

REPTILIA: SQUAMATA: SAURIA: GEKKONIDAE

HEMIDACTYLUS TURCICUS

Catalogue of American Amphibians and Reptiles.

McCoy, C. J. 1970. *Hemidactylus turcicus*.

***Hemidactylus turcicus* (Linnaeus)**
Mediterranean gecko

Lacerta turcica Linnaeus, 1758: 202. Type-locality "Oriente," restricted to Turkey (Mertens and Müller, 1940:24). Holotype unknown.

Hemidactylus turcicus: Boettger, 1876: 57. First use of combination.

Hemidactylus exsul Barbour and Cole, 1906:148. Type-locality "Progreso, Yucatan," México. Holotype, Mus. Comp. Zool. 7039, collected on April 13, 1904 by L. J. Cole (= *H. turcicus*, according to Stuart, 1934:185).

• CONTENT. Three subspecies are recognized (Wermuth, 1965:86-87), but all American populations are referred to *H. turcicus turcicus* (see Mertens, 1925:60 for first use of this combination).

• DEFINITION AND DIAGNOSIS. A medium-small gecko, average snout-vent length 40 to 50 mm, with granular dorsal scales, 14 to 16 longitudinal rows of strongly-keeled dorsal tubercles, and smooth ventral scales. The subcylindrical tail bears 6 to 8 rows of keeled tubercles. Males have an interrupted series of 3 to 10 preanal pores. The digits are free and moderately dilated, with 6 to 8 divided lamellae under the first toe and 9 to 10 under the fourth toe. The clawed terminal phalanges are free of the pads. The ground color above is pinkish brown, light brown, sandy gray or sandy yellow, with an indistinct dark streak from the nostril through the eye to above the ear. The back is sometimes spotted or mottled with darker color, and the tubercles are white. The species is extremely variable in color and pattern.

• DESCRIPTIONS. Grant and Deuel (1944), Smith (1946), Loveridge (1947), Carr and Goin (1955), Hellmich (1962), and Minton (1966) presented general descriptions of *H. t. turcicus*.

• ILLUSTRATIONS. Black and white photographs of *Hemidactylus turcicus* appear in Smith (1935, 1946), Carr and Goin (1955), Pope (1955), and Treadwell (1962). Illustrations in color were published by Conant (1958) and Hellmich (1962). Parker (1942) and Smith (1946) illustrated details of scutellation.

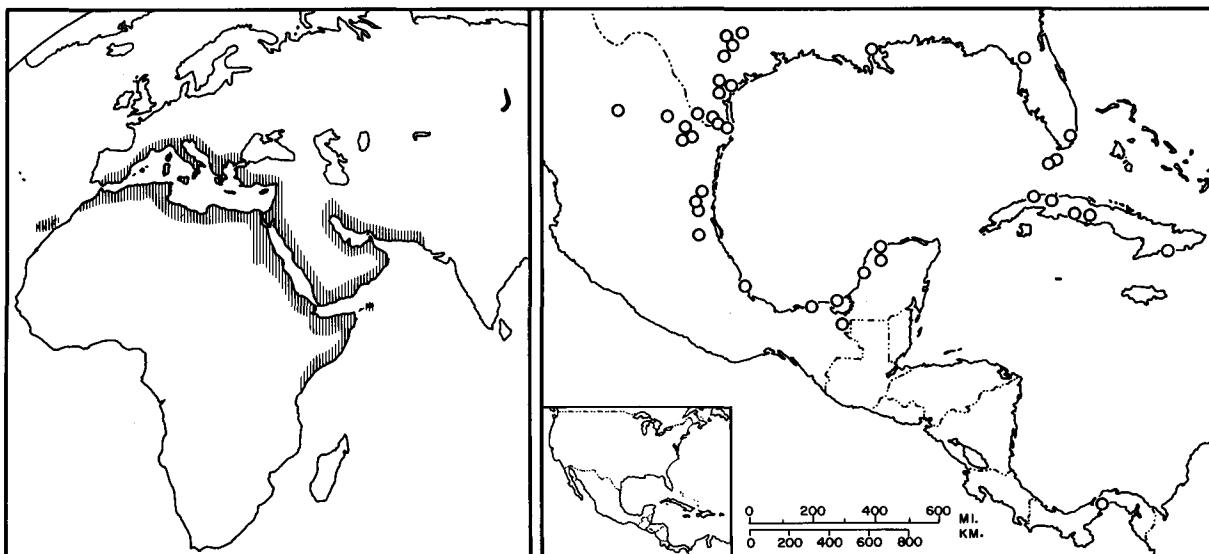
• DISTRIBUTION. "In Africa from Morocco east to Egypt and south to Sokotra Island and Somalia...from Yucatan, Florida and Cuba, east to the Canary Islands and Mediterranean Basin

