

THE TROCHUS FISHERY IN NEW CALEDONIA

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Trochus (*Trochus niloticus*) is a reef-dwelling gastropod of the tropical Indo-West Pacific region. It is exploited for its shell, which is used for mother-of-pearl and has been exported from New Caledonia since the beginning of the century. Fishing for it is done at low tide on the reefs or by free diving in depths of 1-5 m. The meat is extracted after boiling and is usually discarded. The shells are cleaned and dried and forwarded to Noumea where they fetch an average price of 26,000 francs CFP (US\$356) /t. In Noumea they are cleaned again and graded before export to Europe (54 per cent) or Japan (41 per cent) at an average price of 45,000 francs CFP (US\$616) /t. The shell is used for making buttons (Fig. 1) and, to a lesser extent, for fancy jewellery and curios. The waste portions of shell are crushed and the powder is used for making paints and nail varnish. Although only 0.5 per cent of buttons in the world are made from mother-of-pearl, there is a current annual demand of the order of 6,000 t of unprocessed trochus shell.

In 1978, New Caledonia exported 1,900 t of trochus, which was more than 30 per cent of the world production. In value, it was the territory's most important non-mining export. It is very often the only source of revenue for tribes in the north and north-east of New Caledonia. There are no exploitable trochus stocks in the Loyalty Islands or the Isle of Pines. The main quantity harvested comes from the west coast (Fig. 2). On the west coast, as far north as Voh, the fishermen are Tahitians or Europeans; further north, on the east coast, and in the south, the fishermen are Melanesians. The large tonnages in the last few years (Fig. 3) are due to the long period known as the 'mining boom' during which the fishery was at a very low level or non-existent and the stocks thus had time to build up.

The Noumea ORSTOM centre has studied the growth of trochus by tagging the shells (Fig. 4) and recapturing them over a period of 18 months¹. Growth of trochus is quite fast for the first 2-3 years (up to a size of 8 cm), then it becomes very slow. It takes 10 years for trochus to attain a size of 12 cm (base diameter). Large trochus (over 11 cm) made up the bulk of the landings in 1977-1978. Landings for 1979 can probably be maintained above 1,000 t, but with the risk of contributing to a sharp drop in the early 1980s.



Fig. 1: Button blanks cut from trochus shells.

