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Notes on Three Texas Reptiles, Including an Addition to the Fauna of the State

BY ROGER CONANT¹

During the acquisition of material with which to illustrate the forthcoming "Field guide to the reptiles and amphibians," a number of interesting specimens and data have accrued. Some of these seem worthy of publication, especially the following remarks on Texas herpetology. Most of the information has been supplied by the Texans whose names are mentioned below and to whom I am indebted in various ways. Credit is given to each of them in the appropriate places. My role has been largely that of compiler.

Hemidactylus turcicus turcicus Linnaeus

There is now definite proof that this gecko occurs in Texas, for thriving colonies have been discovered in and near Brownsville. Hence this species, although obviously introduced, may be added to the fauna of the state.

Brown (1950, p. 82) suggested that *Hemidactylus* would make its appearance eventually in one or more of the Gulf ports. Texas previously had been mentioned as a part of the range of this lizard, but no definite locality or specimens were mentioned. The reference is in Flower (1933, p. 765) in a long paper on the herpetology of Egypt. In giving the range, Flower stated that it had been "distributed by unintentional human agency, east to India and west to Florida and Texas." Texas may have been included in error; in any event, this scarcely can be interpreted as a

¹ Research Associate, Department of Amphibians and Reptiles, the American Museum of Natural History; Curator of Reptiles, Philadelphia Zoological Garden.

record from the state. In his monograph on the African geckos, Loveridge (1947, p. 147) gives the New World range of *Hemidactylus t. turcicus* as Yucatan, Florida, and Cuba. Although Loveridge made a meticulous survey of the literature in preparing his references and list of localities, he did not include Texas.

Mr. Ted Beimler, of Fort Brown, Brownsville, first called my attention to the occurrence of *hemidactylus* in Texas. Beimler has generously turned his notes over to me, and the following passages are quoted from them:

"My first discovery of *Hemidactylus turcicus turcicus* was accidental at the Alamo Iron Works, warehouse #2, at 8th & Fronton Sts. in Brownsville. This specimen was crushed between some shingles during a norther in January, 1950. I later received specimens from a service station at 10th & Levee Sts. during the period between 1950 and 1952.

"A well-established colony was brought to my attention by Mrs. Beimler in 1952. This occurs on the stucco buildings of the Brownsville Navigation District and the Brownsville Chamber of Commerce. These geckos have also been observed on the buildings of, and adjacent to, the Missouri Pacific bus lines and the Southern Pacific railroad depot. All of these buildings are within approximately a city block of one another. This location is in excess of six city blocks from the Alamo Iron Works and the service station. Recently *Hemidactylus* also has been found on stucco buildings at the Pan-American World Airways airport. This is at some little distance from the city of Brownsville."

The colony at the Navigation District building appears to be thriving. The lizards are most in evidence on hot, humid nights and after rains, and as many as 30 have been seen in a single evening. During 1954 a total of 37 specimens was collected by Mr. and Mrs. Beimler and visiting naturalists. Dates included March 27, April 15, May 20, July 10, August 13, and October 3. The lizards are attracted to the lighted screen windows where insects tend to congregate, but when approached they scatter in all directions, taking refuge in holes or crevices. Despite the ease with which they may be caught by seasoned collectors, these geckos are active and wary enough to avoid the average human being. There is evidence to indicate that the population of *Hemidactylus* is increasing and expanding its habitat. The lizards are of varying sizes from apparent hatchlings to large adults.

A series of 11 specimens collected on the buildings of the Brownsville Navigation District during the evening of October 3, 1954, by Gabrielle Beimler and M. P. Hamby has been deposited in the collection of the American Museum of Natural History (A.M.N.H. Nos. 74586-74589).

These 11, which I have compared with Old World specimens of *Hemidactylus turcicus turcicus*, vary in head-body lengths from 24 mm. to 53 mm.; the total length of the largest specimen is 114 mm. Other persons who have collected *Hemidactylus* in Brownsville are Alvin G. Flury, Ralph W. Axtell, and Henry Hildebrand.

That this species may appear at inland as well as seaport localities is attested by the fact it is known from several localities in northeastern Mexico. I collected two small specimens (A.M.N.H. Nos. 69955-69956) on window screens at night in Sabinas Hidalgo, Nuevo León, on September 23, 1949, and Charles M. Bogert obtained four large adults (A.M.N.H. Nos. 73577-73578) at Valles, San Luis Potosí, in August, 1951. Also Smith and Taylor (1950, p. 51) have reported this lizard from 12 miles east of Llera, Tamaulipas, and Taylor (1953, p. 1594) from Tamazunchale, San Luis Potosi.

Brownsville is the fourth known locality for *Hemidactylus* from the United States. It has long been recorded from Key West and Miami, and Etheridge (1952, p. 48) has reported it from New Orleans. All are obviously introductions related to human activities.

Coniophanes imperialis imperialis Baird

Published data on the food habits of this comparatively rare, secretive snake seem to be scarce. Brown (1937, p. 234) reported small toads, and Davis (1951, p. 314) "tentatively" identified as *Leptodactylus labialis* the hind quarters of a frog found in the stomach of one of these snakes. Notes on the subject of food have been furnished by Beimler, and to them I add my own observations on a captive specimen. Mr. and Mrs. Beimler have forced freshly caught specimens to disgorge the following food items: small snakes, small toads, young mice, frogs of small species (*Syrhophus* and *Microhyla*), and lizards of small size (*Eumeces tetragrammus*). Beimler says, "I've never been able to verify effective use of the venom by seeing any symptoms in the victims, but frogs on several occasions have been extremely lethargic for quite some time; *i.e.* after being partially swallowed and then getting away as a result of a sudden kick."