and borders of the Red Sea, east to Persia and Sind" (Etheridge, 1947:147). Introduced populations are established around the Gulf of Mexico in coastal and inland cities from Florida to Yucatán, in the Panama Canal Zone, and several localities in Cuba. An isolated record from Tarapaca, Chile (MCZ, *fide* A. G. Kluge) is the only Pacific Coast locality and the only record from South America. The first published record for each American locality is cited below. Abbreviations indicate the sources of new records: American Museum of Natural History (AMNH); Carnegie Museum (CM); Field Museum of Natural History (FM); Museum of Natural History, University of Kansas (KU); Louisiana State University Museum of Zoology (LSUMZ); Museum of Comparative Zoology, Harvard (MCZ); University of Colorado Museum (UCM); University of Michigan Museum of Zoology (UMMZ); United States National Museum (USNM). Many records were verified by Arnold G. Kluge, and unreported Texas localities were supplied by W. K. Davis (WKD).

The first United States locality was Key West, Florida (Fowler, 1915, as *H. mabouia*; Stejneger, 1922). Other Florida localities are Miami (Barbour, 1936), Big Pine Key (Duellman and Schwartz, 1958), and Gainesville (King, 1959). A population in New Orleans, Louisiana was reported by Etheridge (1952), and the first precise locality in Texas (Brownsville) by Conant (1955). Dixon (1958) added a record from Laredo, Morrison (1951) reported *turcicus* in Robstown, Texas, and Treadwell (1962) recorded the species from Gonzales, Texas. Other Texas populations are established at Weslaco, San Juan, Kingsville, Mathis, Corpus Christi, Karnes City, "Serbin Store" near Giddings, and San Marcos (all WKD) and Edinburg (LSUMZ).

Boulenger's (1895) report of *Hemidactylus mabouia* from "Vera Cruz" and "Mexico" probably represents the first Mexican record for *turcicus*, followed by the description of *Hemidactylus exsul* Barbour and Cole (1906) from the port of Progreso, Yucatán. Subsequent Mexican records are: 12 mi. E Llera, Tamaulipas (Smith, 1935); Ciudad del Carmen, Campeche (Smith, 1938); Alvaro Obregón and Emiliano Zapata, Tabasco and "Veracruz" (Smith and Taylor, 1950a); Tamazunchale, San Luis Potosí (Taylor, 1953); Valles, San Luis Potosí and Sabinas Hidalgo, Nuevo León (Conant, 1955); and El Limón, Tamaulipas (Martin, 1958). Other Mexican localities are: San José Carpizo (UMMZ) and Campeche (UCM), Campeche; Cuatro Ciénegas (UMMZ, CM, USNM) and Hermanas (UMMZ), Coahuila; Monterrey (MCZ, UMMZ), Topo Chico, 7 mi. NE Monterrey (FM), and 1.5 mi. SE García (UCM), Nuevo León; Nuevo Laredo (AMNH), 3 mi. W Forlón (KU), and Ciudad Mante (LSUMZ), Tamaulipas; and Mérida (UCM), Yucatán.

Cuban localities are Matanzas (Barbour and Ramsden, 1919, as *H. mabouia*), Soledad (Leavitt, 1933), La Habana (AMNH,



MAP. Range in Eurasia and Africa (shaded) and records in the Western Hemisphere (open circles). The type-locality is not indicated (see text).

