TRADITIONAL DEVICES FOR CAPTURING CRABS USED IN THE PHILIPPINES TODAY*

With 6 Text-figures

by

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フィリピンにおける伝統的カニ漁具

挿図 6

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Introduction

Shallow coastal waters of the Philippines produce annually 13,916 tons of swimming crab (portunids) and 1,122 tons of mangrove crab (*Scylla serrata*) valued US\$ 13 millions (SEAFDEC, 1980). As to the fishing gear adopted in the Philippines there are descriptions and illustrations published by UMALI (1950), TALAVERA and MONTALBAN (1952), MANACOP and CARPO (1953), CARPO and MANACOP (1955), DELMENDO and RABANAL (1973), DOMANTAY (1973), and MOTOH (1980) dealing with fish catching mostly and crustaceans partly. Among those authors UMALI (1950) classified the local fishing gear into 4 types covering more than 40 kinds in total.

However, as far as the present author is aware, no report has been made on either fishing gear or devices which are used restricted to crab capturing, except UMALI's two types, viz. the crab hook and crab lift net.

In present days indigenous fishing devices are used in lesser extent in rural or remoted areas in the Philippines where local people are mostly not rich and poorly affected by the culture, civilization or enlightenment coming from urban districts or modern societies in the nation. However it is observed that the modern civilization is invading into these remote areas rather quickly bringing higher living standard, naturally the local people including fishermen will have to be modernized soon or later. Regardless

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of their poverty inherited the local fishermen will adopt motorized boat, synthetic netting, and others.

On the other hand, from the economical point of view, the traditional devices invented and developed by the natives through their long experiences are still recommendable by obvious reasons that these do not require any kind of costly energy consumption like gasoline which is nowadays too expensive particularly to those people. However it appears apparent that these devices will eventually be abandoned by the people because these are not for their commercial purposes in addition to the poor catch and effectiveness of the devices. Apart from these social and economical complex the present author feels that these devices are of economical importance for the people in view of energy conserving as well as nature conservation.

In the present article the author intends to illustrate and describe the indigenous devices traditionally used to capture crabs including the constructions and the operational manners. Also the present writing is hoped to play a role in disseminating the record of the unique devices among local Philippine people and continued use of them. It may be added that the biological significance related to these devices may worth to be recorded.

Materials and methods

The six kinds of crabbing devices illustrated and described here were observed by the present author during the field surveys on prawn ecology conducted almost throughout the country extending northward to Aparri (Luzon) and southward to Zamboanga (Mindanao), 1976 to 1980. Illustrations (Figs. 1-6) were made by the scientific illustrator, Mr. Panfilio LEGASPI, Jr., based on the materials taken by the present author.

Observations and discussion

1. Crab hook

The crab hook, locally known as "Panukot", is made of the branch of mangrove tree with a hook (Fig. 1). The branch measures about 100 cm long and the hook (twig) 8 cm with a slight variation locally, and the angle between the branch and twig is about 40° forming a hook in shape.

At mangrove areas during mostly low tide, local fisherman inserts this crab hook carefully and slowly to the hole or nest of the mangrove crab, *S. serrata* locally called "Alimango". When the sharpened tip of the device touched the crab usually at the end of the hole, the crab may instantaneously grasp the hook by one its huge pincers due probably to its aggressive nature, and this response will be immediately detected by the skilful man. Then he slowly starts to withdraw the hook. To make sure, he sometimes quickly blocks the hole way by his another hand with a sharp digging blade made of

Fig. 1. Crab hook. A, side view; B, operation.

iron when the crab is about to appear at the mouth, in order to prevent the animal escaping toward the inner portion of the hole.

The mangrove crab is one of the delicacies in Philippine dishes fetching a market price US\$ ca. 12/kg in Manila, though cheaper in rural areas.

Fig. 2. Crab circular net.

2. Crab circular net

The crab circular net, locally known as “Takiao”, consists of cotton or abaca fiber nettings with mesh size of about 2.5 cm and a piece of bamboo ring as shown in Fig. 2. The gear has enough space of netting forming a pocket in which a crab is entangled when it comes out.

The device is used to catch ghost crabs (*Ocypode ceratophthalma* and/or *O. cordimana*) known as “Biokoy”, “Agokoy” or “Torokoy” dwelling the sandy beach. During evening the fisherman covers the hole of the crab with the net inserting its pocket into the hole. During nighttime when this nocturnal crab comes out of the hole to search for food, it is entangled with the net and in the following morning crab(s) together with net are collected.

The people living near the shore cook the crabs by frying in oil for their own meal.

3. Crab tube trap

This kind of more or less skilfully designed trap, locally called “Patibong”, consists of a large bamboo trunk with dimension of ca. 36 cm in length and 10 cm in outer diameter, attached by three pieces of bamboo slats and a piece of rattan string. As shown in Fig. 3, the bamboo trunk is furnished with three bamboo slats, one slightly touching

Fig. 3. Crab tube trap. A, side view; B, front view; C, top view; D, inner view; E, operation.

to upper end of the trunk near the open end and the other inserted near the blind end having loose contact with each other. The former is tightly pulled downward by the tension of the rattan (or sometimes synthetic) string of which the tension is generated by the bowing of another bamboo slat.

