

**DEIROCHELYS**  
**D. RETICULARIA**

**REPTILIA: TESTUDINES: TESTUDINIDAE****Catalogue of American Amphibians and Reptiles.**

ZUG, GEORGE R. AND ALBERT SCHWARTZ. 1971. *Deirochelys, D. reticularia*.

***Deirochelys Agassiz***  
**Chicken turtle**

*Deirochelys* Agassiz, 1857:441. Type-species, *Deirochelys reticulata* (= *D. reticularia*) by monotypy.

*Dirochelys* Baur, 1890:1099. Type-species, *Dirochelys reticularia* by monotypy; presumably *Dirochelys* is an orthographic emendation of *Deirochelys* Agassiz.

*Dierochelys* Löding, 1922:45. Type-species, *Dierochelys reticularia* by monotypy; either a *lapsus calami* or an orthographic emendation of *Deirochelys* Agassiz.

• **CONTENT.** One species, *D. reticularia*, with three subspecies (*reticularia*, *chrysea*, *miaria*) is recognized.

• **DEFINITION.** An emydine turtle with an oval or cuneiform carapace outline. The scutes of the carapace are dark, striated, and with a reticulum of yellowish lines and usually a light border. The thecal layer of the carapace has vermiculate sculpturing; the plastron is unhinged and immovable with plastral buttresses; it is yellow or orange in color, sometimes with a seam-following dark plastral pattern. The humeropectoral sulcus usually is posterior to the endoplastron; the bridge with or without a dumbbell-shaped figure. The shell is deep or flattened, with 25 marginal scutes, often with a dark blotch on the ventral surface. There are four pairs of pleural scutes, and five vertebral scutes. The neck is elongate and nearly equal to length of carapace. Each of cervical vertebrae II to VII is distinctly longer than VIII. The skin is black or brown with yellowish or greenish lines and markings, a wide band of yellow on the anterior surface of the forelimb, a series of vertical, alternating black and yellow bars between the tail and hind limbs on the rump. The free ends of the ribs are very slender and highly arched for accommodation of the large retractor muscles of neck. The first vertebral scute is in contact with five marginal scutes (cervical, marginals 1 and 2 on each side). The keratinous alveolar surfaces of jaws are narrow and smooth. The skull has a small nasopalatine foramen and a large posterior palatine foramen. The inferior process of the parietal contacts the palatine. The interorbital width is less than that of the nasal chamber.

• **DESCRIPTIONS, ILLUSTRATIONS, DISTRIBUTION, PERTINENT LITERATURE.** See species and subspecies accounts.

• **REMARKS.** Although Baur's description of *Dirochelys* appeared in the "December 1889" issue of "The American Naturalist," this issue was not published until the middle of 1890.

Neither Baur nor Löding explained their orthographic emendations of *Deirochelys*.

*Deirochelys* is closely related to *Emydoidea*. Baur (1890) was the first to recognize this relationship. Loveridge and Williams (1957) and Jackson (1959) provided additional support for this interpretation.

• **ETYMOLOGY.** From the Greek *deire*, "neck" and *chelus*, "tortoise," apparently in allusion to the extremely long neck.

***Deirochelys reticularia* (Latreille)**  
**Chicken turtle**

*Testudo reticularia* Latreille, 1801:124. Type locality, "Carolina"; restricted to "Charleston" [Charleston County South Carolina], by Harper (1940). Holotype, formerly in the Museum National d'Histoire Naturelle (Paris), but was not located in 1954 (Schwartz, 1956); holotype presumably an adult female collected by Bosc between 1798

and 1800. Neotype, Charleston Mus. 54.68.1, "9 miles northwest of Charleston, Charleston County, South Carolina," adult female collected on 1 April 1954 by T. A. Beckett. Neallotype, Charleston Mus. 52.240.5, "taken 2.1 miles north, thence 1.2 miles west of Cainhoy, Berkeley County, South Carolina," adult male collected on 20 December 1952 by Julian Harrison III and John A. Quinby. Neotype seen by junior author.

*Testudo reticulata* Daudin, 1801:144. Type locality, "Carolina"; by restriction (Schmidt, 1953) to "Charleston, [Charleston County] South Carolina." Holotype, presumably the Bosc specimen described by Latreille.

*Emys reticulata*: Schweigger, 1814:31.

*Emys reticularia*: Say, 1825:204. First recognition of the priority of Latreille's name.

*Terrapene reticulata*: Bonaparte, 1831:155.

*Deirochelys reticulata*: Agassiz, 1857:441. See generic account.

*Clemmys reticulata*: Strauch, 1863:32.

*Deirochelys reticularia*: Gray, 1870:39. Present usage.

