

Catalogue of American Amphibians and Reptiles.

Buckley, Lawrence J., and Ralph W. Axtell. 1990. *Ctenosaura palearis*.

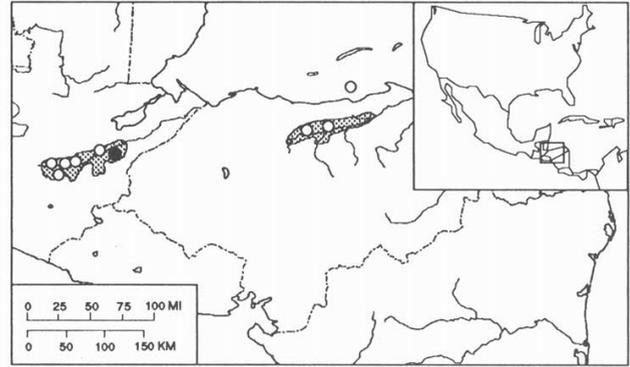
***Ctenosaura palearis* Stejneger
Paleate Spiny-tailed Iguana**

Ctenosaura palearis Stejneger, 1898(1899):381. Type-locality, "Gualan, Guatemala" [15° 07'N, 89° 38' W]. Holotype, National Museum of Natural History (USNM) 22703, an adult male, collected by Mrs. K. I. P. McElroy, date of collection unknown (examined by authors).

Enyaliosaurus palearis: Smith and Taylor, 1950:76. By implication (see Nomenclatural History).

- **Content.** No subspecies have been described.

- **Definition.** An intermediate-sized *Ctenosaura* (up to 254 mm snout-vent length) with the tail up to one and one-half times the body length. The maximum known total length is 584 mm. The middorsal crest scales begin slightly behind the head as a series of from 1-24 (\bar{x} =12.7, n=40) small, uninterrupted nuchal spines which are triangular at their base much like the entire series of middorsal crest scales seen in other *Ctenosaura*. This short series ends at varying points on the neck and is followed by 31-47 (\bar{x} =35.7, n=40) enlarged, laterally compressed trunk crest scales which are ovoid at their base. Each of these enlarged trunk spines is preceded by up to 7 smaller spines and is surrounded laterally and posteriorly by granular dorsal scales unlike those of other *Ctenosaura*. The spines are also largest and most widely separated from one another over the shoulders and are often more conspicuous in males. There is also a series of small, flattened scales that cover the base of each large trunk spine and can reach up the posterior edge of the spine to 50% of its height. The crest is usually interrupted (up to 18 dorsal scale rows) over the sacrum. There is a single row of scales at the narrowest point



Map. Solid circle marks the type-locality; open circles indicate other records. Shaded areas indicate the known range.

between the supraocular semicircles. The supraoculars are larger medially than laterally. There are between 14 and 22 (\bar{x} =17.3, n=44) total femoral pores. Supralabials range from 5-12 (\bar{x} =8.7, n=43) and infralabials from 6-12 (\bar{x} =9.2, n=43). Infranasals vary from 1-3, whereas canthals vary from 1-2. The depth of the dewlap depends on the size and sex of the specimen and may reach 4 cm in large males. The temporals and occipitals are usually tuberculate. The frontals, prefrontals, and nasals may be slightly tuberculate or smooth. The dorsal scales increase slightly in size posteriorly, but are reduced to granules where they surround and interrupt the middorsal crest. The ventral scales are slightly larger than the dorsals and increase in size anteriorly and medially. The lateral scales are slightly smaller than the dorsals, but are granular around areas of limb attachment. Dorsally and laterally the tail consists of whorls of enlarged, spiniferous scales separated proximally (anterior to the 25th whorl) by one or sometimes two rows of smaller intercalary scale rows and distally (posterior to the 25th whorl) by two interca-

