

Texans, Turtles, and the Early Kemp's Ridley Population Restoration Project, 1963-67

PATRICK M. BURCHFIELD¹

¹Gladys Porter Zoo, 500 Ringgold Street, Brownsville, Texas 78520-7998 USA

[E-mail: ridley@gpz.org]

ABSTRACT. – A history of early conservation efforts in Texas directed at the critically endangered Kemp's ridley sea turtle (*Lepidochelys kempii*) is presented. Efforts from 1963 through 1967 resulted in the release of 1227 hatchlings into the Gulf of Mexico.

KEY WORDS. – Reptilia; Testudines; Cheloniidae; *Lepidochelys kempii*; sea turtle; conservation; management; history; Texas; USA

The Kemp's ridley sea turtle (*Lepidochelys kempii*), has been variously referred to, in the USA, as the bastard turtle (Pritchard, 1969), the Gulf ridley, the Atlantic ridley, and the Mexican ridley (Pritchard, 1979). In Spanish, its name is *tortuga lora* or *cotorra* (Márquez, 1994). However, the exact derivation of the name ridley is somewhat conjectural. Gotch (1986) stated that the olive ridley sea turtle, *Lepidochelys olivacea*, was named after H.N. Ridley FRS who was in Brazil and on the Island of Fernando de Noronha in 1887, but Carr (1942) indicated that the local name for the turtle on Lower Matecumbe Key, Florida, was "ridley", attributing that name to a friend, Stewart Springer (deceased 1991), who ran a shark fishery, and said that Springer had told him of it some time ago. The etymology remains unknown. The Kemp's ridley was first described by Garman in 1880 from two specimens received from Richard M. Kemp of Key West, Florida (as *Caretta kempii* or *Caretta (Colpochelys) kempii*).

Sea turtle research and conservation in Mexico was formalized in 1962, with Instituto Nacional de la Pesca (INP), then named Instituto Nacional de Investigaciones Biologico-Pesqueras (INIBP), being the lead agency. Conservation efforts for the Kemp's ridley were initiated in 1966; the project began on the beach near the ranching community of Rancho Nuevo, in the municipality of Aldama, Tamaulipas. This locale is the only one in the world where massive nesting aggregations (*arribadas*) of this sea turtle were and are known to occur. Because of Rancho Nuevo being the only known major nesting beach for the *tortuga lora*, this beach was declared the first National Reserve for the Management and Conservation of Sea Turtles in Mexico in 1977.

In Texas, the ridley received protected status in 1963. In 1973, it was listed on Appendix I of CITES and in 1986 the International Union for the Conservation of Nature (IUCN) listed it as one of the 12 most critically endangered animals in the world.

The first published scientific account of the nesting behavior of the Kemp's ridley sea turtle was that of Werler (1951), wherein he detailed observations of Jessie

R. Lawrence, a county engineer who observed an adult female Kemp's ridley nesting on Padre Island National Seashore, Texas, approximately 45 miles south of Corpus Christi on 23 March 1950. Mr. Lawrence estimated the turtle's weight at 125 pounds (56.7 kg). The turtle laid approximately 100 eggs of which he took 18 for artificial incubation. The eggs were incubated in sand in a bushel basket kept outside his house and 4 hatched after 62 days. This prolonged incubation and the poor hatch rate were possibly the result of shading or moist sand which slowed the incubation rate. The 62-day incubation period is consistent with clutches laid by this species in the generally cooler months of March and April.

Carr (1967), following up on Werler's account, contacted Lawrence and determined that he had also recorded an earlier nest on 3 June 1948 on Padre Island Big Shell Banks, roughly 25 miles southwest of Gulf Beach Park. Eighteen of the 100 eggs were dug up and incubated in a bucket of sand; 58 days later 2 baby turtles hatched. In addition to being the first published accounts of Kemp's ridley nesting anywhere, Werler and then Carr's notes referred to its diurnal nesting habits.