*Chrysemys reticulata*: Cope, 1875:53.

*Dirochelys reticularia*: Baur, 1890:1099. See generic account.

*Dierochelys reticularia*: Löding, 1922:45. See generic account.

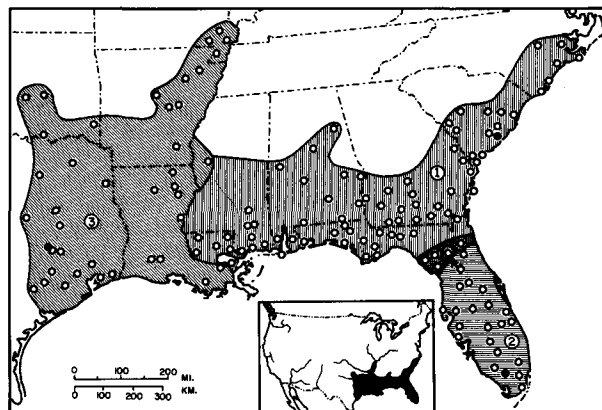
• **CONTENT.** Three subspecies are recognized: *reticularia*, *chrysea*, and *miaria*.

• **DEFINITION.** Same as for genus. See subspecies for other characteristics.

• **DESCRIPTIONS.** The external morphology is described in Pope (1939), Carr (1952), and Conant (1958). Schwartz (1956) gave descriptions of both sexes and all life stages. Osteological descriptions are provided by Williams (1950), Jackson (1959) and McDowell (1964). Other anatomical descriptions are found in Parsons (1960), Shah (1962, 1963), and Zug (1966).

• **ILLUSTRATIONS.** Eggs are pictured in Agassiz (1857). Hatchlings or young are illustrated in Agassiz (1857), Carr (1952), and Campbell (1969). Schwartz (1956) provided photographs of the holotypes and allotypes of all three races. Other illustrations of adults are in Pope (1939), Carr (1952), Conant (1958), and Pritchard (1967).

• **DISTRIBUTION.** The Atlantic and Gulf coastal plains, from North Carolina southwestward to the Mississippi River and including all of the Florida Peninsula except the Florida Keys, but absent (apparently) from most of Mississippi, extreme western Tennessee and Kentucky, and northwestern Alabama,



**MAP.** The solid circles mark the type localities. The open circles mark other localities. The star shows the single fossil locality. The southeastern Virginia locality is not plotted.

all areas below the Fall Line except for two Alabama records by Mount and Folkert (1968) and Mount (*in litt.*); west of the Mississippi River, in extreme southeastern Missouri, southeastern Oklahoma, the eastern and southern half of Arkansas, all of Louisiana, and eastern Texas; three recorded localities above the Fall Line in Oklahoma and Arkansas. A population from Cape Henry, Nansemond County, Virginia has been reported by Rageot (1968).

• **FOSSIL RECORD.** Hay (1908) described "*Deirochelys floridana*" from the Pliocene (?) of Florida. Jackson (1964) has shown that this specimen is actually a *Chrysemys*. In 1967, Weaver and Robertson tentatively assigned the type of *Trachemys jarmani* to *Deirochelys reticularia*. The senior author has examined the type of *T. jarmani* and questions this assignment. Thus, the only fossil specimen of *D. reticularia* is from the Illinoian of Florida (Jackson, 1964). This species has been recovered from prehistoric Indian sites in Florida (Neill, *et al.*, 1956; Wing, 1965).

• **PERTINENT LITERATURE.** The ecology and population dynamics of a South Carolina population of *D. reticularia* are presented by Gibbons (1969). General notes on its natural history are found in Pope (1939), Krefft (1951), Carr (1952), Duellman and Schwartz (1958), and Campbell (1969). Both Neill (1958) and Martof (1963) reported its occurrence in salt-water. Neill and Allen (1954), Proctor (1958), and Edgren (1968) discussed the turtle-algae mutualism of this species. Cagle and Tihen (1948) described the retention of eggs. Frair (1963) studied the isoagglutinins and heteroagglutinins in blood of *Deirochelys*; Jackson and Legendre (1967) described the cholesterol level. Crenshaw (1962) noted the apparent absence of serum albumin in the blood of *D. reticularia*. Smith and James (1958) and Smith and Nickon (1961) noted presence and possible function of cloacal bursae. Various anatomical aspects of *Deirochelys* are described by Jackson (1959), Parsons (1960, 1968), Shah (1962, 1963), McDowell (1964), and Zug (1966).

