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An extraordinary custom and a curious parallel

THE USE OF SUCKERFISH IN TURLING

Reports of the extraordinary custom of tropical fisherfolk of using suckerfish or remora (*Echeneis* spp.) for taking both green and hawksbill turtles have taxed the credulity of many eminent biologists. However, the exhaustive researches of Gudger (1919), more recently supplemented by the observations of De Sola (1932), Hornell (1950), Grottanelli (1955), and others leave no doubt as to their authenticity. As remarkable as the technique itself is the geographical distribution of this strange method of taking sea turtles, with the aid of what amounts to a semi-domesticated fish. The custom is recorded for such widely separated areas as the Caribbean, the east coast of Africa, northern Australia, and the South China Sea, but not in intervening areas.

Orinoco river turtles (*Podocnemis expansa*) turned turtle on Isla Pararuma, a sandbar on the upper river near its junction with Río Meta. (VENEZUELAN EMBASSY, WASHINGTON, D.C.)

A curious, oblong sucking-disk, a modification of the first dorsal fin, enables these extraordinary fishes to affix themselves securely to the bottoms of ships and to the bodies of whales, sharks, and other large marine creatures as well as turtles, thereby to be carried about without effort on their own part. Among the Ancients there were many extravagant legends about them, especially regarding their ability to halt ships.

Everywhere that turtling is practiced with these strange fish, the details of the technique are remarkably similar. The suckerfish, with a long line secured to the base of its tail, is tethered to a fishing boat, often a dugout or canoe. Whenever the fishermen believe that a turtle may be near, the suckerfish is released; and, wearied of its confinement, it dashes off in the direction toward which it is pointed, its line trailing behind it. When a turtle is found, the "hunter fish" by some instinct attaches itself firmly to the carapace by its powerful dorsal suction cup, and remains fastened while both are drawn to the boat or canoe. Skillful and patient handling of the light line is required, for the turtle usually dives, exerting all its strength to escape. But the adhesive power of a large suckerfish is marvelous, and only when raised above the water does it normally release its hold.

The first account of the use of the suckerfish in turtling is that of Columbus, who on his second voyage observed the practice in 1494 among the islands of the Jardín de la Reina on the south coast of Cuba. The remora, he thought, attached itself to the turtle for no other reason than that it provided a large solid mass that served well as a resting place from where short excursions could be made in search of food. The account in his journal, edited by his son Ferdinand, was published in 1501 by Peter Martyr and later by Oviedo y Valdés (163:21-22), who noted that the same method was also used by the Arawak for taking manatee. E. W. Gudger, after a painstaking and admirably exhaustive review of the literature, was convinced that the use of the remora for taking turtles must have vanished from the Antilles with the aboriginal population (96). However, in 1932 De Sola established beyond doubt that hawksbill turtles, at least, are still taken in this ingenious manner by native fishermen in the same Jardín de la Reina waters where the practice was observed by Columbus more than 450 years ago (60). He himself observed a pair of remora (Spanish, *reverso*, *pegador*; Arawak, *guiacan*), one 31 inches long and the other 35 inches long, being employed by turtlers at Matanzas on the north coast of Cuba, and reported that his father had seen it used only a few years earlier at Puerto Colombia (Savanilla), Colombia, a few miles from Barranquilla, by a small group of "Indians"

from the town of Tuburá. The earlier, second-hand account of the use of suckerfish at La Guaira, Venezuela, by Lady Anne Brassey (1885) has thus gained additional significance (quoted in 96:453). Remora fishing may well yet be practiced on the north coast of South America, though Raymond Gilmore quotes one informant who specifically denies its existence in Venezuela (80:414). It is unknown to any of the Colombian anthropologists I have queried regarding the matter.

On the other side of the world aborigines of the Torres Strait area of Australia, especially at Thursday Island, make extensive use of the suckerfish (*gafu*) to take both green and hawksbill turtles, as was documented in detail by A. C. Haddon half a century ago (98:4:163-65; 5:44-46, 67, 92; 6:41-42). Remora fishing for turtle has also been recorded among Chinese fishermen at Singapore and in the South China Sea (27 in 96:454-55) and, earlier, among the nomadic Bajau fisherfolk of Makassar (134:89).

