

Chelonian Conservation and Biology, 1997, 2(3):450
© 1997 by Chelonian Research Foundation

Geographic Variation in the Giant Softshell Turtle, *Pelochelys bibroni*. Linnaeus Fund Research Report

ROBERT G. WEBB¹

¹*Department of Biological Sciences, University of Texas,
El Paso, Texas 79968 USA*

The giant softshell turtle, *Pelochelys bibroni* (Owen), has long been considered monotypic and widespread in southeast Asia, extending from southern China and parts of India south through the Malayan peninsula into Java and Borneo with isolates in the Philippines and New Guinea. Preliminary knowledge of two distinctive populations in northern and southern New Guinea provided the impetus for studying geographic variation throughout the range of *Pelochelys* (Rhodin et al., 1993).

Of immediate concern was the status of the distinctive population in southern New Guinea, which resembled *Chitra* in adults having yellow neck stripes and radiating carapace markings. These adult patterns were similar to those of *Chitra chitra* from Thailand.

Methods. — The funds requested partially defrayed expenses accrued during travel to Indonesia and Thailand in April 1993. Travel destinations included some of the Indonesian islands (in company with A. Rhodin) and Bangkok, Thailand (Chulalongkorn University and colleagues P.P. van Dijk and T. Kumthorn). In Thailand, data were obtained on *Pelochelys* (and other trionychid species), and especially *Chitra chitra*.

Results and Discussion. — In a paper that focused on the population of *Pelochelys* in southern New Guinea, Webb (1995) noted differences between *Chitra* and *Pelochelys* (including osteological features, with skulls being especially diagnostic), designated a neotype of *P. bibroni* from southern New Guinea (original type material lost), referred all other populations of *Pelochelys* including mainland Asiatic forms to *P. cantorii* Gray, and noted the restricted *P. bibroni* as unique and distinguished from all other populations of *Pelochelys* in having yellow neck stripes and bold yellow markings on a smooth carapace in adults, but a patternless, tuberculate (rough-textured) carapace in juveniles.

As a result of studies in Bangkok, a co-authored paper (with P.P. van Dijk) is in preparation that will provide an updated account of *Chitra chitra*, including a description and lectotype designation, distribution, and threats and conservation status.

Restricted *P. bibroni* in southern New Guinea is not conspecific with the population of *P. cantorii* in

northern New Guinea. Interrelationships of New Guinean and Asiatic mainland populations of *P. cantorii* (at least some differences in carapace pattern of juveniles) are under study by the author.

Literature Cited

- RHODIN, A.G.J., MITTERMEIER, R.A., AND HALI, P.M. 1993. Distribution, osteology, and natural history of the Asian giant softshell turtle, *Pelochelys bibroni*, in Papua New Guinea. *Chelon. Conserv. Biol.* 1(1):19-30.
WEBB, R.G. 1995. Redescription and neotype designation of *Pelochelys bibroni* from southern New Guinea (Testudines: Trionychidae). *Chelon. Conserv. Biol.* 1(4):301-310.

Year Funded: 1992

Chelonian Conservation and Biology, 1997, 2(3):450-451
© 1997 by Chelonian Research Foundation

Orientation by the Australian Eastern Long-Necked Turtle, *Chelodina longicollis*. Linnaeus Fund Research Report

TERRY E. GRAHAM¹

¹*Department of Biology, Worcester State College,
Worcester, Massachusetts 01602 USA*

Some aquatic turtles are well known for their ability to maintain a relatively direct path while migrating overland through seemingly unfamiliar terrain. Such orientational skill depends on a variety of sensory inputs including visual, aural, magnetic, and chemical cues. The mechanism has never been examined before in an Australian species. I selected the widespread *Chelodina longicollis* as a study subject. In spite of the fact that *C. longicollis* is an aquatic animal, it has a documented reputation for long distance overland travel, particularly following heavy rainfall, and such behavior is undoubtedly crucial to its successful exploitation of a wide range of aquatic habitats (Kennett and Georges, 1995). In coastal New South Wales, where *C. longicollis* spends much of its time in relatively nonproductive dune lakes, the ability to orient to seasonally productive ephemeral waters is of paramount importance to reproductive fitness and survival. During years of adequate rainfall at Jervis Bay, ephemeral water bodies such as Ryan's Swamp fill up and invertebrate production flourishes providing migrant turtles with a bounty of nutritious foods. Such highly productive habitats enable these opportunistic reptiles to grow rapidly and reproduce, so their long-term persistence hinges on their ability to find these temporary swamps and waterholes (Kennett and Georges, 1990).

Methods and Results. — Initial observations of turtles moving overland through undisturbed bush were made at Jervis Bay National Park from January to April 1994 to