

GRAPTEMYS OUACHITENSIS SABINENSIS (Sabine Map Turtle). **REPRODUCTION.** A clutch size of one egg (the minimum possible) has long been regarded as one expression of tropical adaptation in turtles (Moll and Legler 1971. Bull. Los Angeles Co. Mus. 11:1-102). Although not a tropical turtle, *G. ouachitensis* has a wide latitudinal distribution in North America (Vogt 1993. Cat. Am. Amphib. Rept. 603:1-4). We here report on its reproduction from close to the lowest latitudinal limit of its range (29.8°N; Dundee and Rossman 1989. The Amphibians and Reptiles of Louisiana. Louisiana State Univ. Press, Baton Rouge, 300 pp.). Our data reflect on several aspects of reproduction, including intraseasonal clutch frequency, and clutch, egg, and hatchling size. We made 11 independent visits to nesting habitat in Louisiana and

Texas (from 30.6° to 31.1°N) during six years from 1972 to 2002. All data came from recently laid nests or dissection of female reproductive tracts.

The reproductive tract of a nongravid female collected on 16 May had numerous enlarged follicles. One female from 13 June and two females from 18 June contained two sets of corpora lutea, which indicate production of an initial clutch in late May or early June. Dates with recent nests or with females found gravid on land spanned 13 June–16 July. Reproductive tracts from eight females indicated productive capabilities of two clutches (by 1 turtle), three clutches (by 3 turtles), and two or three clutches (by 4 turtles) during the season.

Clutch size varied between one and four eggs, with a mean clutch size for 55 clutches of 2.34 ± 0.80 SD eggs, which includes means of 1.96 ± 0.49 SD ($N = 30$) for the Calcasieu River and 2.80 ± 0.87 SD ($N = 25$) for the Sabine River. The average mass of 61 eggs was 9.85 ± 1.44 SD g (from the Sabine habitat only) and of 94 hatchlings was 7.38 ± 1.17 SD g (36 from the Calcasieu at 7.6 ± 0.8 SD g; 58 from the Sabine at 7.2 ± 1.3 SD g).

One-egg clutches comprised 11% of the total and were found along both the Calcasieu River ($N = 4$) and the Sabine River ($N = 2$). However, 4-egg clutches ($N = 5$) came only from the Sabine. The modal clutch size was 2 eggs. Four of the 4-egg clutches came from June and one from July. Five of the six 1-egg clutches came from July, suggesting that clutch size declines during the season. We did not observe any 6-egg clutches as reported by Dundee and Rossman (1989, *op. cit.*), and their report left reason to question the assignment of such a clutch to *G. o. sabinensis* (Dundee, pers. comm.). However, we cannot rule out the occurrence of such clutches in *G. o. sabinensis* at localities farther north in the Sabine drainage.

That *G. o. sabinensis* has single-egg clutches and a small mean clutch size becomes appreciably more interesting in a contrast with the mean clutch size of *G. o. ouachitensis* from near the high latitude limit of the species distribution (i.e., 10.9 eggs; range: 6–17 eggs, $N = 99$; 43.7°N latitude; from Vogt 1980. *Tulane Stud. Bot. Zool.* 22:17–48 [fig 2], plus Janzen et al. 1995. *Funct. Ecol.* 9:913–922). Thus, across the range of *G. o. ouachitensis* there is a 4.66-fold difference in mean clutch size. This proportional difference may be the largest in any North American species of turtle. In contrast, the high latitude mean egg size of 10.97 g and hatchling size of 8.21 g (Vogt 1980, *op. cit.*; Janzen et al., *op. cit.*) differ relatively little from low latitude values (given above). The low latitude eggs and hatchlings are not larger as might be expected in a tradeoff between clutch size and egg size (*sensu* Smith and Fretwell 1974. *Am. Nat.* 108:499–506; Roosenberg and Dunham 1997. *Copeia* 1997:290–297). In absolute measures, no such tradeoff is apparent in this latitudinal comparison.

We thank Richard Anderson, Amanda Rosenzweig, Mark Antwine, and Jason Hatfield for helping with the fieldwork and Fred J. Janzen for measuring some of the hatchlings. Portions of the dissected females have been deposited at the Carnegie Museum of Natural History, Pittsburgh (CM8756877).

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RHINOCEMMYS AREOLATA (Furrowed Wood Turtle). **MAXIMUM SIZE.** The maximum straight-line carapace length (CL) given for *Rhinoclemmys areolata* is up “to 20 cm” (Ernst and Barbour 1989. *Turtles of the World*. Smithsonian Institution Press, Washington, D.C. 313 pp.). On 28 July 2002 we found the intact shell of a female *R. areolata* with a CL of 20.7 cm (CUSC 2124) in the grassy margin between Cohune (*Orbigyna cohune*) forest and a citrus plantation (17°18.188'N; 88°31.213'W) on Tiger Sandy Bay Farm, Mile Marker 31, Western Highway, Cayo District, Belize. The turtle appeared to have been killed by a mowing machine several weeks previously. Large pieces of eggshell were found inside the shell indicating the female was gravid when killed. This specimen was deposited in the Campbell Museum, Clemson University, Clemson, South Carolina, USA.

We thank Steve Downard for allowing access to his property, Richard and Carol Foster for logistic support, and Earl Codd of the Belize Forest Department for issuing our research and collecting permit (Ref. No. CD/72/2/02 -173).

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TERRAPENE CAROLINA TRIUNGUIS (Three-toed Box Turtle). **POPULATION CHANGES.** *Terrapene carolina* populations often consist of long-term, long-lived resident individuals (Stickel 1978. *Copeia* 1978:221–225; Williams and Parker 1987. *Herpetologica* 43:328–335; Schwartz and Schwartz 1991. *Copeia* 1991:1120–1123; Schwartz 2000. *Chel. Conserv. Biol.* 3:737–738; Dodd 2002. *North American Box Turtles, A Natural History*, Univ. Oklahoma Press, 231 pp.). I studied a small suburban population of box turtles in my yard in West Point, Clay County, Mississippi (USA) (33°35'14"N, 88°37'46"W) from 1979 to 2003. The triangular yard was about 0.3 ha, partially wooded with mostly water oaks and some hackberry, sycamore, mimosa, and poplar. Most of the natural ground vegetation was cleared away and the yard fenced in the rear by 1985 and replaced with brick walks, flower gardens, fern beds, and border plants such as *Liriope*. Space under the fence still enabled access by turtles. Mowed lawns characterized the front and backyards of virtually all neighbors. Less-disturbed habitat for box turtles remained behind houses across the street in a horse pasture and adjacent patches of oak-hickory woodland.

Turtles were individually marked by notching marginal scutes of the carapace with a pocket saw, measured for carapace length (CL) to the nearest 0.1 mm with vernier calipers, and weighed to the nearest 0.1 g on an Ohaus mechanical balance. Overall, I marked and released 23 individual box turtles, as follows in 5-