

# River Turtle in Danger

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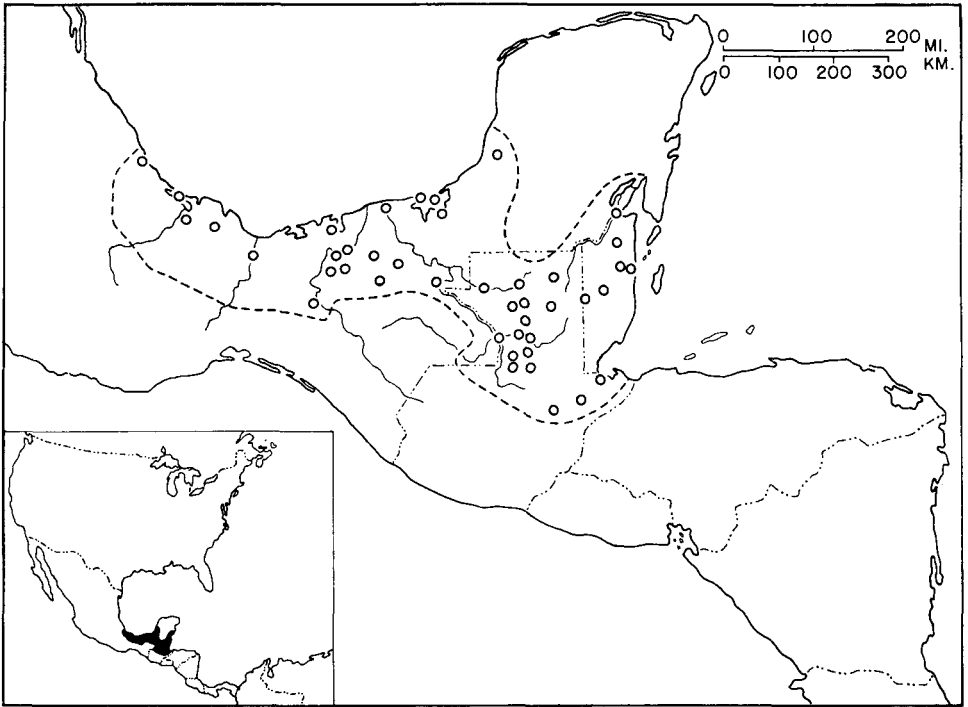
A large river turtle *Dermatemys mawei*, found only in the coastal lowlands of the Gulf of Mexico, is becoming rare throughout most of its restricted range. It is found from central Veracruz, Mexico, eastward through Guatemala and Belize, but not in the Yucatan Peninsula, and it is heavily hunted for its meat. The only living representative of the Dermatemydidae, a turtle family known from as early as the Cretaceous,<sup>7</sup> its closest living relatives are the mud turtles (Kinosternidae), and it is not as closely related to the snapping turtles (Chelydridae) as previously thought.<sup>4,5,9,20</sup> In the latest classification of turtles the Dermatemydidae are placed in the Superfamily Trionychoidea of the Infraorder Cryptodira.<sup>5</sup>

Locally known as *tortuga blanca* (white turtle) or *tortuga plana* or *aplanada* (flat turtle), *Dermatemys mawei* has a low, broad, elongate shell with a uniform brown to dark olive carapace, and a creamy white to light yellow plastron. The dark grey feet are large and strongly webbed. The head is long, flat and pointed, its dorsal surface a distinctive buff to cinnamon colour in adult males, somewhat darker in adult females. Juveniles have an olive grey head with an indistinct mustard-yellow orbital stripe, white mandibles and buff nostrils. One of the turtle's most distinctive features is the 3-6 (typically 4-5) inframarginal scutes on each side of the bridge. This is the largest freshwater turtle in its range, and can exceed 60 cm in carapace length and 22 kg in weight. Market specimens examined in Guatemala ranged in size from 46-61 cm.<sup>8</sup> Males, which apparently grow only slightly larger than females, can be distinguished by their longer tails and the light dorsal head colour.

These turtles live primarily in rivers and permanent lakes and can be quite abundant where they are not heavily persecuted.<sup>1,8</sup> They apparently prefer clear water,<sup>3,17</sup> and are not usually found in seasonal waters, but may sometimes be seen in muddy, temporary ponds; Stuart reports a specimen in a Guatemalan *aguada* that dried up later in the season.<sup>16</sup> Primarily nocturnal, they spend the day either floating or hiding on the bottom, sometimes in large holes where several individuals may gather, not usually becoming active until twilight, perhaps earlier on overcast days. They do not bask, but in quiet waters occasionally float on the surface. Juveniles hide in the vegetation in shallow water.