The use of suckerfish for turtling is especially prevalent off the east coast of equatorial Africa. Dampier, who never missed a turtle story, seems to have been the first to have recorded the practice, though only from hearsay (53:2:322). It attracted the attention of several rather incredulous Europeans who traveled in this area during the last century, including Commerson, Salt, and Sparmann. For Zanzibar Hornell has quoted an 1883 account by Holmwood on how the suckerfish is caught there while young and undergoes a special training regimen before being used in fishing (111:35). It is kept in a canoe partially filled with sea water and fed pieces of meat and fish until it becomes used to the man who feeds it and tolerant of being handled. When it reaches a weight of two or three pounds it is considered strong enough for use and is taken out for trial. The fish soon learns what is required of it.

Recently both Grottanelli (95:324) and Copley (50:1950:37) have given detailed accounts of the modern usage of *Echeneis* (*chazo*, *khasa*) among the Bajun peoples, a Bantu fisherfolk who occupy the string of low, desert islands that lie astride the equator in southern Somaliland and northern Kenya. The technique has also been reported for Zanzibar, Mozambique, the Comores, and Madagascar (Nosy Bé).

Copley's description of suckerfish turtling among the Kenya Bajuni is extraordinary enough to bear extensive quotation:

Sucker fishes are caught by anchoring the boat in the lagoon and fishing with a line baited with cut fish bait. It is stated that in some areas they cannot be caught on any-

thing but cooked bait. When caught the fish are tied with a line through the gill opening and mouth, the line is made fast to the boat and the fish adhere to the bottom of the boat. When about 10 have been caught the boat proceeds to the turtle fishing grounds. From long use the best places are known which are usually the ends of off shore banks with depths of 4 to 10 fathoms, and are weed covered.

On arrival the sucker fish are removed from the bottom of the boat and the line taken from their mouths, and a 30 to 50 fathom line is made fast to their tails. The fish then attach themselves again to the side of the boat, which is anchored. They leave the boat by themselves when they scent a large animal such as a turtle, shark, dugong or large grouper. The line is payed out by the fisherman until the sucker fish attaches itself to its prey, when the anchor is taken up and the boat is towed by the turtle until it is played out, when it is pulled in and gaffed. As the turtle leaves the water the sucker fish lets go and attaches itself to the bottom of the boat again. Sucker fish always attach themselves to the *dorsal* surface of the prey, usually on the back of the turtle behind the neck: once attached they never let go. Hence it is not popular when they attach to a large grouper (tewa) as this fish invariably dives and enters a hole in the rocks and, as it cannot be pulled up, the line has to be cut. Sharks are also a nuisance, because the sucker fish will attach to them, and a large shark may exhaust the sucker fish until it lets go. A shark will occasionally kill the sucker fish if the hold is not near enough to the back of the head, by turning and biting it.

Whenever a turtle is aware of the approaching sucker fish it will always endeavor to escape, even before contact is made. Fishermen state that a sucker fish never misses, but the line is sometimes exhausted before contact is made.

Some sucker fish are lazy and do not leave the boat when a turtle is sighted, in which case the fisherman will whip it with a small stick he takes for this purpose or bite its tail—they usually then go and do their work! A good sucker fish will catch about two turtles per day before being too tired, when it is rested for 36 hours. At nights they are untied and placed in a loose mesh basket alongside and fed. A fairly good day's catch for the boat will be six to seven turtle.