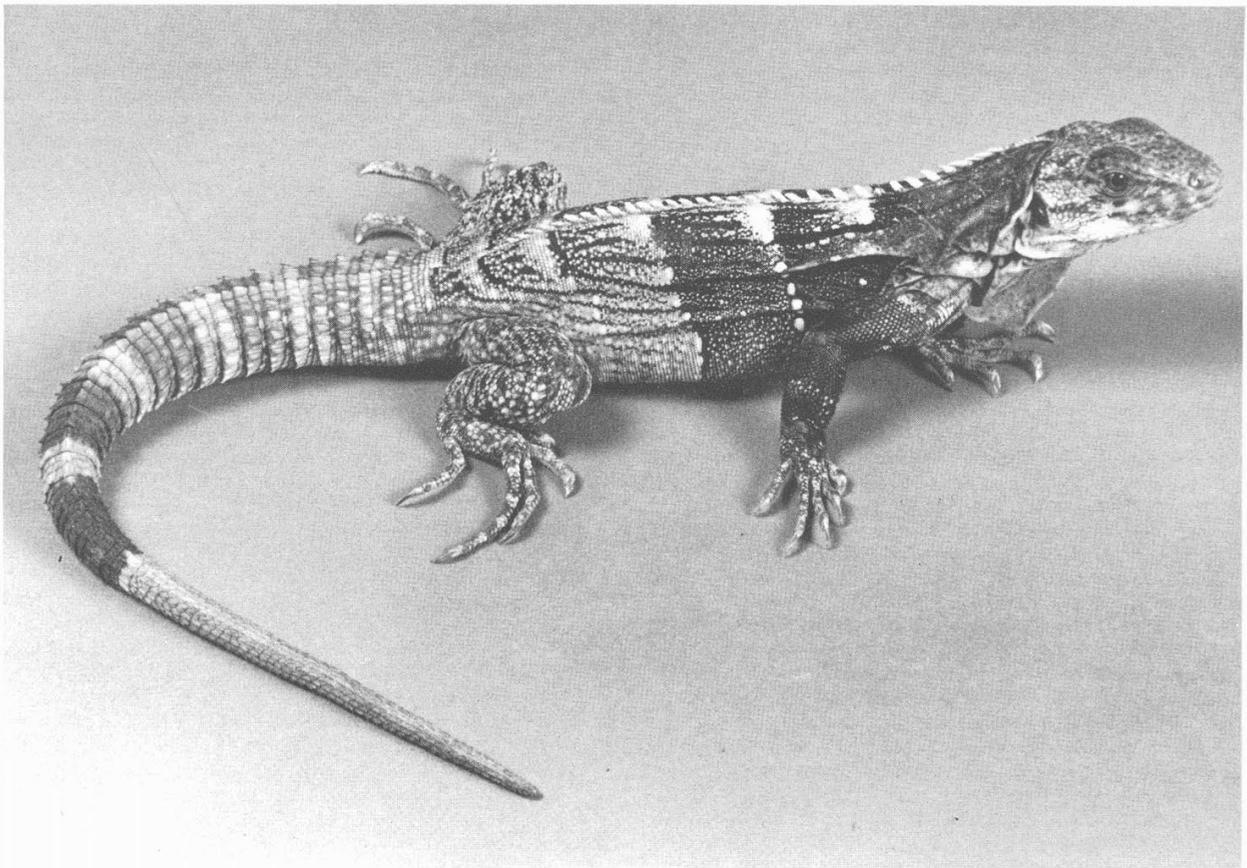


Figure 1. Subadult *Ctenosaura palearis* (SVL 155 mm) from La Ensenada (el. 3 m), Cayo Cochino Grande, Department Islas de la Bahía, Honduras.

lary rows. The largest caudal spines are in the lateral series (3-6 per side) between the second and sixteenth whorls. The caudal crest consists of alternating larger and smaller spinose scales corresponding to the whorl and intercalary rows respectively. The whorl rows become less spinose and indistinguishable from the intercalary rows distally (after about the 35th whorl). Patches of enlarged, keeled scales occur over the femur, tibia and hind foot. The anterior subdigital keels are slightly enlarged, but not fused, on the first and second phalanges of the third digit.

The head is dusky yellow or grey, whereas the anterior gular region is yellow to cream with diffuse black lineations which extend along the sides of the dewlap and meet medially on its anterior border. The neck is patternless dorsally and grey in coloration with increasing amounts of yellow laterally and ventrally onto the dewlap. The trunk is encircled dorsally and laterally by black bands which sometimes reach the ventral surface. The bands may be marginated posteriorly by a series of white dots. The trunk is gray between the bands and shows dark lineations that begin middorsally and curve anteriorly crossing the bands and sometimes reaching the neck and forelegs. The venter is cream with orange tinting except where the bands cross. The forelegs are solid brown or black dorsally and mottled ventrally. The hindlegs are gray to brown and may show black mottling or banding dorsally and white flecking ventrally. The toes are black with narrow white bands. The tail is gray or brown dorsally and cream ventrally, except for the largest tail whorl spines which have a dull greenish tint in living specimens. Dark bands encircle the tail distally but become indistinct and do not reach the ventral surface proximally. Live young individuals may show a dull green ground color (most conspicuous in specimens under 10 cm) along with the adult pattern. Preserved juveniles may only show the remnants of this greenish coloration.

