

Breeding Turtles For Profit

Following successful initial experiments, the author suggests that breeding turtles in captivity might well prove a worth-while commercial venture.

By RONALD POWELL*

ON Palmerston Atoll in the Cook Group, green turtles are frequently caught for food, while their eggs are often dug out of the sand and eaten.

Turtle meat is highly prized by many people, while the shell is of some commercial value. During a recent visit to the Atoll it occurred to me that it might be possible to develop a new industry in these islands by breeding turtles in captivity.

Two preliminary attempts have given encouraging results. Ioapa Marsters (who attended the recent SPC fisheries training course in Nouméa with me) hatched out 30 eggs and kept the young turtles in a wire-netting covered wooden box floating in the lagoon. They are fed daily with kitchen scraps, fish and shellfish. The accompanying photographs show the turtles at ten months. If they could be fed to two or three years, I am sure that they would find a ready sale in Rarotonga and possibly in New Zealand.

As a further experiment, during another visit to Palmerston Atoll we took six small turtles aboard the *Charlotte Donald*. For the trip back to Rarotonga we kept them in a drum, changing the water daily.

Here they are kept ashore in water that is half fresh, half seawater, and are fed on anything we can give them, ranging from fresh fish to tinned beef and rice. They are omnivorous feeders, and do not seem to require any special food to gain weight.

Locating Turtles' Eggs

The supply of turtle eggs on Palmerston Atoll is fairly plentiful. Though difficult to find for a stranger, the islanders are quick to spot tracks which the female leaves when prospecting for a likely site to lay her eggs. They can tell by the way the sand has dried how old the tracks are. They then return on the twelfth night from the time the first

Ioapa Marsters holding one of a batch of turtles which he hatched out ashore from eggs. The turtles were then kept in a wooden box anchored in the lagoon. The raised wire-netting top allows them to surface to breathe. They are fed daily with fish, shellfish and kitchen scraps.



turtle comes ashore, and wait just beyond highwater mark. If there is a rough sea on the reef and the turtles are unable to get ashore, the egg seekers return on succeeding nights to keep further watch.

Turtle eggs are laid in a hole in the sand, which is surprisingly deep when one considers that the young turtles breaking their way out of the egg must find their way to the surface. From around seventy to occasionally over two hundred eggs are laid in each hole—one can hardly call it a nest as it is not lined or prepared in any obvious way. After its eggs are laid the turtle scatters sand over the surface, and except from the tracks, which lead off some distance away, it might be impossible to locate the eggs at all. They are generally found by thrusting a thin sharpened stick down into the sand. It is quite easy to see when it has passed through several eggs, and the rest are then quite easily dug out.

Island children often take the eggs back to the village and plant them in a similar hole in the white sand. A ring of sticks prevents the young turtles from heading straight for the lagoon should they break surface while not being watched.

Turtle Fishing A Regular Activity

Fishing for turtles is a regular part of atoll activity. Many are speared from canoes, others are caught by paddling

a canoe up to them very silently, then grabbing them by the shell or one flipper.

A turtle has no sharp protective armour, but it must be handled with a degree of skill which has to be learned by experience. There are no teeth in the jaws but there is a sharp bony edge, sharp enough to nip off a finger should anyone mistakenly take hold of the front edge of the shell.

It is a common sight in an atoll for a large turtle to be made fast by a strong rope in the lagoon, so that young boys can learn to hold it the correct way and swim on its back. A skilled fisherman can leap onto a large turtle and, taking hold of the fore and after ends of the shell, can steer it until help arrives. There have been men who have been carried down into deep water and have been unable to surface again, but such cases are fortunately very rare.

On the outer reef there are several deep surge channels where turtles are known to sleep at nights in caves. These channels, which are from three to four fathoms deep, are full of all kinds of fish during the day. Sharks cruise off them and snap up any maimed or injured fish.

Particularly vicious moray eels live in holes leading off from the channels. When I lived on Palmerston Atoll every

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Two of the turtles bred in captivity at ten months of age.

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islander carried scars on feet and legs from eel attacks, some men limping for the rest of their lives from particularly bad bites.

By daylight the channels are particularly interesting places to watch, as there are so many fish of almost endless variety swimming in with each surge of the ocean surf which thunders across the

reef. By night they harbour other species of predatory fish, and the deep dark shadows under ledges and in caves are another world altogether.

I have never felt any desire to swim there, but several of the islanders regard night fishing for turtles in these channels as great sport. They slip quietly into one, and swimming under water will grab a sleeping turtle from a deep coral cave.

Papua and New Guinea Uses S.I.T.C. For Classifying Imports And Exports

AS from 1st July, 1955, the import and export statistics of the Territory of Papua and New Guinea have been classified on the Standard International Trade Classification (S.I.T.C.) basis.

Since June 1950, when the E.C.O.S.O.C. of the United Nations adopted the S.I.T.C., it has played an increasingly important role in the field of international trade statistics. In addition to its use as the basic classification of the U.N. and the specialized agencies for the collection and publication of statistics, the S.I.T.C. is being adopted by an increasingly large number of countries as their primary national trade classification. Other customs areas in the South Pacific Commission region may be interested in the reasons why the territory of Papua and New Guinea took the decision to adopt this basis.

What is S.I.T.C.? It is a systematic method of classifying commodities. The 570 items included cover all commodities of international trade in a summarized form. These can be subdivided into a much larger number of commodi-

ties for internal national usage if so desired. The items are arranged into 150 groups; the groups in turn are assembled into 52 divisions summarizing the groups according to their broader characteristics. Finally, the divisions are consolidated into general broad economic categories called sections. The classifications are expressed in a numeric code which uses the decimal system. The sections provide the first digit, the divisions the second and so on. An item has five digits and for additional classifications to suit internal national needs sixth and subsequent digits can be added.

For example Section 6 covers "Manufactured goods classified chiefly by material". Division 65 is "Textile yarn, fabrics, made-up articles and related products". Group 652 covers "Cotton fabrics of standard type (not including narrow and special fabrics)". Item 652-02 is "Cotton fabrics, other than grey (bleached, dyed, mercerized, printed or otherwise finished)". Statistics for international publication are classified and grouped only as far as the item. For