A specimen of *Coniophanes* was given to me in May, 1954, by Beimler which he had collected at Fort Brown, Brownsville, on September 21, 1953. During the period it was in his custody it consumed a number of small, recently transformed specimens of *Bufo valliceps*. Since it has been in my possession, it has eaten a newborn or very young white mouse approximately twice each month. One such mouse weighed 2.4 grams and measured 9 mm. across the skull. The snake, just before consuming this

young rodent, weighed 6.6 grams and measured as follows: head-body length, 221 mm.; total length, 255+ mm. (a large portion of the tail missing); width of head, 6 mm.

Despite the comparatively large size of each mouse, the *Coniophanes* seizes it (at either head or tail end) and slowly engulfs it. Presumably the fangs are brought into play, but I have detected no resting period such as sometimes is seen in snakes of other species while the venom is apparently taking effect. Nor have I noticed any diminution of the "swimming" motion of the limbs of the mice as they struggled to escape, at least not until they were immobilized by passing into the snake's mouth.

In addition to its regular diet of mice the snake also devoured eight newly transformed *Bufo w. fowleri* one day during the summer of 1954 and eight more the next day.

This snake has lived in a pint Mason jar during the entire period I have had it. Customarily the jar is cleaned about once a week. After each cleaning it is left wet, and a damp, crumpled paper towel is placed in the bottom. Two other dry paper towels are added above the damp one. The result is that the bottom towel becomes quite wet, the middle one moderately so, and the top one remains virtually dry. When the snake is replaced in the bottle it habitually coils near the top, but moves farther and farther down as the paper dries out. At the end of a week it is invariably on or close to the bottom. Although I have given the snake water on numerous occasions, I have seldom seen it drink.

Beimler reports (*in litt.*) a similar selection of optimum moisture conditions in the field, with *Coniophanes* ascending into piles of dead cactus when they are wet, but remaining beneath them when the rest of the pile is dry.

Crotalus lepidus lepidus Kennicott

Gloyd (1940, p. 108) included a record for this snake from Leakey, Real County, Texas, in his monograph of the rattlesnakes on the basis of a specimen in the Chicago Academy of Sciences. Brown (1950, p. 220) stated, however, that the occurrence of this species in Real County needed confirmation. Such confirmation is now at hand. Through the generosity of Colonel M. L. Crimmins, of San Antonio, several live specimens of *lepidus* from Real County have been contributed to leading American zoos, including the Philadelphia Zoological Garden. These were all collected by Mr. Theo Telotte, President of the Real County Wildlife Association, who owns a ranch about 10 miles southwest of Leakey. In response to my request for information on his experiences with rattlers of this species, Telotte wrote as follows: "We find these

snakes at an altitude of between 2500' and 2750'. The terrain is very rough, rocky, hill country with some needle grass, mountain laurels, and scrub black walnut, oak, and cedar trees.

"They are usually found out in the open during the cool early morning hours, and in the shade up until 9:30 or 10:00 A.M. They then usually crawl under rocks, in caves, or under logs or debris during the heat of the day and remain there until the cool of the evening. They will then crawl out and rest upon the tops of logs, stumps, or rocks. They are hard to see with inexperienced eyes, as they blend in perfectly with the surrounding terrain. Usually where you find one, you find another one close by somewhere. I brought in four more from my ranch this week and about fifteen this summer.

"I captured two on Sunday, July 11, about 25' apart. One was resting on a tree stump about $4\frac{1}{2}$ ' above the ground. He had to crawl at an angle of about 45° to get there. The other was lying peacefully on the edge of a concrete stock watering trough about 2' above the ground. These can be found any time of the day by turning over large rocks or looking under logs or debris, but they are more easily caught at night, early morning, or evening when they are in the open. They are slow movers and easily captured after being located.

"We find their colors vary considerably. This year we have caught one with a pinkish tint, one a light green, one a light grey, and one darker greyish-black. We also notice a great variation in the black markings, as some are considerably darker than others. We captured one that was injured and died. Upon opening it, we found its stomach to contain a lizard, a large grasshopper, and a few smaller caterpillar-type bugs. We know they also eat small rodents such as field mice, small gophers, and almost anything that is not too big for them to handle."

It would be of interest to know whether the insects were engulfed by the rattlesnake itself or whether they had been ingested by the lizard prior to its falling prey to the snake.

Milstead, Mecham, and McClintock (1950, p. 557), in reporting upon collections made on the Stockton Plateau of northern Terrell County, Texas, stated that during "an examination of food contents of the stomachs of twenty-one [rattlesnake] specimens, four *Cnemidophorus gularis*, one *Urosaurus ornatus*, one adult *Phrynosoma cornutum*, one *Ficimia cana*, and one *Syrrhophus marnockii* were found. A specimen which was brought back to Austin alive ate several *Haldea striatula*."

A captive specimen was reported by Falck (1940, p. 135) to have consumed a number of mice plus frogs and salamanders of several species. Obviously, *lepidus* has an exceedingly varied menu, possibly more so than any other rattler.

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