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Some Marshall Islands Fish Traps

By SPENCER TINKER
DIRECTOR OF THE AQUARIUM, UNIVERSITY OF HAWAII

INTRODUCTION

During a visit to the island of Likiep, Likiep Atoll, in the Marshalls in August 1949, I had an opportunity to study some fish traps used by the Marshall Islanders and to record information on their construction and use. My observations were supplemented by conversations with residents of the Marshall Islands to three of whom I am especially indebted—Mr. Antone de Brum, Mr. Capelle de Brum, and Mr. Freddie Capelle.

I wish also to acknowledge the assistance of Dr. Lauren R. Donaldson, Director of the Applied Fisheries Laboratory, University of Washington; of Dr. Kelshaw Bonham of the Applied Fisheries Laboratory, for photographing the traps; and of Dr. Harold St. John, Professor of Botany, University of Hawaii, for supplying the botanical names of the plants used in making the traps.

CONSTRUCTION AND MATERIALS

The making of each trap is an arduous process, requiring a minimum of six full days of work, hence the average family has only one to three traps and many families have none. Some households may even lack knowledge of the technique of making traps.

In general, but two materials are used: slender branches, preferably of *Pemphis acidula,* for the framework of the trap, and coir cord for lashings. When *Pemphis acidula* (native name *kungi;* also reported as *gine* or *ginne*) is not available, a plant of the verbena family, *Clerodendrum inerme* (*wuletch;* also reported as *ulij* or *ulej*), is used. The branches for the framework are cut while they are green and

A

B

FIGURE 1.—**a,** Author and Lemeric de Brum with two traps: Larger trap (left) shows bottom and back with door opening for removal of fish; smaller trap (right) shows bottom and front end with funnel opening and projecting top and sides. **b,** Lemeric de Brum with the same traps: Larger trap (left) shows roof, back end with door opening, and free end of entrance funnel with opening directed downward; smaller trap (right) shows front end with funnel opening.

pliable and are lashed together with half-hitches and clove hitches to produce a remarkably strong trap. The coir cord for the lashing is made of coconut husk as follows: The husk is soaked in water, pounded, dried and the pulp separated from the fibers. The fibers are then rolled on the thigh and twisted into cord.

Although the traps shown in figure 1 have but a single mouth and funnel, some have two openings, side by side, which lead into two separate, parallel funnels. The trap doors, which are made of the same materials as the traps and with the same technique, are an inch or two larger than the door openings. They are tied in place over the openings with the usual coir cord.

The two traps shown in figure 1 have the following measurements, all in inches.

Dimension measured	Small trap	Large trap
Length above	30	34
Length below	24	28
Width at mouth end	34	35
Width at door end	31	32
Lengthwise projection of sides of trap beyond mouth end:		
Above	6	6
Sides	7	4
Bottom	0	0
Diameter of mouth entrance	8	6
Length of entrance funnel at bottom	16	24
Exit opening of funnel:		
Length	10	19
Width	3	3
Door opening of trap:		
Width	8	7
Height	8	10

OPERATION OF TRAPS

The number of fishes which the traps catch, like the building of the traps themselves, reflects the skill of their owners. They are usually set on the reef in the lagoon, near blue water and comparatively close to shore, and are placed without reference to the current, usually in water six to twelve feet deep, depending upon the tide. However, it is not uncommon to see them in deeper water or projecting out of the water at low tide. They are placed upon the bottom, usually with the mouth, or funnel end, facing toward the shore. Two or three traps may be set together, side by side, back to back, or in other patterns which are thought to facilitate trapping. After the traps have

been placed, the sides and tops are covered with coral or stones, preferably flat stones. Often, they are set between two coral heads for concealment.

The outer end of the funnel is fastened around the front opening with coir cord, and the inner end is suspended from the roof by means of a second cord, with which the inner end of the funnel may be raised or lowered. The adjustment of the funnel leading from the mouth into the trap is regarded as one of the most important aspects of trap fishing. My informants stressed the fact that it must be neither too high nor too low. If extremes are used, a low position is preferable, for when the funnel leads upward too abruptly the fish enter it with difficulty and escape is fairly easy. On the other hand, if the funnel is low in position, the fish enter with difficulty but rarely escape.

It is customary to bait the traps, although they are sometimes set without bait. Various baits are used, but not selectively for the purpose of bringing any particular fish into the trap. The more common baits include coconut meat, hermit crabs, fish flesh, algae, algae-covered rocks, and other marine fish foods. When coconut is used, three or four opened nuts, either young or old, are thrown inside the trap. Hermit crabs are suspended by a bit of coir cord inside of the trap near the mouth. The flesh of almost any fish is suitable for bait, but it tends to attract eels and sharks. Algae, algae-covered rocks, coral growths, and the like are often placed near the front of the traps to attract the fish.

To empty the traps set in shallow water, the fishermen remove the coral stones which cover the traps and take them ashore. However, traps set in deep water are brought to the surface and emptied into a boat.

Since the traps are placed in reef areas, they catch only reef fishes and the species caught represent a good cross section of the entire reef fauna, including moray eels, butterfly fish, parrot fish, surgeon fish, goat fish, an occasional octopus, rarely lobsters, and other reef dwelling forms. The traps are neither designed nor placed to catch any particular type of fish. Nor are they designed to restrain very small fishes or moray eels, both of which go in and out almost at will. It is just as well that eels are not too securely imprisoned as they damage the traps, devour other fishes within the traps, and discourage the entrance of some species. Furthermore, eels are not regarded as

particularly good food, and a species of black eel is even believed to be poisonous.

RELATIVE VALUE OF TRAP FISHING

Fishing by traps, although comparatively common, is one of the less productive methods of obtaining fish in the Marshalls. Other methods, in order of importance, are trolling, seining from the beach, and bringing in schools by means of leaf sweeps. The leaf sweep is a long rope with many coconut leaves attached which is put out in a great arc from shore, much as a seine is used. It is then worked inward, toward the beach until the fish have been driven near the shore, when the people go out with a seine and draw the fishes in to the beach. In the absence of a seine, they line up in an arc outside of the school of fishes and move in unison toward the shore, driving the fishes before them and catching and spearing many as they go.

On the other hand, fishing with traps offers certain advantages over the other methods. It does not require a boat or exposure to the open sea; it needs to be tended by a very few people, hence it is ideal for family use; and it furnishes a place in which to keep fishes alive until they are needed.