Encyclopedia of Turtles

t.f.h.

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pace; also, the shape of the plastron differs in the two species, the sides of the hind lobe being smoothly rounded and noticeably constricted at the hinge in *angustipons*, less smoothly rounded and not constricted at the hinge in *dunni*. Nevertheless the species are generally very similar and share such features as the strikingly reduced plastron and the bulbous rather than constricted snout, especially in adult males. It is possible that they should be considered subspecies only, but at the present time the ranges of the two species appear to be separated by at least 400 miles, and there is thus no evidence of intergradation.

Kinosternon dunni is either an extremely rare turtle or one whose way of life makes it so rarely encountered that even the local people are often unaware of its existence. Up to now, the species is only known from four preserved specimens (one male and three females), and a single bony carapace, probably of a female. The known specimens are all from the Departamento del Choco, on the Pacific coast of Colombia; locality records are: Pizarro, near the mouth of the River Baudo; Noanama, on the Rio San Juan; Rio Pepe, a tributary of the Baudo; and Cano Sando, a tributary of the Rio Pepe. Local people also report the existence of this species in various streams draining into the Gulf of Tribuga, but there is not even circumstantial evidence suggesting its occurrence north of the Jurubida River, or south of Buenaventura.

Kinosternon dunni has a uniformly dark brown carapace with a slight reddish tinge. The plastron in the available specimens is nearly as dark as the carapace, but this may be due to staining. The head is dark brown above in the male, with numerous small yellow spots; the sides and underneath of the head are light yellowish. The neck is grey above, light grey with yellowish markings below. The limbs are light grey in color. The female is less strongly marked than the male, with grey on top of the head and whitish with light grey on the sides of the head and on the neck. The sexes also differ in that the tail of the male is longer and thicker, and the male also has 'clasping organs' on the hind limbs, composed of rough but spatulate rather than pointed scales.

Kinosternon dunni appears to be a mollusc-eater, at least judging by the preferences of the male specimen in captivity and the contents of the cloaca of a female which died after several months in captivity, reportedly without feeding. The eggs, which are probably laid throughout the year in small batches of two or so, are the largest known for the genus, being about 1.8" long and 1 inch wide.

Mud turtles in Mexico have been studied intensively in recent years by Jim Berry and John Iverson, and at the time of writing these authors have several new forms and revisions in press. A new species, to be named *Kinosternon alamose*, is restricted to the

vicinity of Alamos, Sonora, and the lower Rio Yaqui, the range extending essentially from half-way between Hermosillo and Guaymas to Alamos. It is related to *scorpioides*, the males lacking horny thigh patches; it has widely separated axillary and inguinal scutes, and usually no contact between the first central scute and the second marginals. It shows some superficial similarities to *flavescens*, such as the broad unkeeled shell, but the ninth marginal is not elevated and the plastron is relatively larger. The latter is an adaptation to arid conditions, this species spending much of the year in estivation, during which a large plastron helps lessen evaporative water loss.

John Iverson has recently shown that the Mexican subspecies of *Kinosternon flavescens, K.f.stejnegeri*, is indistinguishable from the fossil *K.arizonense*; the race which occurs in extreme southern Arizona and along the central part of Sonora is therefore properly known as *K.f.arizonense*. An additional subspecies, *K.f.durangoense*, has a limited distribution near the juncture of the states of Chuhuahua, Durango, and Coahuila; it differs from *K.f.flavescens* in the proportions of certain scutes, notably the first central, the nuchal, and certain plastral scutes.

Another localized new species is to be called *Kinosternon oaxacae*; it is apparently restricted to the vicinity of Pochutla, Oaxaca, between the *integrum* population in the Rio Verde and the *cruentatum* population in the Rio Tehuantepec. It is a relatively large species (up to 6.3 inches in length) with a depressed, strongly tricarinate carapace, a relatively small plastron, a distinct posterior plastral notch (especially in males), relatively long bridges and fixed mid-section of the plastron, axillary and inguinal scutes in contact, inguinal in contact with marginal scute 5, first vertebral scute contacting marginal 2, no patches of roughened scales on hind limbs, and tails of both sexes terminating in horny spines.

Other taxonomic changes contemplated by Iverson and Berry include the designation of a new subspecies, *K. hirtipes chapalaense*, in Lake Chapala, and relegation of *Kinosternon abaxillare* to subspecific rank within *K. scorpioides*.

GENUS *STERNOTHERUS*

The musk turtles, genus *Sternotherus*, are closely related to the mud turtles of the genus *Kinosternon*. They differ in that the plastron is always small; the hind lobe, instead of having rounded sides and a rounded or absent posterior notch, has convergent and almost straight sides, and the posterior notch is angular. Also, the interpectoral seam is long in musk turtles, usually longer than the interhumeral seam, while it is usually (but not always) very short or non-existent in mud turtles. In mud turtles the suture at the rear