MCZ), Santa Clara (AMNH), and Santiago (UMMZ). The species has been collected in the Panama Canal Zone (USNM, *fide* A. G. Kluge).

- FOSSIL RECORD. None (in the Americas).

- PERTINENT LITERATURE. Wermuth (1965) presented the most recent systematic treatment, with extensive synonymies for *H. turcicus* and its subspecies. Loveridge (1947) reviewed in detail the literature on *H. turcicus* in Africa. Loveridge (1941) and Grant and Deuel (1944) compared the three Afro-American species of *Hemidactylus*.

The ecology of United States populations was mentioned by Carr (1940; habits, eggs, abundance, Florida); Conant (1955, behavior, abundance, Texas); Etheridge (1952, habits, cold-hardiness, Louisiana); King (1959, activity cycles, mating, eggs, Florida); Mittleman (1950, eggs, Florida); Neill (1951a, 1951b, in bromeliads, Florida); and Rose and Barbour (1968, habits, activity cycles, reproduction, Louisiana). Restriction of the type-locality of *H. t. turcicus* by Smith and Taylor (1950: 314) was rejected by Neill (1951c).

- ETYMOLOGY. The name *turcicus* (Latin, Turkey) presumably refers to the source of the type-specimens.

LITERATURE CITED

- Barbour, Thomas. 1936. Two introduced lizards in Miami, Florida. *Copeia* 1936 (2):113.
- and Leon J. Cole. 1906. Reptilia, amphibia, and pisces. pp. 146-159, *In* Vertebrata from Yucatan. *Bull. Mus. Comp. Zool.* 50 (5):101-159.
- and Charles T. Ramsden. 1919. The herpetology of Cuba. *Mem. Mus. Comp. Zool.* 47 (2):69-213.
- Boettger, Oskar. 1876. Bemerkungen über einige reptilien von Griechenland und von der Insel Chinos. *Ber. Offenbach. Ver. Naturk.* 15/16:57.
- Boulenger, G. A. 1885. Catalogue of the lizards in the British Museum (Natural History). Second Edition. London. 1: xii + 436 pp.
- Carr, Archie Fairly, Jr. 1940. A contribution to the herpetology of Florida. *Univ. Florida Biol. Sci. Ser.* 3 (1):1-118.
- and Coleman J. Goin. 1955. Guide to the reptiles, amphibians, and freshwater fishes of Florida. *Univ. Florida Press*, Gainesville. ix + 339 pp.
- Conant, Roger. 1955. Notes on three Texas reptiles, including an addition to the fauna of the state. *Amer. Mus. Novitates* (1726):1-6.
- 1958. A field guide to reptiles and amphibians of the United States and Canada east of the 100th meridian. *Houghton Mifflin Co.*, Boston. xv + 366 pp.
- Dixon, James R. 1958. The warty gecko from Laredo, Texas. *Herpetologica* 13 (4):256.
- Duellman, William E. and Albert Schwartz. 1958. Amphibians and reptiles of southern Florida. *Bull. Florida State Mus.* 3 (5):181-324.
- Etheridge, Richard E. 1952. The warty gecko, *Hemidactylus turcicus turcicus* (Linnaeus), in New Orleans, Louisiana. *Copeia* 1952 (1):47-48.
- Fowler, Henry W. 1915. Cold-blooded vertebrates from Florida, the West Indies, Costa Rica, and eastern Brazil. *Proc. Acad. Nat. Sci. Philadelphia* 67:244-269.
- Grant, Chapman and James T. Deuel. 1944. Digital lamellae and notes on West Indian hemidactyls. *Herpetologica* 2 (6):126-138.
- Hellmich, Walter. 1962. Reptiles and amphibians of Europe. *Blanford Press*, London. 160 pp.
- King, Wayne. 1959. Observations on the ecology of a new population of the Mediterranean gecko, *Hemidactylus turcicus*, in Florida. *Quart. J. Florida Acad. Sci.* 21 (4):317-318.
