



Islands Pressure Cooker

Contributed by Mrs. R. G. Tews, Goroka

People in modern countries thought they had discovered something new when some years ago came the advent of the pressure cooker. However, the process of cooking under steam pressure is not new to the people living in the highlands of New Guinea.

Round pits are dug in the ground. The size of the feast determines their number and depth. Logs are then laid in criss-cross fashion on top, and stones

are piled on the logs. A three-layer pile of logs is usually sufficient.

When the logs burn the stones become very hot, and as the logs burn through the hot stones fall to the floor of the pit. Immediately the latter is lined with leaves and then into it go the pig, fowls, sweet potato and spinach, or whatever needs cooking. The food is covered with leaves and a mound of earth, and allowed to steam for several hours.

Europeans as well as natives praise the food cooked in these pressure pits; it is both nutritious and delicious.

Trochus Fishing

By RENE GAIL*

*M. Gail was a popular Instructor in the Fisheries Training Course. This translation of his notes for his Lecture on Trochus** gives valuable suggestions on economic exploitation of this shell.*

ALTHOUGH it is commercially less important than the pearlshell oyster, the trochus shell, used as raw material for mother-of-pearl buttons, is nevertheless a very valuable export item and plays a noticeable part in the economic life of several territories in the South Pacific (Solomon Islands, Fiji, New Caledonia, etc.).

From a social point of view trochus fishing, mainly a native activity, supplies the local population with a fair income and also tends to check migration to the town areas, thus keeping alive amongst tribes and whole populations the trades and traditions of the sea which have been forgotten in too many regions.

The twofold value of this shell—in the economic and social field—is particularly obvious in New Caledonia, where 2,000 fishermen (mainly natives) make a living from its industry (half a century old by now). Last year, the value of trochus exports reached nearly 38 million C.F.P.

On account of its importance, trochus is the main sea product in the territory;

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** Trochus Niloticus Linne.

since the dramatic fall of copra prices (another traditional production), it occupies the third place among territorial export items, after ore and coffee.

Unfortunately, in New Caledonia as well as in other localities in the distribution area of trochus, the development of fisheries shows that the species is directly threatened, without any possible doubt, with over-fishing, that is fishing beyond its possibilities of reproduction.

The increasing scarcity of trochus, due to intensive exploitation, is stressed by the recent evolution of the world market for mother of pearl, with conspicuously increasing prices; according to world experts this is a direct result of "increasing scarcity of the raw material".

Neither research nor regulations, whether in New Caledonia or elsewhere, has been able to check threatening scarcity.

Research Plan

In order to solve the difficult problem of ensuring both economic exploitation and perennity of the species, the French Institute of Oceania has undertaken further research on trochus biology and fishing as early as September 1955. This work, planned on a wide scale, will cover a reef area of more than 1000 Km. and last for several years.

New methods of research will be used, among which are: observation in situ by skin and aqualung divers; experimenting on the scale and within the limits of the natural environment; working out of a satisfactory method for marking the shells with a view to studying growth and migration.

These aspects of the work should nor-

mally result in a better and more accurate knowledge of the main biological characters without which no sound regulations can be recommended.

Taking into account environmental conditions, it becomes possible, at this stage of the research, to look forward to a synthesis of all acquired knowledge of the biology of the species and to a generalization of protective measures.

(Continued overleaf)

M. RENE GAIL

IT was with great sorrow that the staff of the South Pacific Commission received the news of the tragic accident of Monsieur René Gail, who, when diving with an aqua lung near Nouméa, did not come up to the surface again.

M. Gail was a very valuable lecturer at the South Pacific Fisheries Training Course, giving lectures on protection of marine resources and on trochus fishery, subjects on which he was so highly qualified. M. Gail was not only a highly esteemed collaborator of the Training Centre for his outstanding knowledge, but also for his fine character.

His research on trochus has been carried out in New Caledonia as a project of the Institut Français d'Océanie.

M. Gail has done much work using the aqua lung with a view to gathering knowledge about the possibility of the use of this apparatus in trochus fishing, and its influence on the already existing situation of over-fishing. He fell victim to one of the many dangers attached to aqua lung diving, and thus the world has lost an expert in trochus whom it will be difficult to replace.



René Gail preparing for a dive in connection with his research on trochus.

with the help of foreign research workers.

First Results Obtained

Research carried out at the lower level of the vertical distribution of this pearl shell mollusc, on its growth and reproduction has shown that: (1) contrary to popular belief, no trochus is to be found at a great depth; (2) the recent evolution of fishing, showing a tendency to intensify exploitation of the bottom of the outer fringe of the reef, means indeed plundering the last natural reserve of the reproductive individuals of the species; this reserve lies within reach of the skin divers; (3) it is both urgent and necessary to substitute for this last natural reserve, which is rapidly dwindling away, another source of reproductive individuals whose perennity will be guaranteed by raising the minimum size under which trochus fishing becomes illegal; (4) should these steps not be taken without further delay in view of the protection of the species, there might be a risk of our having to cross the industry of trochus fishing off the list of territorial resources.