In the state of Chiapas, Mexico, it is thought they may nest twice a year, in April and December, and this is being investigated. Lee mentions 'fully developed mature eggs taken from the oviducts slaughtered for meat in February and March' in Guatemala City,<sup>8</sup> and turtle vendors in the Veracruz city market consider December part of the breeding season.<sup>11</sup> Eggs are hard-shelled, elongate and measure approximately 70 x 30 mm, the number varying from 6 to 16, although local fishermen report clutches as large as 20. The nests may be in sand, clay or even mud, usually near water, since this highly aquatic turtle is barely capable of moving on land. Nest sites are frequently flooded, leading some local fishermen to believe that *Dermatemys* nests under water.

Stomach content and faecal analysis indicate that adult *Dermatemys* are strictly herbivorous, feeding on aquatic vegetation (e.g. *Paspalum peniculatum*), fallen



Distribution of *Dermatemys mawei*

leaves and fruit.<sup>1,2,8</sup> Captive adults have been maintained on *Sagittaria* and a variety of vegetables, including boiled carrots, Irish potatoes, sweet potatoes, cabbage, celery, and raw bananas, and will sometimes also accept fish. Small captive specimens readily accept raw meat and fish.<sup>1,8</sup>

The meat, said to resemble chicken breast, is highly appreciated in parts of southern Mexico and Guatemala, and is fast becoming a much sought-after delicacy, hence the heavy hunting.<sup>1,11</sup> Large specimens sell for as much as 200 pesos (\$10), medium-sized ones for up to 150 pesos (\$7.50). The main Mexican markets appear to be in Veracruz and Tabasco,<sup>11</sup> where the turtle is now rare. Even in 1970, the Veracruz turtle vendors were worried about future supplies;<sup>11</sup>

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the Tabascans, the major turtle consumers, now go for supplies to the neighbouring state of Chiapas, where turtles are not usually eaten and where some of the largest remaining populations occur. According to the Dirección de Pesca of the State of Chiapas, fishermen at El Paso Dam take about 3000 kg (approx. 200 turtles) each season. In the Tio Lacuntúm area, the Tabascans built a special airstrip just to remove these turtles. In the Catazajá region, in another part of Chiapas, up to 1000 turtles used to be taken from one lake each season, March-April. They are also sold in fair numbers in the Guatemala markets.<sup>8,11</sup> Furthermore, as with most large turtles, the eggs are eaten whenever they are found. In addition to being hunted by man this turtle also sometimes falls prey to otters.

Several methods are used to capture the turtles. They are not particularly shy and can sometimes be taken by hand from a boat. They can also be taken by nets, and in the daytime, in clear water, by diving. At night, they are even less wary, and can be caught by hand or harpoon with the aid of a flashlight. In Veracruz, traps baited with fruit are also used (L. Wing, pers. comm.).

Exploitation appears to be rapidly depleting *Dermatemys* populations and could lead to their extinction. *Dermatemys* should be considered an endangered species and appropriate measures taken to ensure its survival.<sup>11</sup> Its only protection at present is under the general law on fishing. This limits the catch to turtles over 40cm (which unfortunately represents the main breeding stock), and does nothing to regulate numbers taken. The need now is for special legislation to protect the species, a complete ban on capture until essential data becomes available, and careful studies of natural populations to determine quotas for sustained-yield harvesting; the possibilities for captive breeding, hatching and rearing programmes should also be investigated. Several other turtles, for example *Staurotypus triporcatus*, *S. salvinii*, and *Claudius angustatus* from southern Mexico, Guatemala and Belize, are also heavily persecuted and should be carefully watched. Commercial hunting has already almost eliminated *S. triporcatus* and *C. angustatus* from Juarez and Reforma in Chiapas, and threatens to do so elsewhere.

Like the *Podocnemis* turtles of northern South America, *Dermatemys* is capable of converting otherwise unused aquatic vegetation into high quality protein.<sup>12,13,14,15</sup> Carefully harvested on a sustained yield basis, it could continue to be a valuable protein source; it has considerable economic potential for southern Mexico and other countries where it occurs. To let it become extinct is senseless.

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## Spain Declares Park for Birds of Prey

On April 4 1979 Spain's Council of Ministers approved a decree establishing 20,000-hectare Montfrague Parque Natural in the Sierras in western Spain. This is in the area described by Bernd-Ulrich and Christiane Meyburg in the November 1978 *Oryx* (p341) as one of the most important refuges for Europe's endangered birds of prey which Señor Jesús Garzón has been fighting to save for the last seven years.