- Leavitt, Benjamin B. 1933. *Hemidactylus turcicus* in Cuba. *Copeia* 1933 (2):96.
- Linnaeus, C. V. 1758. *Systema Naturae*, Ed. 10.
- Loveridge, Arthur. 1941. Certain Afro-American geckos of the genus *Hemidactylus*. *Copeia* 1941 (4):245-248.
- 1947. Revision of the African lizards of the family Gekkonidae. *Bull. Mus. Comp. Zool.* 98 (1):1-469.
- Martin, Paul S. 1958. A biogeography of reptiles and amphibians in the Gomez Farias Region, Tamaulipas, Mexico. *Misc. Publ. Mus. Zool. Univ. Michigan* (101):1-102.
- Mertens, Robert. 1925. Amphibien und reptilien aus dem nördlichen und östlichen Spanien. *Abhandl. Senckenberg. Naturf. Ges.* 39 (1):27-129.
- and L. Müller. 1940. Die amphibien und reptilien Europas. *Abhandl. Senckenberg. Naturf. Ges.* (451):1-56.
- Minton, Sherman A., Jr. 1966. A contribution to the herpetology of West Pakistan. *Bull. Amer. Mus. Nat. Hist.* 134 (2):27-184.
- Mittleman, M. B. 1950. Miscellaneous notes on some amphibians and reptiles from the southeastern United States. *Herpetologica* 6 (1):20-24.
- Morrison, Eston O. 1961. A new locality record for the warty gecko. *Texas J. Sci.* 13 (3):357.
- Neill, Wilfred T. 1951a. Florida's air-plants and their inhabitants. *Florida Naturalist* 24 (3):61-66.
- 1951b. A bromeliad herpetofauna in Florida. *Ecology* 32 (1):140-143.
- 1951c. The type locality of the Mediterranean gecko, *Hemidactylus t. turcicus* (Linnaeus). *Copeia* 1951 (4):311.
- Parker, H. W. 1942. The lizards of British Somaliland. *Bull. Mus. Comp. Zool.* 91 (1):1-101.
- Pope, Clifford H. 1955. The reptile world. Alfred A. Knopf Co., New York. xxvi + 325 + xiii pp.
- Rose, Francis L. and Clyde D. Barbour. 1968. Ecology and reproductive cycles of the introduced gecko, *Hemidactylus turcicus*, in the southern United States. *Amer. Midland Nat.* 79 (1):159-168.
- Smith, Hobart M. 1935. Miscellaneous notes on Mexican lizards. *Univ. Kansas Sci. Bull.* 22 (6):119-155.
- 1938. Notes on reptiles and amphibians from Yucatan and Campeche, Mexico. *Occ. Papers Mus. Zool. Univ. Michigan* (388):1-22.
- 1946. Handbook of lizards: Lizards of the United States and of Canada. Comstock Publ. Co., Ithaca, New York. xxi + 557 pp.
- and Edward H. Taylor. 1950a. An annotated checklist and key to the reptiles of Mexico exclusive of the snakes. *Bull. U. S. Nat. Mus.* (199):vi + 253 pp.
- 1950b. Type localities of Mexican reptiles and amphibians. *Univ. Kansas Sci. Bull.* 33 (8):313-380.
- Stejneger, Leonhard. 1922. Two geckos new to the fauna of the United States. *Copeia* (108):56.
- Stuart, L. C. 1934. Concerning *Hemidactylus exsul* Barbour and Cole. *Copeia* 1934 (4):185.
- Taylor, Edward H. 1953. Fourth contribution to the herpetology of San Luis Potosí. *Univ. Kansas Sci. Bull.* 35 (13): 1587-1614.
- Treadwell, R. W. 1962. Extension of range of Mediterranean gecko. *Copeia* 1962 (2):434-435.
- Wermuth, Heinz. 1965. Gekkonidae, Pygopodidae, Xantusiidae. *Das Tierreich* 80:1-246.
- C. J. McCoy, CARNEGIE MUSEUM, PITTSBURGH, PENNSYLVANIA 15213

Published 16 January 1970 by the American Society of Ichthyologists and Herpetologists. Publication is supported by National Science Foundation grant G24281.

Primary editor for this account, Herndon G. Dowling.