, New York.
- , J.A. Ottenwalder, and S.J. Incháustegui. 1999. The Hispaniolan herpetofauna: diversity, endemism, and historical perspectives, with comments on Navassa Island, p. 93–168. In B.I. Crother (ed.), Caribbean Amphibians and Reptiles. Academic Press, San Diego.
- Pregill, G.K. 1992. Systematics of the West Indian lizard genus *Leiocephalus* (Squamata: Iguania: Tropiduridae). Misc. Publ. Univ. Kansas Mus. Nat. Hist. (84):1–69.
- Schmidt, K.P. 1921. The herpetology of Navassa Island. Bull. Amer. Mus. Nat. Hist. 44:555–559.
- Schwartz, A. 1965 (1966). The *Leiocephalus* (Lacertilia, Iguanidae) of Hispaniola. I. *Leiocephalus melanochlorus* Cope. J. Ohio Herpetol. Soc. 5:39–48.
- . 1967. The *Leiocephalus* (Lacertilia, Iguanidae) of Hispaniola. II. The *Leiocephalus personatus* complex. Tulane Studies Zool. 14:1–53.
- and R.W. Henderson. 1988. West Indian amphibians and reptiles: a check-list. Milwaukee Publ. Mus. Contr. Biol. Geol. (74):1–264.
- and —. 1991. Amphibians and Reptiles of the West Indies: Descriptions, Distributions, and Natural History. Univ. Florida Press, Gainesville.
- and R. Thomas. 1975. A check-list of West Indian amphibians and reptiles. Carnegie Mus. Nat. Hist. Spec. Publ. (1):1–216.
- Thomas, R. 1966. A reassessment of the herpetofauna of Navassa Island. J. Ohio Herpetol. Soc. 5:73–89.

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