The now famous 16 mm film made in June 1947 by Andrés Herrera of Tampico, Tamaulipas, Mexico, was not viewed by scientists until 1961 at an American Society of Ichthyologists and Herpetologists annual meeting in Austin, Texas, following its re-discovery by Henry Hildebrand of Corpus Christi, Texas. According to the late Dearl Adams (1966), Ford Lockett of Brownsville, Texas, borrowed Herrera's film for a program for a Brownsville Sportsman Club's meeting. Having viewed the film, Grover Singer, a member of the Club, came up with the idea of establishing a nesting colony on South Padre Island as an attraction. Subsequently, Singer visited Dearl Adams' office at least once a week to discuss his idea. Dearl's interest was peaked when he came across Archie Carr's 1955 article: "The riddle of the ridley". His interest became intensified when he spoke with Henry Hildebrand who at that time (1962), was releasing 327 green sea turtle hatchlings onto the north end of South Padre Island (Hildebrand *pers. comm.* to

Donna Shaver and Anthony Amos, 1988). Dearl's interest went beyond that of creating a tourist attraction. He and some close friends felt that no species could withstand the level of exploitation (egg harvesting) being suffered by the Kemp's ridley, so they set about in earnest to try to do something. The idea was to establish a nesting colony on South Padre Island, Texas.

In 1963 (the same year as the first published accounts of the arribada phenomenon by the scientific community), Dearl Adams received 98 eggs from Francis McDonald who operated a fishing camp at Barra Coma near the small Mexican town of Rancho Nuevo. The eggs were flown to Brownsville and transported to South Padre Island where they were reburied. This first attempt with 98 eggs produced no hatchlings. Adams later stated that he had no idea what stresses the eggs had undergone prior to McDonald receiving them.

In 1964, a contingent which included Dearl Adams, Johnny Bruer, Earnest Hacker, Bob Hessling, and Keith Hoyt left Brownsville, Texas, for Rancho Nuevo. This trip to the nesting beach yielded 350 ridley eggs which were brought back to Texas. Of this number, at least 20 hatched, and 17 hatchlings reached the waters of South Padre Island. In 1965, 985 eggs were brought back to Texas. Adams' crew was careful to bring back the eggs with sand which had been moistened by the mucus secreted by the ovipositing females and then packed them into styrofoam boxes in the same relative position in which they had been laid by the female. Cotton gloves were worn to handle the eggs to avoid contamination. Despite all of this, only 51 of the 985 eggs hatched. Also of importance that year, was a caravan of six vehicles with interested community residents that had joined Adams in his efforts to help the Kemp's ridley. Among them was a spry and energetic 60 year-old lady who was to play a major role in elevating public awareness on the plight of sea turtles and their conservation. That lady, Ila Loetscher, was later to become known as the famous Turtle Lady of South Padre Island.

In 1966, only 54 out of 2102 eggs hatched; another disappointing year. In 1967, 1102 of 2000 eggs were hatched from an arribada of an estimated 2000 turtles which occurred on 5 May on a roughly two mile stretch between Barra Calabazas and Barra San Vicente. This higher hatch rate was possibly attributed to careful handling and the fact that they were flown from Mexico to Brownsville, thus avoiding the long and rough trip over cattle trails and unpaved roads. Clearly, movement-induced mortality was a major factor in the low hatch rate of the Brownsville group's initial efforts to translocate egg clutches successfully.

During the excitement of the 1967 release of 1102 hatchlings, 3 were inadvertently stepped on by overzealous individuals. The upshot of this was that these 3 were retained and given to Ila Loetscher for hand-rearing. At 9 months of age, they measured 14 inches across and weighed 12 pounds each. The turtles were named

"Wynken", "Blynken", and "Nod". They were to be the genesis of the Sea Turtle Lady of South Padre Island and her not-for-profit organization, "Sea Turtle, Inc."

In all, the group's efforts from 1963 through 1967 resulted in the protection of 5535 eggs and 1227 hatchlings being released into the Gulf of Mexico. If we use 12 years as an average potential age of maturity for the 1967 year class, any female turtles reaching maturity could have begun nesting in 1979 and subsequent seasons.

