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Rhodin, Anders G. J., Russell A. Mittermeier, and Carl H. Ernst. 1990. *Acanthochelys macrocephala* .

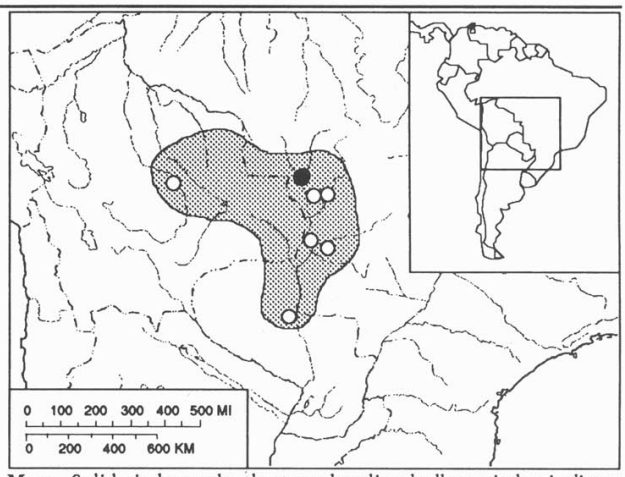
Acanthochelys macrocephala (Rhodin, Mittermeier, and McMorris) Big-headed Pantanal Swamp Turtle

Platemys macrocephala Rhodin, Mittermeier, and McMorris, 1984a: 38. Type-locality, "Caiçara, Rio Paraguai, Mato Grosso, Brazil (16°3'S,57°43'W)." Holotype, Naturhistorisches Museum Wien 1293, a stuffed adult female, collected by Johann Natterer on 16 April 1826 (examined by authors). See Remarks.

Acanthochelys macrocephala: Iverson, 1986:197. First use of present combination.

• **Content.** No subspecies are recognized.

• **Definition.** Adults are medium-sized (males to 23.5 cm carapace length, females to 29.5 cm) tropical, sidenecked turtles, and the largest species of *Acanthochelys* (see Remarks). The light to dark brown carapace is broadly oval to moderately elongate (length averages 1.42 times width), and deep (length averages 2.60 times depth in females, 2.81 times in males), with a very shallow dorsal groove present only in older animals extending along the 2nd to 4th vertebrals. The carapace is highest just behind the center and broadest at the level of the anterior portion of the 8th marginals. A cervical scute is present. The first and 5th vertebrals are very broad, the 2nd through 4th may be slightly longer than wide. The carapacial rim is smooth; the first 2 marginals and the 8th to 10th are slightly expanded but not flared, whereas the 3rd to 7th marginals are slightly upturned. The broad plastron and the bridge are yellow with some dark pigment (which fades with age) extending along the seams (sometimes covering most of the adjacent scutes, but usually not the areolae). The broadly truncate or oval forelobe is broader than the hindlobe, which contains a deep posterior notch. The intergular scute is approximately half as large as the length of the forelobe, and is the longest scute on the plastron. The pectoral scute seam contact usually is the shortest. The head is extremely broad (tympanic head width averages 22.8% of carapace length, and older females may have massive head widths up to 27% of carapace length). In comparison, the most closely related species *Acanthochelys radiolata* has tympanic head width averaging only 18.1% of carapace length (see Fig. 4). The head is dark gray-brown dorsally and yellow or cream ventrally; the area of demarcation is indistinct. The tympanum and posterior portion of the lower jaw are yellow with a few ventral gray blotches and a few scattered orange spots along the area of demarcation. The anterior portions of the jaws are light grayish-yellow. The iris is brownish-tan to silvery gray without a black horizontal bar. The dorsal surface of the head is covered with relatively large distinct shields, not deeply sculpted. Two very small chin barbels are present. The neck is grayish-brown dorsally, yellow ventrally, and has a few scattered small blunt conical tubercles on the dorsal surface. The limbs are gray on the dorsal surface, yellowish below, often with small orange blotches along the interface. They are covered with large scales and have webbed toes. The forelimbs have five claws, the hindlimbs four. A large pretibial flap of flattened raised scales occurs on the lateral surface of each lower leg. Moderately enlarged ischial tubercles are present.



Map. Solid circle marks the type locality; hollow circles indicate other records. Shaded area represents probable range.

The shell has no neural bones. The cervical vertebrae have a central articulation pattern of (2(3(4(5)6)7(8). The skull is deep, broad, and robust. The parietal roof is narrow due to broad temporal emargination, and there is a narrow parieto-squamosal temporal arch. The internal choanae are small, and the maxillary triturating surface is extremely robust and wide. Females are larger and deeper; males have slightly concave plastra and longer, thicker tails.

• **Descriptions.** General descriptions are in Rhodin et al. (1984a) and Ernst and Barbour (1989). Rhodin et al. (1984a) also described osteology and eggs, and Cintra and Yamashita (1989) described eggs. The karyotype was described by McBee et al. (1985).

• **Illustrations.** Black and white photographs of the holotype and drawings of dorsal, ventral, and lateral views of the skull are in Rhodin et al. (1984a). A close-up of an older female head is in Rhodin et al. (1984a) and Ernst and Barbour (1989). Rhodin et al. (1984a) also provided graphs plotting ratios of carapace length divided by tympanic head width in *A. macrocephala* and *A. radiolata*, and of carapace length divided by carapace depth by sex in *A. macrocephala*. A karyotype is illustrated in McBee et al. (1985).