Training Course Mid Term Report

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building and repairing, and installing marine engines. Now all have at least an elementary knowledge of both subjects.

The students have shown a keen interest in fish cultivation. Last year the Commission established two experimental fish ponds at the Port Laguerre Farm School, near Nouméa. They were stocked with fingerlings flown from Manila of three species of edible fish, *Tilapia mossambica*, *Osphronemus gourami*, and *Trichogaster pectoralis*.

So far the trainees have paid several visits to the ponds. Under supervision they have drained one pond by removing the sluice, netting the fish in the outflow and holding them in containers of fresh water for transplanting later to natural ponds on nearby farms.

Practical demonstrations have been given in fish preservation. The students now know how to salt and dry fish. Shortly they will also be shown how to smoke them. After several more practical lessons they will be able to preserve fish themselves, and to instruct their own people in the best ways of doing so.

Lectures have already been given on the biology and conservation of pearl shell and trochus. There will be others, mainly on ways of transplanting both.

Students have been given a simple grounding in oceanography and the theory of navigation. Practical naviga-

tion lessons will follow during short cruises on *Orsom III*, the research vessel that the French Institute of Oceania is generously making available for training purposes.

Under problems of management, trainees have been given a general introduction to co-operation, and to ways of organizing and managing a fishermen's co-operative society. Aspects treated so far are thrift and credit, as well as the elements of marketing, including the purchase of co-operatively-owned boats and the associated financial problems. Simple lessons in bookkeeping have also been given, so far up to but excluding the closing of accounts.

As a practical demonstration of co-operation a thrift society has been started by the trainees. To date their savings total 17,280 Pacific francs (£A.121 approximately). The lecturer plans that when the Course finishes, each trainee will be sufficiently trained to act as secretary of a simple co-operative society.

In the six weeks left of the Course students will have, in addition to regular lectures, practical instruction at sea in handlining, seining, trolling, and setting of gill nets, as well as in navigation.

The Course will close on February 22nd. When it was first proposed there were some who thought that language problems and widely varying standards of education among the trainees would prove obstacles too difficult to overcome. Happily this has certainly not been so, and we expect that when the Course is over the students will take home, to pass on to their own people, a most valuable knowledge of modern ways of catching, keeping and marketing fish.

Film Of Third South Pacific Conference

A film has been produced by the New Zealand National Film Unit of the Third South Pacific Conference, which was held in Nasinu, Fiji, in April-May last year. Although the film is of only ten minutes' duration, it gives an interesting and satisfactory coverage of all aspects of the Conference and its background.

16mm. copies of the film are available under the Commission's usual conditions of loan to non-profitmaking organizations in the South Pacific, and under certain conditions of usage to commercial organizations also. Copies are available for sale at approx. £A6/15/-.

To assist organizations which may wish to borrow the film, but which do not have projection equipment capable of reproducing a sound track, a roneoed script of the film has been produced and is available on request.

Enquiries from borrowers and requests for further details should be addressed to the South Pacific Commission, Box 5254, G.P.O., Sydney.

Plywood Industry In Papua And New Guinea

THE Australian Minister for Territories, Mr. Paul Hasluck, referred recently to the development of the plywood industry at Bulolo, New Guinea.

He recalled that following investigations by experts, a joint enterprise by the Commonwealth Government and Bulolo Gold Dredging Limited, known as Commonwealth-New Guinea Timbers Limited, was set up in 1952 to carry out the harvesting of the Bulolo Valley pine stand. The joint company, in which the Commonwealth holds a controlling interest, built a £1,300,000 plywood mill at Bulolo, which commenced operations in January 1954.

Production has averaged nearly 30,000,000 square feet of plywood on a 3/16" basis per year. Approximately 200 Europeans and 400 indigenous people are employed in the enterprise.

The company was operating profitably soon after commencing production, and has continued to do so. Its initial products were highly moisture-resistant plywood and some veneers, to which was added later, waterproof plywood. Both these types of plywood are different from the bulk of Australian production and have opened up new uses for plywood.

U.S.A., Australia, the Pacific Islands and the Territory of Papua and New Guinea are the principal markets for the plywood. The export value of this product in 1955/56 was £749,179. Exports of veneers were valued at £9,440.

Mr. Hasluck concluded by saying that this enterprise was contributing materially to the advancement of the indigenous people and the general development of the Territory.

Santa Gertrudis Crossbreeds Doing Well In Fiji

TWELVE calves sired by the four Santa Gertrudis bulls imported from Australia by the Fiji Department of Agriculture in 1955 have been born so far. Six of the calves are at the Sigatoka Agricultural Station and the other six at the Colonial Sugar Refining Company's Yaqara estate.

At Sigatoka, one Santa Gertrudis bull was mated with 27 Red Poll heifers and another with a number of Zebu cross-females. The two bulls at Yaqara were mated with 25 Herefords. Observations on the different cross-breeds have begun. So far the cross-bred calves are showing up well, and compare more than favourably with pure-bred calves of the respective breeds.