By 1966, Mexico had become highly alarmed about the precipitous decline in the number of Kemp's ridleys nesting at Barra Coma. Biologists H. Chávez, M. Contreras, and E. Hernández went to the Rancho Nuevo area to collect biological data on the species and to protect clutches of eggs. In 1967, René Márquez Millán joined that effort. By the mid-1960s, the *arribadas*, once 40,000 or more strong, had dwindled to the 2000 or more described by Adams in 1966. Adams (1966) was a witness to the hordes of egg-poachers (*hueveros*) on the beach. He observed that it was very difficult for any nest laid by the turtles to be overlooked. In 1968, 1970, and 1973 Peter C.H. Pritchard was at Rancho Nuevo to assist in the deployment of marines from Mexico's Secretaría de Marina up and down the beach by Land Rover®.

During the 1960s and early 1970s, the number of nests and nesting turtles continued to decline. In 1978, the governments of Mexico and the United States agreed that if drastic measures were not undertaken, the species was clearly on its way to extinction and that perhaps indeed it was already too late. A binational Mexico/US group, spearheaded by René Márquez Millán of Mexico's Instituto Nacional de la Pesca and Peter C.H. Pritchard of the Florida Audubon Society working in collaboration with the U.S. Fish and Wildlife Service, was begun. The increased manpower and equipment paid off almost immediately with a 50% increase in the number of hatchlings released into the Gulf of Mexico in the first year. Despite a continuing increase in manpower, equipment and effort, the number of nesting ridleys continued to decline until reaching a low of 702 nests for the entire nesting season in 1985. If we use an estimate of 2.6 nests per female per season, this corresponds to 270 females that season. Accordingly, if we accept that this species typically nests every other year, the population of nesting females during 1984–85 was approximately 600.

Clearly many mysteries continue to surround some aspects of the natural history of the Kemp's ridley sea turtle. Anyone who has spent days or weeks walking the once remote and isolated beaches of the Tamaulipas coastline awaiting the arribada that Archie Carr so longed to see has to be impressed by the phenomenon that perennially repeats itself. Biologists make their patrols on foot or by vehicle, only occasionally encountering a local or sports fisherman or perhaps a rare tourist, but when gale force onshore winds begin, almost magically, the local inhabitants seem to materialize on the beach in anticipation of the arrival of the tortuga lora. Clearly,

they and their parents and their ancestors learned the "riddle of the ridley" generations before scientists did. Whether or not Kemp's ridleys were ever numerous along the southernmost Texas coastline or northernmost Mexican Gulf coastline is subject to conjecture. Doughty (1984) clearly established that a thriving green sea turtle (*Chelonia mydas*) fishery existed along the Texas coastline following the Civil War and especially in the 1880s. According to Doughty, in 1890 turtles ranked fifth of the 46 fishing products caught in Texas. In the 1880s the green sea turtle supplied meat and soup to canneries or were shipped alive to dealers both within and outside of Texas. By 1902, massive exploitation of the green sea turtle within the state had reduced its numbers to a point that all the canneries began to close down.

What relevance does a green sea turtle fishery have to the existence of the numbers of Kemp's ridleys on the east coastline? A critical reading of Doughty's article may reveal one clue. In the spring of 1851, Lt. Egbert Viele's wife described a horse-drawn trap ride down the beach at Galveston as sunset approaches, where she and her husband encountered "swarms" of waterfowl and "clusters of mammoth turtles" as they lay basking in the hot sand. Doughty (1984) stated that these were possibly green sea turtles...perhaps they were loggerheads or some other species heading ashore to dig a nest cavity as twilight approaches. Two things in this description are suggestive of Kemp's ridleys, the first being that if they were indeed sea turtles and on the beach in the daytime, this is consistent with the diurnal nesting habits of Kemp's ridleys (this being very rare in all other sea turtles). Secondly, the seasonality of the incident: assuming Kemp's ridleys have not changed their nesting habits in the last hundred years, the late April-early May dates are consistent with the earlier onset of *L. kempii* nesting, not *C. mydas*, which typically does not begin nesting in earnest until June on the Tamaulipas coastline. It has been suggested that these may have been large specimens of *Apalone spinifera*. However, in thirty years of traversing the Tamaulipas coastline in areas where *Apalone* does exist, I have yet to observe one near the surf area.