• **ETYMOLOGY.** The specific name is from the Latin *reticulatus* for "netted" or "net-like" in reference to the carapace pattern; the subspecies names are both Greek, *chrysea* meaning "golden" in reference to the plastron color, and *miaria* meaning "defiled" in allusion to the presence of a plastral pattern.

### 1. *Deirochelys reticularia reticularia* (Latreille).

*Testudo reticularia* Latreille, 1801:124. See species account.  
*Testudo reticulata* Daudin, 1801:144. See species account.  
*Deirochelys reticularia*: Gray, 1870:39. See species account.  
*Deirochelys reticularia reticularia*: Schwartz, 1956:465.

• **DEFINITION.** *D. r. reticularia* differs from *D. r. chrysea* by a generally duller coloration than the former, a much narrower dorsal reticulation, which is greenish or brownish, a narrow yellow edging of the carapace, and the sporadic occurrence of a plastral spot at the femoral-anal suture. The black spots ventrally on the marginals at the level of the bridge are present in 72 per cent of the specimens. The shell's outline is ovate and not cuneiform and expanded as in *D. r. chrysea*. A constriction at the level of marginals 5 and 6 as in *D. r. chrysea* is rare. *D. r. reticularia* differs from *D. r. miaria* in never having a seam-following dendritic plastral pattern. When a plastral pattern is present in *reticularia*, it is a poorly defined blotch with an occasional anteromedian extension at the femoral-anal suture. The nominate subspecies has a higher domed shell than *miaria*.

### 2. *Deirochelys reticularia chrysea* Schwartz.

*Deirochelys reticularia chrysea* Schwartz, 1956:476. Type-locality, "5.8 miles east of Monroe Station, Collier County, Florida." Holotype, Mus. Zool. Univ. Michigan 111440, adult male, collected by L. Neil Bell, 4 September 1954.

Allotype, Mus. Zool. Univ. Michigan 100371, adult female, "5 miles west of Florida City, Dade County, Florida," by A. Schwartz, no date. Holotype seen by junior author.

• **DEFINITION.** *D. r. chrysea* differs from *D. r. reticularia* and *D. r. miaria* by an unpatterned orange or bright yellow plastron. The dorsal reticulations are orange or golden and are bold and broad except in old specimens. The orange edging of the carapace is broad and prominent. The black spots ventrally on the marginals at the level of the bridge are absent in 57 per cent of the specimens. The shell's outline is cuneiform (best noted in males and juveniles and least expressed in females). There is a constriction at the level of marginals 5 and 6. The carapace of *chrysea* is relatively higher than that of both *D. r. reticularia* and *D. r. miaria*.

### 3. *Deirochelys reticularia miaria* Schwartz.

*Deirochelys reticularia miaria* Schwartz, 1956:486. Type-locality, "College Station, Brazos County, Texas." Holotype, Field Mus. Nat. Hist. 37478, adult male, collected by K. P. Schmidt, C. M. Barber, and A. Flury, 17 April 1941. Allotype, U. S. Natl. Mus. 85145, subadult female, "White Rock Creek, 4 miles northeast of Dallas, Dallas County, Texas," by C. E. Burt, 16 April 1932. Holotype seen by junior author.

• **DEFINITION.** *D. r. miaria* is distinguished from both *D. r. reticularia* and *D. r. chrysea* by a plastral pattern of the seam-following type at all ages. This pattern is usually present but obsolescent in old adults. Adults usually have an unstreaked chin and throat. The carapace is oval in outline and flatter than that of either *D. r. reticularia* or *D. r. chrysea*.

#### COMMENTS

Harper (1940) discussed the question of priority between *reticularia* Latreille and *reticulata* Daudin; both names date from 1801. *D. r. reticularia* occurs from east-central North Carolina (Craven and Wayne counties) west to the Mississippi River below the Fall Line (with the exception of those areas noted in the specific distribution account above) and into northern Florida, where it intergrades with *D. r. chrysea* in Taylor, Levy, Gilchrist, and Clay counties. The Cape Henry, Virginia population may be relic rather than an introduction. *D. r. chrysea* occurs on the Florida Peninsula, from Alachua, Putnam, and western Marion counties southward to the tip of the peninsula (but not the Florida Keys). *D. r. miaria* occurs to the west of the Mississippi River in all of Louisiana, eastern Texas and southeastern Oklahoma to 97° longitude, Arkansas, and extreme southeastern Missouri. Landreth (1968) has reported the presence of *miaria* specimens from Humphreys County, Mississippi. Schwartz (1956) commented in detail on questionable or anomalous specimens from various Louisiana localities whose characteristics did not agree with his geographic concepts of the two subspecies (*reticularia* and *miaria*) whose ranges are separated by the Mississippi River. No intergrades between *miaria* and *reticularia* are known.

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