In a personal communication to the author, May 7, 1956, T. E. Allfrey, Senior Assistant Fish Warden, Game Department, Malindi, Kenya, has added some additional notes to this remarkable account:

Although the sucker fish will detach themselves from the bottom of the boat if they sight a turtle, or other large animal,

as stated in the [Copley] report, the fisherman usually spots the turtle first and pulls the sucker fish off the bottom of the boat and throws them into the sea in the direction of the turtle. The fishermen in this industry are well acquainted with areas of turtle grass and it is usual for them to anchor over the beds, detach a sucker fish which they throw into the water and which then searches the bottom for turtles. Most are caught in this manner. When a sucker fish attaches itself to a turtle it is the aim of the fisherman to endeavor to get at least one other, and preferably two or more sucker fish on the same turtle. From experience it has been found that if the fisherman succeeds in getting three sucker fish on a turtle it never escapes. If he gets two sucker fish on it the turtle has about a 20 per cent chance of getting away; if the turtle has to be played out with only one sucker fish on it, it has about a 75 per cent chance of escaping. When the sucker fish have attached themselves to the turtle the anchor of the boat is taken up and the turtle played until it sounds on the bottom vertically beneath the boat, when a grapnel on a stout line is run down the light line attached to the tail of the sucker fish and jerked into the turtle, which is then heaved up and brought on board.

From experience in capturing Green Turtle, both by harpooning and by netting, I am in no doubt of the opinion that this odd method of capture is by far the most successful. . . . During the year 1954 approximately a thousand turtles were exported from Kenya, nearly all of them captured by the sucker fish method.

It is noteworthy that wherever it is so employed for taking turtle the suckerfish is reported to be treated with extreme respect by the native fishermen. The relationship is apparently somewhat similar to that between a hunter and his retriever dog. It is stroked, spoken to with soft words of encouragement or thanks, and fed special food. When it fails to perform, it is verbally scolded, given the lash, or even bitten. Whether in Australia, East Africa, or the Caribbean, the natives seem to believe that this remarkable fish well understands human speech. In East Africa, indeed, there is said to be a special vocabulary that is employed in addressing the *Echenets*.

In view of the singularity of the trait, which has been likened to cormorant fishing, and the pan-tropic distribution of both marine turtles and suckerfish, it is tempting to believe that we are dealing here with a single culture complex that has been diffused across the Indian Ocean, perhaps from Indonesia westward to Africa, along with such other traits as the outrigger canoe (cf. 94:157). Even a trans-

atlantic (or transpacific?) transfer cannot be entirely ruled out, though the more conventional ethnological view will doubtless hold the Arawak practice to be an independent invention (e.g., Sven Lovén, 137:400). Raymond Decary has even attributed the distribution of this trait along both sides of the Mozambique Channel to the simple convergence of ideas, explained by the similarity of reasoning of native peoples who are good observers. He sees the remora-green-turtle complex as a warning to ethnologists with a tendency to deduce the existence of ancient contacts in the face of cultural similarities among distant people (55:97). But to others such a position will seem unnecessarily conservative. We will probably never have sufficient information to completely resolve this enigma, which is but part of the larger question of pre-Columbian culture transfers between the Old World and the New World. Certainly no opportunity should be lost to record further details connected with this ingenious manner of taking turtles, wherever it survives.

THE RIVER TURTLE OF THE ORINOCO AND AMAZON

In both its behavior pattern and the history of its wantonly wasteful exploitation by man, the socially spawning South American river turtle, *Podocnemis expansa*, bears a striking resemblance to the green turtle. Like the latter, the adult females of the river turtle, which weigh from 25 to 125 pounds, migrate long distances each year during low water to nest *en masse* on certain favored sand bars and islands in the great rivers of tropical South America. Incredible multitudes of these "cattle" of the Amazon and Orinoco formerly assembled on localized and well-known beaches at certain seasons, the noise of their shells striking against each other in the rush being reported audible for great distances. The easy availability of the eggs, of the newly hatched young, and of adult females made *Podocnemis expansa* a staff of life for the river people. The turtles seem to have been held by the native population to be used as needed. Vásquez de Espinosa, in a second-hand account of Pedro de Ursua's journey down the Amazon in 1560, describes a large settlement named Arimocoa in which more than 4,000 river turtles were found kept in enclosures by the native population. They were said to be "a great staple" for river tribes living as far up as the Guaya-poco. Vásquez also makes reference to the great abundance of turtle eggs on the Orinoco and on the lower Río Cauca in Colombia (221:67, 339, 412). Raymond M. Gilmore (80) and Manuel Vicente Ramírez (175) offer the most recent and ac-