• **Diagnosis.** *Ctenosaura palearis* is distinguished from all but one other species of *Ctenosaura* (*C. bakeri*) by the presence of a large, pendulous dewlap. The dewlap of *C. palearis* extends from 0.5-3.0 cm (depending upon the age of the specimen) below the end of the basihyal which supports it, whereas in *C. bakeri* the dewlap does not extend more than 0.5 cm below the basihyal. The tail of *C. palearis* consists of at least 12 of the anterior spinose whorls separated from one another dorsally by a single intercalary row, whereas the tail of *C. bakeri* has no more than eight spinose whorls separated dorsally by a single intercalary row. The dark coloration from no more than the anteriormost crossband on the trunk of *C. palearis* continues onto the middorsal crest, whereas all of the crossbands on the trunk of *C. bakeri* continue onto the middorsal crest.

• **Descriptions.** Detailed descriptions of squamation and coloration are in Stejneger ("1898" [1899]) and Bailey (1928). Comparisons between *C. palearis* and *C. bakeri* are in Stejneger (1901). Squamation and osteological comparisons are in de Queiroz (1987a,b).

• **Illustrations.** Black and white photographs of preserved specimens of a male and female *C. palearis* are in Bailey (1928).

• **Distribution.** *Ctenosaura palearis* is found on the Caribbean versant of southeastern Guatemala and northcentral Honduras in interior, xeric, lowland river valleys and also on a few offshore islands. Guatemalan records are from the central Río Motagua Valley in the departments of El Progreso and Zacapa. Honduran records are from the central Río Aguan Valley in the Department of Yoro and from the Islas de los Cochinos off the northcentral coast in the Department of Islas de la Bahía. The species inhabits the Tropical Arid Forest Formation in the interior river valleys of Guatemala and Honduras as described by Wilson and Meyer (1985) and discussed by Stuart (1954, 1957) and Savage (1966, 1982). The species has recently (1988) been discovered in the Tropical Moist Forest Formation (Holdridge, 1967) of the Islas de los Cochinos by Wilson and Diaz (pers. comm.) who feel that these populations may have been introduced subsequent to the establishment of the species in the much drier "rain shadow" valleys inhabited on the mainland. Continued study in this region will undoubtedly lead to a more precise definition of the species' range. Stuart (1963) reported this species from the Matagalpa region of northwestern Nicaragua, but Duellman (1966) reported that the specimens referred to were actually *C. quinquecarinata*. Echternacht (1968) reported an adult *C. palearis* from "about 20 m up in a tree" while juveniles were found "on and around the branches of a large fallen tree". The populations on the Islas de

los Cochinos appear to agree with Echternacht's observations, with the adults being primarily arboreal and the young showing both terrestrial and arboreal habits (pers. obs.).

• **Fossil Record.** None.

• **Pertinent Literature.** There is no comprehensive work on this species. Anatomical and morphological references appeared in Duellman (1965), Gundy and Wurst (1976), Iverson (1980, 1982), Oldham and Smith (1983), and de Queiroz (1987a,b). Taxonomy and phylogeny were discussed by Stejneger (1901), Bailey (1928), Duellman (1965), Wilson and Hahn (1973), Etheridge (1982), Oldham and Smith (1983), and de Queiroz (1987a,b). *C. palearis* occurs in checklists or keys prepared by Bailey (1928), Smith and Taylor (1950), Cochran (1961), Stuart (1963), Peters and Donoso-Barros (1970), Meyer and Wilson (1973), and Villa et al. (1988).

• **Nomenclatural History.** Stejneger ("1898" [1899]) originally described the species as a member of the genus *Ctenosaura*. Bailey (1928) referred all spiny-tailed iguanas to this genus. Smith and Taylor (1950) resurrected the genus *Enyaliosaurus* for the species *clarki*, *defensor*, *quinquecarinata*, and *palearis* (although they never explicitly used the combination *E. palearis*) while retaining the species *acanthura*, *bakeri*, *hemilopha*, *pectinata* and *similis* in *Ctenosaura*. Subsequent workers, beginning with Stuart (1954, 1963) and continuing with Duellman (1965, 1966), Villa and Scott (1967), Echternacht (1968), Peters and Donoso-Barros (1970), Wilson and Hahn (1973), Meyer and Wilson (1973), Gundy and Wurst (1976), Iverson (1980), and Gicca (1983), used the combination *Enyaliosaurus palearis* to refer to this species. Oldham and Smith (1983) contended that myological evidence supports the use of *Enyaliosaurus* for the species *clarki*, *defensor*, and *quinquecarinata*, but not for *bakeri* or *palearis*. Work on the relationships among spiny-tailed iguanas by Etheridge (1982), de Queiroz (1987a,b), and Etheridge and de Queiroz (1988) called into question the use of two separate genera for this group since it appears to be monophyletic. These workers concluded that the use of *Ctenosaura* for all spiny-tailed iguanas is the most appropriate classification.