Documented evidence of large numbers of Kemp's ridleys on the South Texas coastline has not yet been proven, and may never be substantiated. But it is hard to imagine that local inhabitants, whether Karankawas, Mexicans, or early European settlers did not take advantage of any nesting turtle that presented itself and its eggs on the beaches during the convenience of broad daylight.

Today, a few Kemp's ridleys attempt to nest on the beaches of South Padre Island, Boca Chica Beach, and the Playa Bagdad beach in Matamoros, Tamaulipas, Mexico, but in the latter, a burgeoning human population and a large number of subsistence level fishermen make these attempts essentially futile. Increased patrolling is needed on both sides of the border to protect the turtles from human interference.

ACKNOWLEDGMENTS

I wish to acknowledge my friend the late Dearl Adams for having the compassion to have gotten involved in the quest to save a species of living creature before conservation and ecology became household words. I would also like to recognize the untiring, energetic and charismatic Ila Fox Loetscher for her many years of enlisting young and old alike to the cause of sea turtle conservation. Many thanks to the late Henry Hildebrand for solving the riddle of the ridley and showing science its first arribada and for his enthusiasm and continuing research and inputting experience over the years. Thanks also to René Márquez, Peter C.H. Pritchard, Don Antonio González, Manuel Sánchez, Juan Diaz, Jack Woody, Richard Byles, Andrés Herrera, and all of the countless individuals who have worked so long and hard toward the recovery of the Kemp's ridley.

LITERATURE CITED

- ADAMS, D.E. 1966. More about the ridley operation: Padre Island egg transplanting. *International Turtle and Tortoise Society Journal* 1(1):18-20,40-43,45.
- CARR, A.F., JR. 1942. Notes on sea turtles. *Proceedings of the New England Zoological Club* 21:1-16.
- CARR, A.F. 1955. The riddle of the ridley. *Animal Kingdom* 58(5):146-156.
- CARR, A.F. 1961. The ridley mystery today. *Animal Kingdom* 64(1):7-12.
- CARR, A. 1967. So Excellent a Fish: A Natural History of Sea Turtles. Garden City, NY: Natural History Press, 248 pp.
- CHÁVEZ, H. 1968. Mercado y recaptura de individuos de tortuga lora, *Lepidochelys kempi* (Garman). *Publicaciones Instituto Nacional de Investigaciones Biológico Pesqueras* 19:1-28.
- CHÁVEZ, H., CONTRERAS G., M., AND HERNÁNDEZ D., T.P.E. 1967. Aspectos biológicos y protección de la tortuga lora, *Lepidochelys kempi* (Garman), en la costa de Tamaulipas, Mexico. *Publicaciones Instituto Nacional de Investigaciones Biológico Pesqueras* 17:1-40.
- DOUGHTY, R.W. 1984. Sea turtles in Texas: a forgotten commerce. *Southwestern Historical Quarterly* 88:43-70.
- GOTCH, A.F. 1986. *Reptiles - their Latin names explained*. Dorset: Blandford Press.
- HILDEBRAND, H.H. 1963. Hallazgo del área anidación de la tortuga marina "lora", *Lepidochelys kempi* (Garman), en la costa occidental del Golfo de México (Rept., Chel.). *Ciencia (Mexico)* 22:105-112.
- MÁRQUEZ-M., R. 1994. Sinopsis de Datos Biológicos sobre la Tortuga Lora, *Lepidochelys kempi* (Garman, 1880). Instituto Nacional de la Pesca, FAO Sinopsis No. 152, 141 pp.
- PRITCHARD, P.C.H. 1969. Studies of the systematics and reproductive cycles of the genus *Lepidochelys*. Ph.D. Thesis, University of Florida, Gainesville.
- PRITCHARD, P.C.H. 1979. *Encyclopedia of Turtles*. Neptune, NJ: TFH Publications, 895 pp.
- WERLER, J.E. 1951. Miscellaneous notes on the eggs and young of Texan and Mexican reptiles. *Zoologica* 36(3):37-48.

Received: 17 December 2001

Revised and Accepted: 22 November 2004