

Catalogue of American Amphibians and Reptiles.

HIRTH, HAROLD F. 1980. *Chelonia*.***Chelonia* Brongniart
Green sea turtles***Chelonia* Brongniart, 1800:89. Type-species designated as *Chelonia mydas* Cuvier, 1832 (= *Testudo mydas* Linnaeus, 1758) by Fitzinger, 1843:30.*Chelonias*: Rafinesque, 1814:66. Emendation.*Caretta* (in part): Merrem, 1820:19.*Chelona* Burmeister, 1837:731. Type-species, *Testudo mydas* Linnaeus, 1758 by monotypy.*Mydas* Cocteau, 1838:22. Type-species, *Testudo mydas* Linnaeus, 1758 by tautonymy.*Mydasea* Gervais, 1843:457. Type-species, *Testudo mydas* Linnaeus, 1758 by tautonymy.*Euchelonia* Tschudi, 1846:22. Type-species, *Testudo mydas* Linnaeus, 1758 by monotypy.*Megemys*: Gistel, 1848:viii.*Euchelys* Girard, 1858:447. Type-species, *Euchelys macropus* Girard, 1858:448 (= *Testudo mydas* Linnaeus, 1758) by monotypy.*Chelone* Strauch, 1862:59. Type-species, *Testudo viridis* Schneider, 1783 (= *Testudo mydas* Linnaeus, 1758) by original designation.*Natator* McCulloch, 1908:126. Type-species, *Natator tessellatus*, McCulloch by monotypy (= *Chelonia depressa* Garman, 1880).

- CONTENT. Two species are recognized: *Chelonia depressa* and *Chelonia mydas* (see REMARKS).

- DEFINITION. Straight carapace length of nesting females ranges from about 69 to 140 cm. Most gravid females weigh between 68 and 250 kg. The adult carapace has four pleurals on each side and is broadly oval to heart-shaped, but in some populations may be sharply constricted toward the rear above the hind flippers. The carapacial profile varies from very weakly arched to highly arched; the epidermal scutes are juxtaposed. The color of the adult carapace varies from predominately green or olive, or brown, or gray to black; and may have varying infusions of yellow, green, brown, copper and black. The plastron of adults varies from white to creamy yellow; and in some populations is basically white but with varying amounts of gray and black. There is a single pair of prefrontal scales. The female's tail rarely reaches beyond the posterior carapacial margin while that of the mature male extends far beyond.

The following skull characters are based on specimens of *C. mydas* (a representative series of skulls from *C. depressa* has yet to be described). Tomium of the lower jaw is strongly serrated while that of the upper jaw possesses ridges on the inner surface; maxilla with vertical ribbing on inner surface; a blunt ridge on vomer and palatines at the anterior margin of the internal choanae; mandibular symphysis short; the labial and lingual margins rise to points at the symphysis and the two points are connected by a sharp symphyseal ridge.

- DESCRIPTIONS. General descriptions of varying degrees of completeness are in Smith (1931), Deraniyagala (1939), Bourret (1941), Carr (1952), Loveridge and Williams (1957), and Cogger (1975) among others. For descriptions of various life stages of *C. depressa* see PERTINENT LITERATURE. Hirth (1980) provides references to descriptions of the life stages of *C. mydas*.

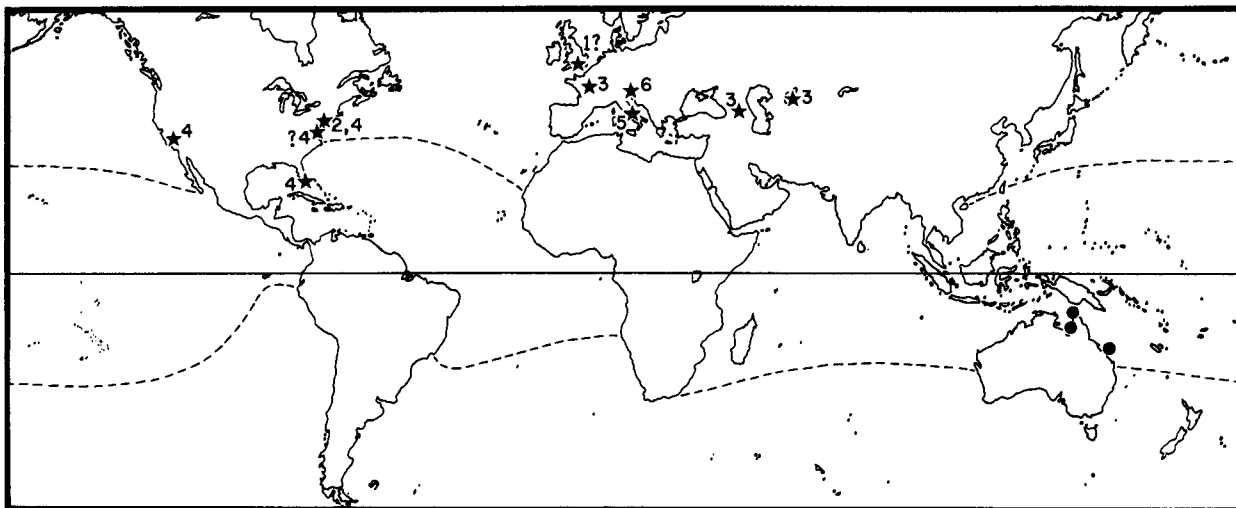
- ILLUSTRATIONS. Black and white photos of *C. depressa* hatchlings are found in Williams et al. (1967), Limpus (1971), and Bustard (1972). Black and white illustrations of adult *C. depressa* are in Bustard and Limpus (1969), Limpus (1971), and Bustard (1972); and, a color photo is in Cogger (1975). See Hirth (1980) for references to illustrations of *Chelonia mydas*.