• **Distribution.** The species occurs in the Upper Río Mamoré drainage in central Bolivia to the Pantanal region of the upper Río Paraguai drainage in southwestern Mato Grosso, Brazil, and extends into northwestern Paraguay. Rhodin et al. (1984a) and Iverson (1986) provided maps. Buskirk (1988) documented its presence in Paraguay. Bour and Pauler (1987) and Cintra and Yamashita (1989) recorded additional localities from Mato Grosso.

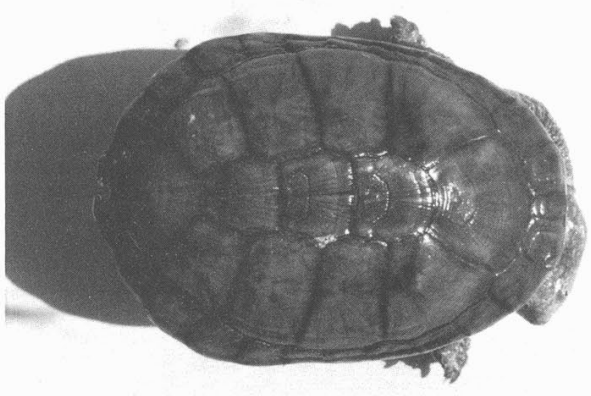


Figure 1. Dorsal view of carapace of *Acanthochelys macrocephala*.

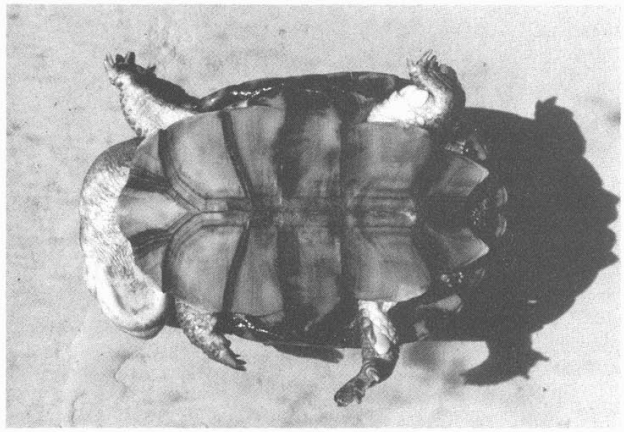


Figure 2. Ventral view of plastron of *Acanthochelys macrocephala*.

Figure 3. Close-up view of head of *Acanthochelys macrocephala*.

• **Fossil Record.** None.

• **Pertinent Literature.** General accounts are in Rhodin et al. (1984a) and Ernst and Barbour (1989). Rhodin et al. (1984a) discussed morphology, osteology, distribution, habitat, reproduction, and diet. Rhodin et al. (1984b), Bour and Pauler (1987), and Buskirk (1988) added distributional data. McBee et al. (1985) gave comparative data on the karyotype, and Frair (1982, 1985) on serology. Derr et al. (1987) examined relationships and phylogenetics of *A. macrocephala* based on electrophoretic allozyme analysis. Cintra and Yamashita (1989) discussed reproduction and nesting. The species is included in the checklist of King and Burke (1989).

• **Etymology.** The specific name *macrocephala*, from the Greek *makros* (large) and *kephale* (head), refers to the wide head.

• **Remarks.** The holotype was first identified as a *Platemys (=Acanthochelys) radiolata* by Siebenrock (1904), who credited Fitzinger with having earlier labeled the specimen "*Phrynops schoepffii*" (this label is still attached), but because this name was never defined it must be considered a *nomen nudum*. The species was originally described by Rhodin et al. (1984a) as a member of the genus *Platemys*, but McBee et al. (1985) demonstrated that *Platemys platycephala* warranted monotypic status and that *P. macrocephala*, *P. radiolata*, *P. spixii*, and *P. pallidipectoris* represented a separate monophyletic grouping. Rhodin (1985) noted the availability of the generic name *Acanthochelys* Gray 1873 for this monophyletic group, and Iverson (1986) formalized this designation in his checklist. Morphologically and biochemically, *A. macrocephala* is most closely related to *A. radiolata* (Rhodin et al., 1984a; Derr et al., 1987).

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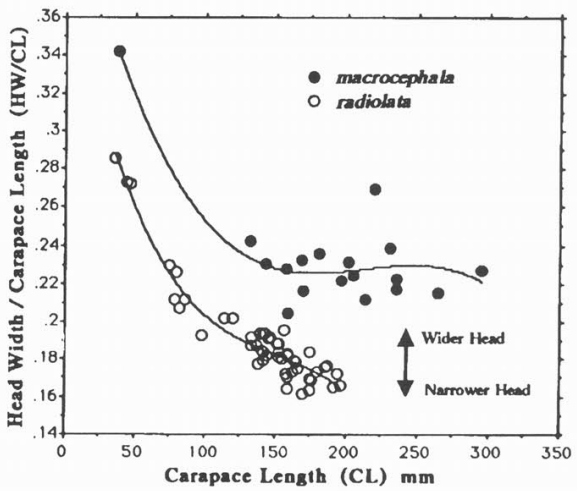

Figure 4. Comparison of tympanic head width in *Acanthochelys macrocephala* and *Acanthochelys radiolata*, as a function of carapace length, plotting head width / carapace length against carapace length. Lines represent computed third order polynomial regression curves.