1. A report on this work is in preparation.

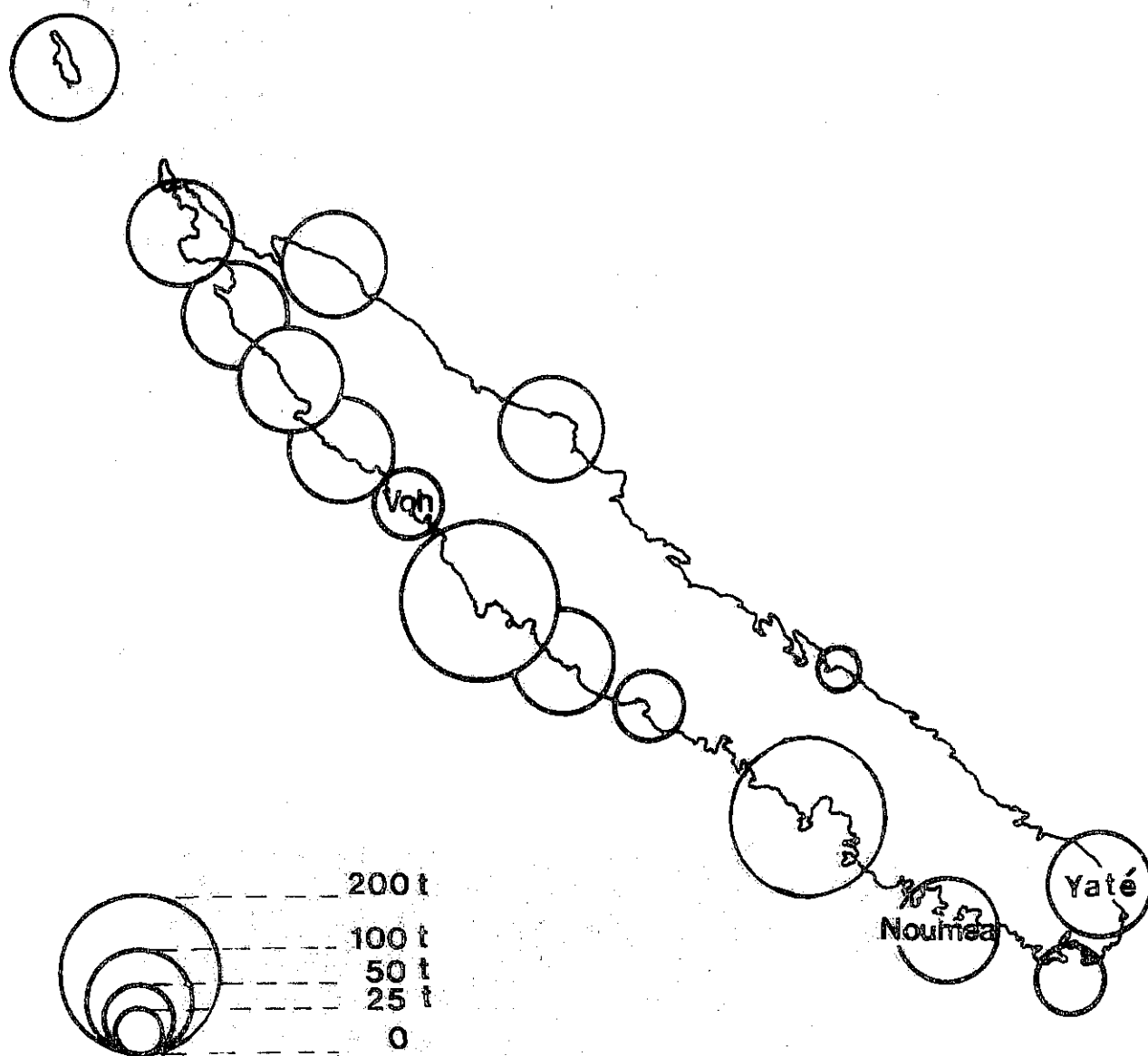


Fig. 2: Geographical distribution of the trochus catch in New Caledonia.

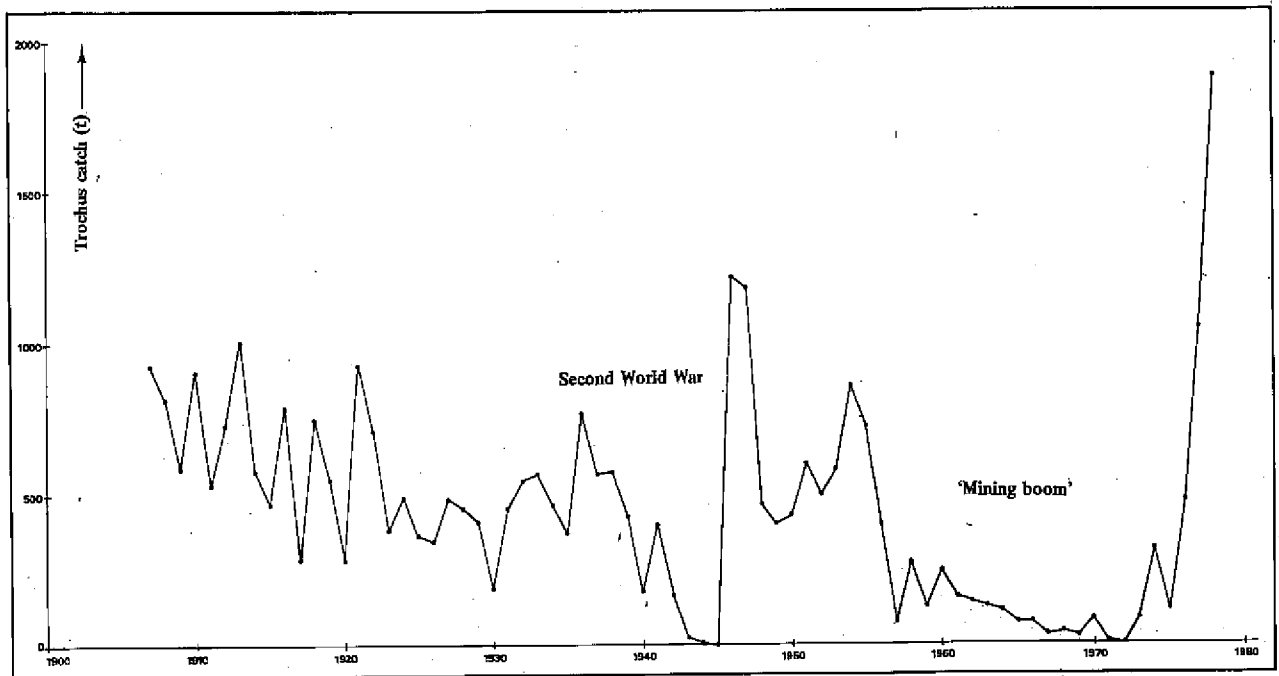


Fig. 3: Trochus exports from New Caledonia, 1907-1978.



Fig. 4: Tagged trochus for growth studies.

At the present time fishing for trochus is permitted throughout the year for persons holding a licence. Licences, issued by Affaires Maritimes, are free. Only trochus with a diameter of 8 cm or greater can be taken. At this size, trochus have already begun to reproduce, as sexual maturity is attained at 6.5-7 cm. Small specimens (6-10 cm) are most valued on the European market. The shell from large individuals (12 cm and above) is not of good quality (too thick and encrusted with calcareous algae). Some countries have a regulation restricting the capture of trochus to those between 6 and 12 cm; reproduction is then assured by the very large individuals. The lower tonnage harvested is compensated for by the better quality of shell from young specimens. The adoption of such a regulation could be considered for New Caledonia but would cause problems on certain reefs. For example, in the south (Unia, Yaté, Touaourou, Goro) the populations are already overexploited and all trochus are caught before reaching 9 cm. If a new regulation (as above) were introduced, the reproductive stock would no longer be safeguarded and it would be necessary to reseed the reefs with several tonnes of mature trochus taken from the lagoon on the west coast.

With the present state of the stocks it does not appear necessary to change the fishing regulations. It is certain that the 1977-78 tonnages cannot be maintained, however, the New Caledonian reefs should be able to continue to produce 1,000 t/year (17 per cent of world consumption) without overexploitation, provided the catches are evenly distributed throughout the lagoon.