• **Etymology.** The name *palearis* (L., "dewlap") refers to the distinctive dewlap on the throat.

• **Comment.** Display behavior of *Ctenosaura palearis* includes a series of rapid head "shakes" from side to side in addition to a curiously slow version of the more traditional head "bob" seen in other members of the genus. The body is laterally flattened, the dorsal spines are erected, and the dewlap is extended during the display. During the courtship display, the male exhibits a series of extremely rapid head bobs prior to and during his approach toward the female. The male approaches with the head and trunk held low and close to the substrate. Inhabitants of the Islas de los Cochinos report egg-laying during late April and early May followed by a seven week incubation. A captive female (175 mm SVL) laid 11 eggs on April 14, 1988. The eggs had an average length of 307 mm and an average width of 159 mm.

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Lawrence J. Buckley and **Ralph W. Axtell**, Department of Biological Sciences, Southern Illinois University, Edwardsville, Illinois 62026

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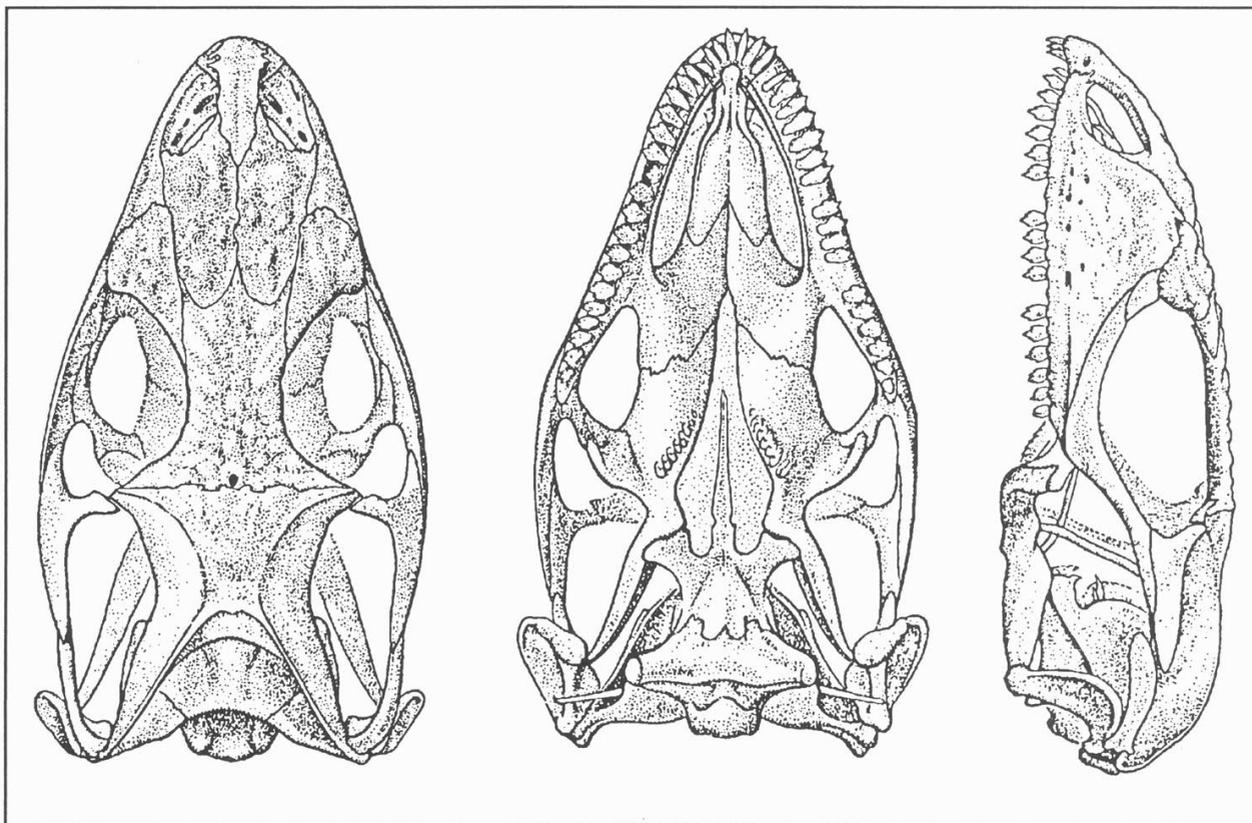


Figure 2. The skull of *Ctenosaura palearis* (MCZ 22399A). Drawing by J.B. Clark, from C.E. Ray and E.E. Williams, unpubl. ms.