In the afternoon mostly toward the evening, or sometimes during rainy day, a rural man sets this device at a muddy bank of fishpond or mangrove dike. As shown in Fig. 3, the entrance portion is inserted to the outlet of a crab hole. When crab carelessly steps into the bamboo trunk, the animal eventually touches the bamboo slat set near the end of the trunk, then, instantaneously another slat is pulled down by the related action resulting in an unable escape of the crab. Following morning the crab is harvested.

According to the people, the device is originally invented to trap the land crab, *Cardisoma carnifex*, with local names "Kagang" "Kurray", or "Ungkoy", but they sometimes trap with this device another kind of edible Crustacea, viz. mud lobster, *Thalassina anomala*, locally called "Palatak", "Kolokoy", "Uson", or "Manla".

These crustaceans are occasionally sold in rural fish market at a retail price of some US\$ 0.5/kg.

Fig. 4. Crab lift net.

4. Crab lift net

The crab lift net, locally known as "Bintol", is made of abaca ropes, two pieces of bamboo slats in addition to a short bamboo trunk. A kind of dipping device, the net is usually knitted by hands with the meshes varying from 3 to 6 cm square. Stone weights are sometimes attached at each corner of the net to make the quick sinking of the net and to insure the right position on the bottom. The net has a depth of about 15 cm, not deep. It is baited with a trash fish or a head of a salted fish which is replaced each time the net is lifted. It is generally dropped from a dugout (local name "Banca"). The baited trap is usually set on the sandy bottom of shallow sea for capturing swimming crabs, *Portunus pelagicus* and/or *P. sanguinolentus* both locally called "Alimasag", or "Suga-suga", or on the muddy bottoms of mangrove swamps or estuaries for capturing the mangrove crabs and other portunids like "*Thalamita crenata* known as "Dawat". After a while, the fisherman picks up the bamboo float, then suddenly lifts the net to the surface.

Fig. 5. Crab basket trap.

It is strange to hear that while the net is being hauled the crab does not run out of the net. According to the fishermen, the crab will never escape probably due to an astonishment despite of the shallow and simple construction of the net. In general the chance to trap crab(s) might be said poor since the catching effort is made by only periodical attentions.

These portunid crabs, particularly *P. pelagicus*, are commonly offered for sale in fish markets at about US\$ 3/kg.

5. Crab basket trap

The crab basket trap, called "Panggal", is made of many pieces of bamboo slats, a rattan rope, a bamboo trunk and stones. It is six-sided (Fig. 5) or circular in shape with one opening at the top. Dimensions of the commonly used crab baskets are 15 cm high, 35 cm diameter with the entrance 7 cm wide in the center of the devices. The entrance is circular with a collar, sometimes with a funnel of a bamboo slats which are projecting inward to allow crabs to enter the basket, but prevents them from escaping in some improved type. Stone weights as the sinker are usually attached to the outer side of the device for the same purpose of that of the "Bintol". It is baited with stale meat or head of salted fish.

The basket is set mostly in shallow water and sometimes in brackish water areas, aimed to trap swimming crabs, *P. pelagicus*. The device is thrown out of the dugout to the bottom of the crabbing area in the evening. The following morning, the fisherman pulls the rope of the strong rattan or Manila rope through a bamboo float at its free end. Then he examines and takes out the crab trapped through the entrance.

According to TALAVERA and MONTALBAN (1932), this device is utilized often by fishermen who are engaged in handline fishing as a live box for living bait. In this case, it is called "Palanan", meaning a receptacle for bait.

6. Crab cage trap

The crab cage trap, locally known as "Pangay", is rigid made of some 24 pieces of bamboo slats about 60 cm long in addition to sharply pointed ones and several pieces of rattan. As shown in Fig. 6, it is cylindrical with dimensions about 60 cm in length and 22 cm in diameter. The both ends of the cage are tightly capped with rattan circles which are furnished with sharp pieces of bamboo slats as a funnel which allows crabs to enter the cage. The narrow inner end of the funnel is supported by rattan tied. Even if the trapped crab tries to escape through one of the openings from inside, it will be unable to go out since there is a funnel or fishing head of bamboo pieces recessed.

This cage trap, sometimes baited, is used in the brackish water areas such as man-

Fig. 6. Crab cage trap.

grove creek to capture mangrove crab, *S. serrata*, and other edible portunids mentioned earlier. In the evening, fisherman sets this device forming a line at his favorite place. As crabs are generally nocturnal, he examines each trap following morning and when he finds crab(s) he unties one of the rattan circles to remove it. After getting crab(s) he attaches the circle as it was before.

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摘 要

フィリピンにおける漁獲対象カニ類は主にノコギリガザミとタイワンガザミであり、他種を含めたその年間漁獲量は約 15,000 トンに達する。これらの多くは近代的漁法で獲られているが、昔ながらの伝統的漁具による量も少くない。

ここではともすれば近代化の波に押れて忘れ去られがちな、しかし“省エネタイプ”の伝統的カニ漁具 6 種類を紹介する。