Several natural history films on *Chelonia* are available: Jacques Cousteau's three film loops on reproductive biology and conservation (Oceanography Unlimited, Lodi, New Jersey); "Sabah's Turtle Colony" (Bill Burrad Television Co., Los Angeles, California); and "The Turtle People" (B and C Films, Los Angeles, California).

- DISTRIBUTION. *Chelonia* are generally found throughout the tropical seas, but also range less commonly into subtropical and temperate seas. The major breeding and feeding sites are located between the northern and southern 20°C isotherms (i.e., average temperature of surface water in coldest month is above 20°C). Precise distributions of some populations of *Chelonia* depend upon their remigration routes between feeding and breeding areas. See also map in Hirth (1980).

- FOSSIL RECORD. *Chelonia* is known from the Upper Cretaceous and Oligocene-Pliocene of Europe; and, from the Eocene (?) and Miocene-Pliocene of North America (Romer 1966). Miocene fossils are discussed by Hay (1908), Collins and Lynn (1936), Gilmore (1937), Zangerl and Turnbull (1955), and Weems (1974). Some homologous structures are examined by Gregory (1946).

- PERTINENT LITERATURE. Taxonomic accounts of *C. depressa* are in Garman (1880), Fry (1913), Williams et al. (1967), and Cogger (1975). Natural history accounts are in Bustard (1969, 1972), Bustard and Limpus (1969), Cogger and Lindner (1969),



MAP. Major breeding and feeding sites of pantropical *Chelonia mydas* are between northern and southern 20°C isotherms (broken lines), but occasional individuals range farther north and south. Spots indicate major breeding sites of *C. depressa*. Stars mark localities of fossils referred to *Chelonia*, as follows: 1, Cretaceous; 2, Eocene; 3, Oligocene; 4, Miocene; 5, Pliocene; 6, Tertiary. Identity as *Chelonia* questioned in some instances.

Limpus (1971), and Bustard et al. (1975). For literature on *C. mydas*, see Hirth (1980).

• **KEY TO SPECIES OF *Chelonia*.** The number in parentheses refers to a published Catalogue account.

Adults with weakly convex carapaces, upward curving marginals, small scales or wrinkled skin on mid-dorsal surfaces of the forelimbs, and three post-oculars. Hatchling carapace olive-gray or pale gray with scute margins broadly outlined in black

----- *depressa*
Adults with domed carapaces, sloping marginals, large mid-dorsal forelimb scales, and usually four post-oculars. Hatchling carapace brownish-black or grayish-black or shiny black
----- *mydas* (249)

• **ETYMOLOGY.** The name is from the Greek *chelone*, meaning a tortoise (feminine gender).

• **REMARKS.** Some authors consider the generic designation by Brongniart (1800:89) a *nomen nudum* (e.g., Stejneger 1907; Deraniyagala 1939; among others) and recognize the following: *Chelonia* Latreille 1802:22; type-species, *Testudo mydas* Linnaeus. I accept Brongniart primarily because his description—"Ce sont les tortues de mer"—although very brief, certainly includes green turtles.

Some investigators recognize more than two species of *Chelonia*. Carr (1975), for example, identifies *Chelonia agassizi* as the East Pacific form (extending from Baja California to the Galapagos Islands and Peru, and westward to the Hawaiian Archipelago and the Marshall Islands) and suggests using the name *C. japonica* for green turtles in the western Pacific and Indian Ocean. I refrain from defining more than two species until comprehensive systematic studies are made.

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Primary editor for this account, Carl Ernst.

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